

Industrial Ethernet

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Version 2021



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Further Weidmüller product catalogues can be accessed by clicking the following:



Industrial Ethernet – Active components

Catalogue 9

Active components

Introduction – Active components

Unmanaged Switches

Managed Switches

Industrial Security Router

u-link Remote Access Service

Media converter and protocol gateways

IoT-Gateways

Industrial WLAN

Accessories – Active components

Industrial Ethernet – Passive components

Catalogue 9

Passive components

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Single Pair Ethernet

IP20 plug-in connectors and mounting rail outlets

FrontCom® IP65 service interfaces

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Passive components

An overview of our portfolio

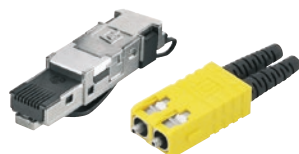
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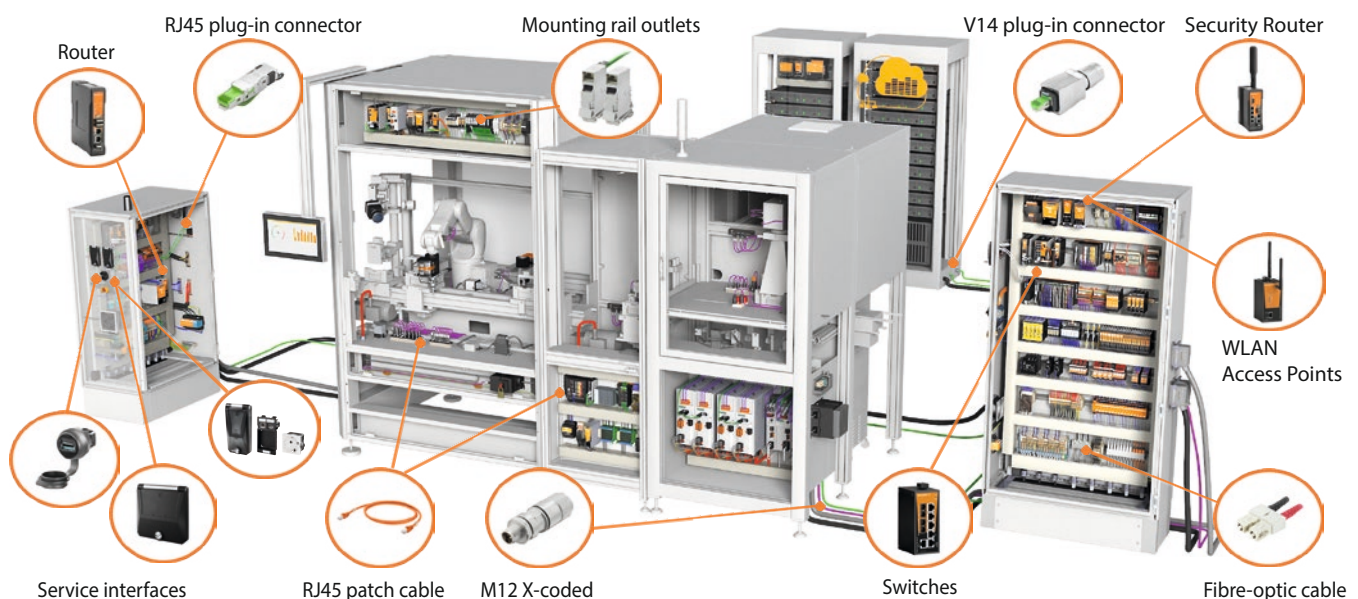


Intended use for Industrial Ethernet

A complete range of products for industrial communications infrastructure

The trend to network industrial plant components using Ethernet protocols was already apparent several years ago. Ethernet communication is now well established in all market segments; including automotive, general machine construction, process industry, transportation, energy and even Maritime. The requirements of these differ in terms of protocols, environmental conditions, certifications and standards. As well as being a leading provider of industrial connection and network products, Weidmüller embraces solutions for these differing requirements with a comprehensive and highquality product range of active and passive components for Ethernet communications.

The basic requirements of these industrial markets are high reliability, availability and safeguarding against failure. These are met by extremely high MTBF times of our network components. Using Weidmüller's high-quality STEADYTEC® connector system means that maximum reliability and simple operation is ensured. Indeed, Weidmüller's network components create a complete communications infrastructure for industrial applications in machine construction, process and plant engineering and energy.





Automotive

The automotive manufacturers of AIDA (Automation Initiative of the German Automotive Industry) are the drivers behind the use of the Industrial Ethernet in manufacturing. Extremely harsh environmental conditions place high demands on the components used: Cabling must be torsion-resistant and there are increased EMC requirements for connectors and active devices. For these areas of application, Weidmüller offers a complete product range consisting of copper and fibre optic connectors that are designed to meet the special needs of robot cabling.



Machinery & Plant Engineering

Machinery has to stand out from the competition with special services and a stronger customer focus. This results in a dynamic change in machinery and plant construction, demanding greater economic efficiency, quality, flexibility and performance from machines. The networking of machine segments and plant parts and their connection to higher-level office networks is playing an increasingly important role in this. Our products are perfectly adapted to these requirements and offer not only robustness and reliability, but are also easy to configure.



Ships

The shipbuilding industry is also experiencing disruptive market development in the face of rapidly advancing technological developments. Autonomous shipping, sustainability, networking, digitalisation concepts and advanced data analytics are the key topics in this respect. To meet the requirements of this industry, the various products in our portfolio include variants with a marine approval according to DNV GL.



Transmission & Distribution

The energy market is booming – especially in the field of renewable energies. The products used here must often be able to withstand harsh environmental conditions. To ensure that power grids function reliably and stably, intelligent solutions are being integrated more and more in order to minimise downtimes and to reduce maintenance work. This requires uninterrupted communication. We support the energy sector with reliable components that are approved according to IEC 61850-3 and IEEE 1613 standards.



Process industry

In large-scale process plants, fibre optic media are often used for communication over long distances. However, for reliable data transmission in the field, the components used must be protected from harmful environmental influences. These include high temperature fluctuations, vibrations, dust exposure and electromagnetic influences. Our active and passive Ethernet components have ATEX approval and can reliably withstand these influences.

Active components

Introduction

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Transfer data between devices in the network flexibly and reliably

Active Industrial Ethernet – the perfect solution for countless applications

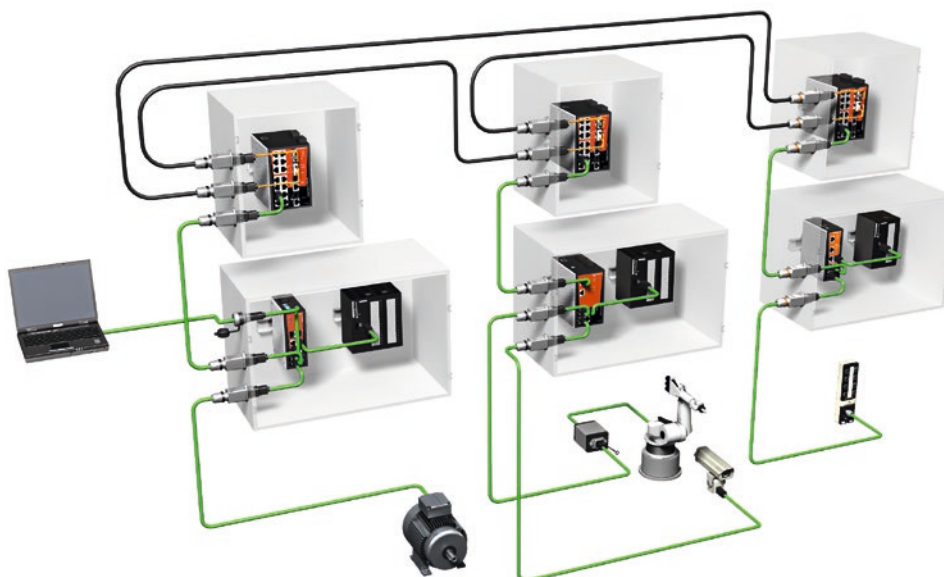
The Industrial Ethernet has proved itself in many areas of automation. With its high performance and flexibility, it opens up a multitude of design options for the network infrastructure. Our Industrial Ethernet components are the perfect connection solution for data communication between Ethernet-capable devices in industrial automation. They have various features and approvals, which is why they are ideally suited to many industrial applications.

As a complete supplier of industrial network infrastructures, we are active in machinery and plant engineering, shipbuilding, the process industry and energy, including traditional/renewable power generation, as well as transmission and distribution.

Our broad product range includes a variety of products with a wide range of approvals for individual requirements. These include Fast/Gigabit switches (unmanaged/managed including Power over Ethernet variants), routers, WLAN devices, IoT gateways, media converters and protocol gateways, as well as u-link, our remote maintenance solution. All our Ethernet components meet the highest demands and enable reliable, flexible Ethernet communication.

Thanks to the highly differentiated Eco, Basic, Value, Advanced, Premium and SubstationLine product lines, our switches are suitable for meeting a wide range of requirements. This allows us to guarantee optimal data transmission at all times – from simple communication structures to the complex data meshes of extensive systems.

As an ideal complement to this, we offer you a comprehensive passive product portfolio of RJ45 and fibre optic connectors and cables. This makes Weidmüller your perfect partner for Industrial Ethernet solutions.





Always the best choice for your requirements

Our switch product lines for all-round application-oriented solutions

Ethernet networks must allow the exchange of data packets between specific participants. For this purpose, the participants are connected to each other via Ethernet switches. Ethernet switches thus collect all data streams and distribute them to the respective participants to enable communication to take place. Since Ethernet switches have to meet very different requirements depending on the area of application, we offer a variety of product lines. They differ in terms of their properties, special features and technical highlights.



EcoLine:

Our unmanaged EcoLine switches are characterised by a rich variety of different models and high economic efficiency. They can be used in a uniquely wide temperature range of -40 to +75 °C, which enables them to be operated both inside production plants and in the field. The robust devices have 5 to 24 ports as well as a redundant voltage input. Their SFP ports allow especially flexible use, regardless of the available communication media and/or the required distance. Power over Ethernet switches are also available within the EcoLine in order to reduce the required cabling work.



BasicLine:

The BasicLine series consists of an extensive range of unmanaged plug and play switches. All devices were developed for use in harsh industrial environments and have numerous international approvals, such as cULus, Class I, Div. 2, ATEX and DNV/GL. This makes them ideal for use in many different industries. The devices are available with Fast Ethernet and Gigabit Ethernet ports. In addition, the series also includes individual variants with Power over Ethernet ports.



ValueLine:

Our ValueLine series features unmanaged and managed switches available with Fast Ethernet and Gigabit Ethernet ports. Our ValueLine managed switches support various industrial communication protocols, e.g. MODBUS/TCP, PROFINET/RT and ETHERNET/IP. This enables optimal integration into the most common automation networks. They also support a variety of helpful management functions, such as port mirroring and error messaging via e-mail or relay. All of these functions can be set up with ease via the web-based management interface. ValueLine switches also have numerous international approvals to ensure proper operation in a variety of industries (cULus, Class I Div. 2 / ATEX Zone 2, DNV GL).



AdvancedLine:

The managed switches of our AdvancedLine are characterised by a wide assortment of variants and economic efficiency. The different model variants designed for Fast Ethernet and Gigabit as well as integrating 5 to 24 ports and SFP slots ensure a high degree of flexibility. Their especially wide temperature range of -40 to +75 °C allows them to be used both in production plants and in the field. All switches in the series can be intuitively configured via a browser-based web interface. The comprehensive management tool can be used to set up various redundancy, monitoring, traffic filtering and security functions. The AdvancedLine ranges from full-managed switches for demanding applications to lite-managed switches for simpler requirements within a network and offers an excellent price-performance ratio. Power over Ethernet switches are also available in the AdvancedLine in order to reduce cabling work.



PremiumLine:

The managed switches of our PremiumLine are true high-end products. They are especially suitable for ambitious network solutions with high data volumes. The devices are available in a wide variety of versions. For example, customers can select the number of ports, transmission rate (Fast/Gigabit Ethernet) and connection variant. PremiumLine switches support various industrial application protocols, e.g. MODBUS/TCP, PROFINET RT and ETHERNET / IP. They also have numerous international approvals, such as cULus, Class I Div.2 / ATEX Zone 2 and DNV GL, making them a perfect choice for many different industries and applications.



SubstationLine:

The SubstationLine comprises managed Ethernet switches that comply with the IEC 61850-3 standard, making them robust enough for operation in harsh environments. All switches include a redundant power supply, and the series also includes variants with Fast Ethernet, Gigabit, all the way up to 10 Gigabit Ethernet, as well as sophisticated features like PTPv2 time synchronisation. All devices were designed for use in substations and other energy (T&D) systems, where electromagnetic interference is higher than in other industries.

Unmanaged Switches

Overview

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The proven standard for active network components

Unmanaged switches – adaptable and economical

B

Unmanaged switches require no configuration and are nevertheless adaptable. They use basic standardised protocols, such as autonegotiation, autocrossing and flow control, allowing them to adapt automatically to widely varying transmission speeds or connector assignments. In addition, the switches are protocol-transparent. Each port of a switch forms its own collision domain. All switches support the use of twisted pair cabling with RJ45 interface or fibre optic cable based on the interfaces specified in IEEE 802.3.

Our unmanaged switches are the simple and economical standard start-up solution for the Industrial Ethernet. We offer different versions with different features. In addition to the unmanaged switches of the EcoLine, BasicLine and ValueLine, we can also offer you Power over Ethernet variants within all lines that can significantly reduce your wiring work. This means you can also operate Ethernet devices in areas that are difficult to access – without a separate power supply cable.

Your special advantage:

- Wide variety of ports in terms of number and features to meet individual requirements
- Fast Ethernet and Gigabit versions available, including Power over Ethernet variants
- Rapid fault diagnosis thanks to the clearly visible LED display
- Robust housing for reliable long-term use in different environments

See
chapter A for
details about
the product
lines



Variety of versions

Variety of port numbers and media types for a wide range of applications (up to 24 ports)

Design advantage

Space-saving design for high economic efficiency

**Variety of models**

Numerous international approvals, such as cULus, KC, EAC, Class 1 Div. 2 / ATEX Zone 2 and DNV GL

**Variety of models**

Fast Ethernet | Gigabit and Power over Ethernet versions

5 and 8-Port unmanaged Fast Ethernet Switches

- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C



Technical data

Technology		
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3x for flow control	
Processing type	Store and Forward	
Flow control	IEEE 802.3x flow control	
Switch characteristics		
MAC table size	1K	
Packet buffer Size	448 Kbit	
Interfaces		
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
Fibre optic ports	100BASE-FX (SC-Duplex connector)	
Fibre optic transceiver characteristics		
Transmission rate	100 Mbps	
Connector type	SC-Duplex	
Transceiver type	Multimode	Singlemode
Fiber cable type	50/125 μm 62.5/125 μm	9/125 μm
Transmission distance, typical	2 km	30 km
Wavelength, typical	1310 nm	
Optical power RX range	-31 to 0 dBm	-34 to 0 dBm
Optical power TX range	-23.5 to -14 dBm	-15 to -8 dBm
Link-budget	7.5 dB	19 dB
Power supply		
Connection type	IE-SW-EL05-5TX: 1 removable 4-pin terminal block IE-SW-EL08-8TX: 1 removable 4-pin terminal block IE-SW-EL08-6TX-2SC: 1 removable 3-pin terminal block IE-SW-EL08-6TX-2SCS: 1 removable 3-pin terminal block	
Input voltage	IE-SW-EL05-5TX: 24 V DC (12 - 48 V), 24 V AC (18 - 36 V), 2 redundant inputs IE-SW-EL08-8TX: 24 V DC (12 - 48 V), 24 V AC (18 - 36 V), 2 redundant inputs IE-SW-EL08-6TX-2SC: 24 V DC (10 - 30 V DC), 1 single input IE-SW-EL08-6TX-2SCS: 24 V DC (10 - 30 V DC), 1 single input	
Current consumption at 24 V	IE-SW-EL05-5TX: 0.1 A IE-SW-EL08-8TX: 0.14 A IE-SW-EL08-6TX-2SC: 0.14 A IE-SW-EL08-6TX-2SCS: 0.14 A	
Overload current protection	yes	
Reverse polarity protection	yes	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	DIN rail	
Dimensions (W x H x D)	IE-SW-EL05-5TX: 26.1 x 95 x 70 mm (1.03 x 3.74 x 2.76 in) IE-SW-EL08-8TX: 41 x 95 x 90 mm (1.61 x 3.74 x 3.54 in) IE-SW-EL08-6TX-2SC: 41 x 115 x 84 mm (1.61 x 4.52 x 3.31 in) IE-SW-EL08-6TX-2SCS: 41 x 115 x 84 mm (1.61 x 4.52 x 3.31 in)	

Physical characteristics	
Weight	IE-SW-EL05-5TX: 205 g IE-SW-EL08-8TX: 334 g IE-SW-EL08-6TX-2SC: 328 g IE-SW-EL08-6TX-2SCS: 328 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-EL05-5TX: 2,638,236 hrs IE-SW-EL08-8TX: 1,390,019 hrs IE-SW-EL08-6TX-2SC: 595,597 hrs IE-SW-EL08-6TX-2SCS: 609,551 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
5x RJ45 10/100 Mbit/s	IE-SW-EL05-5TX	2682130000
8x RJ45 10/100 Mbit/s	IE-SW-EL08-8TX	2682140000
6x RJ45 10/100 Mbit/s, 2x SC Multimode 100 Mbit/s	IE-SW-EL08-6TX-2SC	2682170000
6x RJ45 10/100 Mbit/s, 2x SC Singlemode 100 Mbit/s	IE-SW-EL08-6TX-2SCS	2682180000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

16 and 24-Port unmanaged Fast Ethernet Switches

- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- Reliable operation due to redundant voltage inputs, fault relay and LED diagnostics
- SFP-ports for fiber optic transmission over long distances

**Technical data**

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3x for flow control
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	IE-SW-EL16-14TX-2FESFP: 4K IE-SW-EL16-16TX: 8K IE-SW-EL24-24TX: 8K
Packet buffer Size	IE-SW-EL16-14TX-2FESFP: 2.75 Mbit IE-SW-EL16-16TX: 1 Mbit IE-SW-EL24-24TX: 1 Mbit
Interfaces	
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100BaseSFP-slot
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	IE-SW-EL16-14TX-2FESFP: 0.34 A IE-SW-EL16-16TX: 0.27 A IE-SW-EL24-24TX: 0.39 A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	IE-SW-EL16-14TX-2FESFP: 74 x 170 x 140 mm (2.91 x 6.69 x 5.51 in) IE-SW-EL16-16TX: 74.3 x 153.6 x 107.5 mm (2.93 x 6.05 x 4.2 in) IE-SW-EL24-24TX: 96.4 x 154 x 108.5 mm (3.8 x 6.06 x 4.27 in)
Weight	IE-SW-EL16-14TX-2FESFP: 931 g IE-SW-EL16-16TX: 931 g IE-SW-EL24-24TX: 1056 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

EMC conformity and approvals

Free fall IEC 60068-2-31

MTBF

Time IIE-SW-EL16-14TX-2FESFP: 719,800 hrs
IE-SW-EL16-16TX: 1,160,204 hrs
IE-SW-EL24-24TX: 959,803 hrs

Database Telcordia SR332

Guarantee

Time interval 5 years

Ordering Information

Version	Model Type	Order No.
14x RJ45 10/100 Mbit/s, 2x SFP 100 Mbit/s	IE-SW-EL16-14TX-2FESFP	2682160000
16x RJ45 10/100 Mbit/s	IE-SW-EL16-16TX	2682150000
24x RJ45 10/100 Mbit/s	IE-SW-EL24-24TX	2682190000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Note

Corresponding SFP modules for EcoLine switches, see page I.4.

5 and 8-Port unmanaged Fast Ethernet Switches

- Two redundant voltage inputs 12/24/48 V DC (9.6 to 60 V DC)
- IP30 aluminium housing
- Rugged hardware design well suited for hazardous locations (Class I Div. 2 / ATEX Zone 2) and maritime environments (DNV-GL)
- -40°C to 75°C operating temperature range (T models)



Technical data

Technology				
Standards		IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT (X) and 100BaseFX IEEE 802.3x for Flow Control		
Processing Type		Store and Forward		
Flow Control		IEEE 802.3x flow control, back pressure flow control		
Switch Properties				
MAC Table Size		IE-SW-BL05-Series: 1K / IE-SW-BL08-Series: 2K		
Packet Buffer Size		IE-SW-BL05-Series: 384 kbit / IE-SW-BL08-Series: 768 kbit		
Interface				
Fibre Ports		100BaseFX (SC/ST-duplex connection)		
RJ45 Ports		10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection		
DIP Switches		Enable/Disable broadcast storm protection		
Specification optical fiber				
Transceiver Type		100Base FX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 µm 800 MHz*km	G.652
Typical Distance		4 km	5 km	40 km
Wave-length	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
Power	Link-Budget (dB)	12		29
	Dispersion Penalty (dB)	3		1
Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.				
Power Requirements				
Input Voltage		12/24/48 V DC (9.6 to 60 V DC), two redundant inputs		
Input Current		IE-SW-BL05-5TX: 0.09 A at 24 V		
		IE-SW-BL05-4TX-1SC/1ST/1SCS: 0.1 A at 24 V		
		IE-SW-BL08-8TX: 0.11 A at 24 V		
		IE-SW-BL08-6TX-2SC/2ST/2SCS: 0.15 A at 24 V		
		IE-SW-BL08-7TX-1SC: 0.11 A at 24 V		
Overload current protection		1.1 A		
Connection		1 removable 4-contact terminal block		
Reverse Polarity Protection		Present		
Physical Characteristics				
Housing		Aluminum, IP30 protection		
Dimensions (W x H x D)		IE-SW-BL05-Series: 30 x 115 x 70 mm (1.18 x 4.52 x 2.76 in) IE-SW-BL08-Series: 50 x 114 x 70 mm (1.96 x 4.52 x 2.76 in)		
Weight		IE-SW-BL05-5TX: 175 g / IE-SW-BL08-8TX: 275 g		
Type of mounting		DIN rail, wall (with optional mounting kit)		
Environmental Limits				
Operating Temperature		Standard Models: -10 to 60 °C (14 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)		
Storage Temperature		-40 to 85 °C (-40 to 185 °F)		
Ambient Relative Humidity		5 to 95 % (non-condensing)		
Regulatory Approvals				
Safety		UL 508		

Regulatory Approvals

Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D; ATEX Zone 2 Ex nA IIC T4 Gc
EMV	EN 55032/24 / CISPR 32 FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Maritime	DNV-GL (not for 1412110000, 1412120000, 1412070000, 1412080000)
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	IE-SW-BL05-Series: 3,040,784 hrs, IE-SW-BL08-Series: 2,701,531 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering Information

Version	Model Type	Operating Temperature	Order No.
5 * RJ45	IE-SW-BL05-5TX	-10 to +60 °C	1240840000
	IE-SW-BL05T-5TX	-40 to +75 °C	1240850000
4 * RJ45, 1 * SC-Multimode	IE-SW-BL05-4TX-1SC	-10 to +60 °C	1240890000
	IE-SW-BL05T-4TX-1SC	-40 to +75 °C	1286550000
4 * RJ45, 1 * ST-Multimode	IE-SW-BL05-4TX-1ST	-10 to +60 °C	1240880000
	IE-SW-BL05T-4TX-1ST	-40 to +75 °C	1286540000
4 * RJ45, 1 * SC-Singlemode	IE-SW-BL05-4TX-1SCS	-10 to +60 °C	1240870000
	IE-SW-BL05T-4TX-1SCS	-40 to +75 °C	1286530000
8 * RJ45	IE-SW-BL08-8TX	-10 to +60 °C	1240900000
	IE-SW-BL08T-8TX	-40 to +75 °C	1286560000
6 * RJ45, 2 * SC-Multimode	IE-SW-BL08-6TX-2SC	-10 to +60 °C	1240910000
	IE-SW-BL08T-6TX-2SC	-40 to +75 °C	1240920000
6 * RJ45, 2 * ST-Multimode	IE-SW-BL08-6TX-2ST	-10 to +60 °C	1240930000
	IE-SW-BL08T-6TX-2ST	-40 to +75 °C	1286570000
6 * RJ45, 2 * SC-Singlemode	IE-SW-BL08-6TX-2SCS	-10 to +60 °C	1412110000
	IE-SW-BL08T-6TX-2SCS	-40 to +75 °C	1412120000
7 * RJ45, 1 * SC-Multimode	IE-SW-BL08-7TX-1SC	-10 to +60 °C	1412070000
	IE-SW-BL08T-7TX-1SC	-40 to +75 °C	1412080000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Wall mounting kit for IE-SW-BL05 series	IE-WALLMOUNT-KIT-30M	1504450000

16-Port unmanaged Fast Ethernet Switches

- Two redundant voltage inputs 12/24/48 V DC (9.6 to 60 V DC)
- Warning of relay output in the event of power failure and port error
- Broadcast storm protection
- -40 °C to 75 °C operating temperature range (T models)

**Technical data**

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3x for Flow Control
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Switch Properties	
MAC Table Size	4K
Packet Buffer Size	1.25 Mbit
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
DIP Switches	Port fault alarm Broadcast storm protection enable/disable
Alarm Contact	1 relay output with current carrying capacity of 1 A at 24 V DC
Power Requirements	
Input Voltage	12/24/48 V DC (9.6 to 60 V DC), two redundant inputs
Input Current	0.26 A at 24 V
Overload Current Protection	1.6 A
Connection	1 removable 6-pin terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	80.5 x 135 x 105 mm (3.16 x 5.31 x 4.13 in)
Weight	1140 g
Type of mounting	DIN-Rail
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508, UL 60950-1, EN 60950-1
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D; ATEX Zone 2 Ex nA nC IIC T4 Gc
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Maritime	DNV-GL
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

MTBF (mean time between failures)

Time	2,290,506 hrs
Database	Telcordia (Bellcore), GB

Warranty

Warranty Period	5 years
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Ordering Information

Version	Model Type	Operating Temperature	Order No.
16 * RJ45	IE-SW-VL16-16TX	0 to +60 °C	1241000000
	IE-SW-VL16T-16TX	-40 to +75 °C	1286590000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

5-Port IP67 unmanaged Fast Ethernet Switches

- M12 connection system and IP67 protected housing
- 10/100BaseT (X), 4-pin M12 (D-coded)
- Full/half duplex mode and auto MDI/MDI-X
- Input voltage 12 to 45 V DC, 18 to 30 V AC



Technical data

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT (X) IEEE 802.3x for Flow Control
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Switch Properties	
MAC Table Size	2 K
Packet Buffer Size	384 Kbit
Interface	
M12-Ports	10/100BaseT (X) auto negotiation, full/half duplex mode and auto MDI/MDI-X connection, 4-pin, D-coded
Power Requirements	
Input Voltage	24/36 V DC (12 to 45 V DC), 18 to 30 V AC (47 to 63 Hz), one input
Input Current	0.28 A to 24 V AC 0.10 A to 24 V DC 0.08 A to 36 V DC
Overload Current Protection	1.1 A
Connection	1 x M12 socket, A-coded
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Plastic, IP67 protection, encapsulated
Dimensions (W x H x D)	60 x 125 x 29.6 mm (2.36 x 4.92 x 1.09 Zoll)
Weight	270 g
Type of mounting	Wall mounting, screwed
Environmental Limits	
Operating Temperature	Standard Models: -25 to 60 °C (-13 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)

Regulatory Approvals			
Safety	UL 508		
EMC	FCC Part 15B Class A		
	EN 55032 Class A		
	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV		
	IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m		
	IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV		
	IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV		
	IEC 61000-4-6 CS: 10 V		
	IEC 61000-4-8		
Shock	IEC 60068-2-27		
Freefall	IEC 60068-2-32		
Vibration	IEC 60068-2-6		
MTBF (mean time between failures)			
Time	3,451,678 hrs		
Database	Telcordia (Bellcore), GB		
Warranty			
Warranty Period	5 years		
Ordering data			
Version	Model Type	Operating Temperature	Order No.
5 * M12 10/100BaseT(X)	IE-SW-IP67-5M12	-25 to +60 °C	1504410000
	IE-SW-IP67T-5M12	-40 to +75 °C	1504420000

6 and 8-Port unmanaged PoE+ Fast Ethernet Switches

- IEEE 802.3af/at compliant PoE ports
- Fiber optic ports for communication links over long distances
- Reliable operation due to redundant voltage inputs, fault relay and LED diagnostics

**Technical data**

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3x for flow control IEEE 802.3at/af for Power-over-Ethernet
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	1K
Packet buffer Size	448 Kbit
Interfaces	
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100BASE-FX (SC-Duplex connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
DIP switches	2x enabling/disabling power fault alarm via relay
Fibre optic transceiver characteristics	
Transmission rate	100 Mbps
Connector type	SC-Duplex
Transceiver type	Multimode
Fiber cable type	50/125 µm 62.5/125 µm
Transmission distance, typical	2 km
Wavelength, typical	1310 nm
Optical power RX range	-31 to 0 dBm
Optical power TX range	-23.5 to -14 dBm
Link-budget	7.5 dB
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	IE-SW-EL08-8PoE: 12/24/48 V DC (12 - 57 V), 2 redundant inputs IE-SW-EL06-4PoE-2SC: 24/48 V DC (24 - 57 V), 2 redundant inputs
Current consumption at 24 V (with PD consumption)	IE-SW-EL06-4PoE-2SC: 2.8 A IE-SW-EL08-8PoE: 5.74 A
Overload current protection	yes
Reverse polarity protection	yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	IE-SW-EL06-4PoE-2SC: 60 W at 24 - 50 V DC; 120 W at 50 - 57 V DC IE-SW-EL08-8PoE: 60 W at 12 - 23 V DC; 120 W at 24 - 57 V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	41 x 144.3 x 94.9 mm (1.61 x 5.68 x 3.74 in)
Weight	IE-SW-EL06-4PoE-2SC: 435 g IE-SW-EL08-8PoE: 580 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m

EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-EL06-4PoE-2SC: 538,904 hrs IE-SW-EL08-8PoE: 744,974 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
4x RJ45 PoE+ 10/100 Mbit/s, 2x SC Multimode 100 Mbit/s	IE-SW-EL06-4PoE-2SC	2682390000
8x RJ45 PoE+ 10/100 Mbit/s	IE-SW-EL08-8PoE	2682380000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

6-Port unmanaged Fast Ethernet PoE+ Switches

- 4x IEEE 802.3af/at konforme PoE-Ports
- Up to 30 watts per PoE port
- 12/24/48 V DC redundant wide-range power supply
- Integrated DC/DC converter can supply 48 V-PoE devices across the entire input voltage range of 12- 57 V DC
- Intelligent power consumption detection and classification
- Broadcast Storm Protection



Technical data

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3x for Flow Control IEEE 802.3af for PoE IEEE 802.3at for PoE+
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Switch Properties	
MAC table size	2 K
Packet buffer size	768 KB
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection
DIP Switches	Enable/disable broadcast storm protection
Power Requirements	
Input Voltage	12/24/48 V DC (12 to 57 V DC), two redundant inputs
Current consumption (with PD consumption)	6.19 A at 12 VDC 5.55 A at 24 VDC 2.71 A at 48 VDC
Inrush current	64.56 A at 48 VDC (0.1 – 1 ms)
Power loss	36.4 BTU/h
Connection	1 removable 4-pole terminal block
Reverse polarity protection	Present
Overcurrent current protection	Present
PoE	
PoE power budget total	62 W at 12 V DC (12-17 V DC) 120 W at 24/48 V DC (18-57 V DC)
PoE output voltage	50 V DC at 12/24/48 V DC input voltage
PoE output power	15.4 W at 802.3af, 30 W at 802.3at
PoE output current	350 mA at 802.3af, 600 mA at 802.3at
PoE pinout	Mode A: wire pair 1, 2 (V+); wire pair 3,6 (V-)
Physical Characteristics	
Housing	Aluminium, IP30 protection
Dimensions (W x H x D)	50 x 114 x 70 mm (1.96 x 4.53 x 2.76 in)
Weight	375 g
Type of mounting	DIN-Rail
Environmental Limits	
Operating Temperature	Standard models: -10 to 60°C (14 to 140°F), models with extended temperature range: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508

Regulatory Approvals	
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	1,398,743 hrs
Datenbase	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Version	Type	Operating Temperature	Order No.
2 * RJ45 10/100 BaseT(X),	IE-SW-BL06-2TX-4PoE	-10 to +60 °C	1241380000
4 * RJ45 10/100 BaseT(X) PoE+	IE-SW-BL06T-2TX-4PoE	-40 to +75 °C	1286920000

Accessories		
	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

18-Port unmanaged Fast/Gigabit Ethernet Switches

- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- Reliable operation due to redundant voltage inputs, fault relay and LED diagnostics
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	1 Mbit
Interfaces	
RJ45 ports	10/100BASE-T(X) or 10/100/1000BASE-T(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	1000BaseSFP-slot
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	0.35 A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	96.4 x 154 x 108.5 mm (3.8 x 6.06 x 4.27 in)
Weight	1044 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31

MTBF	
Time	748,087 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
16x RJ45 10/100 Mbit/s, 2x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 1000Mbit/s)	IE-SW-EL18-16TX-2GC	2682200000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Note
Corresponding SFP modules for EcoLine switches, see page I.5.

Unmanaged Switches Gigabit Ethernet – EcoLine

5 to 10-Port unmanaged Gigabit Ethernet Switches

- Gigabit Ethernet on all ports including Jumbo Frame support for applications with high demand on bandwidth and latency
- Reliable operation due to redundant voltage inputs, fault relay and LED diagnostics
- SFP-ports for fiber optic transmission over long distances



Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	IE-SW-EL05-5GT: 4K IE-SW-EL05-4GT-1GESFP: 1K IE-SW-EL08-8GT-MINI: 4K IE-SW-EL08-8GT: 4K IE-SW-EL10-8GT-2GESFP: 4K
Packet buffer Size	IE-SW-EL05-5GT: 1 Mbit IE-SW-EL05-4GT-1GESFP: 1 Mbit IE-SW-EL08-8GT-MINI: 1.5 Mbit IE-SW-EL08-8GT: 1.5 Mbit IE-SW-EL10-8GT-2GESFP: 1.5 Mbit
Jumbo frame support	IE-SW-EL05-5GT: up to 9.72 KB IE-SW-EL05-4GT-1GESFP: up to 10 KB IE-SW-EL08-8GT-MINI: up to 9 KB IE-SW-EL08-8GT: up to 9.2 KB IE-SW-EL10-8GT-2GESFP: up to 9 KB
Interfaces	
RJ45 ports	10/100/1000BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot or 1000BaseSFP-slot
Relay Contact	IE-SW-EL05-4GT-1GESFP: 1 relay output with a current capacity of 1 A at 24 V DC IE-SW-EL08-8GT-MINI: 1 relay output with a current capacity of 1 A at 24 V DC
DIP switches	IE-SW-EL05-4GT-1GESFP: 2x enabling/disabling power fault alarm via relay IE-SW-EL08-8GT-MINI: 2x enabling/disabling power fault alarm via relay
Power supply	
Connection type	IE-SW-EL05-5GT: 1 removable 4-pin terminal block IE-SW-EL05-4GT-1GESFP: 1 removable 6-pin terminal block IE-SW-EL08-8GT-MINI: 1 removable 4-pin terminal block IE-SW-EL08-8GT: 1 removable 6-pin terminal block IE-SW-EL10-8GT-2GESFP: 1 removable 6-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	IE-SW-EL05-5GT: 0.14 A IE-SW-EL05-4GT-1GESFP: 0.18 A IE-SW-EL08-8GT-MINI: 0.17 A IE-SW-EL08-8GT: 0.20 A IE-SW-EL10-8GT-2GESFP: 0.20 A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail

Physical characteristics	
Dimensions (W x H x D)	IE-SW-EL05-5GT: 26.1 x 95 x 70 mm (1.03 x 3.74 x 2.76 in) IE-SW-EL05-4GT-1GESFP: 26.1 x 144.3 x 94.9 mm (1.03 x 5.68 x 3.74 in) IE-SW-EL08-8GT-MINI: 41 x 95 x 90 mm (1.61 x 3.74 x 3.54 in) IE-SW-EL08-8GT: 26.1 x 144.3 x 94.9 mm (1.03 x 5.68 x 3.74 in) IE-SW-EL10-8GT-2GESFP: 96.4 x 154 x 108.5 mm (3.8 x 6.06 x 4.27 in)
Weight	IE-SW-EL05-5GT: 218 g IE-SW-EL05-4GT-1GESFP: 305 g IE-SW-EL08-8GT-MINI: 330 g IE-SW-EL08-8GT: 335 g IE-SW-EL10-8GT-2GESFP: 410 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-EL05-5GT: 2,556,319 hrs IE-SW-EL05-4GT-1GESFP: 1,861,840 hrs IE-SW-EL08-8GT-MINI: 1,742,238 hrs IE-SW-EL08-8GT: 926,332 hrs IE-SW-EL10-8GT-2GESFP: 748,087 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
5x RJ45 10/100/1000 Mbit/s	IE-SW-EL05-5GT	2682210000
4x RJ45 10/100/1000 Mbit/s, 1x SFP 1000 Mbit/s	IE-SW-EL05-4GT-1GESFP	2682220000
8x RJ45 10/100/1000 Mbit/s	IE-SW-EL08-8GT-MINI	2705000000
8x RJ45 10/100/1000 Mbit/s	IE-SW-EL08-8GT	2682230000
8x RJ45 10/100/1000 Mbit/s, 2x SFP 100/1000 Mbit/s	IE-SW-EL10-8GT-2GESFP	2682240000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Note		
Corresponding SFP modules for EcoLine switches, see page I.4 - I.5.		

5 and 8-Port unmanaged Gigabit Ethernet Switches

- Gigabit Ethernet on all ports
- Variants with slots for SFP transceivers
- Redundant dual 12/24/48 V DC power inputs
- Relay output warning for power failure and port break alarm
- Broadcast storm protection
- Supports jumbo frame transmission



Technical data

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT (X) and 100BaseFX IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseX IEEE 802.3x for flow control IEEE 802.3az for energy-efficient Ethernet
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Switch Properties	
MAC Table Size	8 K
Packet Buffer Size	IE-SW-BL05-4GT-Series: 1 Mbit IE-SW-VL08-Series: 4 Mbit
Jumbo frame support	IE-SW-BL05-4GT-Series: 10 KByte IE-SW-VL08-Series: 9.6 KByte
Interface	
Fibre Ports	100/1000BaseSFP
RJ45 Ports	10/100/1000BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
DIP Switches	Port fault alarm enable/disable Broadcast storm protection enable/disable Jumbo frame support enable/disable IEEE 802.3az energy saving enable/disable Switching between 100BaseSFP and 1000BaseSFP at SFP slot
Alarm Contact	1 relay output with current carrying capacity of 1 A at 24 V DC
Power Requirements	
Input Voltage	12/24/48 V DC (9.6 to 60 V DC), redundant dual inputs
Input Current	IE-SW-BL05-4GT-1GS: 0.14 A at 24 V IE-SW-VL08-8GT: 0.29 A at 24 V IE-SW-VL08-6GT-2GS: 0.31 A at 24 V
Connection	1 removable 6-contact terminal block
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	IE-SW-BL05-4GT-Series: 29 x 135 x 105 mm (1.14 x 5.31 x 4.13 in) IE-SW-VL08-xGT: 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	IE-SW-BL05-4GT-Series: 290 g IE-SW-VL08-Series: 630 g
Type of mounting	DIN-Rail, wall (with optional mounting kit)
Environmental Limits	
Operating Temperature	Standard Models: -10 to 60 °C (14 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F) (on request)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C, and D; ATEX Zone 2 Ex nA nC IIC T4 Gc

Regulatory Approvals	
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Maritime	DNV-GL
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	IE-SW-BL05-4GT-Series: 2,823,446 hrs IE-SW-VL08-Series: 2,424,649 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering Information			
Version	Model Type	Operating Temperature	Order No.
4 * RJ45 10/100/1000BaseT(X)	IE-SW-BL05-4GT-1GS	-10 to +60 °C	2435400000
1 * Combo Port (10/100/1000 BaseT(X) or 100/1000BaseSFP)	IE-SW-BL05T-4GT-1GS	-40 to +75 °C	2435410000
8 * RJ45 10/100/1000BaseT(X)	IE-SW-VL08-8GT	-10 to +60 °C	1241270000
	IE-SW-VL08T-8GT	-40 to +75 °C	1286860000
6 * RJ45 10/100/1000BaseT(X), 2 * Combo Port (10/100/1000 BaseT(X) or 100/1000BaseSFP)	IE-SW-VL08-6GT-2GS	-10 to +60 °C	1241280000
	IE-SW-VL08T-6GT-2GS	-40 to +75 °C	1286870000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Wall mounting kit	IE-WALLMOUNT-KIT-30MM	1504450000

Hinweis

Corresponding SFP modules for Basic/ValueLine switches, see page I.7

Unmanaged Power over Ethernet Switches Gigabit Ethernet – EcoLine

8 and 10-Port unmanaged PoE+ Gigabit Ethernet Switches

- IEEE 802.3af/at compliant PoE ports
- Integrated DC/DC converter for providing PoE voltage to PDs over the entire PSE input voltage range from 12 to 57 V DC
- Gigabit Ethernet on all ports including Jumbo Frame support for applications with high demand on bandwidth and latency
- Reliable operation due to redundant voltage inputs, fault relay and LED diagnostics



Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3at/af for Power-over-Ethernet
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	IE-SW-EL08-8GTPoE: 4K IE-SW-EL10-8GTPoE-2GESFP: 8K
Packet buffer Size	IE-SW-EL08-8GTPoE: 1.5 Mbit IE-SW-EL10-8GTPoE-2GESFP: 4 Mbit
Jumbo frame support	IE-SW-EL08-8GTPoE: up to 9.72 KB IE-SW-EL10-8GTPoE-2GESFP: up to 9.6 KB
Interfaces	
RJ45 ports	10/100/1000BASE-T(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
DIP switches	IE-SW-EL08-8GTPoE: 2x enabling/disabling power fault alarm via relay IE-SW-EL10-8GTPoE-2GESFP: 2x enabling/disabling power fault alarm via relay, 2x for Switching between 100BaseSFP and 1000BaseSFP on SFP port
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	12/24/48 V DC (12 - 57 V), 2 redundant inputs
Current consumption at 24 V (with PD consumption)	IE-SW-EL08-8GTPoE: 5.86 A IE-SW-EL10-8GTPoE-2GESFP: 6.13 A
Overload current protection	yes
Reverse polarity protection	yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	60 W at 12 - 23 V DC; 120 W at 24 - 57 V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	IE-SW-EL08-8GTPoE: 41 x 144.3 x 94.9 mm (1.62 x 5.68 x 3.74 in) IE-SW-EL10-8GTPoE-2GESFP: 54.3 x 145.1 x 108.3 mm (2.13 x 5.71 x 4.26 in)
Weight	IE-SW-EL08-8GTPoE: 590 g IE-SW-EL10-8GTPoE-2GESFP: 729 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m

EMC conformity and approvals

EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-EL08-8GTPoE: 532,527 hrs IE-SW-EL10-8GTPoE-2GESFP: 537,330 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information

Version	Model Type	Order No.
8x RJ45 PoE+ 10/100/1000 Mbit/s	IE-SW-EL08-8GTPoE	2682400000
8x RJ45 PoE+ 10/100/1000 Mbit/s, 2x SFP 100/1000 Mbit/s	IE-SW-EL10-8GTPoE-2GESFP	2682410000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Note

Corresponding SFP modules for EcoLine switches, see page I.4 - I.5.

5-Port unmanaged Gigabit Ethernet PoE+ Switches

- Gigabit Ethernet at all ports
- 4x IEEE 802.3af/at conform PoE ports
- Up to 36 Watt per PoE port
- 12/24/48 V DC redundant wide-range power supply
- Support for jumbo frames
- Intelligent power consumption detection and classification
- Intelligent PoE surge voltage and short-circuit protection



Technical data

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT IEEE 802.3x for Flow Control IEEE 802.3af for PoE IEEE 802.3at for PoE+ IEEE 802.3az for Energy-Efficient Ethernet
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Switch Properties	
MAC table size	8 K
Packet buffer size	1 Mbit
Jumbo Frame support	10 KB
Interface	
RJ45 Ports	10/100/1000BaseT(X) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection
DIP Switches	Broadcast storm protection enable/disable Jumbo Frame support enable/disable IEEE 802.3az energy saving enable/disable PoE High Power enable/disable
Power Requirements	
Input voltage	12/24/48 V DC 12 to 57 V DC), two redundant inputs
Current consumption (with PD consumption)	5.92 A at 12 VDC 5.65 A at 24 VDC 3.21 A at 48 VDC
Inrush current	17.4 A at 24 VDC (0.1 – 1 ms)
Power loss	36.4 BTU/h
Connection	2 removable 2-pole terminal blocks
Reverse polarity protection	Present
Overcurrent current protection	Present
PoE	
PoE power budget total	62 W at 12 V DC (12-17 V DC) 120 W at 24 V DC (18-35 V DC) 144 W at 48 V DC (36 to 57 VDC)
PoE output voltage	53 V DC at 12/24/48 V DC input voltage
PoE output power	15.4 W at 802.3af, 30 W at 802.3at, 36 W in high power mode
PoE output current	350 mA at 802.3af, 600 mA at 802.3at, 720 mA in high power mode
PoE pinout	Mode A: wire pair 1, 2 (V+); wire pair 3, 6 (V-)
Physical Characteristics	
Housing	Aluminium, IP30 protection
Dimensions (W x H x D)	29 x 135 x 105 mm (1.14 x 5.31 x 4.13 Zoll)
Weight	300 g
Type of mounting	DIN-Rail, wall (with optional mounting kit)
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)

Regulatory Approvals	
Safety	UL 508
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	1,564,608 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Version	Type	Operating Temperature	Order No.
1 * RJ45 10/100/1000 BaseT(X),	IE-SW-BL05-1GT-4GTPoE	0 to +60 °C	1504320000
4 * RJ45 10/100/1000 BaseT(X) PoE+	IE-SW-BL05T-1GT-4GTPoE	-40 to +75 °C	1504340000

Accessories		
	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Wall mounting kit	IE-WALLMOUNT-KIT-30MM	1504450000

Power over Ethernet Injector Gigabit Ethernet – EcoLine

PoE+ Gigabit Ethernet Injector

- IEEE 802.3af/at compliant PoE ports
- Integrated DC/DC converter for providing PoE voltage to PDs over the entire PSE input voltage range from 12 to 57 V DC



Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-T(X) IEEE 802.3ab for 1000BASE-T IEEE 802.3at/af for Power-over-Ethernet
Interfaces	
RJ45 ports	10/100/1000BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Power supply	
Connection type	1 removable 4-pin terminal block
Input voltage	12/24/48 V DC (12 - 57 V), 1 single input
Current consumption at 24 V (with PD consumption)	2.81 A
Overload current protection	yes
Reverse polarity protection	yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A: MDI-X
Total PoE power budget	30 W at 12 - 23 V DC; 60 W at 24 - 57 V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	41 x 95 x 70 mm (1.61 x 2.75 x 3.74 in)
Weight	370 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	3,165,390 hrs
Database	Telcordia SR332

Guarantee	
Time interval	5 years

Ordering Information

Version	Model Type	Order No.
2x RJ45 10/100/1000 Mbit/s, 2x RJ45 PoE+ 10/100/1000 Mbit/s	IE-INJ-EL02-2GTPoE	2682440000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Managed Switches

Overview

Managed Switches	Introduction – Managed Switches	C.2
	Managed Switches Fast Ethernet	C.4
	Managed Switches Fast / Gigabit Ethernet	C.9
	Managed Switches Gigabit Ethernet	C.12
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	Managed Switches, IEC 61850-3, DIN-rail mounting Fast/Gigabit Ethernet	C.14
	Managed Switches, IEC 61850-3, DIN-rail mounting Gigabit Ethernet	C.15
	Managed Switches, IEC 61850-3, 19" rack mounting Fast/Gigabit Ethernet	C.16
	Managed Switches, IEC 61850-3, 19" rack mounting, modular Fast/Gigabit/ 10-Gigabit Ethernet	C.18
	Media interface modules for modular switch Fast/Gigabit Ethernet	C.20
	Media interface modules for modular switch Gigabit/ 10-Gigabit Ethernet	C.21

Increased productivity through uninterrupted operation

Managed switches – for optimal control and effective redundancy

In order to coordinate the different requirements of communication participants within an industrial network, managed switches feature extensive control mechanisms for data distribution and bandwidth management. Different configuration options are supported, e.g. web-based configuration, SNMP, Telnet console, command-line interface (CLI) and serial console connection.

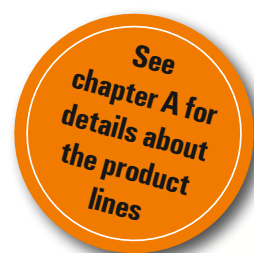
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In the industrial Ethernet infrastructures of today, system availability must be ensured through network redundancy. This prevents machine downtimes and production losses due to connection errors in the highly integrated systems. Weidmüller managed switches feature high-performance redundancy mechanisms in order to increase the availability of managed Ethernet networks.

In order to satisfy all the requirements of industrial networks, our managed switches are available in four different lines: ValueLine, AdvancedLine, PremiumLine and SubstationLine. This selection ensures the availability of the right product regardless of application-specific and industrial requirements. The lines offer both DIN rail and 19" rack models, Fast, Gigabit and up to 10 Gigabit interfaces, a broad selection of port numbers and types, Power over Ethernet variants, support for the most important industrial automation protocols and the necessary approvals for use in such demanding sectors as the process industry, transmission and distribution, and shipbuilding.

Your special advantage:

- Wide variety of ports in terms of number and features to meet individual requirements
- Models available with Fast Ethernet, Gigabit and up to 10 Gigabit interfaces
- Lite- to full-managed models, including Power over Ethernet variants
- Support of industrial protocols for optimal integration into the most common automation networks



Variety of models
Lite- to full-managed models

Support of a variety of communication protocols
Industrial Ethernet protocols, such as PROFINET-RT, Ethernet/IP and Modbus/TCP

Backup and restore function
External backup and restore (EBR) module available

Configuration
Different configuration options supported

Extensive approvals
Numerous international approvals, such as CE, FCC, EAC cULus, Class 1 Div. 2, ATEX Zone 2, DNV-GL, IEC 61850-3 and IEEE 1613



5 and 6-Port managed Fast Ethernet Switches

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C



Technical data

Technology		
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3x for flow control IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1AB for Link Layer Discovery Protocol (LLDP)	
Processing type	Store and Forward	
Flow control	IEEE 802.3x flow control	
Switch characteristics		
MAC table size	2K	
Packet buffer Size	1 Mbit	
Management features		
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface or TFTP-Server	
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap	
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery	
Network traffic filter	Quality of Service (QoS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting	
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP-Relay	
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X, User Authentication, Access control (Port based via IEEE 802.1X), Access Control List (IP-based, MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection	
Time synchronization management	SNTP client	
Industrial protocol support	Modbus/TCP slave	
Interfaces		
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
Fibre optic ports	100BASE-FX (SC-Duplex connector)	
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC	
DIP switches	1x enabling/disabling power fault alarm via relay 3x for ring redundancy settings	
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default	
Fibre optic transceiver characteristics		
Transmission rate	100 Mbps	
Connector type	SC-Duplex	
Transceiver type	Multimode	Singlemode
Fiber cable type	50/125 µm	9/125 µm
	62.5/125 µm	
Transmission distance, typical	2 km	30 km
Wavelength, typical	1310 nm	
Optical power RX range	-31 to 0 dBm	-34 to 0 dBm
Optical power TX range	-23.5 to -14 dBm	-15 to -8 dBm
Link-budget	7.5 dB	19 dB

Power supply	
Connection type	IE-SW-AL05LM-5TX: 1 removable 6-pin terminal block IE-SW-AL06LM-4TX-2SC: 1 removable 7-pin terminal block IE-SW-AL06LM-4TX-2SCS: 1 removable 7-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	IE-SW-AL05LM-5TX: 0.25 A IE-SW-AL06LM-4TX-2SC: 0.24 A IE-SW-AL06LM-4TX-2SCS: 0.24 A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	IE-SW-AL05LM-5TX: 26.1 x 144.3 x 94.9 mm (1.03 x 5.68 x 3.74 in) IE-SW-AL06LM-4TX-2SC: 54.2 x 145.4 x 107.1 mm (2.13 x 5.72 x 4.22 in) IE-SW-AL06LM-4TX-2SCS: 54.2 x 145.4 x 107.1 mm (2.13 x 5.72 x 4.22 in)
Weight	IE-SW-AL05LM-5TX: 335 g IE-SW-AL06LM-4TX-2SC: 649 g IE-SW-AL06LM-4TX-2SCS: 649 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-AL05LM-5TX: 1,796,601 hrs IE-SW-AL06LM-4TX-2SC: 595,597 hrs IE-SW-AL06LM-4TX-2SCS: 609,551 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
5x RJ45 10/100 Mbit/s	IE-SW-AL05LM-5TX	2682250000
4x RJ45 10/100 Mbit/s, 2x SC Multimode 100 Mbit/s	IE-SW-AL06LM-4TX-2SC	2682260000
4x RJ45 10/100 Mbit/s, 2x SC Singlemode 100 Mbit/s	IE-SW-AL06LM-4TX-2SCS	2682270000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

8 to 24-Port managed Fast Ethernet Switches

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C



ModbusTCP

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Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for Link Layer Discovery Protocol (LLDP)
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	1 Mbit
Priority queues	4
Number of available VLANs	4095 (1 to 4094)
IGMP groups	IE-SW-AL08M-8TX: 1024 IE-SW-AL16M-16TX: 256 per VLAN IE-SW-AL24M-24TX: 256 per VLAN
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface or TFTP-Server
Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap
Network redundancy	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap
Network traffic filter	Quality of Service (QoS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X, User Authentication, Access control (Port based via IEEE 802.1X), Access Control List (IP-based, MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server SNTP client
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	IE-SW-AL08M-8TX: 1 removable 7-pin terminal block IE-SW-AL16M-16TX: 1 removable 6-pin terminal block IE-SW-AL24M-24TX: 1 removable 6-pin terminal block

Power supply	
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	IE-SW-AL08M-8TX: 0.24 A IE-SW-AL16M-16TX: 0.6 A IE-SW-AL24M-24TX: 0.6A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	IE-SW-AL08M-8TX: 54.2 x 145.4 x 107.1 mm (2.13 x 5.72 x 4.21 in) IE-SW-AL16M-16TX: 74.3 x 153.6 x 107.5 mm (2.93 x 6.05 x 4.2 in) IE-SW-AL24M-24TX: 96.4 x 154 x 108.5 mm (3.8 x 6.06 x 4.27 in)
Weight	IE-SW-AL08M-8TX: 789 g IE-SW-AL16M-16TX: 1148 g IE-SW-AL24M-24TX: 1281 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-AL08M-8TX: 841,599 hrs IE-SW-AL16M-16TX: 886,987 hrs IE-SW-AL24M-24TX: 731,289 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
8x RJ45 10/100 Mbit/s	IE-SW-AL08M-8TX	2682280000
16x RJ45 10/100 Mbit/s	IE-SW-AL16M-16TX	2682310000
24x RJ45 10/100 Mbit/s	IE-SW-AL24M-24TX	2682320000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

5-Port managed Fast Ethernet Switches

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



Technical data

Standards	
IEEE 802.3 for 10BaseT ■ IEEE 802.3u for 100BaseT(X) ■ IEEE 802.3x for Flow Control ■ IEEE 802.1D-2004 for Spanning Tree Protocol ■ IEEE 802.1w for Rapid STP ■ IEEE 802.1p for Class of Service ■ IEEE 802.1Q for VLAN Tagging	
Protocols	
IGMPv1/v2 ■ GMRP ■ GVRP ■ SNMPv1/v2c/v3 ■ DHCP Server/Client ■ TFTP ■ SNTP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ Telnet ■ Syslog ■ DHCP Option 66/67/82 ■ BootP ■ LLDP ■ Modbus/TCP ■ PROFINET RT (PROFINET-IO device in compliance with Conformance Class B) ■ EtherNet/IP (CIP support) ■ IPv6	
MIB	
MIB-II ■ Ethernet-like MIB ■ P-BRIDGE MIB ■ Bridge MIB ■ RSTP MIB ■ RMON MIB Group 1, 2, 3, 9 ■ Private MIB	
Flow Control	
IEEE 802.3x flow control ■ back pressure flow control	
Switch Properties	
MAC Table Size	2 K
Packet Buffer Size	1 MBit
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
Console Port	RS 232 (RJ45 connector)
DIP Switches	Turbo Ring, Master, Coupler, Reserve
Alarm Contact	1 relay output with current carrying capacity of 1 A at 24 V DC
Power Requirements	
Input Voltage	12/24/48 V DC (9.6 to 60 V DC), two redundant inputs
Input Current	0.24 A at 24 V
Overload Current Protection	Present
Connection	1 removable 6-contact terminal block
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	650 g
Type of mounting	DIN-Rail
Environmental Limits	
Operating Temperature	Standard models: -10 to 60 °C (14 to 140 °F) Models with extended temperature range: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508, UL 60950-1, CSA C22.2 No. 60950-1, EN60950-1
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Maritime	DNV-GL
Shock	IEC 60068-2-27

Regulatory Approvals	
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	1,547,941 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Version	Model Type	Operating Temperature	Order No.
5 * RJ45	IE-SW-VL05M-5TX	-10 to +60 °C	1504280000
5 * RJ45	IE-SW-VL05MT-5TX	-40 to +75 °C	1504310000

Accessories		
	Model Type	Order No.
External Backup and Restore Module	EBR-Module RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

8-Port managed Fast Ethernet Switches

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Turbo Ring and Turbo Chain with fast recovery time (<20 ms for up to 250 switches)
- IGMP snooping, QoS, port- and tag-based VLAN
- Configurable error messages via SNMP trap, e-mail or relay output
- User-friendly, web-based configuration and management



EtherNet/IP™

ModbusTCP

C

Technical data

Standards			
IEEE 802.3 for 10BaseT ■ IEEE 802.3u for 100BaseT(X) and 100BaseFX ■ IEEE 802.3x for Flow Control			
■ IEEE 802.1D-2004 for Spanning Tree Protocol ■ IEEE 802.1w for Rapid STP ■ IEEE 802.1p for Class of Service			
■ IEEE 802.1Q for VLAN Tagging			
Protocols			
IGMPv1/v2 ■ GMRP ■ GVRP ■ SNMPv1/v2c/v3 ■ DHCP Server/Client ■ TFTP ■ SNTP ■ SMTP ■ RARP			
■ RMON ■ HTTP ■ Telnet ■ Syslog ■ DHCP Option 66/67/82 ■ BootP ■ LLDP ■ Modbus/TCP ■ PROFINET RT			
(PROFINET-IO device in compliance with Conformance Class B) ■ EtherNet/IP (CIP support) ■ IPv6			
MIB			
MIB-II ■ Ethernet-like MIB ■ P-BRIDGE MIB ■ Bridge MIB ■ RSTP MIB ■ RMON MIB Group 1, 2, 3, 9			
■ Private MIB			
Flow Control			
IEEE 802.3x flow control ■ back pressure flow control			
Switch Properties			
MAC Table Size		8K	
Packet Buffer Size		1 MBit	
Interface			
Fibre Ports		100BaseFX (SC/ST-duplex connection)	
RJ45 Ports		10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection	
Console Port		RS 232 (RJ45 connector)	
DIP Switches		Turbo Ring, Master, Coupler, Reserve	
Alarm Contact		1 relay output with current carrying capacity of 1 A at 24 V DC	
Specification optical fiber			
Transceiver Type		100Base FX	
		Multi-Mode	Single-Mode
Fiber Cable Type		OM1	50/125 μm 800 MHz*km G.652
Typical Distance		4 km	5 km 40 km
Wave-length	Typical (nm)	1300	
	TX Range (nm)	1260 to 1360	
	RX Range (nm)	1100 to 1600	
Optical	TX Range (dBm)	-10 to -20	
	RX Range (dBm)	-3 to -32	
Power	Link-Budget (dB)	12	
	Dispersion Penalty (dB)	3	
Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.			
Power Requirements			
Input Voltage		12/24/48 V DC (9.6 to 60 V DC), two redundant inputs	
Input Current		IE-SW-VL08M-8TX: 0.18 A at 24 V IE-SW-VL08M-6TX-2ST/2SC/2SCS: 0.30 A at 24 V IE-SW-VL08MT-5TX-1SC-2SCS: 890 q	
Overload Current Protection		Present	
Connection		1 removable 6-contact terminal block	
Reverse Polarity Protection		Present	
Physical Characteristics			
Housing		Metal, IP30 protection	
Dimensions (W x H x D)		53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)	
Weight		IE-SW-VL08MT-8TX/6TX-2SC/6TX-2ST/6TX-2SCS: 650 g IE-SW-VL08MT-5TX-1SC-2SCS: 890 q	

Physical Characteristics	
Type of mounting	DIN-Rail
Environmental Limits	
Operating Temperature	-40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508, UL 60950-1*
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D*; ATEX Zone 2 Ex nA nC IIC T4 Gc*
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Maritime	DNV-GL*
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	1,339,439 hrs / 1,253,072 hrs model IE-SW-VL08MT-5TX-1SC-2SCS
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Version	Model Type	Operating Temperature	Order No.
8 * RJ45	IE-SW-VL08MT-8TX	-40 to +75 °C	1240940000
5 * RJ45, 1 * SC-Multimode, 2 * SC-Singlemode	IE-SW-VL08MT-5TX-1SC-2SCS	-40 to +75 °C	1345240000
6 * RJ45, 2 * ST-Multimode	IE-SW-VL08MT-6TX-2ST	-40 to +75 °C	1240990000
6 * RJ45, 2 * SC-Multimode	IE-SW-VL08MT-6TX-2SC	-40 to +75 °C	1344770000
6 * RJ45, 2 * SC-Singlemode	IE-SW-VL08MT-6TX-2SCS	-40 to +75 °C	1241020000

Accessories		
	Model Type	Order No.
External Backup and Restore Module	EBR-Module RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

Note

* does not apply to model IE-SW-VL08MT-5TX-1SC-2SCS

Managed Switches Fast Ethernet – Premium Line

16-Port managed Fast Ethernet Switches

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- Plug-n-play Turbo Ring and Turbo Chain (<20 ms for up to 250 switches)
- IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported



EtherNet/IP[™] **PROFINET[®]** **ModbusTCP**

Technical data

Standards	
IEEE 802.3 for 10BaseT ■ IEEE 802.3u for 100BaseT (X) ■ IEEE 802.3x for Flow Control	
■ IEEE 802.1D-2004 for Spanning Tree Protocol ■ IEEE 802.1w for Rapid STP	
■ IEEE 802.1Q for VLAN Tagging ■ IEEE 802.1p for Class of Service ■ IEEE 802.1X for Authentication	
■ IEEE 802.3ad for Port Trunk with LACP	
Protocols	
IGMPv1/v2 ■ GVRP ■ SNMPv1/v2c/v3 ■ DHCP Server/Client ■ BootP ■ TFTP ■ SNTP ■ SMTP ■ RARP	
■ GMRP ■ LACP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ Syslog ■ DHCP Option 66/67/82 ■ SSH ■ SNMP Inform	
■ Modbus/TCP ■ PROFINET RT (PROFINET-IO device in compliance with Conformance Class B)	
■ EtherNet/IP (CIP support) ■ LLDP ■ IEEE 1588 PTP ■ IPv6	
MIB	
MIB-II ■ Ethernet-Like MIB ■ P-BRIDGE MIB ■ Q-BRIDGE MIB ■ Bridge MIB ■ RSTP MIB	
■ RMON MIB Group 1, 2, 3, 9 ■ Private MIB	
Flow Control	
IEEE 802.3x flow control ■ back pressure flow control	
Switch Properties	
Priority Queues	4
Max. Number of Available VLANs	64
VLAN ID Range	VID 1 to 4094
IGMP Groups	256
MAC Table Size	8 K
Packet Buffer Size	2 Mbit
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
Console Port	RS 232 (RJ45 connector)
Alarm Contact	2 relay outputs with a current carrying capacity from 1 A at 24 V DC
Digital Inputs	2 inputs with the same ground, electrically isolated • +13 to +30 V for state "1" • -30 to +3 V for state "0" • Max. input current: 8 mA
Power Requirements	
Input Voltage	24 V DC (12 to 45 V DC), two redundant inputs
Input Current	0.41 A at 24 V
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	94 x 135 x 142.7 mm (3.7 x 5.31 x 5.62 in)
Weight	1586 g
Type of mounting	DIN-Rail
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508, UL 60950-1, CSA C22.2 No. 60950-1, EN60950-1

Regulatory Approvals	
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D; ATEX Zone 2 Ex nA nC IIC T4 Gc
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD) level 2; EN61000-4-3 (RS) level 3; EN61000-4-4 (EFT) level 3; EN61000-4-5 (Surge) level 3; EN61000-4-6 (CS) level 3; EN61000-4-8
Maritime	DNV-GL
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	247,000 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Version	Model Type	Operating Temperature	Order No.
16 * RJ45	IE-SW-PL16M-16TX	0 to 60 °C	1241100000
	IE-SW-PL16MT-16TX	-40 to +75 °C	1286820000

8 to 18-Port managed Fast/Gigabit Ethernet Switches

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances



ModbusTCP

C

Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for Link Layer Discovery Protocol (LLDP)
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	1 Mbit
Priority queues	4
Number of available VLANs	4095 (1 to 4094)
IGMP groups	1024
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface or TFTP-Server
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X, User Authentication, Access control (Port based via IEEE 802.1X), Access Control List (IP-based, MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	IE-SW-AL08M-6TX-2GT: 1 removable 7-pin terminal block IE-SW-AL10M-8TX-2GC: 1 removable 6-pin terminal block IE-SW-AL18M-16TX-2GC: 1 removable 6-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	IE-SW-AL08M-6TX-2GT: 0.41 A IE-SW-AL10M-8TX-2GC: 0.45 A IE-SW-AL18M-16TX-2GC: 0.6A

Power supply	
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	IE-SW-AL08M-6TX-2GT: 54.2 x 145.4 x 107.1 mm (2.13 x 5.72 x 4.21 in) IE-SW-AL10M-8TX-2GC: 74.3 x 153.6 x 107.5 mm (2.93 x 6.05 x 4.2 in) IE-SW-AL18M-16TX-2GC: 96.4 x 154 x 108.5 mm (3.8 x 6.06 x 4.27 in)
Weight	IE-SW-AL08M-6TX-2GT: 789 g IE-SW-AL10M-8TX-2GC: 1140 g IE-SW-AL18M-16TX-2GC: 1281 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-AL08M-6TX-2GT: 798,350 hrs IE-SW-AL10M-8TX-2GC: 366,529 hrs IE-SW-AL18M-16TX-2GC: 600,504 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
6x RJ45 10/100 Mbit/s, 2x RJ45 10/100/1000 Mbit/s	IE-SW-AL08M-6TX-2GT	2682290000
8x RJ45 10/100 Mbit/s, 2x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 100/1000Mbit/s)	IE-SW-AL10M-8TX-2GC	2740420000
16x RJ45 10/100 Mbit/s, 2x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 100/1000Mbit/s)	IE-SW-AL18M-16TX-2GC	2682330000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Note	
Corresponding SFP modules for AdvancedLine switches, see page I.4 - I.5.	

Managed Switches Fast / Gigabit Ethernet – PremiumLine

10-Port managed Fast/Gigabit Ethernet Switches

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- 2 Gigabit Ethernet ports for redundant ring and 1 Gigabit Ethernet port for uplink solution
- Ring redundancy with fast recovery time (< 20 ms for up to 250 switches)
- IEEE 1588 PTP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported



Technical data

Standards	
IEEE 802.3 for 10BaseT ■ IEEE 802.3u for 100BaseT (X) ■ IEEE 802.3ab for 1000BaseT(X) ■ IEEE 802.3x for Flow Control ■ IEEE 802.1D-2004 for Spanning Tree Protocol ■ IEEE 802.1w for Rapid STP ■ IEEE 802.1Q for VLAN Tagging ■ IEEE 802.1p for Class of Service ■ IEEE 802.1X for Authentication ■ IEEE 802.3ad for Port Trunk with LACP	
Protocols	
IGMPv1/v2 ■ GMRP ■ GVRP ■ SNMPv1/v2c/v3 ■ DHCP Server/Client ■ BootP ■ TFTP ■ SNTP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ Syslog ■ DHCP Option 66/67/82 ■ SSH ■ SNMP Inform ■ Modbus/TCP ■ PROFINET RT (PROFINET-IO device in compliance with Conformance Class B) ■ EtherNet/IP (CIP support) ■ LLDP ■ IEEE 1588 PTP ■ IPv6	
MIB	
MIB-II ■ Ethernet-Like MIB ■ P-BRIDGE MIB ■ Q-BRIDGE MIB ■ Bridge MIB ■ RSTP MIB ■ RMON MIB Group 1, 2, 3, 9 ■ Private MIB	
Flow Control	
IEEE 802.3x flow control ■ back pressure flow control	
Switch Properties	
Priority Queues	4
Max. Number of Available VLANs	64
VLAN ID Range	VID 1 to 4094
IGMP Groups	256
MAC Table Size	8 K
Packet Buffer Size	1 MBit
Interface	
RJ45 Ports	10/100BaseT(X) oder 10/100/1000BaseT(X) auto negotiation
Console Port	RS 232 (RJ45 connector)
DIP Switches	Turbo-Ring, Master, Coupler, Reserve
Alarm Contact	2 relay outputs with a current carrying capacity from 1 A at 24 V DC
Digital Inputs	2 inputs with the same ground, but electrically isolated from the electronics • +13 to +30 V for state "1" • -30 to +3 V for state "0" • Max. input current: 8 mA
Power Requirements	
Input Voltage	24 V DC (12 to 45 V DC), two redundant inputs
Input Current	0.48 A at 24 V
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in)
Weight	1170 g
Type of mounting	DIN-Rail

Environmental Limits	
Operating Temperature	Standard Models: -10 to 60 °C (32 to 140 °F); Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508, UL 60950-1, CSA C22.2 No. 60950-1, EN60950-1
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D; ATEX Zone 2 Ex nA nC IIC T4 Gc
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	977,099 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Version	Model Type	Operating Temperature	Order No.
3 * RJ45 10/100/1000BaseT(X),	IE-SW-PL10MT-3GT-7TX	-10 to 60 °C	1241290000
7 * RJ45 10/100BaseT(X)	IE-SW-PL10MT-3GT-7TX	-40 to +75 °C	1286930000

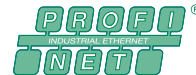
Accessories		
	Model Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

18-Port managed Fast/Gigabit Ethernet Switches

- Supports the automation protocols Modbus/TCP, PROFINET RT and EtherNet/IP
- 2 Gigabit Ethernet ports plus 16 Fast Ethernet ports for copper and fibre
- Ring redundancy with rapid recovery time (< 20 ms for up to 250 switches)
- IEEE 1588 PTP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported



EtherNet/IP™



ModbusTCP

C

Technical data

Standards	
IEEE 802.3 for 10BaseT ■ IEEE 802.3u for 100BaseT(X) ■ IEEE 802.3ab for 1000BaseT(X) ■ IEEE 802.3z for 1000BaseX IEEE 802.3x for Flow Control ■ IEEE 802.1D-2004 for Spanning Tree Protocol ■ IEEE 802.1w for Rapid STP ■ IEEE 802.1Q for VLAN Tagging ■ IEEE 802.1p for Class of Service ■ IEEE 802.1X for Authentication ■ IEEE 802.3ad for Port-Trunk mit LACP	
Protocols	
IGMPv1/v2 ■ GMRP, GVRP ■ SNMPv1/v2c/v3 ■ DHCP Server/Client ■ BootP ■ TFTP ■ SNMP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ Syslog ■ DHCP-Option 66/67/82 ■ SSH ■ SNMP Inform ■ Modbus/TCP ■ PROFINET RT (PROFINET-IO device in compliance with Conformance Class B) ■ EtherNet/IP (CIP support) ■ LLDP ■ IEEE 1588 PTP ■ IPv6	
MIB	
MIB-II ■ Ethernet-like MIB ■ P-BRIDGE MIB ■ Q-BRIDGE MIB ■ Bridge MIB ■ RSTP MIB ■ RMON MIB Group 1, 2, 3, 9 ■ Private MIB	
Flow Control	
IEEE 802.3x flow control ■ back pressure flow control	
Switch Properties	
Priority Queues	4
Max. Number of Available VLANs	64
VLAN ID Range	VID 1 to 4094
IGMP Groups	256
MAC Table Size	8 K
Packet Buffer Size	2 MBit
Interface	
Fibre Ports	1000BaseSFP (100BaseSFP modules are not supported)
RJ45 Ports	10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation
Console Port	RS 232 (RJ45 connector)
Alarm Contact	2 relay outputs with a current carrying capacity from 1 A at 24 V DC
Digital Inputs	2 inputs with the same ground, but electrically isolated from the electronics. • +13 to +30 V for state "1" • -30 to +3 V for state "0" • Max. input current: 8 mA
Power Requirements	
Input Voltage	24 V DC (12 to 45 V DC), redundant dual inputs
Input Current	0.51 A at 24 V
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	94 x 135 x 142.7 mm (3.7 x 5.31 x 5.62 in)
Weight	1630 g
Type of mounting	DIN-Rail

Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL 508, UL 60950-1, CSA C22.2 No. 60950-1, EN60950-1
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D; ATEX Zone 2 Ex nA nC IIC T4 Gc
EMC	FCC Part 15, CISPR (EN55022) Class A EN61000-4-2 (ESD), level 2; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 2; EN61000-4-5 (Surge), level 3; EN61000-4-6 (CS), level 3; EN61000-4-8; EN61000-4-12
Maritime	DNV-GL
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	240,000 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data

Version	Model Type	Operating Temperature	Order No.
16 * RJ45 10/100BaseT(X), 2 * Combo Port (10/100/1000BaseT(X) or 1000BaseSFP)	IE-SW-PL18M-2GC-16TX IE-SW-PL18MT-2GC-16TX	0 to +60 °C -40 to +75 °C	1241320000 1286970000
14 * RJ45 10/100BaseT(X), 2 * SC-Singlemode 100BaseFX, 2 * Combo Port (10/100/1000BaseT(X) or 1000BaseSFP)	IE-SW-PL18M-2GC14TX2SCS IE-SW-PL18MT-2GC14TX2SCS	0 to +60 °C -40 to +75 °C	1241350000 1287010000

Note

Corresponding SFP modules for PremiumLine switches, see page I.7

8 to 24-Port managed Gigabit Ethernet Switches

- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C
- SFP-ports for fiber optic transmission over long distances
- Gigabit Ethernet including Jumbo Frame support for applications with high demand on bandwidth and latency

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Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for Link Layer Discovery Protocol (LLDP) IEEE 1588 PTPv2 for time synchronization
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	4 Mbit
Jumbo frame support	up to 9.6 KB
Priority queues	8
Number of available VLANs	4096 (1 to 4095)
IGMP groups	256 per VLAN
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap, Ethernet cable diagnostics on RJ45 ports
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS), Tag based VLAN, IGMP v2/v3, Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List (IP-based, MAC-based), Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2 (for IE-SW-AL14M-12GT-2GESFP and IE-SW-AL24M-16GT-8GESFP only)
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave, EtherNet/IP
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	IE-SW-AL08M-8GT: 0.55 A IE-SW-AL12M-8GT-4GESFP: 0.54 A IE-SW-AL14M-12GT-2GESFP: 0.53 A IE-SW-AL24M-16GT-8GESFP: 0.84 A



Power supply	
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	IE-SW-AL08M-8GT: 54.3 x 145.1 x 108.3 mm (2.13 x 5.71 x 4.26 in) IE-SW-AL12M-8GT-4GESFP: 54.3 x 145.1 x 108.3 mm (2.13 x 5.71 x 4.26 in) IE-SW-AL14M-12GT-2GESFP: 74.3 x 153.6 x 109.2 mm (2.93 x 6.05 x 4.3 in) IE-SW-AL24M-16GT-8GESFP: 96.4 x 154.0 x 108.5 mm (3.8 x 6.06 x 4.27 in)
Weight	IE-SW-AL08M-8GT: 810 g IE-SW-AL12M-8GT-4GESFP: 779 g IE-SW-AL14M-12GT-2GESFP: 1039 g IE-SW-AL24M-16GT-8GESFP: 1319 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-AL08M-8GT: 508,672 hrs IE-SW-AL12M-8GT-4GESFP: 551,478 hrs IE-SW-AL14M-12GT-2GESFP: 713,154 hrs IE-SW-AL24M-16GT-8GESFP: 507,660 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information

Version	Model Type	Order No.
8x RJ45 10/100/1000 Mbit/s	IE-SW-AL08M-8GT	2682350000
8x RJ45 10/100/1000 Mbit/s, 4x SFP 100/1000 Mbit/s	IE-SW-AL12M-8GT-4GESFP	2682340000
12x RJ45 10/100/1000 Mbit/s, 2x SFP 100/1000 Mbit/s	IE-SW-AL14M-12GT-2GESFP	2682360000
16x RJ45 10/100/1000 Mbit/s, 8x SFP 100/1000 Mbit/s	IE-SW-AL24M-16GT-8GESFP	2682370000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Configuration backup and restore module	IE-EBR-MODULE-RS232-ALM	2682610000

Note

Corresponding SFP modules for AdvancedLine switches, see page I.4 - I.5.

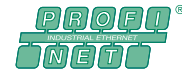
6 and 8-Port managed PoE+ Gigabit Ethernet Switches

- IEEE 802.3af/at compliant PoE ports
- Integrated DC/DC converter for providing PoE voltage to PDs over the entire PSE input voltage range from 12 to 57 V DC
- Gigabit Ethernet on all ports including Jumbo Frame support for applications with high demand on bandwidth and latency
- SFP-ports for fiber optic transmission over long distances
- Gigabit Ethernet including Jumbo Frame support for applications with high demand on bandwidth and latency

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Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for Link Layer Discovery Protocol (LLDP) IEEE 802.3at/af for Power-over-Ethernet
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	4 Mbit
Jumbo frame support	up to 9.6 KB
Priority queues	8
Number of available VLANs	4096 (1 to 4095)
IGMP groups	256 per VLAN
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS), Tag based VLAN, IGMP v2/v3, Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List (IP-based, MAC-based), Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave, EtherNet/IP
Interfaces	
RJ45 ports	10/100/1000BaseT(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	12/24/48 V DC (12 - 57 V), 2 redundant inputs

Power supply	
Current consumption at 24 V (with PD consumption)	IE-SW-AL06M-4GTPoE-2GESFP: 5.4 A IE-SW-AL08M-8GTPoE: 5.32 A
Overload current protection	yes
Reverse polarity protection	yes
Power over Ethernet (PoE)	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI
Total PoE power budget	60 W at 12 - 23 V DC; 120 W at 24 - 57 V DC
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	54.3 x 145.1 x 108.5 (2.13 x 5.71 x 4.27 in)
Weight	IE-SW-AL06M-4GTPoE-2GESFP: 975 g IE-SW-AL08M-8GTPoE: 985 g
Environmental conditions	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	IE-SW-AL06M-4GTPoE-2GESFP: 495,624 hrs IE-SW-AL08M-8GTPoE: 495,670 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information

Version	Model Type	Order No.
4x RJ45 PoE+ 10/100/1000 Mbit/s, 2x SFP 100/1000 Mbit/s	IE-SW-AL06M-4GTPoE-2GESFP	2682430000
8x RJ45 PoE+ 10/100/1000 Mbit/s	IE-SW-AL08M-8GTPoE	2682420000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Configuration backup and restore module	IE-EBR-MODULE-RS232-ALM	2682610000

Note

Corresponding SFP modules for AdvancedLine switches, see page I.4 - I.5.

Managed Switches, IEC 61850-3, DIN-rail mounting Fast/Gigabit Ethernet - SubstationLine

10-Port managed Fast/Gigabit Ethernet Switches

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances

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Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1D-2004 for Rapid Spanning Tree Protocol 2004 (RSTP:2004) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer size	1 Mbit
Priority queues	4
Number of available VLANs	4095 (1 to 4094)
IGMP groups	1024
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface or TFTP-Server
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X, User Authentication, Access control (Port based via IEEE 802.1X), Access Control List (IP-based, MAC-based), Management access security via secure IP-list and configuration of allowed access methods (web-interface, telnet, SSH), Loop protection
Time synchronization management	NTP server, SNTP client
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave
Interfaces	
RJ45 ports	10/100BASE-T(X) or 10/100/1000BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	IE-SW-SL10M-7TX-3GC-HV: 2x 3-pin fork/ring lug connection IE-SW-SL10M-7TX-3GC-LV: 2 removable 2-pin terminal blocks



Power supply		
Input voltage	IE-SW-SL10M-7TX-3GC-HV: 110/220 V DC (88 - 373 V), 110/220 V AC (85 - 264 V), 2 redundant isolated inputs IE-SW-SL10M-7TX-3GC-LV: 48 V DC (12 - 52 V), 2 redundant inputs	
Power consumption	12 W (max.)	
Overload current protection	yes	
Reverse polarity protection	yes	
Physical characteristics		
Housing main material	Metal	
Protection degree	IP30	
Type of mounting	DIN rail	
Dimensions (W x H x D)	96.4 x 154 x 148.5 mm (3.8 x 6.06 x 5.85 in)	
Weight	IE-SW-SL10M-7TX-3GC-HV: 1935 g IE-SW-SL10M-7TX-3GC-LV: 1415 g	
Environmental conditions		
Operating temperature	-40 to 85 °C (-40 to 185 °F)	
Storage temperature	-40 to 85 °C (-40 to 185 °F)	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	≤ 2000 m	
EMC conformity and approvals		
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 Vrms	
Safety	EN 62368-1	
Substation compliance	IEC 61850-3, IEEE 1613	
Shock	IEC 60870-2-2 class Cm	
Vibration	IEC 60870-2-2 class Cm and Class Bm	
Free fall	IEC 60870-2-2 class Cm	
MTBF		
Time	IE-SW-SL10M-7TX-3GC-HV: 599,113 hrs IE-SW-SL10M-7TX-3GC-LV: 528,570 hrs	
Database	Telcordia SR332	
Guarantee		
Time interval	5 years	
Ordering Information		
Version	Model Type	Order No.
7x RJ45 10/100 Mbit/s, 3x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 100/1000Mbit/s), High Voltage	IE-SW-SL10M-7TX-3GC-HV	2778950000
7x RJ45 10/100 Mbit/s, 3x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 100/1000Mbit/s), Low Voltage	IE-SW-SL10M-7TX-3GC-LV	2778960000
Accessories	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Note

Corresponding SFP modules for SubstationLine switches, see page I.4 - I.5.

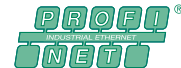
20-Port managed Gigabit Ethernet Switches

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances

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Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) IEEE 1588 PTPv2 for time synchronization
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	4 Mbit
Jumbo frame support	up to 9.6 KB
Priority queues	8
Number of available VLANs	4096 (1 to 4095)
IGMP groups	256 per VLAN
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap, Ethernet cable diagnostics on RJ45 ports
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS), Tag based VLAN, IGMP v2/v3, Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List (IP-based, MAC-based), Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave, EtherNet/IP
Interfaces	
RJ45 ports	10/100/1000BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	IE-SW-SL20M-8GT-12GESFP-HV: 2x 3-pin fork/ring lug connection IE-SW-SL20M-8GT-12GESFP-LV: 2 removable 2-pin terminal blocks



Power supply	
Input voltage	IE-SW-SL20M-8GT-12GESFP-HV: 110/220 V DC (88 - 373 V), 110/220 V AC (85 - 264 V), 2 redundant isolated inputs IE-SW-SL20M-8GT-12GESFP-LV: 48 V DC (12 - 52 V), 2 redundant isolated inputs
Power consumption	23 W (max.)
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	115 x 154 x 159 mm (4.5 x 6.06 x 6.26 in)
Weight	IE-SW-SL20M-8GT-12GESFP-HV: 1870 g IE-SW-SL20M-8GT-12GESFP-LV: 1520 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 Vrms
Safety	EN 62368-1
Substation compliance	IEC 61850-3, IEEE 1613
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and Class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Time	IE-SW-SL20M-8GT-12GESFP-HV: 421,961 hrs IE-SW-SL20M-8GT-12GESFP-LV: 273,551 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
8x RJ45 10/100/1000 Mbit/s, 12x SFP 100/1000 Mbit/s, High Voltage	IE-SW-SL20M-8GT-12GESFP-HV	2778970000
8x RJ45 10/100/1000 Mbit/s, 12x SFP 100/1000 Mbit/s, Low Voltage	IE-SW-SL20M-8GT-12GESFP-LV	2778980000
Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Configuration backup and restore module	IE-EBR-MODULE-RS232-ALM	2682610000

Note	
Corresponding SFP modules for SubstationLine switches, see page I.4 - I.5.	

Managed Switches, IEC 61850-3, 19" rack mounting Fast/Gigabit Ethernet – SubstationLine

26-Port 19" managed Fast/Gigabit Ethernet Switches

- Meets IEC 61850-3 / IEEE 1613 standards
- Redundant power supply modules
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances

available
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Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) IEEE 1588 PTPv2 for time synchronization
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	4 Mbit
Priority queues	8
Number of available VLANs	4095 (1 to 4094)
IGMP groups	256 per VLAN
Management features	
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Telnet console, CLI, Local serial console port, Upload of a configuration file via web-interface, TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3, LLDP, Port mirroring, Port statistics, Port monitoring, Syslog, RMON, Event based warning via E-Mail, relay, SNMP trap, Ethernet cable diagnostics on RJ45 ports
Network redundancy	STP, RSTP, MSTP, LACP, O-Ring, O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS), Tag based VLAN, IGMP v2/v3, Traffic Rate Limiting
IP-address management	Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay
Security functions	VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, DoS/DDoS auto prevention, Access Control List (IP-based, MAC-based), Loop protection, Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server, SNTP client, PTPv2
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave, EtherNet/IP
Interfaces	
RJ45 ports	10/100BASE-T(X) or 10/100/1000BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Fibre optic ports	100/1000BaseSFP-slot
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default
Power supply	
Connection type	1x 10-pin fork/ring lug connection

Power supply

Input voltage	IE-SW-SL26M-24TX-2GC-HV: 110/220 V DC (100 - 370 V), 110/220 V AC (100 - 240 V), 2 redundant isolated inputs IE-SW-SL26M-24TX-2GC-LV: 48 V DC (24 - 72 V), 2 redundant isolated inputs
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Power consumption 23 W (max.)

Overload current protection yes

Reverse polarity protection yes

Physical characteristics

Housing main material Metal

Protection degree IP30

Type of mounting 19" rack mounting

Dimensions (W x H x D) 443.7 x 44 x 262.5 mm (17.46 x 1.73 x 10.33 in)

Weight IE-SW-SL26M-24TX-2GC-HV: 4050 g

IE-SW-SL26M-24TX-2GC-LV: 3535 g

Environmental conditions

Operating temperature -40 to 85 °C (-40 to 185 °F)

Storage temperature -40 to 85 °C (-40 to 185 °F)

Humidity 5 to 95 % (non-condensing)

Operating altitude ≤ 2000 m

EMC conformity and approvals

EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 Vrms
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Safety EN 62368-1

Substation compliance IEC 61850-3, IEEE 1613

Shock IEC 60870-2-2 class Cm

Vibration IEC 60870-2-2 class Cm and Class Bm

Free fall IEC 60870-2-2 class Cm

MTBF

Time IE-SW-SL26M-24TX-2GC-HV: 262,968 hrs

IE-SW-SL26M-24TX-2GC-LV: 297,924 hrs

Database Telcordia SR332

Guarantee

Time interval 5 years

Ordering Information

Version	Model Type	Order No.
24x RJ45 10/100 Mbit/s, 2x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 100/1000 Mbit/s), High Voltage	IE-SW-SL26M-24TX-2GC-HV	2778990000
24x RJ45 10/100 Mbit/s, 2x combo-ports usable as RJ45 10/100/1000 Mbit/s or SFP 100/1000 Mbit/s), Low Voltage	IE-SW-SL26M-24TX-2GC-LV	2779000000

Note

Corresponding SFP modules for SubstationLine switches, see page I.4 - I.5.

28-Port 19" modular managed Fast/Gigabit/10-Gigabit Ethernet Switches

- Meets IEC 61850-3 / IEEE 1613 standards
- Modular design to allocate up to 28 ports with up to 10-GbE speed
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 85°C
- SFP-ports for fiber optic transmission over long distances

available
Q3 2021



EtherNet/IP™
ModbusTCP

Technical data

Technology	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.3ae for 10-Gigabit Ethernet IEEE 802.3x for flow control IEEE 802.3ad for port trunk with LACP IEEE 802.1D for the Spanning Tree protocol (STP) IEEE 802.1w for Rapid Spanning Tree protocol (RSTP) IEEE 802.1s for Multiple Spanning Tree Protocol (MSTP) IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1X for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) IEEE 1588 PTPv2 for time synchronization
Processing type	Store and Forward
Flow control	IEEE 802.3x flow control
Switch characteristics	
MAC table size	8K
Packet buffer Size	32 Mbit
Memory (Flash)	16 MB
Memory (RAM)	128 MB
Jumbo frame support	up to 10 KB
Priority queues	8
Number of available VLANs	4095 (1 to 4094)
IGMP groups	128 per VLAN
Management features	
Device configuration	Webbrowser (HTTP/HTTPS) SNMP v1/v2c/v3 Telnet console, CLI Local serial console port Upload of a configuration file via web-interface TFTP-Server or external backup module
Monitoring function	SNMP v1/v2c/v3 LLDP Port mirroring Port statistics Port monitoring Syslog RMON Event based warning via E-Mail relay SNMP trap Ethernet cable diagnostics on RJ-45 ports

Management features	
Network redundancy	STP RSTP MSTP LACP O-Ring O-Chain, Fast recovery
Network traffic filter	Quality of Service (QoS) Tag based VLAN IGMP v2/v3 Traffic Rate Limiting
IP-address management	Static DHCP-Client DHCP-Server (port based, pool-based) DHCP Option 82 DHCP-Relay
Security functions	VLAN segmentation Enable/disable ports TACACS+ and IEEE 802.1X User Authentication DoS/DDoS auto prevention Access Control List (IP-based, MAC-based) Loop protection Management access security via privilege level configuration for different user roles
Time synchronization management	SNTP server SNTP client PTPv2
Industrial protocol support	PROFINET device acc. to conformance class A, Modbus/TCP slave, EtherNet/IP
Interfaces	
Supported media interface modules at slots 1 - 3	IE-SWM-SL08-8GT: 8 x 10/100/1000BASE-T(X) ports IE-SWM-SL08-8GESFP: 8 x 100/1000BaseSFP ports IE-SWM-SL04-4SC: 4 x 100Base-FX ports (SC-duplex, multimode) IE-SWM-SL04-4SCS: 4 x 100Base-FX ports (SC-duplex, singlemode) IE-SWM-SL04-4ST: 4 x 100Base-FX ports (ST-duplex, multimode) IE-SWM-SL04-4STS: 4 x 100Base-FX ports (ST-duplex, singlemode)
Note: Supported media interface modules for module slots 1-3, see page C.20	
Supported media interface modules at slot 4	IE-SWM-SL04-4GESFP: 4 x 1000BaseSFP slots IE-SWM-SL02-2GESFP+: 2 x 10GBaseSFP+ slots IE-SWM-SL04-4GESFP+: 4 x 10GBaseSFP+ slots
Note: Supported media interface modules for module slot 4, see page C.21	
Serial console port	RS-232 (RJ45 connector)
Relay Contact	1 relay output with a current capacity of 1 A at 24 V DC
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default

Power supply	
Connection type	1x 10-pin fork/ring lug connection
Input voltage	IE-SW-SL28M-HV: 110/220 V DC (100 - 370 V), 110/220 V AC (100 - 240 V), 2 redundant isolated inputs IE-SW-SL28M-LV: 48 V DC (24 - 72 V), 2 redundant isolated inputs
Power consumption	41 W (max.)
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	19" rack mounting
Dimensions (W x H x D)	440 x 44 x 325 mm (17.32 x 1.73 x 12.80 in)
Weight	IE-SW-SL28M-HV: 6600 g IE-SW-SL28M-LV: 6450 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F) -20 to 60 °C (-4 to 140 °F) if 10G SFP+ module is used
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 Vrms
Safety	EN 62368-1, UL 61010-1, UL 61010-2-201 (IE-SW-SL28M-HV only)
Substation compliance	IEC 61850-3, IEEE 1613
Shock	IEC 60870-2-2 class Cm
Vibration	IEC 60870-2-2 class Cm and Class Bm
Free fall	IEC 60870-2-2 class Cm
MTBF	
Time	IE-SW-SL28M-HV: 647,420 hrs IE-SW-SL28M-LV: 608,907 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
Modular 19" rack mounting switch with 4 media interface slots for up to 28 ports, High voltage	IE-SW-SL28M-HV	2779010000
Modular 19" rack mounting switch with 4 media interface slots for up to 28 ports, Low Voltage	IE-SW-SL28M-LV	2779020000
Accessories	Model Type	Order No.
Configuration backup and restore module	IE-EBR-MODULE-RS232-ALM	2682610000



Media interface modules for modular switch Fast/Gigabit Ethernet – SubstationLine

Media interface modules for modular switch - Fast/Gigabit Ethernet

- Modular design provides wide variety of media interface types (RJ-45, SFP, SC/ST-Duplex)

available
Q3 2021



Technical data

Interfaces		
RJ45 ports	10/100/1000BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port	
Fibre optic ports	100BASE-FX (SC/ST-Duplex connector) or 100/1000BaseSFP-slot	
Fibre optic transceiver characteristics		
Transmission rate	100 Mbps	
Connector type	SC-Duplex or ST-Duplex	
Transceiver type	Multimode	Singlemode
Fiber cable type	50/125 µm 62.5/125 µm	9/125 µm
Transmission distance, typical	2 km	30 km
Wavelength, typical	1310 nm	
Optical power RX range	-32to -8 dBm	-34 to 0 dBm
Optical power TX range	-23.5 to -14 dBm	-15 to -8 dBm
Link-budget	8.5 dB	19 dB
Power supply		
Voltage supply	via Ethernet switch	
Power consumption	IE-SWM-SL04-4SC/4SCS/4ST/4STS: 5.5 W IE-SWM-SL08-8GT: 8 W IE-SWM-SL08-8GESFP: 0.5 W (w/o SFP-transceiver)	
Physical characteristics		
Housing main material	Metal	
Type of mounting	Insert in module slot 1, 2 or 3 of IE-SW-SL28M series	
Dimensions (W x H x D)	99 x 40.7 x 107 mm (3.9 x 1.6 x 4.2 in)	
Weight	326 g	
Environmental conditions		
Operating temperature	-40 to 85 °C (-40 to 185 °F)	
Storage temperature	-40 to 85 °C (-40 to 185 °F)	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	≤ 2000 m	
MTBF		
Time	IE-SWM-SL04-4SC: 315,658 hrs IE-SWM-SL04-4SCS: 401,287 hrs IE-SWM-SL04-4ST: 314,863 hrs IE-SWM-SL04-4STS: 401,287 hrs IE-SWM-SL08-8GT: 1,303,990 hrs IE-SWM-SL08-8GESFP: 3,712,062 hrs	
Database	Telcordia SR332	
Guarantee		
Time interval	5 years	

Ordering Information

Version	Model Type	Order No.
Media interface module, 4x SC Multimode 100Mbit/s	IE-SWM-SL04-4SC	2779170000
Media interface module, 4x SC Singlemode 100Mbit/s	IE-SWM-SL04-4SCS	2779160000
Media interface module, 4x ST Multimode 100Mbit/s	IE-SWM-SL04-4ST	2779190000
Media interface module, 4x ST Singlemode 100Mbit/s	IE-SWM-SL04-4STS	2779180000
Media interface module, 8x RJ45 10/100/1000 Mbit/s	IE-SWM-SL08-8GT	2779140000
Media interface module, 8x SFP 100/1000 Mbit/s	IE-SWM-SL08-8GESFP	2779150000

Note

Corresponding SFP modules for SubstationLine switches, see page I.4 – I.5.

Media interface modules for modular switch - Gigabit/10-Gigabit Ethernet

available
Q3 2021



Technical data

Interfaces	
Fibre optic ports	1000BaseSFP-Slot or 10GBaseSFP+ slot
Power supply	
Voltage supply	via Ethernet switch
Power consumption	IE-SWM-SL04-4GESFP: 0.5 W (w/o SFP-transceiver) IE-SWM-SL02-2GESFP+: 7 W (w/o SFP-transceiver) IE-SWM-SL04-4GESFP+: 14 W (w/o SFP-transceiver)
Physical characteristics	
Housing main material	Metal
Type of mounting	Insert in module slot 4 of IE-SW-SL28M series
Dimensions (W x H x D)	99 x 40.7 x 136 mm (3.9 x 1.6 x 5.35 in)
Weight	314 g
Environmental conditions	
Operating temperature	IE-SWM-SL04-4GESFP: -40 to 85 °C (-40 to 185 °F) IE-SWM-SL02-2GESFP+: -40 to 60 °C (-40 to 140 °F) IE-SWM-SL04-4GESFP+: -40 to 60 °C (-40 to 140 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
MTBF	
Time	IE-SWM-SL04-4GESFP: 4,419,625 hrs IE-SWM-SL02-2GESFP+: 3,814,097 hrs IE-SWM-SL04-4GESFP+: 1,871,812 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information

Version	Model Type	Order No.
Media interface module, 4x SFP 1000 Mbit/s	IE-SWM-SL04-4GESFP	2779200000
Media interface module, 2x SFP+ 10 Gbit/s	IE-SWM-SL02-2GESFP+	2779210000
Media interface module, 4x SFP+ 10 Gbit/s	IE-SWM-SL04-4GESFP+	2779220000

Note

Corresponding SFP modules for SubstationLine switches, see page I.5 – I.6.

Industrial Security Router

Overview

Industrial Security Router	Introduction – Industrial Security Router	D.2
	Industrial Security Router	D.4

Secure data communication with integrated VPN technology

Industrial security routers – versatile, reliable and flexible

As data and information networking continues to increase, Ethernet communication seeing more and more use in industrial automation technology. This is a trend that has not only changed the individual requirements of many customers, but has also had an impact on the devices used. These must now support a flexible system structure, allow networking with each other and, in addition to the targeted integration of all relevant network participants, also guarantee maximum data security

D In order to provide optimal support for meeting the many different requirements, we offer different versions of industrial security routers. These routers enable secure, reliable and location-independent communication between machines and systems, as well as reliable user authentication to protect the network.

Our routers with integrated VPN technology are ideally suited for secure remote access to components and systems in remote networks. They are available with either wired or mobile Internet connectivity and support the u-link Remote Access Service. This allows remote access systems to be set up quickly and easily, with no special IT knowledge required.

Your special advantage:

- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Secure and easy remote maintenance via Weidmüller u-link Remote Access Service
- Future-proof network connection with static and dynamic routing
- Increased network security thanks to stateful inspection firewall, IP/port forwarding and network segmentation
- Full flexibility thanks to Fast Ethernet and Gigabit Ethernet interfaces with 2 to a maximum of 6 ports

Compatible
with u-link
Remote Access
Service



Reliable Internet connection

Reliable Internet connection thanks to integrated 4G/LTE mobile modem

Monitoring

Client monitoring of network participants

Remote Access Service

Secure remote access with VPN

Configuration

Extensive configuration options for IP address mapping

Internet communication

Secure Internet communication thanks to IPsec and OpenVPN



Industrial Security Router

Gigabit Industrial Security Router

- 2 or 6 Gigabit ports (LAN/WAN)
- NAT masquerading, 1:1 network mapping and port forwarding
- VPN function via u-link Remote Access Service, OpenVPN and IPsec
- Key switch function for disabling/enabling of a WAN/VPN connection
- Variations with 6 routed Ethernet sub networks and individual firewall rules
- Variations with integrated 4G/LTE modem for fast, Internet-based radio communication access
- Variation without VPN functionality for NAT and security applications (1489940000, IE-SR-2GT-LAN-FN)



Technical data

Operation modes	
Extended IP router	Each interface (LAN, WAN, optional mobile radio) can be configured as a separate IP network
IP router	IP routing (IPv4, Layer 3) with SPI firewall (Stateful Packet Inspection)
Transparent bridge	2/6-port switch with additional Layer 2 filter
Network Services	
	• DHCP server / DHCP relay • DNS relay • NTP-Client/Relay • DynDNS (DHCP client by RFC 2136)
Firewall	
	• IPv4 Stateful inspection Firewall (incoming/outgoing) • NAT-Masquerading, 1:1 NAT, Portforwarding • Layer-2/3-Filter (VLAN ID, VLAN, QoS tag, MAC address, Ethertype frame) • "Auto learning" feature to create packet filter rules (analysis of network traffic) • Layer 2/3-based packet prioritization (Ethernet frame, IP header, VLAN tag)
VPN functionality*	
u-link	OpenVPN-based remote access via Weidmüller u-link cloud
OpenVPN	• Configurable as OpenVPN server or client (Layer 2 and Layer 3) • Authentication with X.509 Certificates • Tunnel support via HTTP proxy • Maximum of 10 different client or server configurations • Unlimited number of client connections in server mode
IPsec	• Can be configured as an IPsec server or client • PSK authentication (user ID, password) or X.509 certificates • Hardware-based encryption for faster data throughput • A maximum of 64 simultaneous connections (subnet to subnet or as an IPsec server) • Encryption algorithms DES-56, 3DES-168, AES 128, AES 192, AES-256

* is not supported by the model IE-SR-2GT-LAN-FN

Management

- Configuration via WEB interface (HTTP / HTTPS)
- Configuration support through detailed help information (tooltip)
- Configurable multi-user access with definable rights mask
- Support of SNMP v1/v2/v3, event log / syslog

Miscellaneous

Modbus/TCP	Integrated Modbus TCP Server for status queries, and software-based activation / de-activation of VPN connections
Diagnosis	Remote Capture™ feature for network diagnostics via a connected PC (Wireshark)
Monitoring	Client Monitoring (via ICMP) with alarm function in case of error
Mobile radio interface (mobile radio variants only)	
Mode of operation	Permanent connection, Manual connection control via web interface, Fallback connection with active ICMP monitoring
Wireless module	multi-band modem (4G/3G)
Transmission rate mobile radio	LTE Category: CAT 6; download rate, max. 300 Mbps; upload rate, max. 50 Mbps
Frequency band	Region: EMEA + Americas 4G / LTE: B1, B2, B3, B4, B5, B7, B12, B13, B20, B25, B26, B29, B30, B41 3G: B1, B2, B3, B4, B5, B8

Interfaces	
RJ45 ports	10/100/1000BaseT (X), auto negotiation, full/half duplex mode
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Digital outputs	• "Alarm" → Indicates a configurable network status or error (24 V out) • "VPN-active" → Indicates an active VPN connection (24 V out)*
Digital inputs	• „Cut“ → Disconnects physically (link down) the WAN port (24 V) • "VPN-initiate" → Enables a pre-configured VPN connection (24 V)*
Reset button	Restoring the factory default
Connection for external antennas	SMA (socket)
Power Requirements	
Input Voltage	1x 24 V DC (7 to 36 V DC), NEC class 2, (for use in compliance with UL specifications: 7 - 30 V DC)
Current consumption	max. 0.8 A at 24 V
Technical data (housing)	
Housing	Diecast aluminium, IP20 protection
Dimensions (W x H x D)	2-Port Router: 35 x 163 x 140 mm 6-Port Router: 57 x 163 x 140 mm 2-Port DNV-GL Router: 57 x 163 x 140 mm
Installation	DIN-Rail, VESA 75
Environmental Limits	
Operating temperature	-20 °C to +70 °C
Storage Temperature	-20 °C to +85 °C
Relative ambient air humidity	5 to 95% (non-condensing)
Approvals	
Security	EN60950-1
Radio	EN 301 489-1/17, EN 301 893, EN 302 291-2
EMC	EN 61000-6-2/6-4 FCC Part 15B Class A
Ship use	DNV-GL (only for 2535980000, 2535970000)
Shock	DIN EN 60068-2-27
Vibration	DIN EN 60068-2-6
Warranty	
Warranty Period	3 years

Ordering data

Version	Type	Order No.
Security/NAT/VPN/u-link Router, 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LAN	1345270000
Security/NAT Router, 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LAN-FN	1489940000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LTE/4G-US	2535780000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LTE/4G-EU	2535930000
Security/NAT/VPN/u-link Router, 6 * RJ45 10/100/1000BaseT(X)	IE-SR-6GT-LAN	2535940000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 6 * RJ45 10/100/1000BaseT(X)	IE-SR-6GT-LTE/4G-US	2535950000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 6 * RJ45 10/100/1000BaseT(X)	IE-SR-6GT-LTE/4G-EU	2535960000
Security/NAT/VPN/u-link Router, 2 * RJ45 10/100/1000BaseT(X), DNV-GL approval	IE-SR-2GT-LAN-M	2535980000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 2 * RJ45 10/100/1000BaseT(X), DNV-GL approval	IE-SR-2GT-LTE/4G-EU-M	2535970000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Industrial Security Router – Fast Ethernet

4-Port Fast Ethernet Industrial Security Routers

- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Secure and easy remote maintenance with Weidmüller u-link remote access service
- Future-proof network connection with static and dynamic routing
- Increased network security through stateful inspection firewall, IP/Port- forwarding and network segmentation
- Reliable internet connection, even without on-site internet access, thanks to integrated 4G/LTE cellular modem



Technical data

Management features	
Operating modes	IP router: IP routing (IPv4, Layer-3) with SPI firewall (Stateful Packet Inspection), Static or dynamic routing, Supports RIPv2 / OSPF Transparent bridge: 4-port switch with additional Layer-2 filter
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Windows tool
Monitoring function	SNMP v1/v2c/v3, Syslog
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DHCP-Relay
Security functions	IPv4 Stateful Packet Inspection Firewall (incoming/outgoing), NAT masquerading, 1:1 NAT, IP forwarding, Port forwarding
Time synchronization management	NTP client
Industrial protocol support	Modbus/TCP slave
VPN functionality	
u-link	OpenVPN-based remote access service via the Weidmüller u-link cloud
OpenVPN	Configurable as OpenVPN server or client (Layer 2 and Layer 3), Authentication via X.509 certificate, Tunnel support via HTTP proxy, Maximum 10 different client or server configurations
Ipssec	Configurable as Ipssec server or client
Interfaces	
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Digital inputs	1x galvanically isolated VPN-initiate: establishes a pre-configured VPN connection (24 V in) Cut: physically disconnects (Link Down) the WAN port (24 V in) Trigger pre-configured packet filter rules (24 V in)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Reset button	Reset to factory default settings
SCM-card slot	1x Smart Card (ID-000 format), save and restore the configuration using smart card (memory chip)
SIM-card slot (mobile radio variants only)	1x Mini-SIM (ID-000 format)
Connector for external antennas (mobile radio variants only)	1x SMA female
Mobile radio interface (mobile radio variants only)	
Mode of operation	Permanent connection, Manual connection control via web interface
Wireless module	IE-SR-4TX-LTE/4G-EU: multi-band modem (4G/3G/2G) IE-SR-4TX-LTE/4G-USEMEA: multi-band modem (4G/3G)
Transmission rate mobile radio	IE-SR-4TX-LTE/4G-EU: LTE Category: CAT 4 download rate, max. 150 Mbps; upload rate, max. 50 Mbps IE-SR-4TX-LTE/4G-USEMEA: LTE Category: CAT 6; download rate, max. 300 Mbps; upload rate, max. 50 Mbps
Frequency band	IE-SR-4TX-LTE/4G-EU: LTE: B1 (2100), B3 (1800), B7 (2600), B8 (900), B20 (800DD) UMTS/WCDMA: B1 (2100), B8 (900) GSM/GPRS/EDGE: B3 (1800), B8 (900) IE-SR-4TX-LTE/4G-USEMEA: LTE: B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B5 (850), B7 (2600), B12 (700ac), B13 (700c), B20 (800DD), B25 (1900), B26 (US 850 Ext), B29 (US 700de Lower), B30 (2300 WCS), B41 (TDD 2500) UMTS: B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B5 (850), B8 (900)

Mobile radio interface (mobile radio variants only)	
Transmit power	IE-SR-4TX-LTE/4G-EU: LTE: +23 dBm +2.7/-2.7 dB (Power Class 3) WCDMA: 24 +1/-3 dBm (Power Class 3) GSM900: 33 ± 2 dBm (Power Class 4) GSM1800: 30 ± 2 dBm (Power Class 1) IE-SR-4TX-LTE/4G-USEMEA: LTE Band 1, 2, 3, 4, 5, 8, 12, 13, 20, 25, 26: +23 dBm +/- 1 dB LTE Band 7, 30, 41: +22 dBm +/- 1 dB UMTS: +23 dBm +/- 1 dB
Power supply	
Connection type	1 removable 4-pin terminal block
Input voltage	24 V DC (19.2 - 28.8 V), 1 single input
Current consumption at 24 V	0.8 A
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Plastic
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	29.9 x 134.5 x 94.8 mm (1.17 x 5.29 x 3.73 in)
Weight	IE-SR-4TX: 175 g IE-SR-4TX-LTE/4G-EU: 213 g IE-SR-4TX-LTE/4G-USEMEA: 213 g
Environmental conditions	
Operating temperature	-30 to 75 °C (-22 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 90 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, EN 61000-6-2, EN 61000-6-4
Safety	SELV according to EN 62368-1, EN 62311
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Wireless	EN 301 489-1, EN 301 489-52, EN 301 511, EN 301 908-1, EN 301 908-2
Guarantee	
Time interval	3 years

Ordering Information		
Version	Model Type	Order No.
Security/NAT/VPN/U-link Router, 4x RJ45 10/100 Mbit/s	IE-SR-4TX	2751270000
Security/NAT/VPN/U-link Router with integrated multi-band modem (4G/3G/2G), EU-model, 4x RJ45 10/100 Mbit/s	IE-SR-4TX-LTE/4G-EU	2751280000
Security/NAT/VPN/U-link Router with integrated multi-band modem (4G/3G), US/EMEA-model, 4x RJ45 10/100 Mbit/s	IE-SR-4TX-LTE/4G-USEMEA	2739630000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

u-link Remote Access Service

Overview

u-link Remote Access Service	Introduction – u-link Remote Access Service	E.2
	u-link Remote Access Service	E.6

u-link Remote Access Service – A tool for all purposes

Advanced features for convenient remote access management

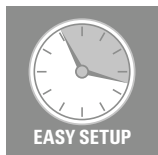
The remote maintenance of machines and systems is often a complex and time-consuming task. On top of that is the demand for a targeted and secure functional connection to the associated IT systems. For many users, these two challenges constitute a major obstacle to the global connection of systems.

u-link guarantees a quick and secure access to machines and plants and, at the same time, allows the efficient management of production plants, user clients, access rights and firmware versions. The intuitive u-link web portal are quick and easy to configure without expert knowledge and can be adapted to specific processes. Secure servers in Europe provide an online platform that ensures conformity between different IT systems when carrying out remote maintenance.



Individual system management

u-link can manage users and groups as well as their access rights according to individual specifications. This includes group assignments and access rights to production systems.



Little configuration effort

Thanks to the intuitive user interface, the devices and clients can be connected easily and without detailed IT knowledge. Thus u-link allows you to quickly network multiple systems.



Secure remote access and remote diagnostics

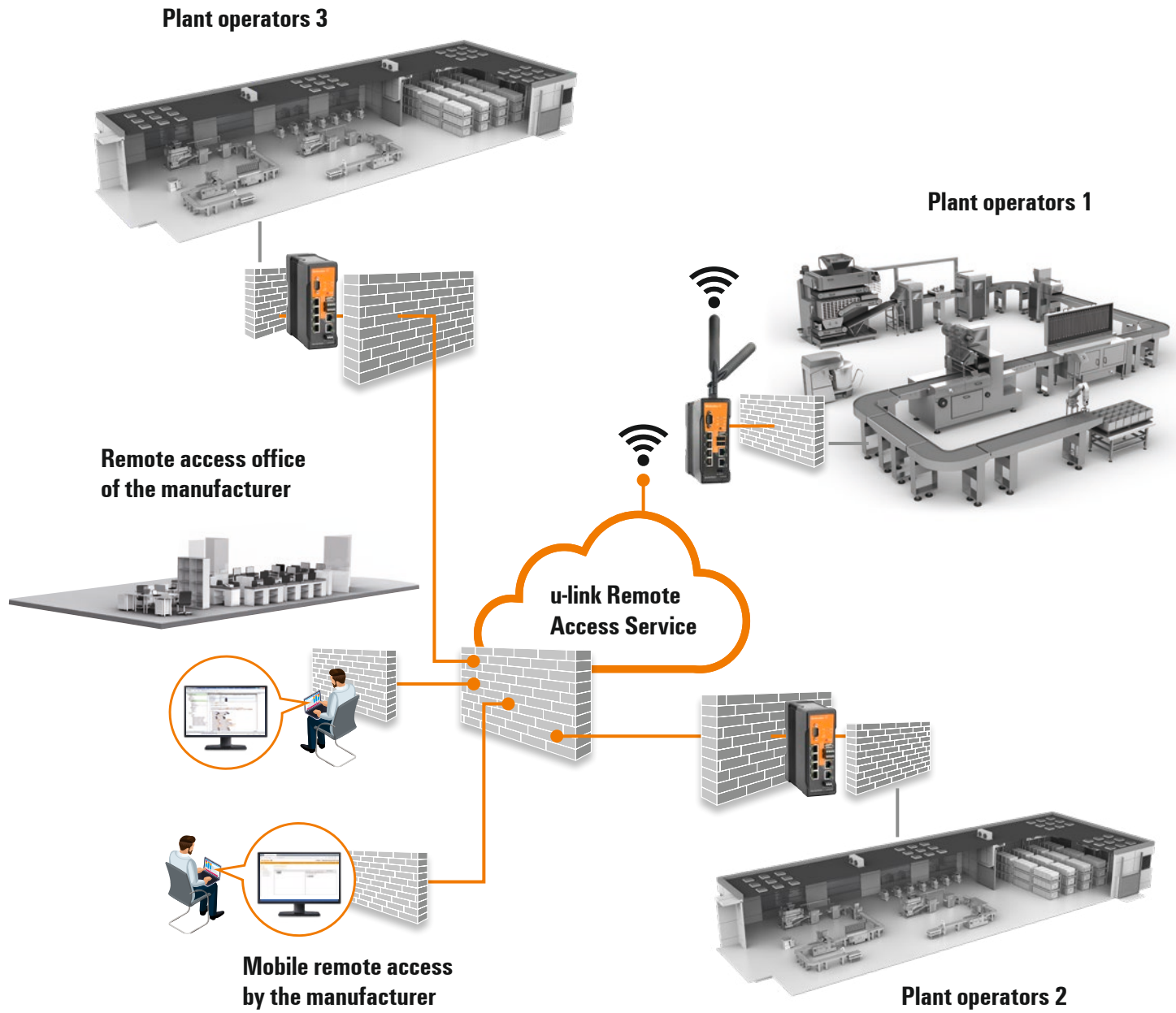
Remote access to machines and systems takes place via a secure VPN connection – worldwide and regardless of location. You have secure access to your systems at all times via the highly available servers.



Condition monitoring and status reporting

Weidmüller Heartbeat can be used to report the availability of a router to u-link. This makes condition monitoring easier and enables status messages of the installed router.

u-link.weidmueller.com



Simple – secure – u-link

The integrated security concept for your networks

The growing number of network-capable devices together with the increasing networking of manufacturing through the Internet provides ample opportunities for cyber attacks. To protect your systems, u-link offers state-of-the-art functions without increasing complexity.

E

Your security features:



- X.509 certificates for authentication
- 2048 bit key length



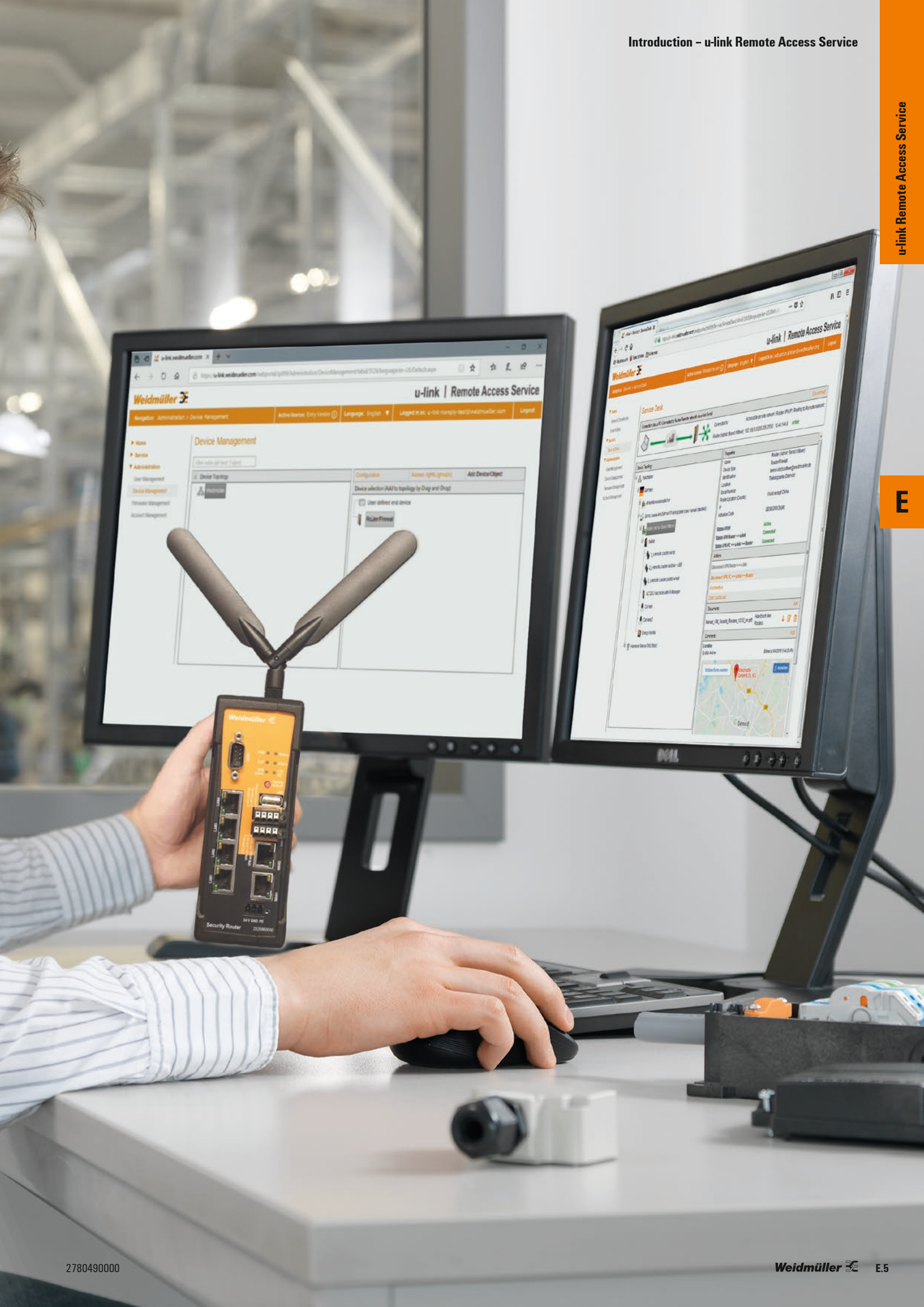
- TLS/SSL encryption
- 2-factor authentication
- Custom password policy



- Outgoing connections only
- Port 443 exclusively used for remote access
- User and rights management



- Firewall integrated in u-link for remote access
- Option of enabling remote access on site
- Remote firmware update
- High-performance firewall



u-link Remote Access Service

u-link licences

Weidmüller offers the following usage variations and additional options for the u-link Remote Access Service:

Standard version 50/150/300/500

- Licence-dependent configuration from 50 up to 500 router objects (further license models on request)

Extensive functional and performance features as compared with the entry version, such as

- 3 simultaneous VPN through-connections per customer account (can be extended)
- China-VPN: reliable VPN connection to and from China
- Firmware management: Display of firmware status of all routers and the option of a time-controlled, automated firmware update
- Individual access rights: granular configuration of access rights to devices in the target network
- Extensive event log: Presentation of all activities in the u-link portal with extensive filter and export functions
- Password policy: Increased security through configurable specification of minimum requirements for password quality and validity period

Extension for additional VPN connections

- Licence code can be used for all Standard versions
- Additional data volumes with guaranteed bandwidth



Technical data

Functions and performance characteristics / Standard licence	
Number of configurable user objects (service PC)	Unrestricted
Number of configurable router objects (access points remote network)	depends on licence (50, 150, 300, 500,...)*
User organisation	Organisation of service users in groups, assignment of selective access rights to device topology, group-dependent assignment of rights re. device configuration and user administration
Device management	Illustration of the device infrastructure (remote access objects) in a clearly defined tree structure via location, group and device objects
Firmware management	Display of the firmware version of all routers and the possibility of timed, automated firmware updates
China-VPN	Reliable VPN connection to and from China
Password guideline	Increased security through configurable specification of minimum requirements for the password quality and validity period
Simultaneously usable pass-through VPN connections	3 (can be extended by adding on other pass-through VPN connections)
Period	1 year from activation of the licence key. When extending a "Standard 50/150/300/500" version, the validity period is extended by 1 year from the expiry date of the current period, but not less than 1 year Note: When the validity period has expired, automatic reduction of the bandwidth to the values of the free-of-charge entry version (<= 1 GB with max. 500 kBit/sec, > 1 GB with max. 64 kBit/sec)
Monthly data volume and bandwidth	<= 5 GB with max. 1 Mbit/s, > 5 GB with max. 500 Kbit/s. Increase by 1 GB/month with 1 Mbit/s per added-on pass-through VPN connection, for data volume > 12 GB/month max. 500 Kbit/s
Usage information	Extended reporting and statistical information (itemised statement, usage duration, data volume)
System availability	≥ 99.6%
Functions and performance characteristics / VPN licence	
Number of additional VPN connections (per licence code)	1 (pass-through VPN connection for service PC <-> u-link <-> router/target network)
VPN channel bandwidth	1 Mbit/s
Extension of data volume	Data volume of the u-link client account increased by 1 GB/month with a bandwidth of 1 Mbit/s
Period	1 year from activation of the licence key. When extending a VPN licence that has already been activated, the validity period is extended by 1 year from the expiry date of the current period, but not less than 1 year.
Usage	Use as additional VPN channel or to extend the period of a VPN channel. Can be used within the scope of all standard versions (not for entry version).

System requirements	
Hardware (service PC)	PC with Windows 7, 8 or 10 operating system
Hardware, remote target network	Weidmüller router (except IE-SR-2GT-LAN-FN; 1489940000)
Portal administration (user/device configuration)	Standard browser (IE, Edge, Chrome, Firefox) via an HTTPS connection (SSL), login via username and password
VPN software (service PC)	u-link VPN Client (installation on PC)
Miscellaneous	
Activation	Account administrator enters the licence key in the u-link portal (functions immediately available)
Included in delivery	Letter with licence key

Ordering data

Version	Type	Order No.
„Standard 50“ version software licence for u-link Remote Access Service. Can be used to upgrade an entry version or to extend period of a „Standard 50“ version"	U-LINK-LIC-STD-50-1Y	2665050000
„Standard 150“ version software licence for u-link Remote Access Service. Can be used to upgrade an entry version or „Standard 50“ version or to extend the period of a „Standard 150“ version"	U-LINK-LIC-STD-150-1Y	2447050000
„Standard 300“ version software licence for u-link Remote Access Service. Can be used to upgrade an entry version or „Standard 50/150“ version or to extend the period of a „Standard 300“ version"	U-LINK-LIC-STD-300-1Y	2457840000
„Standard 500“ version software licence for u-link Remote Access Service. Can be used to upgrade an entry version or „Standard 50/150/300“ versions or to extend the period of a „Standard 500“ version"	U-LINK-LIC-STD-500-1Y	2457850000
„VPN connection“ licence code for u-link Remote Access Service. Can be used as an additional VPN connection or to extend the period of a VPN connection that has already been activated	U-LINK-LIC-VPN-1Y	2447060000

Note: * Licence models with more than 500 configurable router objects are available upon request.

Media converter and protocol gateways

Overview

Media converter and protocol gateways	Introduction – Media converter and protocol gateways	F.2
	Ethernet media converter (copper/fiber optic)	F.4
	Serial/Ethernet converter	F.5
	Serial/Ethernet converter and Modbus TCP/RTU gateway	F.6

Transmit data without interference

Media converters and protocol gateways – convenient and economical

A goal of industrial automation is to achieve the continuous networking of all system components. This also requires the interconnection of devices and network segments that use different transmission technologies or are very far away from each other. Our media converters and protocol gateways ensure smooth communication between all network participants and are also especially convenient and economical.

Serial/Ethernet converters for integrating existing devices

In many systems, serial devices with RS232, RS422 or RS485 interfaces are still widely used. These may include control systems, sensors, measuring instruments, motors, drives, barcode readers and operating displays. Our serial/Ethernet converters allow you to integrate such serial components quickly and easily into your existing Ethernet network structure. For this purpose, the converters support a variety of operating modes, such as TCP server, TCP client, UDP, Real COM, RFC2217, reverse Telnet, pair connection and Ethernet modem.

F

Media converters for easy and economical glass fibre utilisation

In case of high requirements on interference immunity or long transmission distances, optical fibres are an expedient solution – in the process industry, for example. With fibre optics, transmission distances ranging between 5 km (multi-mode fibres) and 40 km (single-mode fibres) can be achieved without the use of intermediate generators. Our media converters convert Ethernet signals on an RJ45 port to fibre optic signals for SC or ST cables. In the process, the collision domain of both participants is retained so as to ensure the greatest possible port transparency.

Seamless integration of Ethernet and serial Modbus devices

Modbus is one of the most popular automation protocols in the world and supports traditional RS-232/422/485 devices and Ethernet devices. However, the Ethernet-based Modbus protocol is different from the original serial-based protocols. In order to integrate Modbus networks, the Modbus TCP/RTU Gateway includes two Ethernet interfaces and one serial interface that supports RS-232, RS-422 and RS-485 communication. It automatically and intelligently translates between Modbus TCP (Ethernet) and Modbus ASCII/RTU (serial) protocols.



Simple warning system

Warning in case of power failure and port errors

**Surge protection**

Improved surge protection for serial ports, LAN and power supply connections

**Power supply**

Redundant power supply inputs

**Extensive approvals**

Developed and approved for EX areas (Class 1 Div. 2/ Atex Zone 2)

Ethernet media converter (copper/fiber optic)

Industrial Media Converter (10/100BaseT (X) to 100BaseFX)

- 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- Link Fault Pass-Through (LFP)
- Power failure, port break alarm by relay output
- Redundant power inputs
- Designed for hazardous locations (Zone 2)



Technical data

Technology			
Standards		IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT (X) and 100BaseFX	
Interfaces			
Fibre Ports		100BaseFX (SC/ST-duplex connection)	
RJ45 ports		10/100BaseT(X)	
DIP Switches		100BaseFX Full/Half duplex selection, Port fault alarm	
Alarm Contact		One relay output with current carrying capacity of 1 A at 24 V DC	
Specification optical fiber			
Transceiver Type		100Base FX	
		Multi-Mode	
Fiber Cable Type		OM1	50/125 μm
			800 MHz*km
Typical Distance		4 km	5 km
Wave-length	Typical (nm)	1300	
	TX Range (nm)	1260 to 1360	
	RX Range (nm)	1100 to 1600	
Optical Power	TX Range (dBm)	-10 to -20	
	RX Range (dBm)	-3 to -32	
	Link-Budget (dB)	12	
	Dispersion Penalty (dB)	3	
		1	

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power Requirements	
Input Voltage	24 V DC (12 to 48 V DC), two redundant inputs
Current consumption	0.16 A at 24 V
Connection	1 removable 6-pole terminal block
Overload Current Protection	1.1 A
Reverse Polarity Protection	Present
Technical data	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	630 g
Installation	DIN-Rail
Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Operating Humidity	5 to 95 % (non-condensing)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)

Approvals	
Security	UL 508
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8
Hazardous Location	UL/cUL Class1, Division 2, Groups A, B, C, and D, ATEX Zone 2 Ex nA nC IIC T4 Gc
Maritime	DNV-GL
Freefall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
MTBF (mean time between failures)	
Time	401,000 hrs
Database	MIL-HDBK-217F: GB 25 °C
Warranty	
Warranty Period	5 years

Ordering data			
Version	Type	Operating Temperature	Order No.
1 * RJ45, 1 * SC-Multimode	IE-MC-VL-1TX-1SC	0 to +60 °C	1241400000
	IE-MC-VLT-1TX-1SC	-40 to +75 °C	1286880000
1 * RJ45, 1 * ST-Multimode	IE-MC-VL-1TX-1ST	0 to +60 °C	1241410000
	IE-MC-VLT-1TX-1ST	-40 to +75 °C	1286890000
1 * RJ45, 1 * SC-Singlemode	IE-MC-VL-1TX-1SCS	0 to +60 °C	1241420000
	IE-MC-VLT-1TX-1SCS	-40 to +75 °C	1286900000

Accessories		
	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

1 and 2- port Serial/Ethernet Converter for industrial automation

- High surge protection for the serial ports, LAN ports and power supply connection
- Rugged screw-type terminal blocks for power and serial connectors
- Cascading Ethernet ports for easy wiring
- Redundant DC power inputs
- Warning by relay output and email
- Low power consumption

**Technical data**

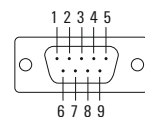
Ethernet Interface	
Number of Ports	2
Speed	10/100 MBit/s, auto MDI/MDIX
Connection	8-pin RJ45
Magnetic Isolation Protection	1.5 kV built-in
Ethernet Line Protection	1 kV (level 2) surge protection
Serial Interface	
Number of ports that can be used simultaneously	IE-CS-2TX-1RS232/485: 1 IE-CS-2TX-2RS232/485: 2
Serial Standards	RS 232/422/485
Connection	IE-CS-2TX-1RS232/485: DB9 for RS 232, terminal block for RS 422/485 IE-CS-2TX-2RS232/485: DB9 for RS 232/422/485
Serial Line Protection	• 15 kV ESD protection for all signals • 1 kV (level 2) surge protection
RS 485 Data Direction Control	ADDC® (automatic data direction control)
Serial Communication Parameters	
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS and DTR/DSR (RS 232 only), XON/XOFF
Baud rate	50 bit/s to 921.6 kbit/s
Serial Signals	
RS 232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS 422	Tx+, Tx-, Rx+, Rx-, GND
RS 485 4w	Tx+, Tx-, Rx+, Rx-, GND
RS 485 2w	Data+, Data-, GND
Software	
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, Rtelnet, DNS, SNMP, HTTP, SMTP, SNTP, IGMP
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8 x86/x64, 2012 x64
Technical data	
Housing	Metal, IP30 protection
Weight	IE-CS-2TX-1RS232/485: 475 g IE-CS-2TX-2RS232/485: 485 g
Dimensions (W x H x D)	36 x 105 x 140 mm (1.42 x 4.13 x 5.51 in)
Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Ambient Relative Humidity	5 to 95 % RH
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Power Requirements	
Input Voltage	12 to 48 V DC
Current consumption	IE-CS(T)-2TX-1RS232/485: 0.22 A at 12 V IE-CS(T)-2TX-2RS232/485: 0.25 A at 12 V

Approvals

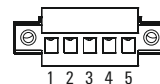
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8
Security	UL 508
Hazardous Location	UL/cUL Class 1 Division 2 Groups A, B, C and D ATEX Zone 2 Ex nA nC IIC T3 Gc
Shock	IEC60068-2-27
Freefall	IEC60068-2-32
Vibration	IEC60068-2-6
Reliability	
Alert Tools	Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger	Built-in WDT (watchdog timer)
MTBF (mean time between failures)	
Time	262,805 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Pin assignment

RS 232/422/485 (Male DB9)	PIN	RS 232	RS 422/RS 485-4w	RS 485-2W
1	DCD	TxD-(A)	-	-
2	RxD	TxD+(B)	-	-
3	TxD	RxD+(B)	Data+(B)	-
4	DTR	RxD-(A)	Data-(A)	-
5	GND	GND	GND	-
6	DSR	-	-	-
7	RTS	-	-	-
8	CTS	-	-	-

**Pin Assignment**

RS 422/485 Terminal block	PIN	RS 422/RS 485-4w	RS 485-2w
1	TxD+(B)	-	-
2	TxD-(A)	-	-
3	RxD+(B)	Data+(B)	-
4	RxD-(A)	Data-(A)	-
5	GND	GND	-

**Ordering data**

Version	Type	Operating Temperature	Order No.
2 * RJ45; 1 * serial (RS232: Sub-DB9, RS422/485: terminal block)	IE-CS-2TX-1RS232/485	0 to +60 °C	1242080000
	IE-CST-2TX-1RS232/485	-40 to +75 °C	1285830000
2 * RJ45; 2 * serial (RS232/422/485: 2 * SubDB9)	IE-CS-2TX-2RS232/485	0 to +60 °C	1242090000
	IE-CST-2TX-2RS232/485	-40 to +75 °C	1285840000

Accessories

	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

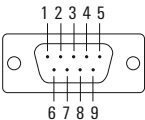
Serial/Ethernet converter and Modbus TCP/RTU gateway

Serial/Ethernet converter and Modbus TCP/RTU protocol gateway

- Integrated 2-port switch for line topology without need for additional switch
- Device server and modbus protocol gateway in one device
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 70°C



Technical data																																																			
Technology																																																			
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-TX																																																		
Processing type	Store and Forward																																																		
Management features																																																			
Device configuration	Webbrowser (HTTP/HTTPS) SSH Upload of a configuration file via web-interface																																																		
Monitoring function	Modbus traffic monitor Syslog Event based warning via E-Mail Event based warning via SNMP trap																																																		
IP-address management	Static DHCP-Client BootP																																																		
Security functions	Enable/disable ports Management access security via secure IP-list and configuration of allowed access methods (web-interface, SSH)																																																		
Time synchronization management	SNTP client																																																		
Operating modes	Virtual COM mode TCP Server mode TCP Client mode UDP Server/Client mode Modbus RTU/ASCII Master to Modbus TCP Slave Gateway Modbus TCP Master to Modbus RTU/ASCII Slave Gateway																																																		
Interfaces																																																			
RJ45 ports	2x 10/100BASE-T(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port																																																		
DB9	1x DB9 male for RS-232/422/485																																																		
DIP switches	1x for pull low resistor setting (1 k Ω , 150 k Ω) 1x for pull high resistor setting (1 k Ω , 150 k Ω) 1x for termination resistor setting (120 Ω)																																																		
Reset button	< 5 sec: System reboot ; > 5 sec: Factory default																																																		
Serial interface characteristics																																																			
Standard	RS-232/422/485																																																		
Baud rate	50 bit/s to 460.8 kbit/s																																																		
Data Bits	7, 8																																																		
Stop Bits	1, 2																																																		
Parity	odd, even, none, mark, space																																																		
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR																																																		
Pin assignment																																																			
RS 232/422/485 (Male DB9)	<table><tr><th>Pin #</th><th>RS-232 (DTE Device)</th><th>RS-422</th><th>RS-485 (4-wire)</th><th>RS-485 (2-wire)</th></tr><tr><td>1</td><td>DCD</td><td>TX-</td><td>TX-</td><td>DATA-</td></tr><tr><td>2</td><td>RXD</td><td>TX+</td><td>TX+</td><td>DATA+</td></tr><tr><td>3</td><td>TXD</td><td>RX+</td><td>RX+</td><td>—</td></tr><tr><td>4</td><td>DTR</td><td>RX-</td><td>RX-</td><td>—</td></tr><tr><td>5</td><td>GND</td><td>GND</td><td>GND</td><td>GND</td></tr><tr><td>6</td><td>DSR</td><td>—</td><td>—</td><td>—</td></tr><tr><td>7</td><td>RTS</td><td>—</td><td>—</td><td>—</td></tr><tr><td>8</td><td>CTS</td><td>—</td><td>—</td><td>—</td></tr><tr><td>9</td><td>RI</td><td>—</td><td>—</td><td>—</td></tr></table>	Pin #	RS-232 (DTE Device)	RS-422	RS-485 (4-wire)	RS-485 (2-wire)	1	DCD	TX-	TX-	DATA-	2	RXD	TX+	TX+	DATA+	3	TXD	RX+	RX+	—	4	DTR	RX-	RX-	—	5	GND	GND	GND	GND	6	DSR	—	—	—	7	RTS	—	—	—	8	CTS	—	—	—	9	RI	—	—	—
Pin #	RS-232 (DTE Device)	RS-422	RS-485 (4-wire)	RS-485 (2-wire)																																															
1	DCD	TX-	TX-	DATA-																																															
2	RXD	TX+	TX+	DATA+																																															
3	TXD	RX+	RX+	—																																															
4	DTR	RX-	RX-	—																																															
5	GND	GND	GND	GND																																															
6	DSR	—	—	—																																															
7	RTS	—	—	—																																															
8	CTS	—	—	—																																															
9	RI	—	—	—																																															



Power supply	
Connection type	1 removable 4-pin terminal block
Input voltage	24 V DC (12 - 48 V), 2 redundant inputs
Current consumption at 24 V	0.20 A
Overload current protection	yes
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	26.1 x 110 x 75.2 mm (1.02 x 4.33 x 2.95 in)
Weight	200 g
Environmental conditions	
Operating temperature	-40 to 70°C (-40 to 158°F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
Operating altitude	≤ 2000 m
EMC conformity and approvals	
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 Vrms
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Free fall	IEC 60068-2-31
MTBF	
Time	1,479,078 hrs
Database	Telcordia SR332
Guarantee	
Time interval	5 years

Ordering Information		
Version	Model Type	Order No.
2x RJ45 10/100 Mbit/s, 1x DB9 for RS-232/422/485	IE-CS-MBGW-2TX-1COM	2682600000

Accessories		
	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

IoT-Gateways

Overview

IoT-Gateways	Introduction – IoT-Gateways	G.2
	IoT-Gateways	G.4

Integration of existing components into IoT networks

Complete application representation for the IoT gateway

The intelligent networking of machines and devices in the IoT opens up many possibilities and offers opportunities for new business models. IoT gateways enable the exchange of data between field devices and servers or cloud applications. The transmitted data can be used to deepen process knowledge, carry out optimisations or offer new services.

With the help of our IoT gateway, you can collect machine data and gain access to your field devices and controls. Various protocols and interfaces are available for this purpose. Data pre-processing is carried out using the open IoT standard Node-RED, whose large community has a wide range of solutions in store. You can set up interfaces to your own IT systems as well as to cloud solutions like Azure, AWS or IBM. For location-independent remote system maintenance, you can also integrate the gateway into the u-link Remote Access Service.

Your special advantage:

- Full flexibility for your application thanks to various interfaces and protocols as well as the open application tool Node-RED
- Easy handling thanks to pre-defined nodes and open programming using your own nodes
- Secure and cost-optimised use of cloud systems through pre-processing and storage

G

Also
available in
IP54

Flexible IoT integration

Process data can be collected via various interfaces, such as Ethernet, CAN, RS485 or RS232. In addition, many protocols for coupling with PLC systems are supported – e.g. Siemens, Rockwell, Schneider or the industry standard OPC-UA.

**Integrated remote access**

The simple and secure remote access solution u-link Remote Access Service enables a quick response to changes in situations on site – and that worldwide.

Versatile IT integration

Whether via company network or mobile radio: The open IoT standard Node-RED allows data to be pre-processed and transmitted to other systems, such as servers, SCADA systems or cloud platforms, via various transmission media and protocols.

IoT-Gateways

Industrial IoT-Gateways

- Enables machine data acquisition and provides access to field devices and PLC's via various protocols and interfaces
- Interfaces to your own IT systems as well as to common cloud systems
- Data traffic reduction through preprocessing on edge via the open IoT standard Node-RED
- Secure and easy remote maintenance with Weidmüller u-link Remote Access Service
- Integration of most common communication interfaces in small design
- Open programming platform Node-RED with strong community support



Technical data

System data	
Memory (Flash)	4 GB
Memory (RAM)	1 GB (DDR3)
Processor	Dual Core ARM Cortex A9, 600 MHz
Real-time clock	Capacity buffered (max. 5 days)
VPN functionality	
u-link	OpenVPN-based remote access service via the Weidmüller u-link cloud
Interfaces	
RJ45 ports	2x 10/100BASE-T(X), auto negotiation, Full-/half-duplex mode, Auto MDI/MDI-X port
Digital inputs	2x (>10 V high, <3.6 V low; max. 30 V DC)
Digital outputs	1x (19.2 - 28 V high; max. 1 A)
Serial port	1x RS-232/485
USB port	1x USB 2.0 (Type A; max. 500 mA)
Power supply	
Connection type	1 removable 6-pin terminal block
Input voltage	24 V DC (19.2 - 28.8 V), 1 single input
Current consumption at 24 V	0.24 A
Reverse polarity protection	yes
Physical characteristics	
Housing main material	Metal
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	35 x 125 x 105 mm (1.37 x 4.92 x 4.13 in)
Weight	412 g
Environmental conditions	
Operating temperature	-20 to 60 °C (-4 to 140 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC	EN 61000-6-3, EN 61000-6-2
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Guarantee	
Time interval	2 years

Ordering Information

Version	Model Type	Order No.
IoT Gateway, 2x RJ45 10/100 Mbit/s, 1x RS232/485, 2x DI, 1x DO	IOT-GW30	2682620000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Industrial WLAN

Overview

Industrial WLAN	Introduction – Industrial WLAN	H.2
	Industrial WLAN	H.4

Industrial WLAN

Wireless communication solutions

In many mobile applications and industrial environments that are difficult to access, cabling does not usually make sense. Instead, WLAN-based wireless communication solutions are employed. In logistics, for example, WLAN is used to connect AGVs (Automatic Guided Vehicles). Roaming between several radio cells is important in this case in order to enable individually configurable radio coverage.

Our WLAN module can be used flexibly as an access point (AP), bridge or client. The alternative Power over Ethernet supply makes integration into an existing infrastructure especially easy. Maximum data integrity is guaranteed through integration into a RADIUS service and secure encryption with WPA2 in the radio field. Several radio fields can be flexibly spread out. Within these fields, the clients can move between the radio cells thanks to fast roaming. Several areas can be assigned for each radio cell (Multi-SSID) and allocated to different VLANs. This way, the wired infrastructure is continued 1:1 in the radio range.

Your special advantage:

- Compliant access point / client according to IEEE 802.11a/b/g/n
- MIMO technology for data rates up to 300 Mbit/s
- Fast roaming for interruption-free connection changes between access points
- DFS support in 5 GHz band
- Power supply with PoE according to IEEE 802.3af possible
- Integrated DIs/DOs for monitoring and alarms



Turbo roaming for interruption-free connections
Roaming technology ensures a seamless wireless connection and allows you to switch quickly between different wireless access points without the risk of discontinued data communication.



Various wireless modes of operation

The most important modes of operation for wireless networks are AP Client mode and Bridge mode. AP mode can be used to create a new WLAN or to connect an existing WLAN to a wired network. Bridge mode allows two Ethernet devices to be connected wirelessly using a point-to-point connection.



Integrated digital inputs/outputs

Weidmüller WLAN access points have integrated digital inputs/outputs that can be used to send alarm notifications in real time via the network to the responsible maintenance personnel.

Industrial WLAN

BasicLine WLAN Access Point/Client

- IEEE 802.11a/b/g/n conform access point/client
- MIMO technology for data rates up to 300Mbit/s
- Fast roaming for interruption-free connection change between access points
- DFS support in 5GHz bandwidth



Technical data

WLAN Interface	
Standards	IEEE 802.11a/b/g/n for Wireless LAN IEEE 802.11i for Wireless Security IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT
Spread Spectrum and Modulation (typically)	• DSSS with DBPSK, DQPSK, CCK • OFDM with BPSK, QPSK, 16QAM, 64QAM • 802.11b: CCK at 11/5.5 Mbps, DQPSK at 2 Mbps, DBPSK at 1 Mbps • 802.11a/g: 64QAM at 54/48 Mbps, 16QAM at 36/24 Mbps, QPSK at 18/12 Mbps, BPSK at 9/6 Mbps • 802.11n: 64QAM at 300 Mbps to BPSK at 6.5 Mbps
Operating Channels (central frequency)	US model: 2.412 to 2.462 GHz (11 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (8 channels, excluding 5.600 to 5.640 GHz)* / 5.745 to 5.825 GHz (5 channels) EU model: 2.412 to 2.472 GHz (13 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (11 channels)*
*DFS (Dynamic Frequency Selection): If the device is operated in access point mode on these channels, the device automatically switches to another channel once a radar signal is detected. After switching to another channel, a 60-second availability check is carried out in accordance with the specification, before communication can take place on the channel.	
Security	• SSID Broadcast enable/disable • Firewall for MAC/IP/protocol/port-based filtering • 64-bit and 128-bit WEP encryption, WPA/WPA2 personnel and enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5 to 300 Mbps
Transmit Power	802.11b: Type 26±1.5 dBm at 1 Mbps, Type 26±1.5 dBm at 2 Mbps Type 26±1.5 dBm at 5.5 Mbps, Type 25±1.5 dBm at 11 Mbps 802.11g: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 19±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz, (2.4 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz 802.11a: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 20±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz (5 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz

Note: In accordance with regional regulations, the maximum permissible transmit power is limited on the UNII bandwidths via the device firmware. The corresponding values are contained in the following tables:

	US model	EU model
2.4 GHz	26 dBm	18 dBm
5 GHz (UNII-1)	23 dBm	21 dBm
5 GHz (UNII-2)	23 dBm	21 dBm
5 GHz (UNII-2e)	23 dBm	23 dBm
5 GHz (UNII-3)	23 dBm	-

Receive Sensitivity	802.11b: • 93 dBm at 1 Mbps, -93 dBm at 2 Mbps • 93 dBm at 5.5 Mbps, -88 dBm at 11 Mbps 802.11g: • 88 dBm at 6 Mbps, -86 dBm at 9 Mbps • 85 dBm at 12 Mbps, -85 dBm at 18 Mbps • 85 dBm at 24 Mbps, -82 dBm at 36 Mbps • 78 dBm at 48 Mbps, -74 dBm at 54 Mbps 802.11n: • 70 dBm at MCS7 20 MHz, -69 dBm at MCS15 20 MHz (2.4 GHz) • 67 dBm at MCS7 40 MHz, -67 dBm at MCS15 40 MHz 802.11a: • 90 dBm at 6 Mbps, -88 dBm at 9 Mbps • 88 dBm at 12 Mbps, -85 dBm at 18 Mbps • 81 dBm at 24 Mbps, -78 dBm at 36 Mbps • 74 dBm at 48 Mbps, -72 dBm at 54 Mbps 802.11n: • 69 dBm at MCS7 20 MHz, -71 dBm at MCS15 20 MHz (5 GHz) • 63 dBm at MCS7 40 MHz, -68 dBm at MCS15 40 MHz
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Protocol Support	
General Protocols	Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, DHCP, LLDP
Interfaces	
Supplied antenna	2x omni-directional dual-band antenna, 2 dBi, RP-SMA (male)
Connector for External Antennas	RP-SMA (female), 500 V insulation
RJ45 port	1x 10/100/1000BaseT (X) auto negotiation, full/half duplex mode and auto MDI/MDI-X connection
Console Port	RS 232 (RJ45-type)

Technical data

Technical data	
Housing	Metal, IP30 protection
Weight	307 g
Dimensions (W x H x D)	58 x 115 x 70 mm (2.29 x 4.53 x 2.76 in)
Installation	DIN-Rail
Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 % to 95 % (non-condensing)
Power Requirements	
Input Voltage	24 V DC (12 to 48 V DC), two redundant inputs
Connection	1 removable 4-pin terminal block, 500 V insulation
Power Consumption	0.56 A at 12 VDC 0.14 A at 48 VDC
Power consumption	6.96 W
Reverse Polarity Protection	Present
Approvals	
Safety	EN62368-1, UL 60950-1
Radio	EN 301 489-1/17, EN 300 328, EN 301 893, TELECOM, FCC ID: SLE-WAPN008, KC
EMC	EN 55032/24 CISPR 32, FCC Part 15B Class B IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8
MTBF (mean time between failures)	
Time	749,476 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data

Version	Type	Operating Temperature	Order No.
WLAN Access Point/Client, IEEE 802.11 a/b/g/n, EU-Modell	IE-WL-BL-AP-CL-EU IE-WLT-BL-AP-CL-EU	0 to +60 °C -40 to +75 °C	2536600000 2536650000
WLAN Access Point/Client, IEEE 802.11 a/b/g/n, US-Modell	IE-WL-BL-AP-CL-US IE-WLT-BL-AP-CL-US	0 to +60 °C -40 to +75 °C	2536660000 2536670000

Accessories

	Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

ValueLine WLAN Access Point/Bridge/Client

- IEEE 802.11a/b/g/n conform Access Point/Client/Bridge
- MIMO technology for data rates up to 300Mbit/s
- Fast roaming for interruption-free connection change between access points
- DFS support in 5GHz bandwidth
- Power can be supplied via PoE in accordance with IEEE 802.3af
- Integrated DI/DOs for monitoring and alarms

**Technical data**

WLAN-Interface	
Standards	IEEE 802.11a/b/g/n for wireless LAN IEEE 802.11i for wireless security IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT IEEE 802.3af for Power-over-Ethernet IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1Q for VLAN
Spreading code process and modulation (typical)	• DSSS with DBPSK, DQPSK, CCK • OFDM with BPSK, QPSK, 16QAM, 64QAM • 802.11b: CCK at 11/5.5 Mbps, DQPSK at 2 Mbps, DBPSK at 1 Mbps • 802.11a/g: 64QAM at 54/48 Mbps, 16QAM at 36/24 Mbps, QPSK at 18/12 Mbps, BPSK at 9/6 Mbps • 802.11n: 64QAM at 300 Mbps to BPSK at 6.5 Mbps
Operating Channels (central frequency)	US model: 2.412 to 2.462 GHz (11 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (8 channels, excluding 5.600 to 5.640 GHz)* / 5.745 to 5.825 GHz (5 channels) EU model: 2.412 to 2.472 GHz (13 channels) / 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels)* / 5.500 to 5.700 GHz (11 channels)*
*DFS (Dynamic Frequency Selection): If the device is operated in access point mode on these channels, the device automatically switches to another channel once a radar signal is detected. After switching to another channel, a 60-second availability check is first carried out in accordance with the specification, before communication can take place on the channel.	
Security	• SSID Broadcast enable/disable • Firewall for MAC/IP/protocol/port-based filtering • 64-bit and 128-bit WEP encryption, WPA/WPA2 personal and enterprise (IEEE 802.1X/RADIUS, TKIP and AES)
Transmission Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5 to 300 Mbps
Transmit power	802.11b: Type 26±1.5 dBm at 1 Mbps, Type 26±1.5 dBm at 2 Mbps Type 26±1.5 dBm at 5.5 Mbps, Type 25±1.5 dBm at 11 Mbps 802.11g: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 19±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz, (2.4 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz 802.11a: Type 23±1.5 dBm at 6 to 24 Mbps, Type 21±1.5 dBm at 36 Mbps Type 20±1.5 dBm at 48 Mbps, Type 18±1.5 dBm at 54 Mbps 802.11n: Type 23±1.5 dBm at MCS0/8 20 MHz (5 GHz) Type 18±1.5 dBm at MCS7/15 20 MHz Type 23±1.5 dBm at MCS0/8 40 MHz Type 17±1.5 dBm at MCS7/15 40 MHz

Note: In accordance with regional regulations, the maximum permissible transmit power is limited on the UNII bandwidths via the device firmware. The corresponding values are contained in the following tables:

	US model	EU model
2.4 GHz	26 dBm	18 dBm
5 GHz (UNII-1)	23 dBm	21 dBm
5 GHz (UNII-2)	23 dBm	21 dBm
5 GHz (UNII-2e)	23 dBm	23 dBm
5 GHz (UNII-3)	23 dBm	-

Receive sensitivity	802.11b: • 93 dBm at 1 Mbps, -93 dBm at 2 Mbps • 93 dBm at 5.5 Mbps, -88 dBm at 11 Mbps 802.11g: • 88 dBm at 6 Mbps, -86 dBm at 9 Mbps • 85 dBm at 12 Mbps, -85 dBm at 18 Mbps • 85 dBm at 24 Mbps, -82 dBm at 36 Mbps • 78 dBm at 48 Mbps, -74 dBm at 54 Mbps 802.11n: • 70 dBm at MCS7 20 MHz, -69 dBm at MCS15 20 MHz (2.4 GHz) • 67 dBm at MCS7 40 MHz, -67 dBm at MCS15 40 MHz 802.11a: • 90 dBm at 6 Mbps, -88 dBm at 9 Mbps • 88 dBm at 12 Mbps, -85 dBm at 18 Mbps • 81 dBm at 24 Mbps, -78 dBm at 36 Mbps • 74 dBm at 48 Mbps, -72 dBm at 54 Mbps 802.11n: • 69 dBm at MCS7 20 MHz, -71 dBm at MCS15 20 MHz (5 GHz) • 63 dBm at MCS7 40 MHz, -68 dBm at MCS15 40 MHz
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Supported protocols	
General protocols	Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, DHCP, LLDP, VLAN, STP/RSTP
Interfaces	
Supplied antenna	2x omni-directional dual-band antenna, 2 dBi, RP-SMA (male)
Connection for external antennas	RP-SMA (female), 500 V insulation
RJ45 port	1x 10/100/1000BaseT (X) auto negotiation, full/half duplex mode and auto MDI/MDI-X connection
Console port	RS 232 (RJ45 connection)
Alarm contact	1 relay output with a current capacity of 1 A at 24 V DC
Digital inputs	2 galvanically separated inputs • +13 to +30 V for the state "1" • +3 to -30 V for the state "0" • max. Current consumption: 8 mA

Technical data

Technical data	
Housing	Metal, IP30 protection class
Weight	860 g
Dimensions (W x H x D)	52.7 x 135 x 105 mm (2.08 x 5.32 x 4.13 in)
Installation	DIN-Rail
Environmental conditions	
Operating temperature	Standard models: -25 to 60°C (-13 to 140°F) Models with extended temperature range: -40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Relative ambient air humidity	5% to 95% (non-condensing)
Power supply	
Input voltage	24 V DC (12 to 48 V DC), two redundant inputs or 48 V DC PoE (IEEE802.3af)
Connection	1 removable 10-pin terminal block, 500 V insulation
Current consumption	0.6 A at 12 VDC 0.15 A at 48 VDC
Power consumption	7.2 W
Reverse polarity protection	Present
Approvals	
Safety	EN62368-1, UL 60950-1
Wireless	EN 301 489-1/17, EN 300 328, EN 301 893, TELEC, FCC ID: SLE-WAPN008, KC
EMC	EN 61000-6-2/6-4 CISPR 32, FCC Part 15B Class B IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V/m IEC 61000-4-8 PFMF: 1 A/m
Explosive risk zones	UL / cUL Class I, Division 2; ATEX Zone 2 Ex nA IIC T4 Gc
MTBF (mean time between failures)	
Time	570,854 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Period	5 Years

Ordering data

Version	Type	Operating Temperature	Order No.
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, EU-Modell	IE-WL-VL-AP-BR-CL-EU	-25 to +60 °C	2536680000
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, US-Modell	IE-WLT-VL-AP-BR-CL-EU	-40 to +75 °C	2536690000
WLAN Access Point/Bridge/Client, IEEE 802.11 a/b/g/n, US-Modell	IE-WL-VL-AP-BR-CL-US	-25 to +60 °C	2536700000
		-40 to +75 °C	2536710000

Accessories

	Type	Order No.
External backup and restore module	EBR-Modul RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000

Active components

Overview of accessories

Accessories – Active components	Introduction – Accessories – Active components	I.2
	SFP transceiver (for use with switches of Eco- Advanced- and SubstationLine)	I.4
	SFP transceiver (for use with switches of Basic- Value- and PremiumLine)	I.7
	Configuration backup and restore module (for use with switches of Value- and PremiumLine such as Basic- and ValueLine WLAN devices)	I.8
	Configuration backup and restore module (for use with switches of Advanced- and SubstationLine)	I.9
	Mounting kits for 19" rack and wall	I.10

Easy assembly, configuration and operation

Our accessories for active Industrial Ethernet solutions

Industrial Ethernet connection solutions from Weidmüller are versatile and can be precisely matched to the infrastructure of your machine, system or factory. In order to guarantee optimum functionality, we provide you with all the connection technology from a single source. We also offer a wide range of accessories for your active Industrial Ethernet components.

Configuration module

To quickly back up, restore and load configurations, we recommend our configuration module. It supports you in performing reconfigurations for replacement devices, thereby minimising your downtimes.

SFP transceivers

Our SFP transceivers give you more flexibility in your choice of transmission media. We offer you a broad selection – for transmission speeds up to 10 Gbit/s and distances up to 60 km. The modules support digital diagnostic monitoring (DDM) for the easy monitoring of the transceiver status.

19" mounting kit

For our Industrial Ethernet components, we also offer a mounting kit as an alternative for the installation of DIN rail-based components in 19" racks.

Individual solutions

In addition to our line of accessories, we provide you with a wide range of products and services for custom connection solutions. This also includes our assembly service, which supports you in mastering even the most complex cabling tasks.

Customer-specific cable configuration



Fast Ethernet SFP transceiver (for use with switches of Eco- Advanced- and SubstationLine)

Fast Ethernet SFP transceiver

- IEEE 802.3u compliant
- Class 1 laser product; EN 60825-1 compliant
- Pluggable during operation (hot pluggable)
- Supports DDM (Digital Diagnostic Monitoring)



Technical data

Fibre optic transceiver characteristics			
	IE-SFP-1FE-MM-2	IE-SFP-1FE-SM-30	IE-SFP-1FE-SM-60
	2682450000	2682460000	2682470000
Transmission speed	100 Mbit/s	100 Mbit/s	100 Mbit/s
Digital Diagnostic Monitor function (DDM)	Supported	Supported	Supported
Transceiver Type	Multimode	Singlemode	Singlemode
Connector type	LC-Duplex	LC-Duplex	LC-Duplex
Fiber Cable Type	OM1, OM2	G.652	G.652
Typical Distance	2 km, 4 km	30 km	60 km
Wavelength typ (nm)	1310	1310	1310
Wavelength (TX) range (nm)	1270 to 1380	1280 to 1340	1280 to 1340
Wavelength (RX) range (nm)	1260 to 1620	1260 to 1620	1260 to 1620
Optical Power (TX) range (dBm)	-14 to -20	-8 to -15	0 to -5
Optical Power (RX) range (dBm)	-3 to -32	-3 to -34	-3 to -34
Link-Budget (dB)	12	19	29

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power supply	
Voltage supply	3.3 V (via Ethernet switch)
Physical characteristics	
Type of mounting	Insert in SFP slot
Weight	46 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC	EN 55032, EN 55024
Guarantee	
Time interval	3 years

Ordering Information		
Version	Model Type	Order No.
SFP Transceiver, 100 Mbit/s, Multimode, LC-Duplex, 2 km, -40 °C...85 °C	IE-SFP-1FE-MM-2	2682450000
SFP Transceiver, 100 Mbit/s, Singlemode, LC-Duplex, 30 km, -40 °C...85 °C	IE-SFP-1FE-SM-30	2682450000
SFP Transceiver, 100 Mbit/s, Singlemode, LC-Duplex, 60 km, -40 °C...85 °C	IE-SFP-1FE-SM-60	2682470000

Gigabit Ethernet SFP transceiver

- IEEE 802.3z compliant
- Class 1 laser product; EN 60825-1 compliant
- Pluggable during operation (hot pluggable)
- Supports DDM (Digital Diagnostic Monitoring)

**Technical data****Fibre optic transceiver characteristics**

	IE-SFP-1GE-MM-05	IE-SFP-1GE-MM-2	IE-SFP-1GE-SM-10	IE-SFP-1GE-SM-40	IE-SFP-1GE-SM-10-BiDi-TX1310	IE-SFP-1GE-SM-10-BiDi-TX1550	IE-SFP-1GE-SM-20-BiDi-TX1310	IE-SFP-1GE-SM-20-BiDi-TX1550
Transmission speed	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s	1000 Mbit/s
Digital Diagnostic Monitor function (DDM)	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Transceiver Type	Multimode	Multimode	Singlemode	Singlemode	Singlemode BiDi	Singlemode BiDi	Singlemode BiDi	Singlemode BiDi
Connector type	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex	LC-Simplex	LC-Simplex	LC-Simplex	LC-Simplex
Fiber Cable Type	OM1, OM2	OM1, OM2	G.652	G.652	G.652	G.652	G.652	G.652
Typical Distance	275 m, 550 m	2 km	10 km	40 km	10 km	10 km	20 km	20 km
Wavelength typ (nm)	850	1310	1310	1310	RX 1550 / TX 1310	RX 1310 / TX 1550	RX 1550 / TX 1310	RX 1310 / TX 1550
Wavelength (TX) range (nm)	830 to 870	1270 to 1355	1280 to 1365	1280 to 1350	1270 to 1355	1510 to 1570	1270 to 1355	1510 to 1570
Wavelength (RX) range (nm)	770 to 870	1260 to 1620	1260 to 1620	1260 to 1610	1470 to 1600	1250 to 1380	1470 to 1600	1250 to 1380
Optical Power (TX) range (dBm)	-3 to -9	-1 to -9	-3 to -9	+3 to -3	-3 to -9	-3 to -9	-2 to -8	-2 to -8
Optical Power (RX) range (dBm)	-3 to -18	-1 to -19	-3 to -20	-3 to -24	-3 to -20	-3 to -20	-3 to -23	-3 to -23
Link-Budget (dB)	9	10	11	21	11	11	15	15

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power supply

Voltage supply 3.3 V (via Ethernet switch)

Physical characteristics

Type of mounting Insert in SFP slot

Weight 46 g

Environmental condition

Operating temperature -40 to 85 °C (-40 to 185 °F)

Storage temperature -40 to 85 °C (-40 to 185 °F)

Humidity 5 to 95 % (non-condensing)

EMC conformity and approvals

EMC EN 55032, EN 55024

Guarantee

Time interval 3 years

Ordering Information

Version	Model Type	Order No.
SFP Transceiver, 1000 Mbit/s, Multimode, LC-Duplex, 0.5 km, -40 °C...85 °C	IE-SFP-1GE-MM-05	2682480000
SFP Transceiver, 1000 Mbit/s, Multimode, LC-Duplex, 2 km, -40 °C...85 °C	IE-SFP-1GE-MM-2	2682490000
SFP Transceiver, 1000 Mbit/s, Singlemode, LC-Duplex, 10 km, -40 °C...85 °C	IE-SFP-1GE-SM-10	2682500000
SFP Transceiver, 1000 Mbit/s, Singlemode, LC-Duplex, 40 km, -40 °C...85 °C	IE-SFP-1GE-SM-40	2682510000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 10 km, -40 °C...85 °C	IE-SFP-1GE-SM-10-BiDi-TX1310	2682520000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 10 km, -40 °C...85 °C	IE-SFP-1GE-SM-10-BiDi-TX1550	2682530000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 20 km, -40 °C...85 °C	IE-SFP-1GE-SM-20-BiDi-TX1310	2682540000
SFP Transceiver, 1000 Mbit/s, Singlemode BiDi, LC-Simplex, 20 km, -40 °C...85 °C	IE-SFP-1GE-SM-20-BiDi-TX1550	2682550000

10 Gigabit Ethernet SFP+ transceiver (for use with switches of SubstationLine)

10 Gigabit Ethernet SFP+ transceiver

- IEEE 802.3ae compliant
- Class 1 laser product; EN 60825-1 compliant
- Pluggable during operation (hot pluggable)
- Supports DDM (Digital Diagnostic Monitoring)



Technical data

Fibre optic transceiver characteristics			
	IE-SFP-10GE-MM-03 2779110000	IE-SFP-10GE-SM-20 2779120000	IE-SFP-10GE-SM-40 2779130000
Transmission speed	10 Gbit/s	10 Gbit/s	10 Gbit/s
Digital Diagnostic Monitor function (DDM)	Supported	Supported	Supported
Transceiver Type	Multimode	Singlemode	Singlemode
Connector type	LC-Duplex	LC-Duplex	LC-Duplex
Fiber Cable Type	OM1, OM2, OM3	G.652	G.652
Typical Distance	33 m, 82 m, 300 m	20 km	40 km
Wavelength typ (nm)	850	1310	1550
Wavelength (TX) range (nm)	840 to 860	1260 to 1355	1530 to 1565
Wavelength (RX) range (nm)	840 to 860	1260 to 1600	1250 to 1600
Optical Power (TX) range (dBm)	-1 to -6.5	0.5 to -4	4 to -4.7
Optical Power (RX) range (dBm)	-1 to -9.9	0.5 to -15	-1 to -15.8
Link-Budget (dB)	3.4	11	11.1

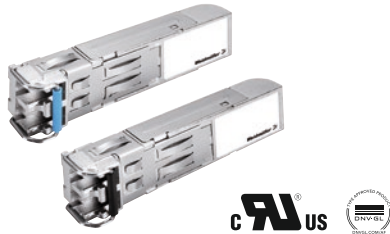
Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power supply	
Voltage supply	3.3 V (via Ethernet switch)
Physical characteristics	
Type of mounting	Insert in SFP slot
Weight	46 g
Environmental conditions	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 95 % (non-condensing)
EMC conformity and approvals	
EMC	EN 55032, EN 55024
Guarantee	
Time interval	3 years

Ordering Information		
Version	Model Type	Order No.
SFP+ Transceiver, 10 Gbit/s, Multimode, LC-Duplex, 0.3 km, -40 °C...85 °C	IE-SFP-10GE-MM-03	2779110000
SFP+ Transceiver, 10 Gbit/s, Singlemode, LC-Duplex, 20 km, -40 °C...85 °C	IE-SFP-10GE-SM-20	2779120000
SFP+ Transceiver, 10 Gbit/s, Singlemode, LC-Duplex, 40 km, -40 °C...85 °C	IE-SFP-10GE-SM-40	2779130000

Gigabit Ethernet SFP-Transceiver

- Supports DDM (Digital Diagnostic Monitoring)
- IEEE 802.3z-conform
- Symmetric LVPECL inputs and outputs
- TTL signal detection indicator
- Pluggable during operation (hot pluggable)
- Class 1 laser product; EN 60825-1-conform

**Technical data**

Interfaces							
Fibre-optic ports		100BaseSFP (LC-duplex connection)					
Specification optical fiber							
		1000BaseSFP					
		SFP-SX		SFP-LSX		SFP-LX	SFP-LHX
Transceiver Type		Multi-Mode		Multi-Mode		Single-Mode	Single-Mode
Fiber Cable Type		OM1	OM2	OM1	OM2	G.652	G.652
Typical Distance		300 m	550 m	1 km	2 km	10 km	40 km
Wave-length	Typical (nm)	850		1310		1310	1310
	TX Range (nm)	830 to 860		1270 to 1355		1280 to 1355	1280 to 1340
	RX Range (nm)	770 to 860		1260 to 1610		1260 to 1610	1260 to 1610
Optical Power	TX Range (dBm)	-4 to -9.6		-1 to -9		-3 to -9	+3 to -4
	RX Range (dBm)	0 to -18		-1 to -19		-3 to -21	-1 to -24
Power	Link-Budget (dB)	8.5		10		12	20
	Dispersion Penalty (dB)	4.3	3.6	5	5	1	1

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power consumption	max. 1 Watt
Environmental Limits	
Operating temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Approvals	
Security	CE, FCC, TÜV (EN 60825), UL 60950-1
Maritime	DNV-GL
Warranty	
Warranty Period	5 years

Ordering data			
SFP Variants	Type	Operating Temperature	Order No.
Gigabit-Ethernet, Multimode, LC-duplex connection, 500 m	IE-SFP-1GSXLC	0 to +60 °C	1241490000
	IE-SFP-1GSXLC-T	-40 to 85 °C	1286700000
Gigabit-Ethernet, Multimode, LC-duplex connection, 2 km	IE-SFP-1GLXLC	0 to +60 °C	1241500000
	IE-SFP-1GLXLC-T	-40 to 85 °C	1286710000
Gigabit-Ethernet, Singlemode, LC-duplex connection, 10 km	IE-SFP-1GLXLC	0 to +60 °C	1241510000
	IE-SFP-1GLXLC-T	-40 to 85 °C	1286720000
Gigabit-Ethernet, Singlemode, LC-duplex connection, 40 km	IE-SFP-1GLHLC	0 to +60 °C	1241520000
	IE-SFP-1GLHLC-T	-40 to 85 °C	1286730000

Fast Ethernet SFP-Transceiver

- Supports DDM (Digital Diagnostic Monitoring)
- IEEE 802.3u-conform
- Symmetric PECL inputs and outputs
- TTL signal detection indicator
- Pluggable during operation (hot pluggable)
- Class 1 laser product; EN 60825-1-conform

**Technical data**

Interfaces				
Fibre-optic ports		100BaseSFP (LC-duplex connection)		
Specification optical fiber				
		100BaseSFP		
		SFP-M	SFP-S	
Transceiver Type		Multi-Mode		
Fiber Cable Type		OM1/OM2	50/125 μm	G.652
			62/125 μm	
		800 MHz*km		
Typical Distance		2 km	4 km	40 km
Wave-length	Typical (nm)	1300		1310
	TX Range (nm)	1280 to 1340		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-8 to -18		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link-Budget (dB)	14		29
	Dispersion Penalty (dB)	2	3	1

Note: When connecting a single-mode fiber transceiver over a short distance, we recommend using an attenuator to prevent the transceiver from being damaged by excessive optical power.

Power consumption	max. 1 Watt
Environmental Limits	
Operating temperature	-40 to 85 °C (-40 to 185 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Approvals	
Security	CE, FCC, TÜV (EN 60825), UL 60950-1
Maritime	DNV-GL
Warranty	
Warranty Period	5 years

Ordering data			
Port Variants	Type	Operating Temperature	Order No.
Fast Ethernet, Multimode, LC-duplex connection, 4 km	IE-SFP-1FEMLC-T	-40 to +85 °C	1241450000
Fast Ethernet, Singlemode, LC-duplex connection, 40 km	IE-SFP-1FESLC-T	-40 to +85 °C	1241470000

Configuration backup and restore module (for use with switches of Value- and PremiumLine such as Basic- and ValueLine WLAN devices)

Module for saving and loading a device configuration

- Reduce system downtime by simple reconfiguration in case of replacing devices
- Automatic loading of the saved configuration possible after device restart
- Compact, rugged, reliable design
- For use with switches of Value- and PremiumLine such as Basic- and ValueLine WLAN devices



Technical data

Basic Operation		
Connection	RS 232 (RJ45 connection), is plugged into the corresponding console port on the managed switch or WLAN Access Point.	
Configuration	Saving and loading of the corresponding device configuration via web interface of the managed switch or the WLAN Access Point	
Power Requirements		
Input Voltage	3 to 5 V DC (through the RS 232 port's RTS signal)	
Technical data		
Housing	PVC molding, IP40 protection	
Dimensions (W x H x D)	32.5 x 97 x 12 mm (8.07 x 3.82 x 0.47 in)	
Weight	50 g	
Mounting possibility	M4 screw (< 4 mm)	
Cable Length	35 cm (including connector)	
Environmental Limits		
Operating temperature	0 to 60 °C (32 to 140 °F)	
Storage Temperature	-20 to 70 °C (-4 to 158 °F)	
Ambient Relative Humidity	5 to 95 % (non-condensing)	
Approvals		
EMC	EN 55032 Class A CISPR 32, FCC Part 15B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8	
Warranty		
Warranty Period	5 years	
Ordering data		
Version	Type	Order No.
External Backup and Restore Module	EBR-MODULE RS232	1241430000

Module for saving and loading a device configuration

- Reduce system downtime by simple reconfiguration in case of replacing devices
- 2 storage spaces selectable via DIP switch
- Compact, rugged, reliable design
- For use with switches of Advanced- and SubstationLine

**Technical data**

Interfaces		
Connector	RJ45 connector (plugged into device´s console port)	
DIP switches	1x for selection of the configuration storage space (A or B) 1x for selection between upload or download of a configuration	
Start button	Starts the upload or download of a configuration	
LED indicators	Power, data transmitting, transmission status	
Power supply		
Connection type	RJ45 connector	
Input voltage	5 V DC (via RS-232 RTS signal of serial console port)	
Current consumption at 5 V	0.14 A	
Physical characteristics		
Housing main material	PC molding	
Protection degree	IP40	
Dimensions (W x H x D)	Module: 32 x 14.5 x 90.25 mm (1.25 x 0.57 x 3.5 in) Cable length: 210 mm (8.27 in) including RJ45 connector	
Weight	33 g	
Environmental conditions		
Operating temperature	-10 to 60°C (14 to 140°F)	
Storage temperature	-40 to 85 °C (-40 to 185 °F)	
Humidity	5 to 95 % (non-condensing)	
Operating altitude	≤ 2000 m	
EMC conformity and approvals		
EMC	EN 55032, EN 55024, CISPR 32, FCC Part 15 Subpart B Class A IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz bis 1 GHz: 3 V/m	
Safety	UL 61010-1, UL 61010-2-201	
Shock	IEC 60068-2-27	
Vibration	IEC 60068-2-6	
Free fall	IEC 60068-2-31	
MTBF		
Time	6.645.051 hrs	
Database	Telcordia SR332	
Supported switch models		
The EBR-Module can be used with the listed switches of Advanced- and SubstationLine only.	IE-SW-AL06M-4GTPoE-2GESFP	
	IE-SW-AL08M-8GTPoE	
	IE-SW-AL08M-8GT	
	IE-SW-AL12M-8GT-4GESFP	
	IE-SW-AL14M-12GT-2GESFP	
	IE-SW-AL24M-16GT-8GESFP	
	IE-SW-SL20M-8GT-12GESFP-HV	
	IE-SW-SL20M-8GT-12GESFP-LV	
	IE-SW-SL28M-HV	
	IE-SW-SL28M-LV	
Guarantee		
Time interval	3 years	
Ordering Information		
Version	Model Type	Order No.
External Backup and Restore Module	IE-EBR-MODULE-RS232-ALM	2682610000

Mounting kits for 19" rack and wall

Kit for 19" rack-mounting

- For mounting DIN-rail based devices in 19" racks



Technical data

Technical data		
Dimensions (W x H x D)	481 x 177.8 x 202.4 mm	

Ordering data		
Version	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Wall mounting kit

- Mounting kit for alternative wall-mounting of DIN rail-based Industrial Ethernet components.



Technical data

Usage		
Industrial Ethernet Switches	Product lines: IE-SW-BL05	

Ordering data		
Version	Type	Order No.
Wall mounting kit	IE-WALLMOUNT-KIT-30MM	1504450000

Passive components

Introduction

Introduction – Passive components	IE-line connectors	J.2
	Cable configurator	J.4
	Differences between industrial and office Ethernet	J.6
	PROFINET and SERCOS III cabling solutions	J.8
	EtherNet/IP cabling solutions	J.12

IE-LINE plug-in connectors

Clever and flexible with **STEADYTEC®** technology



STEADYTEC® – this name stands for the future of connection technology in the field of data and signal transmissions. Established market leaders in the industry, **STEADYTEC®** forms the foundation for reliable, application-orientated, standards-compliant solutions - for offices through to areas with harsh industrial conditions.

The objective: The development of reliable plug-in connector technologies for industrial applications. Technologies that satisfy the highest customer demands and hence enable new, specialised and dependable solutions.

The result: An extremely reliable, extraordinarily practical, flexible and especially efficient plug-in connector system for office and industrial applications. And using products whose characteristics accurately reflect the values originally laid out:

- fast
- reliable
- solution-based
- simple

The Ethernet connector system: clever – flexible

Connectors for modern industrial applications need to be designed in such a way that they simplify processes and cope with faster data transmission. Weidmüller's Ethernet connectors keep you a step ahead. These products are not only ready for 10 gigabit, they are also standardised for IEC 61076-3-106 and IEC 61076-3-117. In addition, the connector variants 4 (Ethernet TCP/IP), variants 5 and 1 (Ethernet IP) and variant 14 (PROFINET/AIDA) which are named in these standards are all specified as mandatory in the standards covering generic cabling systems for industrial premises: ISO/IEC 24702, IEC 61918 (Automation Island), as well as for Fieldbus installations IEC 61784-5. What's more, you have a unique choice of versions made of plastic or metal as well as inserts for copper and fibre-optic cabling. All of the connectors are designed for ease of use and for quick on-site assembly. They are also modular and can be tailored to suit your application.



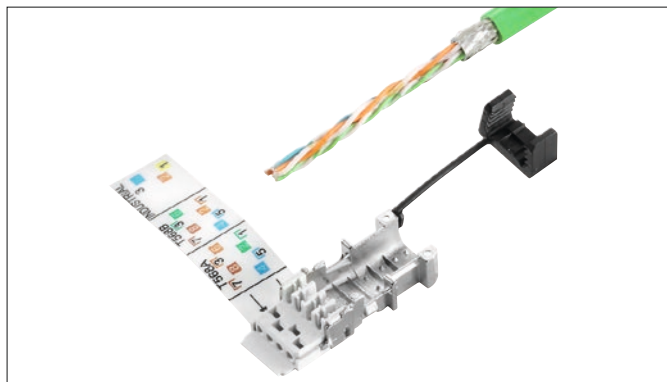


Tool-free assembly and powerful connections: the RJ45 gigabit connector!

You can now securely plug the connector you need directly into your machinery with very little effort – and without a single tool! The 10-gigabit connector, with IDC-connection, was developed to provide quick, simple, secure and, most importantly, tool-free wiring. In addition, zinc die-casting makes the connector more robust and therefore suitable for industrial applications and as it is fitted with a protected locking clip means it is suitable for meeting the requirements of harsh industrial environments. Weidmüller's IE product line fulfils the requirements for 10 GBit Ethernet, according to IEEE 802.3an, up to 500 MHz.

STEADYTEC®: Systematic benefits

- **Cat. 6A 10 GBit System Class E_A**
- **Assembly without tools in the field**
- **Countless variations thanks to highly diverse combinations of inserts**
- **Unrestricted compatibility because standardised to IEC 61076-3-106**
- **Reliable and long-lasting thanks to use of diecast zinc**
- **Suitable for industry thanks to IP67 class of protection**
- **Simple ordering procedure and low storage costs thanks to Weidmüller's modular system**



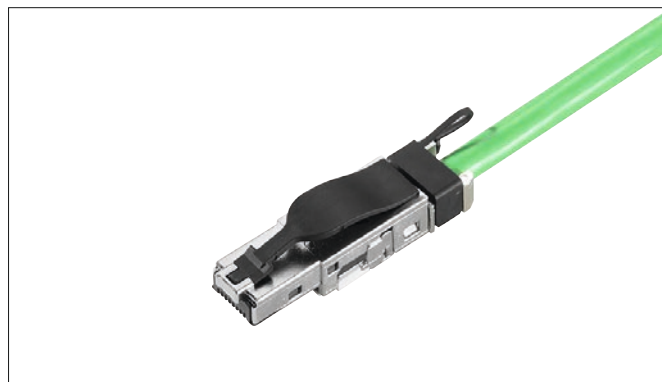
1. Strip sheath cladding and shorten shield to 5 mm



2. Prepare wires and shorten



3. Snap together the two pluggable elements



4. Finished

Cable configurator

Tailor-made connections

The cable configurator allows you to configure your specific cable with comfort, speed and simplicity. Just select, request order – and you are finished!

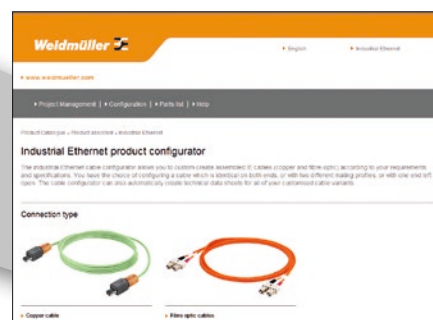
Make your selection from the list of available cables (material for cable sheathing, category, colour, ...). Next, choose the connector for both the right and left cable ends and then choose the cable length. Configurations which are not possible are marked in red, so that it is not possible to create an unsupported or wrong configuration.

The Industrial Ethernet Configurator can be found in our online catalogue.

Our configurator
creates connections
tailor-made.

Weidmüller

You will be forwarded directly and will be able to configure a fibre-optic or copper cable.



After you have made your selection, there are several available options:

- Locate and display the data sheet for the assembled cable
- Export the information in Excel or CSV format
- Save the configuration
- Create additional cables or load previous cables
- Place the assembled cable in the shopping cart to obtain a quote or to order



Practically all types of connectors and cables can be combined to your requirements!

Weidmüller

Product Catalogue - Product selection - Industrial Ethernet

Industrial Ethernet product configurator

The industrial Ethernet cable configurator allows you to custom create assembled cable (cable, plug and socket) according to your requirements and specifications. You have the choice of configuring a cable which is standard on both ends, or with two different ending profiles, or with one end left open. The cable configurator also automatically creates technical data sheets for all of your customised cable variants.

Configuration - Copper cable

Designation: 18-C884UG050B41A2B-X

Order no.:

20 m

Plug 1: RJ45 (M) Ethernet male

Plug 2: RJ45 (M) Ethernet male

Type of cable: Copper

Cable color: Green

Length (m): 20

Indication length: 20

Reset Save selection Search Show previous Activate

From office communication to Industrial Ethernet

An overview of the differences

Office Ethernet



Cabling

- Fixed building installation
- Variable connection options
- Pre-assembled connection cables
- Star topology most widely in use

Transmission

- Large volume of data
- Mid-level network availability
- Mostly only acyclical transmission
- No real-time characteristics required for standard applications

Surroundings

- No extreme conditions

Industrial Ethernet



- Individual plant-influenced networks
- Robust component characteristics
- On-site, user assembly connections
- Redundant network topologies (ring)

- Small data packets (measurement values)
- Very high network availability
- Extremely high real-time requirement
- Mostly cyclical transmission

- Extreme temperatures
- Dust, dirt, splashing water, oils gases,
- Vibration, electromagnetic fields
- Risks of danger and damage from mechanical or chemical influences

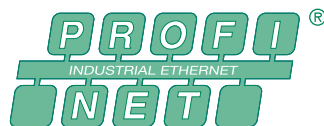
Customised cabling solutions for PROFINET and SERCOS III

Weidmüller's cabling products enable you to create a specific infrastructure that meets all the requirements of PROFINET and SERCOS III.

The cabling components for copper and fibre-optic cables are designed and tested for use in harsh industrial conditions. Interoperability in the system is assured by the PROFINET and SERCOS cabling guidelines that specifically prescribe the interfaces to be used. For PROFINET this is guaranteed through the manufacturer's declaration.

Comprehensive protection against disturbance by electromagnetic fields is achieved through the use of high quality shielding of the cables and the related connection components. Significant system reserves are offered through the star quad design of the cables and their wire cross-section of AWG 22. Stable real-time transmission is guaranteed, for applications such as PROFINET IRT or SERCOS III typical hardware synchronisation, by the low signal transmission time differences resulting from the cable construction. At the same time the cables offer high crush resistance for reliable installation in industrial applications.

The cabling components are also remarkably easy to handle when out in the field. The plug-in connectors for copper and fibre-optic can all be assembled on-site. This reduces installation time, reduces errors and simplifies maintenance.



sercos
the automation bus

Profile specific guidelines for the connection components

Cable:

- Quad-star design of AWG 22

Connector:

- IP20 RJ45
- IP20 SC-RJ
- IP67 PushPull RJ45
- IP67 PushPull Power
- IP67 PushPull SC-RJ
- IP67 M12 D-coding



Weidmüller offers you a wide range of cabling solutions for PROFINET and SERCOS III applications. IP20 plug-in connectors for copper and fibre-optic cables are also included as well as IP67 plug-in connectors and junction

boxes for the toughest requirements. The components are designed to be used together from the floor distributors down to the machines.

IP67
assembled RJ45 cables



IP67
assembled M12 cables



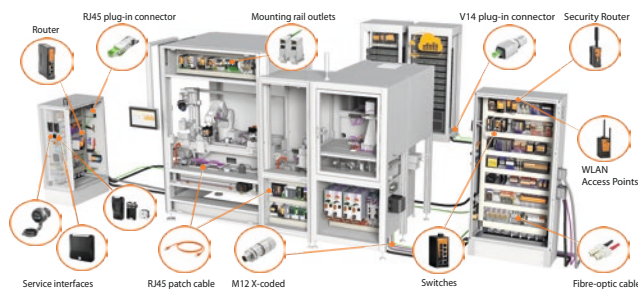
IP67
plug-in M12 connectors



IP67
connection components



Raw cable
copper and fibre-optic



IP67
plug-in connectors data / power



IP67
flanges data / power



IP20
plug-in connector



IP20
assembled cables



IP20
mounting rail outlets

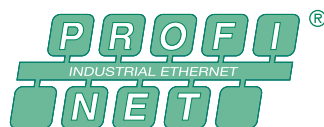


IP65
service interfaces



Selection table

Ideal combinations



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IP20 plug-in connector



Description	Type	Order No.
RJ45 tool-free PROFINET printing	IE-PS-RJ45-FH-BK-P	1132060000
RJ45 tool-free angled Profinet printing	IE-PS-RJ45-FH-90-P-1.6	1518100000
SC-RJ for POF fibres 1 mm	IE-PS-SCRJ1-POF	1206720000

IP20 assembled data cables



Description	Type	Order No.
RJ45 patch cable PVC type B - 1 m	IE-C5DS4VG0010A60A60-E	1522100010
RJ45 patch cable PVC type B - 3 m	IE-C5DS4VG0030A60A60-E	1522100030
RJ45 patch cable PVC type B - 5 m	IE-C5DS4VG0050A60A60-E	1522100050
RJ45 patch cable PVC type B - 10 m	IE-C5DS4VG0100A60A60-E	1522100100
SC-RJ zipcord patch cable - POF - 1 m	IE-FPOZ2EE0001MSJOSJO-X	1273430010
SC-RJ zipcord patch cable - POF - 3 m	IE-FPOZ2EE0003MSJOSJO-X	1273430030
SC-RJ zipcord patch cable - POF - 5 m	IE-FPOZ2EE0005MSJOSJO-X	1273430050
SC-RJ zipcord patch cable - POF - 10 m	IE-FPOZ2EE0010MSJOSJO-X	1273430100

Further PROFINET cables - SERCOS III cables can be found in Chapter L

IP20 mounting rail outlets



Description	Type	Order No.
RJ45 coupling	IE-TO-RJ45-C	8946920000
RJ45 module PROFINET printing	IE-TO-RJ45-FJ-P	8946950000
SC-RJ POF coupling / multimode	IE-TO-SCRJ-MM	8946990000
SC-RJ singlemode coupling	IE-TO-SCRJ-SM	8947000000

IP65 service interface



Beschreibung	Type	Order No.
FrontCom® Micro RJ45 coupling	IE-FCM-RJ45-C	1018790000
FrontCom® Micro RJ45 module PROFINET printing	IE-FCM-RJ45-FJ-P	1018830000

IP67 flange data



Description	Type	Order No.
PushPull standard flange RJ45 coupling	IE-BSS-V14M-RJ45-C	1012310000
PushPull central cable gland RJ45 coupling	IE-BSC-V14M-RJ45-C	1058250000
PushPull standardised flange RJ45 module PROFINET printing	IE-BSS-V14M-RJ45-FJ-P	1085260000
PushPull standardised flange hybrid (Q10) 10-pole module without contacts	IE-BSS-V14M-HYB-10P-FJ	1072900000
Contacts for Hybrid (Q10) module 0.5 mm² - 0.75 mm² VPE 300	IE-BIC-HYB-P-0,75-300	1068970000
Contacts for Hybrid (Q10) module 0.2 mm² - 0.5 mm² VPE 300	IE-BIC-HYB-P-0,5-300	1096150000
PushPull standardised flange SC-RJ coupling POF / multimode	IE-BSS-V14M-SCRJ-MM-C	1058120000
PushPull standardised flange SC-RJ coupling singlemode	IE-BSS-V14M-SCRJ-SM-C	1058140000
PushPull central cable gland SC-RJ coupling POF / multimode	IE-BSC-V14M-SCRJ-MM-C	1062590000
PushPull central cable gland SC-RJ coupling singlemode	IE-BSC-V14M-SCRJ-SM-C	1062600000
PushPull device flange	IE-BHD-V14M	1047940000

other inserts can be found in Chapter J

IP67 Power connectors



Description	Type	Order No.
PushPull Power with 24 V / 16 A use	IE-PS-VAPM-5P-2.5	2465440000

IP67 flange power



Description	Type	Order No.
PushPull Power standardised flange with 24 V / 16 A use	IE-BSS-VAPM-24V	2493480000
PushPull Power device flange	IE-BHD-VAPM	2493490000

IP67 data connectors

	Description	Type	Order No.
	PushPull RJ45 tool-free module PROFINET printing	IE-PS-V14M-RJ45-FH-P	1012170000
	PushPull RJ45 Crimp PROFINET		2768740000
	PushPull Hybrid (Q10) use, 10-pole module without contacts	IE-PS-V14M-HYB-10P	1072910000
	PushPull SC-RJ use POF 1 mm	IE-PS-V14M-2SC-POF	1191550000

IP67 assembled data cables

	Description	Type	Order No.
	PushPull RJ45 patch cable PUR - Type C - 1 m	IE-C5DD4UG0010A2EA2E-X	1119730010
	PushPull RJ45 patch cable PUR - Type C - 3 m	IE-C5DD4UG0030A2EA2E-X	1119730030
	PushPull RJ45 patch cable PUR - Type C - 5 m	IE-C5DD4UG0050A2EA2E-X	1119730050
	PushPull RJ45 patch cable PUR - Type C - 10 m	IE-C5DD4UG0100A2EA2E-X	1119730100

Further PROFINET cables - SERCOS III cables can be found in Chapter L

IP67 plug connector M12 D-coded and X-Type

M 12 components can be found in Chapter J

IP65 connection components

	Description	Type	Order No.
	FreeCon passive double junction box RJ45/Power	IE-CD-V14MRJ/VAPM24V-FJ	1068830000
	FreeCon passive single junction box RJ45	IE-CD-V14MRJ-FJ	1068880000
	FreeCon passive single junction box Hybrid (Q10) without contacts	IE-CD-V14MHYB-10P-FJ	1068850000
	FreeCon passive double coupling RJ45/Power	IE-CD-V14MRJ/VAPM24V-C-MA	1068820000
	FreeCon passive single coupling RJ45	IE-CD-V14MRJ-C-MA	1068870000
	FreeCon passive single coupling hybrid (Q10)	IE-CD-V14MHYB-10P-C-MA	1068840000
	FreeCon PushPull Power Y-distributor	IE-CD-VAPM24V-Y-MA	1297010000
	FreeCon PushPull Power single coupling	IE-CD-VAPM24V-C-MA	1397690000
	FreeCon passive single coupling SCRJ	IE-CD-V14MSCRJ-MM-C-MA	1318150000
	FreeCon active FO PROFINET repeater	IE-CDR-V14MSCPOF/VAPM-C	1253240000
	FreeCon active PROFINET media converter	IE-CDM-V14MRJSCP/VAPM-C	1324440000
	FreeCon active FO PROFINET repeater II	IE-CDR-V14MSCPOF/VAPM-C II	2455360000
	FreeCon active FO PROFINET media converter II	IE-CDM-V14MRJSCP/VAPM-C II	2588270000
	FreeCon active PROFINET copper repeater	IE-CDR-V14MRJ/VAPM-C	2581810000
	FreeCon passive cable coupling RJ45	IE-CC-V14M-RJ45-FJ-P	1990600000
	FreeCon passive cable coupling hybrid	IE-CC-V14M-HYB-10P-FJ	1990610000
	FreeCon passive cable coupling power	IE-CC-VAPM-24V	1990630000

Raw cable copper cable

	Description	Type	Order No.
	100 m ring installation cable PVC type A	IE-C5AS4VG-100	8899000000
	500 m ring installation cable PVC type A	IE-C5AS4VG-500	2763430000
	100 m ring connection cable PVC type B	IE-C5DS4VG-100	8898990000
	500 m ring connection cable PVC type B	IE-C5DS4VG-500	2763470000
	100 m ring dragline cable PUR type C	IE-C5DD4UG-100	8899010000
	500 m ring dragline cable PUR type C	IE-C5DD4UG-500	2763450000
	500 m ring Torsion cable PUR type C	IE-C5IT4UG-500	2763520000
	500 m ring hybrid cable PVC	IE-C5DHAG-500	2763460000

Raw cable fibre-optic cable

	Description	Type	Order No.
	500 m ring POF breakout cable 2X980/1000 µm TPE	IE-FPOD2UG-500	2763640000
	500 m ring POF mini breakout cable 2X980/1000 µm PE	IE-FPOB2EG-500	2781950000

Customised cabling solutions for Ethernet/IP

The wiring guidelines for EtherNet/IP clearly define the interfaces to be used to ensure interoperability in EtherNet/IP systems.

Weidmüller offers all the cabling products needed to build a requirement specific infrastructure which is tailored to the needs of EtherNet/IP.

The wiring components for copper and fibre-optic cables are designed and tested for use in harsh industrial environments. The user is provided with clear guidelines about the requirements of the components for use in industrial environments with the introduction of the MICE classification (EtherNet/IP Media Planning and Installation Manual).

The high-quality shielding of the cables and connection components offers comprehensive protection against electromagnetic interference.

The cables are 8-wire twisted-pair cables for RJ45 or star quad for use in M12.

The cabling components are also easy to handle in the field. The plug-in connectors for copper and fibre optic cables can all be assembled on-site. This reduces installation time, reduces errors and simplifies maintenance.

The connectors wire/pin assignment is either according to TIA568-A or TIA568-B as required. The connectors and modules are marked accordingly, making them easier to connect.



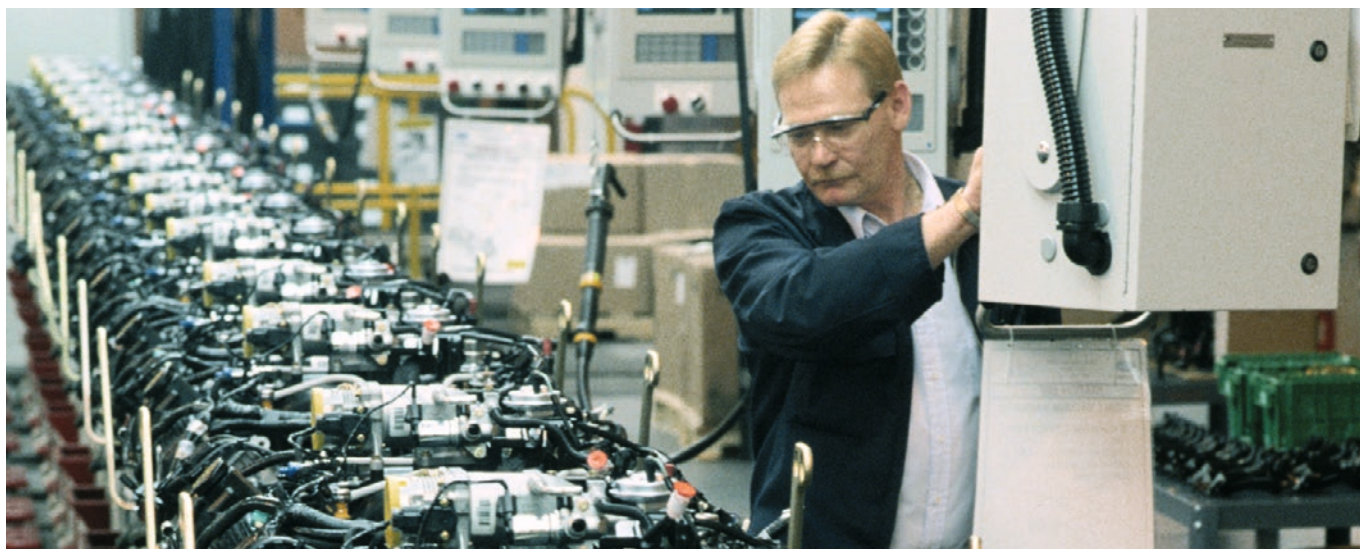
Profile specific guidelines for the connection components

Cable:

- 8-wire twisted-pair shielded cables

Connector:

- IP20 RJ45
- IP20 SC-RJ
- IP67 bayonet RJ45
- IP67 M12 D-coding



Weidmüller offers you a wide range of cabling solutions for EtherNet/IP applications. IP20 plug-in connectors for copper and fibre-optic cables are available, as well as IP67 connectors and junction boxes for the most exacting

requirements. The components are designed to be used together from the floor distributors down to the machines.

IP67
assembled RJ45 cables



IP67
assembled M12 cables



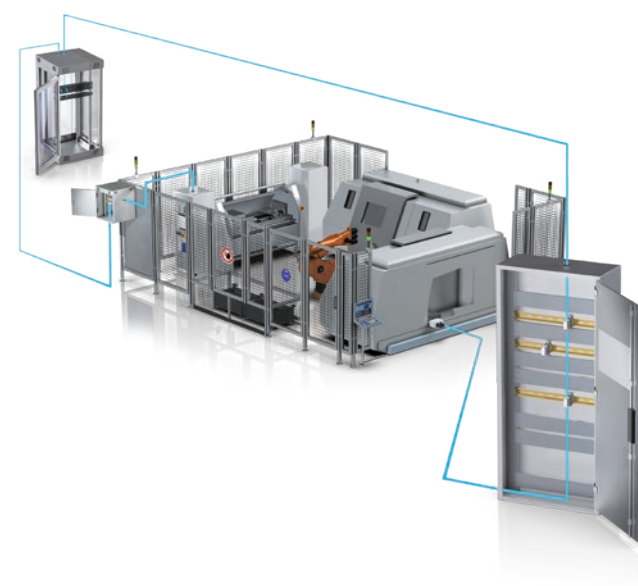
IP67
plug-in M12 connectors



IP67
connection components



Raw cable
copper and fibre-optic



IP67
plug-in connectors data



IP67
flanges data / power



IP20
plug-in connector



IP20
assembled cables



IP20
mounting rail outlets



IP65
service interfaces



Selection table

Ideal combinations for a perfect fit



IP20 plug-in connector



Description	Type	Order No.
RJ45 crimp	IE-PS-RJ45-TH-BK	1963590000
RJ45 tool-free TIA-A printing	IE-PS-RJ45-FH-BK-A	1132040000
RJ45 tool-free TIA-B printing	IE-PS-RJ45-FH-BK-B	1132050000
SC-RJ for 1 mm POF fibres	IE-PS-SCRJ1-POF	1206720000

IP20 assembled data cables



Description	Type	Order No.
RJ45 patch cables - see CabinetLine		
SC-RJ zipcord patch cable - POF - 1 m	IE-FPOZ2EE0001MSJOSJO-X	1273430010
SC-RJ zipcord patch cable - POF - 3 m	IE-FPOZ2EE0003MSJOSJO-X	1273430030
SC-RJ zipcord patch cable - POF - 5 m	IE-FPOZ2EE0005MSJOSJO-X	1273430050
SC-RJ zipcord patch cable - POF - 10 m	IE-FPOZ2EE0010MSJOSJO-X	1273430100
Other EtherNet/IP cables available on request		

IP20 mounting rail outlets



Description	Type	Order No.
RJ45 coupling	IE-TO-RJ45-C	8946920000
RJ45 Module TIA-A printing	IE-TO-RJ45-FJA	8946930000
RJ45 Module TIA-B printing	IE-TO-RJ45-FJB	8946940000
SC-RJ POF coupling / multimode	IE-TO-SCRJ-MM	8946990000
SC-RJ singlemode coupling	IE-TO-SCRJ-SM	8947000000

IP65 service interface



Description	Type	Order No.
FrontCom® Micro RJ45 coupling	IE-FCM-RJ45-C	1018790000
FrontCom® Micro RJ45 module TIA-A printing	IE-FCM-RJ45-FJA	1018810000
FrontCom® Micro RJ45 module TIA-B printing	IE-FCM-RJ45-FJB	1018820000

IP67 flange data



Description	Type	Order No.
Bayonet flange metal RJ45 coupling	IE-BS-V01M-RJ45-C	1963470000
Bayonet flange metal RJ45 module TIA-A printing	IE-BS-V01M-RJ45-FJA	1963480000
Bayonet flange plastic RJ45 coupling	IE-BS-V01P-RJ45-C	1012370000
Bayonet flange metal RJ45 module TIA-A printing	IE-BS-V01P-RJ45-FJA	1012380000
Bayonet flange metal SC-RJ POF / multimode	IE-BS-V01M-SCRJ-MM	1221010000
Bayonet flange metal SC-RJ singlemode	IE-BS-V01M-SCRJ-SM	1221020000
Other inserts can be found in Chapter J		

IP67 data connectors



Description	Type	Order No.
Bayonet plug metal RJ45 crimped	IE-PS-V01M-RJ45-TH	1963140000
Bayonet plug metal RJ45 tool-free	IE-PS-V01M-RJ45-FH	1963120000
Bayonet plug plastic RJ45 crimped	IE-PS-V01P-RJ45-TH	1012470000
Bayonet plug plastic RJ45 tool-free	IE-PS-V01P-RJ45-FH	1012490000
Bayonet plug metal SC-RJ use POF	IE-PS-V01M-2SC-POF	1963280000

IP67 assembled data cables



Description	Type	Order No.
Bayonet metal RJ45 patch cable PUR 1 m	IE-C5ES8UG0010B41B41-E	1066850000
Bayonet metal RJ45 patch cable PUR 2 m	IE-C5ES8UG0020B41B41-E	1066860000
Bayonet metal RJ45 patch cable PUR 5 m	IE-C5ES8UG0050B41B41-E	1066870000
Bayonet metal RJ45 patch cable PUR 10 m	IE-C5ES8UG0100B41B41-E	1066880000
Bayonet plastic RJ45 patch cable PUR 1 m	IE-C5ES8UG0010P41P41-E	1106010000
Bayonet plastic RJ45 patch cable PUR 2 m	IE-C5ES8UG0020P41P41-E	1106020000
Bayonet plastic RJ45 patch cable PUR 5 m	IE-C5ES8UG0050P41P41-E	1106030000
Bayonet plastic RJ45 patch cable PUR 10 m	IE-C5ES8UG0100P41P41-E	1106040000
Other EtherNet/IP cables available on request		

IP67 plug-in M12 connectors

M 12 components can be found in Chapter J

IP65 connection components



Description	Type	Order No.
Single junction box, plastic	IE-OP-V01P-1S	1061830000
Plastic cable coupling	IE-CC-V01P	1061820000
RJ45 module TIA-A printing	IE-BI-RJ45-FJA	1962850000
RJ45 module TIA-B printing	IE-BI-RJ45-FJB	1963840000

Raw cable copper cable



Description	Type	Order No.
100 m ring installation cable PVC Cat. 5 SF/UTP	IE-C5CS8VG-100	8813150000
500 m ring installation cable PVC Cat. 5 SF/UTP	IE-C5CS8VG-500	2763440000
100 m ring installation cable PUR Cat. 5 SF/UTP	IE-C5CS8UG-100	8813160000
500 m ring installation cable PUR Cat. 5 SF/UTP	IE-C5CS8UG-500	2762870000
100 m ring connection cable PVC Cat. 5 SF/UTP	IE-C5ES8VG-100	8813190000
500 m ring connection cable PVC Cat. 5 SF/UTP	IE-C5ES8VG-500	2763510000
100 m ring connection cable PUR Cat. 5 SF/UTP	IE-C5ES8UG-100	8813200000
500 m ring connection cable PUR Cat. 5 SF/UTP	IE-C5ES8UG-500	2763500000
Other EtherNet/IP cables available on request		

Raw cable fibre-optic cable



Description	Type	Order No.
500 m ring POF breakout cable 2X980/1000 µm TPE	IE-FPOD2UG-500	2763640000
500 m ring POF mini breakout cable 2X980/1000 µm PE	IE-FPOB2EG-500	2781950000

Single Pair Ethernet

Single Pair Ethernet	Overview	K.2
	Assembled cables IP20	K.8
	Assembled cables IP67	K.9
	PCB components & field attachable components	K.11

Single Pair Ethernet

The network infrastructure for Industrial IIoT

K

In the factory of the future, machines and systems will be connected to each other consistently via a data infrastructure. These cyber-physical systems can act independently in the Industrial Internet of Things (IIoT), communicate in real time, and control production processes. In order to enable this, a continuous network with high-performance data connections from the sensor to the cloud is required. This pushes conventional Ethernet systems to their limits.

Single Pair Ethernet (SPE) facilitates the extension of the Ethernet to the sensor. It is compact, flexible, and enables high ranges. This means that data connections are achievable in situations where conventional Ethernet systems have reached their limits. SPE provides for the extension of existing installations and supports consistent communication based on the Ethernet protocol. Indeed, SPE is considered by Weidmüller as the missing component needed to close the current gap in the supply of standard Ethernet at field level.

SPE runs at the same transmission speeds as conventional Ethernet but with simplified 2-wire cabling technology and data lines up to 1,000 m in length. Together with other new technologies such as TSN, OPC-UA, or 5G, SPE enables both continuous IP communication between the server and the cloud, as well as supplying up to 60 Watts of power in complex IIoT solutions through PoDL (Power over Data Line).



The new standard for high demands

SPE connectors for the industry

SPE connections can transfer data and power using only one twin wire. This enables both end-to-end IP communication between server and cloud, as well as power supply in complex IIoT solutions. SPE connectors therefore are particularly efficient and future-oriented.

The market requirements for data connectors in the field level are:

- Smallest, most compact design possible for implementing IIoT devices
- High robustness for use in industrial environments
- Easy to connect for safe, fast installation
- Future-proof design through international standards

Advantages of SPE connectors at a glance:

Miniaturisation

Industrial suitability

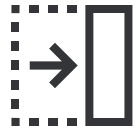


Simplicity

Future-proof

Particularly compact

Miniaturisation of SPE connectors according to IEC 63171-2



K

Weidmüller has been developing user-friendly connectors for industrial use, according to IEC63171-2. With a pitch of 7.62mm the compact connector system saves up to 50% space in comparison to RJ45 interfaces. The vertical arrangement of the two contacts allows a very high packing density. This enables device manufacturers to save valuable space on the PCB and to build smaller devices. This reduces port costs in device construction and effectively saves space in the control cabinet.

Small mating face

- Currently the smallest mating face according to IEC 63171 on the market

High packing density

- Double the packing density compared to RJ45 connectors
- Doubling of the interfaces with the same housing contour
- Only 20% of the volume of an RJ45 jack
- Minimum space requirement in the device

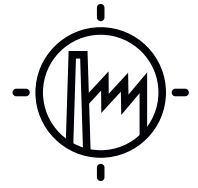
Easy IP67-integration

- Can be integrated into standard M8 housings and connectors as with I/O-Link or PROFINET
- M8 connectors with male and female contacts available
- Front and rear panel mounting with male and female contacts supported
- Simple integration in M8 sensors
- Inverse M8 system possible



Made for highest demands

The industrial suitability of SPE connectors



Originally developed for automotive applications, the aim of single pair ethernet technology was to realise the most efficient infrastructure capable of delivering high performance with as little cabling as possible. There are similar expectations within industry applications and building automation where the number of intelligent end devices in the plant is increasing but the amount of available space is not. Weidmüller SPE connector solutions deliver long cable lengths, a compact design that is simple, robust and vibration-proof, as well as being insensitive to electromagnetic influences.

Mechanical robustness

- Robust metal housing with metal snap-in hooks
- Safe industrial double contacting compared to single-sided contacting RJ45
- Shock resistant and vibration resistant according to IEC 60068
- Stable latching with lateral forces

EMC Compatibility

- Coupling attenuation at 600 MHz according to IEEE 802.3
- Additional burst test according to IEC 61000-6-2
- Optimum shield connection on the PCB due to four symmetrical legs

Industrial suitability

- PCB connectors for environments up to pollution degree 2
- Impulse voltage strength of 2.25 kV according to IEEE 802.3
- Optimum contact distance for 100 Ohm systems



Easy to use

The simplicity of SPE connectors



K

Ethernet technology is too complex for many industrial applications. SPE components are clearly superior due to their simplicity. Compared to four-pair Ethernet, installation is less difficult and allows a significant reduction in space and weight. SPE connectors also enable robust cabling in a short time. At the same time, they offer extended cable lengths in an extremely compact design.

Proven locking mechanism

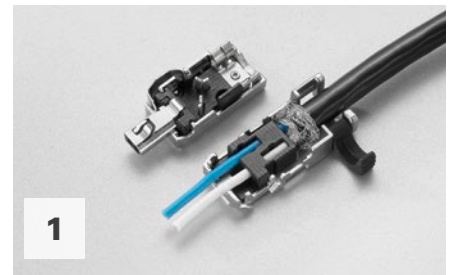
- Industry standard plugs and sockets with metal Snap-in hooks locking
- Known locking and unlocking mechanism as for RJ45 connectors
- High holding force (> 50 N)

Tool-free installation

- Well proven IDC connection technology
- Simple assembly due to a two-part connector
- Clear colour coding to prevent miswiring
- Suitable for all commercially available SPE cables

Easy integration

- Trouble-free integration into M8 housings and connectors
- Compatibility of IP20 and IP67 variants
- Optional use of the IP20 connector as service connector for devices with M8IP67 interfaces



Ready for the challenges of tomorrow

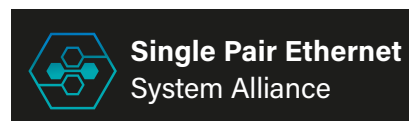
Future-proof SPE connectors



SPE is the next milestone in network technology, as it enables continuous intelligent networking across all levels. SPE is scalable, deterministic, and fully compatible, allowing all components to communicate with each other. As a comprehensive key technology for applications in the field of Industry 4.0 and IIoT, it will form the core of a wide range of industrial applications in the future.

Extensive support

The SPE product family is already supported by several well-known connector manufacturers, which have joined together to form the Single Pair Ethernet System Alliance. This collaboration, with leading technology companies from a wide range of markets and application areas, means that the level of combined technological competence will result in unprecedented and lasting benefits for all users.



Suitable for low to high transmission rates

With SPE components, only a compact IEC standard interface is required to connect a sensor to the cloud via the data centre. The interface is suitable for various Ethernet applications with transfer rates from 10 Mbit/s to 1 Gbit/s. Simulations confirm a bandwidth of up to 2.5 GHz – this corresponds to the new Ethernet transmission standard IEEE 802.3ch, which is currently under development for up to 10 Gbit/s.

Increase of the port density

In the near future, a new and innovative four-chamber system will be available that will enable the port density for IP20 and IP67 systems to be quadrupled. This means that SPE technology can also be used in standard M12 connectors. It will also allow extremely compact IIoT devices with 32 ports to be implemented, and can be integrated into existing housing structures.

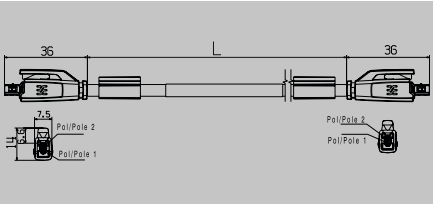


Assembled cable
IP20

Assembled cable
IP20

Plug - Plug

Socket contact / Socket contact



Technical data

- Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Rated current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Transmission rate
Version connector left

Version connector right

Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard

Note

Ordering data

	1.0 m
	2.0 m
	3.0 m
	5.0 m

Note

Accessories

Note

- Patch cable

STP
-40...80 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 Mbit/s, 1000 Mbit/s, 1000 Mbit/s
1000 V DC
2250 V DC
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I

1 kV DC, 1 min
2 %
10/100 Mbit/s, 1000 Mbit/s, 1000 Mbit/s
SPE plug (IEC 63171-2) - IP20 socket contact straight

SPE plug (IEC 63171-2) - IP20 socket contact straight

- 2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-2

Type	Qty.	Order No.
IE-S1DS2VE0010T01T01-E	1	2725850010
IE-S1DS2VE0020T01T01-E	1	2725850020
IE-S1DS2VE0030T01T01-E	1	2725850030
IE-S1DS2VE0050T01T01-E	1	2725850050

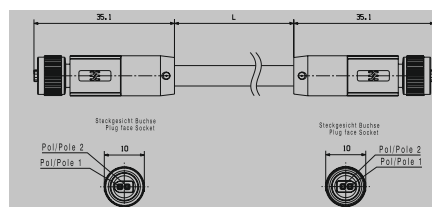
Type	Qty.	Order No.
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Assembled cable
IP67

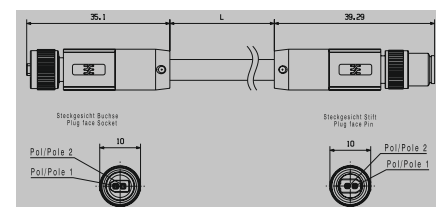
M8 / M8

Socket contact / Socket contact



M8 / M8

Socket contact / Pin contact



Technical data

Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Rated current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Transmission rate
Version connector left
Version connector right
Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard
Note

Ordering data

2.0 m
Note

Accessories

Note

Patch cable
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
1 kV DC, 1 min
2 %
10/100 MBit/s, 1000 MBit/s
M8 SPE (IEC63171-5) - IP67 socket contact straight
M8 SPE (IEC63171-5) - IP67 socket contact straight
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM1-E	1	2726050020

Type	Qty.	Order No.
------	------	-----------

Note

Patch cable
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
1 kV DC, 1 min
2 %
10/100 MBit/s, 1000 MBit/s
M8 SPE (IEC63171-5) - IP67 socket contact straight
M8 SPE (IEC63171-5) - IP67 pin contact straight
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM2-E	1	2726060020

Type	Qty.	Order No.
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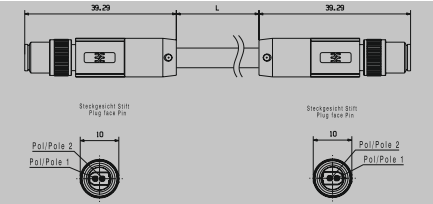
Note

Assembled cable
IP67

Assembled cable
IP67

M8 / M8

Pin contact / Pin contact



Technical data

Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Rated current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Transmission rate
Version connector left
Version connector right
Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard

Note

Ordering data

2.0 m

Note

Accessories

Note

Patch cable
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
1 kV DC, 1 min
2 %
10/100 MBit/s, 1000 MBit/s
M8 SPE (IEC63171-5) - IP67 pin contact straight
M8 SPE (IEC63171-5) - IP67 pin contact straight
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5

Type	Qty.	Order No.
IE-S1DS2VE0020TM2TM2-E	1	2726070020

Type	Qty.	Order No.
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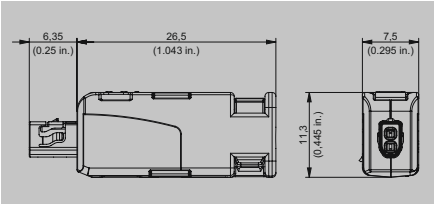
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Plug

- Only one pair of cables for data and power
- Multi-port support
- IP20

Field-terminated plug IP20

Socket contact



Technical data

- Category
- Protection degree
- Ambient temperature (operational)
- Plugging cycles
- Housing main material
- Contact material
- Contact surface
- Rated voltage
- Insulation cross-section, min.
- Insulation cross-section, max.
- Insulation strength
- PoE / PoE+
- Dielectric strength, contact / contact
- Dielectric strength, contact / shield
- Connector standard
- UL 94 flammability rating

Note

Ordering data

Plug	field-terminated plug
------	-----------------------

Note

Accessories

Preliminary technical data!

- IP20
- 40...85 °C
- 750
- zinc diecast nickel-plated
- Bronze tin-plated
- 0.85 mm
- 1.6 mm
- ≥ 500 MΩ
- PoDL acc. to IEEE 802.3bu / cg
- ≥ 1000 V DC
- ≥ 1500 V DC
- IEC 63171-2
- V-0

Type	Qty.	Order No.
IE-PS-SPO-S-FH-180	1	2726040000

Type	Qty.	Order No.

Note

Plug

- Only one pair of cables for data and power
- Multi-port support
- IP20

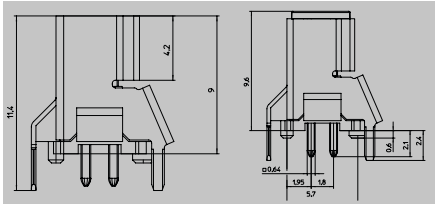
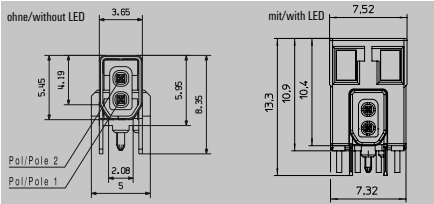
PCB connector, 90°

Pin contact



PCB connector, 180°

Pin contact



Technical data

- Category
- Protection degree
- Ambient temperature (operational)
- Transmission rate
- Type of connection
- Outgoing elbow
- Number of poles
- Mounting onto the PCB
- Plugging cycles
- Contact material
- Contact surface
- Rated voltage
- Insulation strength
- PoE / PoE+
- Dielectric strength, contact / contact
- Dielectric strength, contact / shield
- Connector standard
- UL 94 flammability rating

Note

Preliminary technical data!

- IP20
- 40...85 °C
- 10/100 MBit/s, 1000 MBit/s
- Solder connection, Male contact
- 90°
- 2
- THT/THR solder connection
- 750
- Cu
- Ni/Au
- 72 V
- ≥ 500 MΩ
- PoDL acc. to IEEE 802.3bu / cg
- 1000 V DC
- 2250 V DC
- IEC 63171-2, ISO/IEC 11801-1
- V-0

Preliminary technical data!

- IP20
- 40...85 °C
- 10/100 MBit/s, 1000 MBit/s
- Solder connection, Male contact
- 180°
- 2
- THT/THR solder connection
- 750
- Cu
- Ni/Au
- 72 V
- ≥ 500 MΩ
- PoDL acc. to IEEE 802.3bu / cg
- 1000 V DC
- 2250 V DC
- IEC 63171-2
- V-0

Ordering data

Plug	
	PCB connector, IP20, pin contact
	PCB connector, IP20, pin contact incl. LEDs

Note

Type	Qty.	Order No.
IE-PCB-SP0-P-90V-THR	100	2726010000
IE-PCB-SP0-P-90V-THR-YG/YG	100	2795120000

Type	Qty.	Order No.
IE-PCB-SP0-P-180V-THR	100	2795170000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

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--	--	--

Empty housing



Technical data

Category
Ambient temperature (operational)
Protection degree
Housing main material
Seal material
Configuration
Type of mounting
Connection thread
Connector standard
Tightening torque fixing nut

Note

Ordering data

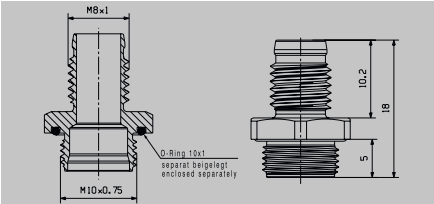
Note

Accessories

Fastening nut

Note

M8 front wall mounting



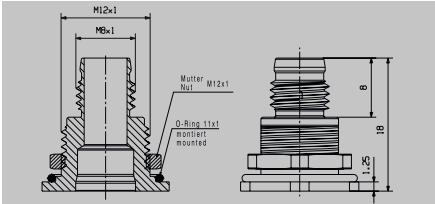
-40...85 °C
IP67
Brass, nickel-plated
FKM
Frontpanel mounting
Screw mounting
M10 x 0.75
IEC 61076-2-104
2.5 Nm

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-FP	10	2726020000
Inserts must be ordered separately.		

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000



M8 rear wall mounting



40...85 °C
IP67
Brass, nickel-plated
FKM
Backpanel mounting
Screw mounting
M10 x 0.75
IEC 61076-2-104
2.5 Nm

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-BP	20	2726030000
Inserts must be ordered separately.		

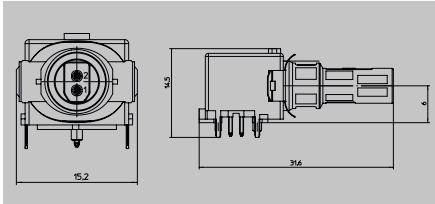
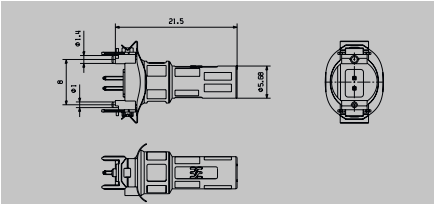
Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000



PCB insert

M8 insert 180° pin contacts

M8 insert 90° pin contacts



Technical data

- Category
- Ambient temperature (operational)
- Protection degree
- Pollution severity
- Connection thread
- Number of poles
- Type of connection
- Outgoing elbow
- Contact material
- Contact surface
- Contact carrier material
- Operational voltage range
- Insulation strength
- Dielectric strength, contact / contact
- Dielectric strength, contact / shield
- Connector standard
- UL 94 flammability rating

Note

Preliminary technical data!

- T1-B
- 40...85 °C
- 2
- M8
- 2
- Solder connection, Male contact
- 180°
- Copper alloy
- Ni/Au
- LCP
- ≤ 50 V AC, ≤ 60 V DC
- ≥ 500 MΩ
- 1000 V DC
- 2250 V DC
- IEC 63171-5
- V-0

Preliminary technical data!

- T1-B
- 40...85 °C
- 2
- M8
- 2
- Solder connection, Male contact
- 90°
- Copper alloy
- Ni/Au
- LCP
- ≤ 50 V AC, ≤ 60 V DC
- ≥ 500 MΩ
- 1000 V DC
- 2250 V DC
- IEC 63171-5
- V-0

Ordering data

	THR
	SMD

Note

Type	Qty.	Order No.
IE-PCB-SPM-P-180-THR	100	2735920000
IE-PCB-SPM-P-180-SMD	100	2795110000

Type	Qty.	Order No.
IE-PCB-SPM-P-90-THR	100	2795100000

Accessories

Type	Qty.	Order No.
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Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
------	------	-----------

Note

Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
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IP20 plug-in connectors and mounting rail outlets

Overview

IP20 plug-in connectors and mounting rail outlets	IP20 plug-in connectors	Single Pair Ethernet (SPE) plug	L.2
		RJ45 plug	L.4
		FO Connector	L.10
		RJ45 keystone	L.11
	IP20 mounting rail outlets		
		RJ45	L.13
		USB	L.16
		FO	L.17
		Socket adapter	L.19

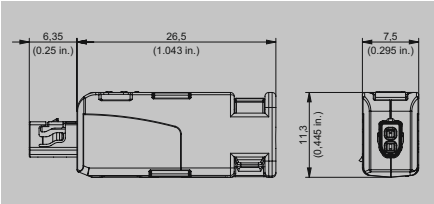
IP20 plug-in connectors

Single Pair Ethernet (SPE) plug

- Only one pair of cables for data and power
- Multi-port support
- IP20

Field-terminated plug IP20

Socket contact



Technical data

- Category
- Protection degree
- Ambient temperature (operational)
- Plugging cycles
- Housing main material
- Contact material
- Contact surface
- Rated voltage
- Insulation cross-section, min.
- Insulation cross-section, max.
- Insulation strength
- PoE / PoE+
- Dielectric strength, contact / contact
- Dielectric strength, contact / shield
- Connector standard
- UL 94 flammability rating

Note

Ordering data

Plug	field-terminated plug
------	-----------------------

Note

Accessories

preliminary technical data!

- IP20
- 40...85 °C
- 750
- zinc diecast nickel-plated
- Bronze tin-plated
- 0.85 mm
- 1.6 mm
- ≥ 500 MΩ
- PoDL acc. to IEEE 802.3bu / cg
- ≥ 1000 V DC
- ≥ 1500 V DC
- IEC 63171-2
- V-0

Type	Qty.	Order No.
IE-PS-SPO-S-FH-180	1	2726040000

Type	Qty.	Order No.

Note

Single Pair Ethernet (SPE) plug

- Only one pair of cables for data and power
- Multi-port support
- IP20

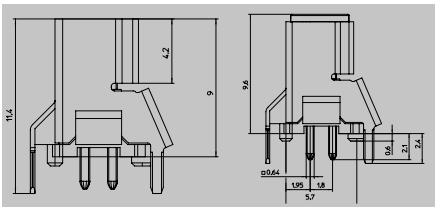
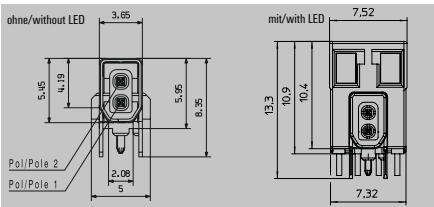
PCB connector, 90°

Pin contact



PCB connector, 180°

Pin contact



Technical data

- Category
- Protection degree
- Ambient temperature (operational)
- Transmission rate
- Type of connection
- Outgoing elbow
- Number of poles
- Mounting onto the PCB
- Plugging cycles
- Contact material
- Contact surface
- Rated voltage
- Insulation strength
- PoE / PoE+
- Dielectric strength, contact / contact
- Dielectric strength, contact / shield
- Connector standard
- UL 94 flammability rating

Note

preliminary technical data!

- IP20
- 40...85 °C
- 10/100 MBit/s, 1000 MBit/s
- Solder connection, Male contact
- 90°
- 2
- THT/THR solder connection
- 750
- Cu
- Ni/Au
- 72 V
- ≥ 500 MΩ
- PoDL acc. to IEEE 802.3bu / cg
- 1000 V DC
- 2250 V DC
- IEC 63171-2, ISO/IEC 11801-1
- V-0

preliminary technical data!

- IP20
- 40...85 °C
- 10/100 MBit/s, 1000 MBit/s
- Solder connection, Male contact
- 180°
- 2
- THT/THR solder connection
- 750
- Cu
- Ni/Au
- 72 V
- ≥ 500 MΩ
- PoDL acc. to IEEE 802.3bu / cg
- 1000 V DC
- 2250 V DC
- IEC 63171-2
- V-0

Ordering data

Plug	
	PCB connector, IP20, pin contact
	PCB connector, IP20, pin contact incl. LEDs

Note

Type	Qty.	Order No.
IE-PCB-SP0-P-90V-THR	100	2726010000
IE-PCB-SP0-P-90V-THR-YG/YG	100	2795120000

Type	Qty.	Order No.
IE-PCB-SP0-P-180V-THR	100	2795170000

Accessories

Type	Qty.	Order No.

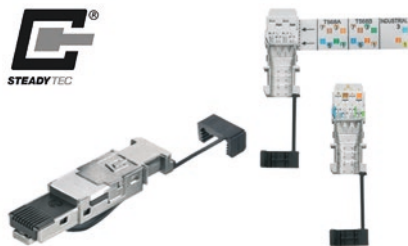
Type	Qty.	Order No.

Note

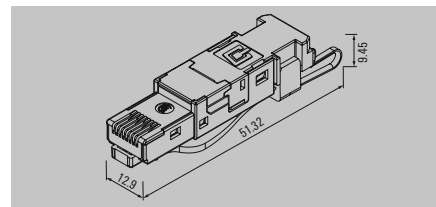
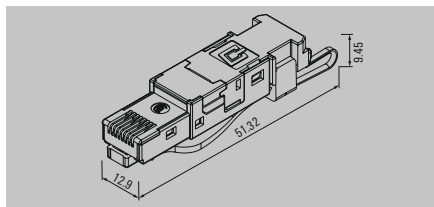
RJ45 plug, tool free

- Cat. 6_A(8 wires)/cat. 5 (4 wires) for PROFINET
- Multi-port support
- IP20

8-wire



4-wire for PROFINET



Technical data

Category
Protection degree
Housing main material
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Wire connection cross-section, finely stranded
Insulation diameter, min. / max.
Sheath diameter, min. / max.
Contact surface
Shielding
Plugging cycles
Ambient temperature (operational)
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
Current-carrying capacity at 50 °C
Speed
PoE / PoE+
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
Zinc diecast
0.48 mm / 0.76 mm
AWG 26/7 / AWG 22/7
0.41 mm / 0.64 mm
AWG 24/1 / AWG 22/1
Approval of the cable by Weidmüller necessary
0.85 mm / 1.6 mm
5.5 mm / 8.5 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...70 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
IEC 60603-7-51
1 A
10 GBit/s
conforming to IEEE 802.3at
CULUS
Approvals available on request

Cat.5 (ISO/IEC 11801)
IP20
Zinc diecast
0.48 mm / 0.76 mm
AWG 26/7 / AWG 22/7
0.41 mm / 0.64 mm
AWG 26/1 / AWG 22/1
Approval of the cable by Weidmüller necessary
0.85 mm / 1.6 mm
5.5 mm / 8.5 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...70 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
IEC 60603-7-51
1 A
10 GBit/s
conforming to IEEE 802.3at
CULUS

Ordering data

Plug	
with tear-off flags: EIA / TIA T568-A/B / PROFINET	
with printing: PROFINET	
with printing: EIA / TIA T568-A	
with printing: EIA / TIA T568-B	

Note

Accessories

Strain relief	
green	
grey	
blue	
orange	
yellow	
white	
Tools	
Optional pressing tool	

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-BK	10	1963600000
IE-PS-RJ45-FH-BK-A	10	1132040000
IE-PS-RJ45-FH-BK-B	10	1132050000

Type	Qty.	Order No.
IE-CR-IP20-RJ45-FH-GN	10	1963100000
IE-CR-IP20-RJ45-FH-GY	10	1963060000
IE-CR-IP20-RJ45-FH-BU	10	1963080000
IE-CR-IP20-RJ45-FH-OG	10	1963070000
IE-CR-IP20-RJ45-FH-YE	10	1963090000
IE-CR-IP20-RJ45-FH-WH	10	1963050000
PWZ RJ45	1	1118040000

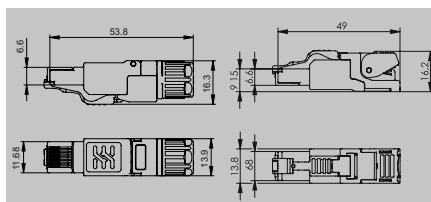
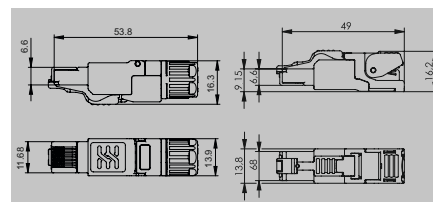
Type	Qty.	Order No.
IE-PS-RJ45-FH-BK-P	10	1132060000

Type	Qty.	Order No.
IE-CR-IP20-RJ45-FH-GN	10	1963100000
IE-CR-IP20-RJ45-FH-GY	10	1963060000
IE-CR-IP20-RJ45-FH-BU	10	1963080000
IE-CR-IP20-RJ45-FH-OG	10	1963070000
IE-CR-IP20-RJ45-FH-YE	10	1963090000
IE-CR-IP20-RJ45-FH-WH	10	1963050000
PWZ RJ45	1	1118040000

Note

RJ45 plug, straight, tool free

- Fieldattachable
- Cat. 6_A (8-wire)
- Multi-port-compatible
- IP 20

8-wire, insulation diameter 1.1 - 1.6 mm**8-wire, insulation diameter 0.85 - 1.1 mm****Technical data**

Category
Protection degree
Housing main material
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, very finely stranded, min./max.

Connection cross-section, very finely stranded, min./max.

Insulation diameter, min. / max.
Sheath diameter, min. / max.
Contact surface
Shielding
Plugging cycles
Ambient temperature (operational)
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
Current-carrying capacity at 50 °C
Speed
PoE / PoE+
Approvals

Note

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP20
Zinc diecast, nickel-plated
0.46 mm / 0.76 mm
AWG 27 / AWG 22
0.51 mm / 0.64 mm
AWG 24 / AWG 22
0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary

AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary

1.1 mm / 1.6 mm
5 mm / 9 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...85 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
IEC 60603-7-51
1 A
10 GBit
conforming to IEEE 802.3at
CULUS; DNVGL

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP20
Zinc diecast, nickel-plated
0.46 mm / 0.61 mm
AWG 27 / AWG 24
0.41 mm / 0.51 mm
AWG 26 / AWG 24
0.51 mm / / Approval of the cable by Weidmüller necessary

AWG 26 / / Approval of the cable by Weidmüller necessary

0.85 mm / 1.1 mm
5 mm / 9 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...85 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
IEC 60603-7-51
1 A
10 GBit
conforming to IEEE 802.3at
CULUS; DNVGL

Ordering data

Plug with latching strain relief	
	with printing: EIA / TIA T568-A
	with printing: EIA / TIA T568-B
Plug with cable gland	
	with printing: EIA / TIA T568-A
	with printing: EIA / TIA T568-B

Note

Type	Qty.	Order No.
IE-PS-RJ45-FH-180-A-1.6	1	1992820000
IE-PS-RJ45-FH-180-B-1.6	1	1992830000
IE-PS-RJ45-FH-180-A-1.6-CG	1	2703390000
IE-PS-RJ45-FH-180-B-1.6-CG	1	2703410000

Type	Qty.	Order No.
IE-PS-RJ45-FH-180-A-1.1	1	1992850000
IE-PS-RJ45-FH-180-B-1.1	1	1992860000
IE-PS-RJ45-FH-180-A-1.1-CG	1	2703440000
IE-PS-RJ45-FH-180-B-1.1-CG	1	2703460000

Accessories

Substitute wire manager	
	TIA-A, insulation diameter 1.1...1.6 mm
	TIA-B, insulation diameter 1.1...1.6 mm
	TIA-A, insulation diameter 0.85...1 mm
	TIA-B, insulation diameter 0.85...1 mm
Tools	
	Optional pressing tool

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.6	30	1992880000
IE-PI-RJ45-FH-B-1.6	30	1992900000
PWZ RJ45	1	1118040000

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.1	30	1992920000
IE-PI-RJ45-FH-B-1.1	30	1992930000
PWZ RJ45	1	1118040000

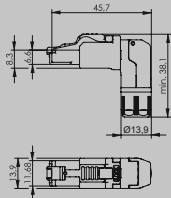
Note

IP20 plug-in connectors

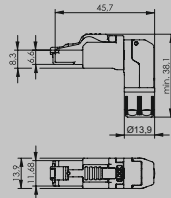
RJ45 plug, angled, tool free

- Assembled
- Cat. 6_A (8-wire)
- Compatible with multiple ports
- IP20

8-wire, insulation diameter 1.1 - 1.6 mm



8-wire, insulation diameter 0.85 - 1.1 mm



Technical data

Category
Protection degree
Housing main material
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, very finely stranded, min./max.

Connection cross-section, very finely stranded, min./max.

Insulation diameter, min. / max.
Sheath diameter, min. / max.
Contact surface
Shielding
Plugging cycles
Ambient temperature (operational)
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
Current-carrying capacity at 50 °C
Speed
PoE / PoE+
Approvals

Note

Ordering data

Plug	
	with printing: EIA / TIA T568-A
	with printing: EIA / TIA T568-B

Note

Accessories

Substitute wire manager	
	TIA-A, insulation diameter 1.1...1.6 mm
	TIA-B, insulation diameter 1.1...1.6 mm
	TIA-A, insulation diameter 0.85...1 mm
	TIA-B, insulation diameter 0.85...1 mm
Tools	
	Optional pressing tool

Note

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP20
Zinc diecast, nickel-plated
0.46 mm / 0.76 mm
AWG 27 / AWG 22
0.51 mm / 0.64 mm
AWG 24 / AWG 22
0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary

AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary

1.1 mm / 1.6 mm
5 mm / 9 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...85 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
IEC 60603-7-51
1 A
10 GBit
conforming to IEEE 802.3at
CULUS; DNVGL

Type	Qty.	Order No.
IE-PS-RJ45-FH-90-A-1.6	1	1992870000
IE-PS-RJ45-FH-90-B-1.6	1	1992890000
With pre-installed dust cap		

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.6	30	1992880000
IE-PI-RJ45-FH-B-1.6	30	1992900000
PWZ RJ45	1	1118040000

Note

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP20
Zinc diecast, nickel-plated
0.46 mm / 0.61 mm
AWG 27 / AWG 24
0.41 mm / 0.51 mm
AWG 26 / AWG 24
0.51 mm / / Approval of the cable by Weidmüller necessary

AWG 26 / / Approval of the cable by Weidmüller necessary

0.85 mm / 1.1 mm
5 mm / 9 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...85 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
IEC 60603-7-51
1 A
10 GBit
conforming to IEEE 802.3at
CULUS; DNVGL

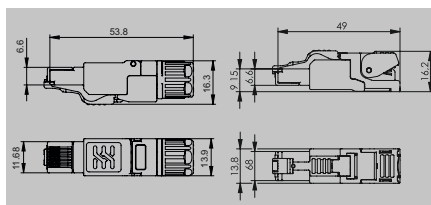
Type	Qty.	Order No.
IE-PS-RJ45-FH-90-A-1.1	10	1518080000
IE-PS-RJ45-FH-90-B-1.1	1	1518090000
With pre-installed dust cap		

Type	Qty.	Order No.
IE-PI-RJ45-FH-A-1.1	30	1992920000
IE-PI-RJ45-FH-B-1.1	30	1992930000
PWZ RJ45	1	1118040000

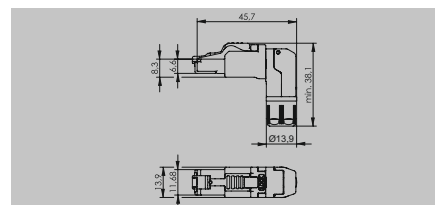
Note

- Fieldattachable
- Cat. 5 (4-wire) for PROFINET
- Multi-port-compatible
- IP20

straight



angled



Category	
Protection degree	
Housing main material	
Connection diameter, flexible, min. / max.	
Connection cross-section, flexible, min. / max.	
Connection diameter, solid, min. / max.	
Connection cross-section, solid, min. / max.	
Connection diameter, very finely stranded, min./max.	

Connection cross-section, very finely stranded, min./max.

Insulation diameter, min. / max.
Sheath diameter, min. / max.
Contact surface
Shielding
Plugging cycles
Ambient temperature (operational)
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Connector standard
Current-carrying capacity at 50 °C
Speed
PoE / PoE+
Approvals

Note

Plug with latching strain relief with printing: PROFINET

Plug with cable gland with printing: PROFINET

Note

Substitute wire manager
PROFINET, insulation diameter 1.1...1.6 mm

Tools

Optional pressing tool

Note

Cat.5 (ISO/IEC 11801)
IP20
Zinc diecast, nickel-plated
0.46 mm / 0.76 mm
AWG 27 / AWG 22
0.51 mm / 0.64 mm
AWG 24 / AWG 22
0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary

AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary

1.1 mm / 1.6 mm
5 mm / 9 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...85 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≤ 1500 V DC
IEC 60603-7-51
1 A
100 MBit
conforming to IEEE 802.3at
CULUS; DNVGL

Type	Qty.	Order No.
IE-PS-RJ45-FH-180-P-1.6	10	1992840000
IE-PS-RJ45-FH-180-P-1.6-CG	1	2703420000
With pre-installed dust cap		

Type	Qty.	Order No.
IE-PI-RJ45-FH-P-1.6	30	1992910000
PWZ RJ45	1	1118040000

Note

Cat.5 (ISO/IEC 11801)
IP20
Zinc diecast, nickel-plated
0.46 mm / 0.76 mm
AWG 27 / AWG 22
0.51 mm / 0.64 mm
AWG 24 / AWG 22
0.61 mm / 0.78 mm / Approval of the cable by Weidmüller necessary

AWG 24 / AWG 22 / Approval of the cable by Weidmüller necessary

1.1 mm / 1.6 mm
5 mm / 9 mm
Gold over nickel
360° all-round enclosure
750
-40 °C...85 °C
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≤ 1500 V DC
IEC 60603-7-51
1 A
100 MBit
conforming to IEEE 802.3at
CULUS: DNVL

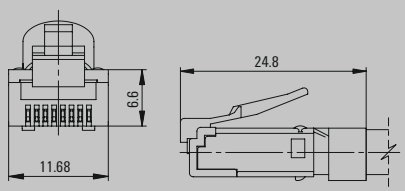
Type	Qty.	Order No.
IE-PS-RJ45-FH-90-P-1.6	10	1518100000
With pre-installed dust cap		

Type	Qty.	Order No.
IE-PI-RJ45-FH-P-1.6	30	1992910000
PWZ RJ45	1	1118040000

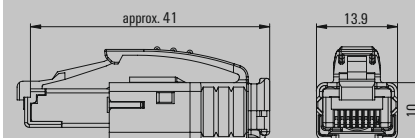
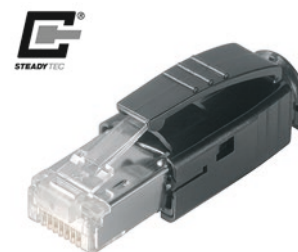
RJ45 crimp plug

- Cat. 6
- With anti-folding protection
- With anti-crash lever protection

8-wire, housing 1-part



8-wire, housing 2-part



Technical data

Category
Protection degree
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Insulation cross-section, max.
Sheath diameter, min. / max.
Shielding
Plugging cycles
Ambient temperature (operational)
Connector standard
Bending protection sleeve material
Material insulator
Contact material / Contact surface
Shielding material
Cable pull-out force, min.
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity at 50 °C
PoE / PoE+
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
0.46 mm / 0.61 mm
AWG 27 / AWG 24
0.36 mm / 0.51 mm
AWG 27 / AWG 24
1.05 mm
5.5 mm / 6.2 mm
360° all-round enclosure
750
-40 °C...70 °C
IEC 60603-7-51
PVC, UL 94-V0
Polycarbonate PC, UL 94 V-0
Phosphorus bronze / Gold-plated
0.5 mm brass, 2 µm nickel
89 N
≤ 20 mΩ
500 MΩ
≤ 1000 V DC
≤ 1500 V DC
1 A
conforming to IEEE 802.3af
EAC

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
0.46 mm / 0.61 mm
AWG 27 / AWG 24
0.36 mm / 0.51 mm
AWG 27 / AWG 24
1.05 mm
5 mm / 7.3 mm
360° all-round enclosure
750
-40 °C...70 °C
IEC 60603-7-51
Polycarbonate PC, UL 94 V-0
Polycarbonate PC, UL 94 V-0
Phosphorus bronze / Gold-plated
0.5 mm brass, 2 µm nickel
89 N
≤ 20 mΩ
500 MΩ
≤ 1000 V DC
≤ 1500 V DC
1 A
conforming to IEEE 802.3af
CURUS

Ordering data

Plug	
	with kink protection; 5.5 - 6.2 mm
	with anti-kink protection; 6.2 - 7.1 mm
	with anti-kink sleeve, black
	without anti-kink sleeve

Note

Type	Qty.	Order No.
IE-P63	10	8813110000
IE-P70	10	8813120000
IE-P	100	8813100000

Type	Qty.	Order No.
IE-PS-RJ45-TH-BK	10	1963590000
IE-PM-RJ45-TH	100	1963580000

Accessories

Kink prevention sleeve	
	white
	green
	grey
	yellow
	orange
	black
	blue

Tools

Pressing tool

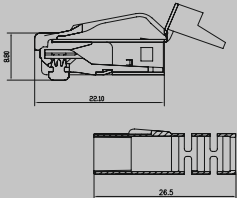
Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000

Type	Qty.	Order No.
IE-PH-RJ45-TH-WH	10	1962430000
IE-PH-RJ45-TH-GN	10	1962490000
IE-PH-RJ45-TH-GY	10	1962440000
IE-PH-RJ45-TH-YE	10	1962480000
IE-PH-RJ45-TH-OG	10	1962450000
IE-PH-RJ45-TH-BK	10	1962500000
IE-PH-RJ45-TH-BU	10	1962470000
TT 8 RS MP 8	1	9202800000

Note

RJ45 PROFINET crimp plug

4-wire for PROFINET, 1-part enclosure



Technical data

Category
Protection degree
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Insulation cross-section, max.
Sheath diameter, min. / max.
Shielding
Plugging cycles
Ambient temperature (operational)
Connector standard
Bending protection sleeve material
Material insulator
Contact material / Contact surface
Shielding material
Cable pull-out force, min.
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity at 50 °C
PoE / PoE+
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP20
0.57 mm / 0.64 mm
AWG 23 / AWG 22
0.57 mm / 0.64 mm
AWG 23 / AWG 22
1.6 mm
/ 7.5 mm
360° all-round enclosure
750
-40 °C...70 °C
IEC 60603-7
Polyamide PA6, UL 94-V0

Copper alloy

≤ 10 mΩ
500 MΩ
1000 V AC

conforming to IEEE 802.3af

Ordering data

Plug

Type	Qty.	Order No.
IE-PS-RJ45-TH-BK-P	10	2584980000

Note

Accessories

Tools

Pressing tool

Type	Qty.	Order No.
IE-CWZ-RJ45-TH-P	1	2614210000

Note

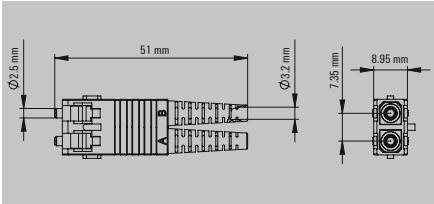
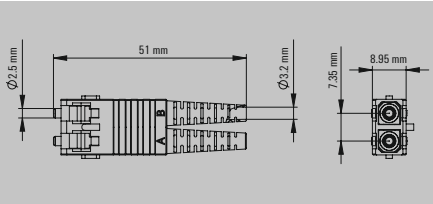
IP20 plug-in connectors

FO connector

- IP 20

SCRJ, POF, Crimp

SCRJ, POF, reconnectable



Technical data

Protection degree
Plugging cycles
Ambient temperature (operational)
Connector standard
Individual wire diameter, min. / max.
Crimp barrel material
Pressure spring material
Ferrule material
Dust protection cap material
Bending protection sleeve material
Cable pull-out force, min.
Housing main material
Housing material, insert
Humidity
Approvals

Note

IP20
1000
-20 °C...80 °C
IEC 61754-24
2.1 mm...2.3 mm
Copper, nickel-plated
Stainless steel, rust-proof
Nickel silver
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast, nickel-plated
0...93 % rel. humidity
UL

IP20
1000
-20 °C...80 °C
IEC 61754-24
2.1 mm...2.3 mm
Copper, nickel-plated
Stainless steel, rust-proof
Nickel silver
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast, nickel-plated
0...93 % rel. humidity

Ordering data

POF

Note

Type	Qty.	Order No.
IE-PS-SCRJ1-POF	10	1206720000

Type	Qty.	Order No.
IE-PS-SCRJ1-POF-QA	10	2564950000

Accessories

Tools

Mounting tool, POF
Replacement ferrule
Contact Removal Tool

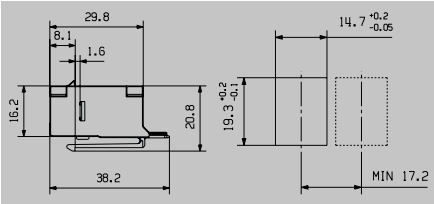
Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
IE-SCRJ1-IP20-POF-100	100	1278420000
REMOVAL TOOL HD	1	1866730000

Type	Qty.	Order No.
HTX-IE-POF-QA	1	2602860000

Note

RJ45 keystone

RJ45 Coupling



Technical data

Housing main material
Category
Protection degree
Plugging cycles
PoE / PoE+
Connector standard
Approvals

Zinc diecast
Cat.6A / Class E_A (ISO/IEC 11801 2010)
IP20
750
conforming to IEEE 802.3at
IEC 60603-7-5
EAC

Note

Ordering data

Note

Type	Qty.	Order No.
IE-XR-RJ45/RJ45-2	24	8952950000

Accessories

Type	Qty.	Order No.

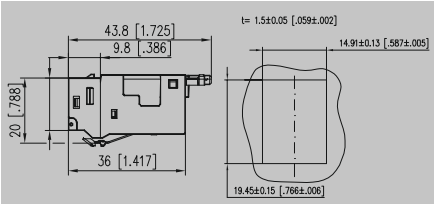
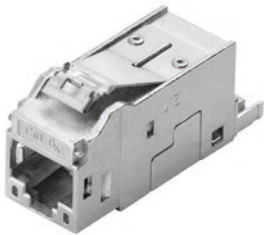
Note

IP20 plug-in connectors

RJ45 keystone

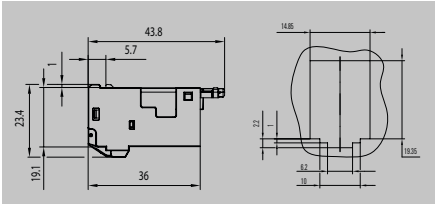
RJ45 module

Mounting cut-out Rectangular



RJ45 module

Mounting cut-out special shape



Technical data

Category
Wiring
Protection degree
Housing main material
Connection diameter, flexible
Conductor connection cross-section, flexible (AWG)
Connection diameter, solid
Conductor connection cross-section, solid (AWG)
Insulation cross-section, max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Contact surface
Contact resistance
Insulation strength
PoE / PoE+
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Approvals
Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
TIA-568A, TIA-568B, PROFINET
IP20
Zinc diecast
0.48...0.76 mm
AWG 26...AWG 22
0.41...0.64 mm
AWG 26...AWG 22
1.8 mm
750
-40...70 °C
IEC 60603-7-51
Gold over nickel
≤ 20 mΩ
500 MΩ
conforming to IEEE 802.3at
≥ 1000 V DC

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
TIA-568A, TIA-568B, PROFINET
IP20
Zinc diecast
0.48...0.76 mm
AWG 26...AWG 22
0.41...0.64 mm
AWG 26...AWG 22
1.8 mm
750
-40...70 °C
IEC 60603-7-51
Gold over nickel
≤ 20 mΩ
500 MΩ
conforming to IEEE 802.3at
≥ 1000 V DC
DNVGL

Ordering data

Note

Type	Qty.	Order No.
IE-KEY-RJ45/DC-1	1	2782300000

Type	Qty.	Order No.
IE-XRJ45/DC	1	8808330000

Accessories

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Type	Qty.	Order No.
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Type	Qty.	Order No.
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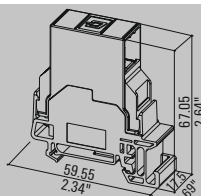
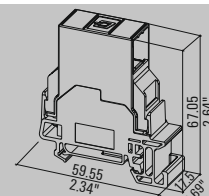
Note

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Module RJ45**Outlet direction straight**

- Cat. 6_A
- IP20
- TS 35

8-wire**4-wire****Technical data**

Category
Protection degree
Housing main material
Contact surface
Colour
Type of mounting
Plugging cycles
Configuration
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.

Electrical properties*

PoE / PoE+
Contact resistance
Current-carrying capacity at 50 °C
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Insulation strength
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
PA UL 94 V0
Au ≥ 0.8 µm
Light Grey
TS 35
750
Switchable volt. connection from module/coupling to mounting rail
-40 °C...70 °C
-25 °C...70 °C
IEC 60603-7-51
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22

conforming to IEEE 802.3af
≤ 20 mΩ
1 A
≥ 1000 V DC
≥ 1500 V DC
500 MΩ
EAC
Weidmüller connection cat. 7 AWG 27/7 LSZH cable possible

Cat.5 (ISO/IEC 11801)
IP20
PA UL 94 V0
Au ≥ 0.8 µm
Light Grey
TS 35
750
Switchable volt. connection from module/coupling to mounting rail
-40 °C...70 °C
-25 °C...70 °C
IEC 60603-7-51
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22

conforming to IEEE 802.3af
≤ 20 mΩ
1 A
≥ 1000 V DC
≥ 1500 V DC
500 MΩ
EAC

Ordering data

A-coded
B-coded
PROFINET-coded

Note

Type	Qty.	Order No.
IE-T0-RJ45-FJ-A	10	8946930000
IE-T0-RJ45-FJ-B	10	8946940000

Type	Qty.	Order No.
IE-T0-RJ45-FJ-P	10	8946950000

Accessories

Marking tags	MultiCard, white
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Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note

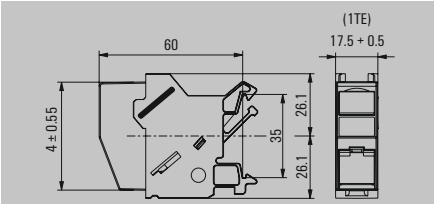
IP20 mounting rail outlets

Module RJ45

Outlet direction diagonal

- Cat. 6
- IP20
- TS 35

8-wire



Technical data

Category
Protection degree
Housing main material
Contact surface
Colour
Type of mounting
Plugging cycles
Configuration
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Electrical properties*
PoE / PoE+
Contact resistance
Current-carrying capacity at 50 °C
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Insulation strength
Approvals
Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP20
PA 66, UL 94: V-0
Light Grey
TS 35
750
1 TE pitch dimension acc. to DIN 43880. insta-compatible
Installation flange with mounting frame
-25 °C...70 °C
...
IEC 60603-7-5
0.48 mm / 0.64 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
conforming to IEEE 802.3at
≤ 20 mΩ
1 A
≥ 1000 V DC
≥ 1500 V DC
500 MΩ
CULUS; DNVGL

Ordering data

A/B-coded
Note

Type	Qty.	Order No.
IE-XM-RJ45/IDC	1	8808360000

Accessories

Marking tags
Marking tag

Type	Qty.	Order No.
IE-DM	50	8813500000

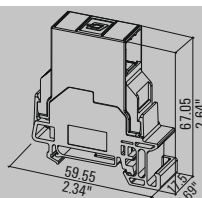
Note

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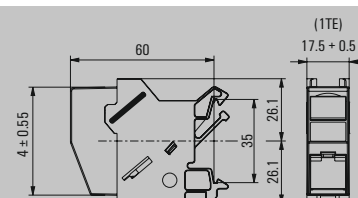
Coupling RJ45, 8-wire

- Cat. 6_A
- IP20
- TS 35

Outlet direction straight



Outlet direction diagonal



Technical data

Category
Protection degree
Housing main material
Contact material / Contact surface
Colour
Type of mounting
Plugging cycles
Configuration

Ambient temperature (operational)
Temperature range, assembly, min. / max.
Humidity
Shock resistance acc. to IEC 60512-4
Vibration resistance acc. to IEC 60512-4
Housing material, insert
Connector standard

Electrical properties*

PoE / PoE+
Contact resistance
Current-carrying capacity at 50 °C
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Insulation strength
Approvals

Note

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP20
PA UL 94 V0
Spring steel, Ni 1.2 µm / Au ≥ 0.8 µm
Light Grey
TS 35
750
Switchable volt. connection from module/coupling to mounting rail

-40 °C...70 °C
-25 °C...70 °C
0...93 % rel. humidity
250 ms²
50 ms² sinusoidal (9...500 Hz)
Zinc diecast
IEC 60603-7-51

conforming to IEEE 802.3af
≤ 20 mΩ
1 A
≥ 1000 V DC
≥ 1500 V DC
500 MΩ
EAC

Cat.6 (ISO/IEC 11801)
IP20
PA 66, UL 94: V-0
Light Grey
TS 35
750
1 TE pitch dimension acc. to DIN 43880. insta-compatible
Installation flange with mounting frame
-25 °C...70 °C
...

IEC 60603-7-5

conforming to IEEE 802.3at
≤ 20 mΩ
1 A
≥ 1000 V DC
≥ 1500 V DC
500 MΩ
CULUS; DNVGL

Ordering data

Note

Type	Qty.	Order No.
IE-T0-RJ45-C	10	8946920000

Type	Qty.	Order No.
IE-XM-RJ45/RJ45	1	8879050000

Accessories

Marking tags

MultiCard, white
Marking tag

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-DM	50	8813500000

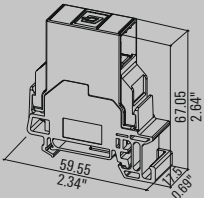
Note

IP20 mounting rail outlets

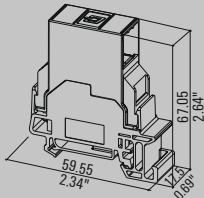
USB connection

- IP20
- TS 35

USB A



USB AB



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Connector standard
Connection 1 / 2
Approvals

Note

IP20
PA UL 94 V0
Light Grey
TS 35
-40 °C...70 °C
-25 °C...70 °C
IEC 61076-3-107
USB A / USB A
EAC

IP20
PA UL 94 V0
Light Grey
TS 35
-40 °C...70 °C
-25 °C...70 °C
IEC 61076-3-107
USB A / USB B
EAC

Ordering data

USB

Note

Type	Qty.	Order No.
IE-T0-USB	1	8946960000

Type	Qty.	Order No.
IE-T0-USB-AB	1	1438180000

Accessories

Marking tags

MultiCard, white

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note

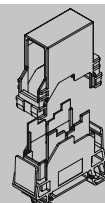
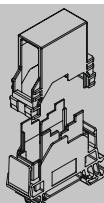
Coupling fibre-optic

- IP20
- TS 35

SC duplex

SC-RJ

PROFI[®]
NET



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Plugging cycles
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Connector standard
Approvals

Note

IP20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...70 °C
-25 °C...70 °C
IEC 61754-4
UL

IP20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...70 °C
-25 °C...70 °C
IEC 61754-24
UL

Ordering data

Fibre-optic	
	Singlemode
	Multimode/POF

Note

Type	Qty.	Order No.
IE-TO-SCD-SM	1	8946980000
IE-TO-SCD-MM	10	8946970000

Type	Qty.	Order No.
IE-TO-SCRJ-SM	10	8947000000
IE-TO-SCRJ-MM	10	8946990000

Accessories

Marking tags	
	MultiCard, white

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note

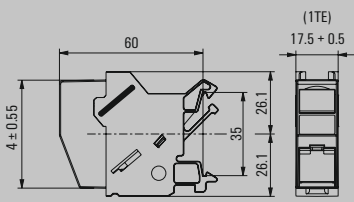
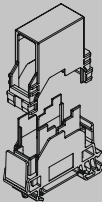
IP20 mounting rail outlets

Coupling fibre-optic

- IP20
- TS 35

LC Duplex

ST



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Configuration

Plugging cycles
Ambient temperature (operational)
Temperature range, assembly, min. / max.
Connector standard
Approvals

Note

IP20
PA UL 94 V0
Light Grey
TS 35

1000
-40 °C...70 °C
-25 °C...70 °C
IEC 61754-20
EAC

IP20
PA 66, UL 94: V-0
Light Grey
TS 35
1 TE pitch dimension acc. to DIN 43880. insta-compatible
Installation flange with mounting frame
750
-25 °C...70 °C
...
IEC 61754-2
EAC

Ordering data

	Singlemode
	Multimode

Note

Type	Qty.	Order No.
IE-T0-LCD-SM	10	8947020000
IE-T0-LCD-MM	10	8947010000

Type	Qty.	Order No.
IE-XM-ST/ST	1	8808340000

Accessories

Marking tags
MultiCard, white Marking tag

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-DM	50	8813500000

Note

Note

Note

Socket adapter

- IP 20
- TS 35

Socket adapter



Technical data

Protection degree
Housing main material
Ambient temperature (operational)
Approvals

IP20
Polycarbonate PC, Acrylnitril-Butadien-Styrol (ABS)
-25 °C...70 °C

Note

Ordering data

Note

Accessories

Inserts, Power	
Socket AU 15 A	
Socket AU 10 A	
Socket CH	
Socket CN	
Socket GB	
Socket DE	
Socket DE orange	
Socket FR	
Socket FR orange	
Socket IT/EU	
Socket CZ	
Socket IND	
RCBO	
ISR socket	

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
IE-FCI-PWB-AU	1	1450830000
IE-FCI-PWB-AU-10A	1	1546590000
IE-FCI-PWB-CH	1	1450780000
IE-FCI-PWB-CN	1	1450790000
IE-FCI-PWB-GB	1	1450770000
IE-FCI-PWB-DE	1	1450730000
IE-FCI-PWB-DE-OR	1	1554000000
IE-FCI-PWB-FR	1	1450750000
IE-FCI-PWB-FR-OR	1	2007230000
IE-FCI-PWS-IT	1	1450810000
IE-FCI-PWB-CZ	1	2426700000
IE-FCI-PWB-IND	1	2500710000
IE-FCI-PWB-RCBO	1	1534250000
IE-FCI-PWB-ISR	1	2531060000

Note

FrontCom® IP65 service interfaces

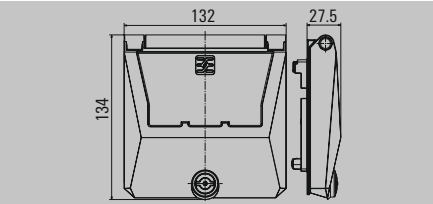
Overview

FrontCom® IP65 service interfaces	FrontCom® Vario IP65 service interface	M.2
	FrontCom® Micro IP65 service interface	
	RJ45	M.30
	USB	M.32

FrontCom® Vario
Double frame

- IP65
- Possibility of using single and double insertion plates

Metal cover



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

Note

IP65, in closed state / Type 12
Zinc diecast, powder-coated
Zinc diecast
-40 °C...70 °C
CSA; CURUS

Ordering data

- Rotary button operation
- Lockable with key
- Lockable with electrical cabinet key
- Lockable with electrical cabinet key (Daimler lock)

Note

Type	Qty.	Order No.
IE-FC-DFM-KNOB	1	2003170000
IE-FC-DFM-KEY	1	2003180000
IE-FC-DFM-CAB	1	2003190000
IE-FC-DFM-CAB-DB	1	2003150000

Accessories

spare key

Marking tags

- silver
- light grey
- white

Touch-safe protection

Touch-safe protection

Bar (for mounting single insert plates)

Partition

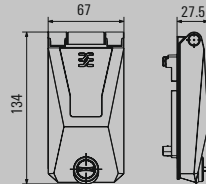
Type	Qty.	Order No.
IE-FC-KEY2	1	2066650000
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FC-DF-IPH	1	2003340000

Note

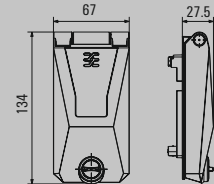
FrontCom® Vario Single frame

- IP65

Metal cover



Plastic cover



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

Note

IP65, in closed state / Type 12
Zinc diecast, powder-coated
Zinc diecast
-40 °C...70 °C
CSA; CURUS; DNVGL

IP65, in closed state
Polycarbonate PC
Zinc diecast
-40 °C...70 °C
DNVGL

Ordering data

Rotary button operation
Lockable with key
Control cabinet key (double bit)
Control cabinet key (Daimler)

Note

Type	Qty.	Order No.
IE-FC-SFM-KNOB	1	1450530000
IE-FC-SFM-KEY2	1	1450540000
IE-FC-SFM-CAB	1	2003160000
IE-FC-SFM-CAB-DB	1	2663200000

Type	Qty.	Order No.
IE-FC-SFP-KNOB	1	1450510000
IE-FC-SFP-KEY2	1	1450520000
IE-FC-SFP-CAB	1	2003140000
IE-FC-SFP-CAB-DB	1	2663190000

Accessories

spare key

Marking tags

silver
light grey
white

Touch-safe protection

Touch-safe protection

Accessories for mounting cut-out

Punch for hole punching tool
Punching tool

Type	Qty.	Order No.
IE-FC-KEY2	1	2066650000
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KOK 52 X 91	1	2008410000
IE-KO-HAT	1	1966810000

Type	Qty.	Order No.
IE-FC-KEY2	1	2066650000
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KOK 52 X 91	1	2008410000
IE-KO-HAT	1	1966810000

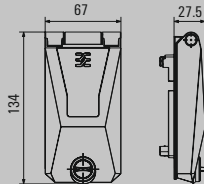
Note

FrontCom® Vario IP65 service interface

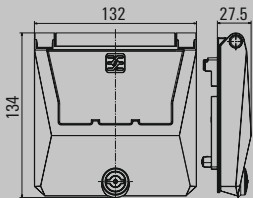
FrontCom® Vario
Frame NEMA 4X

- For particularly harsh environmental conditions (outdoor) with NEMA 4X approval

Single frame, metal lid



Double frame, metal lid



Technical data

Protection degree / Protection class (UL)
Material cover
Material frame
Ambient temperature (operational)
Approvals

Note

IP65, in closed state / NEMA 4X
Zinc diecast, powder-coated
Zinc diecast, powder-coated
-40 °C...70 °C
CSA; CURUS

IP65, in closed state / NEMA 4X
Zinc diecast, powder-coated
Zinc diecast, powder-coated
-40 °C...70 °C
CSA; CURUS

Ordering data

Rotary button operation

Note

Type	Qty.	Order No.
IE-FC-SFM-KNOB-4X	1	2669630000

Type	Qty.	Order No.
IE-FC-DFM-KNOB-4X	1	2669640000

Accessories

Marking tags

silver
light grey
white

Touch-safe protection

Touch-safe protection

Accessories for mounting cut-out

Punch for hole punching tool
Punching tool

Bar (for mounting single insert plates)

Partition

Type	Qty.	Order No.
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
KDK 52 X 91	1	2008410000
IE-KD-HAT	1	1966810000

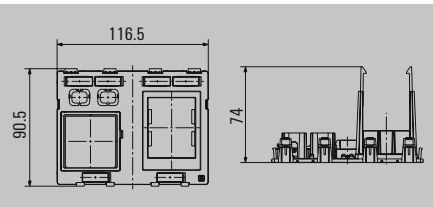
Type	Qty.	Order No.
SM 27/18 K MC NE SI	80	1713760000
SM 27/18 K MC NE GR	80	1073340000
SM 27/18 K MC NE WS	80	1707270000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FC-DF-IPH	1	2003340000

Note

FrontCom® Vario
Insert plates for double frames

- IP20

1 x power, 2 x data, 1 x RCBO



Technical data

Material
Insert, data
Insert Power large
Insert RCBO (2 modular width units)
Insert suitable for RCBO according to standard
Insert GFCI /2 x Power US pre-assembled
Ambient temperature (operational)
Approvals

Polycarbonate PC
2
1
1
DIN43880
-40 °C...70 °C
CSA; CURUS

Note

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-DSP-PWB/2ST/FILS	1	2067080000
IE-FC-DIP-PWB/2ST/FILS	1	2067070000

Accessories

Inserts, Data
RJ45 coupling
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

Marking tags

Touch-safe protection

Touch-safe protection

ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000

Note

An overview of the power inserts can be found in this chapter under power insert sockets.

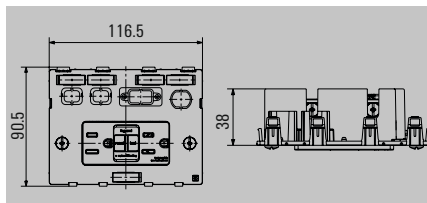
FrontCom® Vario IP65 service interface

FrontCom® Vario

Insert plates for double frames

- IP20

1x GFCI, 2x data, 1x signal, 1x fuse



Technical data

Material
Insert, data
Insert Power large
Insert fuse
Signal insert D-Sub 9-pole / VGA / HDMI
Insert RCBO (2 modular width units)
Insert GFCI / 2 x Power US pre-assembled
Ambient temperature (operational)
Approvals

Technical data GFCI insert

Operating voltage / Rated current
GFCI protected US outlet
Self-test
Status indication
Type of connection
Line connection cross-section
finely stranded with wire-end ferrule
finely stranded with wire-end ferrule
Conductor connection cross-section, rigid

Note

Polycarbonate PC
2

1

1

1

-35 °C...66 °C

CSA; CURUS

125 V AC / 20 A

2 pieces

automatically every 3 seconds

red LED

Screw connection

1.5 ... 2.5 mm²1.5 ... 2.5 mm²1.5 ... 4 mm²

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-DSP-CI/3A/2ST/1D9	1	2004810000
IE-FC-DIP-CI/3A/2ST/1D9	1	2003370000
incl. pre-mounted GFCI		

Accessories

Inserts, Signal

D-Sub, 9-pole, female/female
D-Sub, 9-pole, female / male
D-Sub, 9-pole, female / solder connection
VGA coupling
HDMI coupling

Fuse inserts

3 A

Inserts, Data

RJ45 coupling
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

Marking tags

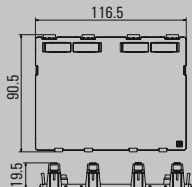
Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-PWCB-3A	1	1543690000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044

Note

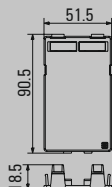
FrontCom® Vario
Insert plates

- IP20

blank double plate



blank single plate



Technical data

Material
Ambient temperature (operational)
Approvals
Note

Polycarbonate PC
-40 °C...70 °C
CSA; CURUS

Polycarbonate PC
-40 °C...70 °C
CSA; CURUS; DNVGL

Ordering data

Note unshielded

Type	Qty.	Order No.
IE-FC-DIP-BP	1	2004890000

Type	Qty.	Order No.
IE-FC-IP-BP	1	1450710000

Accessories

Type	Qty.	Order No.

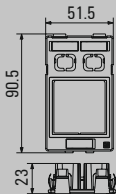
Type	Qty.	Order No.

Note

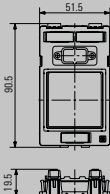
FrontCom® Vario
Insert plates

- IP20

1 x power, 2 x data



1x Power, 1x Signal



Technical data

Material
Insert, data
Signal insert D-Sub 9-pole / VGA / HDMI
Insert, signal, D-Sub, 25-pole
Insert Power large
Insert Power small
Insert Power US
Ambient temperature (operational)
Approvals

Note

Polycarbonate PC
2

1

-40 °C...70 °C
CSA; CURUS; DNVGL

Polycarbonate PC

1

1

-40 °C...70 °C
CSA; CURUS

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-SP-PWB/2ST	1	1450550000
IE-FC-IP-PWB/2ST	1	1450630000

Type	Qty.	Order No.
IE-FC-IP-PWB/1D9	1	2003350000

Accessories

Inserts, Data	
RJ45 coupling	RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B	RJ45 module PROFINET
USB 2.0 A / A	USB 3.0 A / A
USB 3.0 A / A	USB 2.0 A / B

Marking tags

Touch-safe protection

Touch-safe protection

Inserts, Signal

D-Sub, 9-pole, female/female
D-Sub, 9-pole, female / male
D-Sub, 9-pole, female / solder connection
VGA coupling
HDMI coupling

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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IE-FC-PWPC	1	1450820000
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Type	Qty.	Order No.

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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IE-FC-PWPC	1	1450820000
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IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000

Note

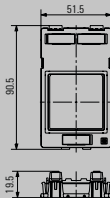
You will find an overview of the power inserts in this chapter under Power inserts-sockets.

You will find an overview of the power inserts in this chapter under Power inserts-sockets.

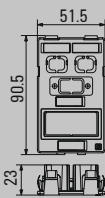
FrontCom® Vario
Insert plates

- IP20

1x Power



1x Power, 2x Data, 1x Signal



Technical data

Material
Insert, data
Signal insert D-Sub 9-pole / VGA / HDMI
Insert, signal, D-Sub, 25-pole
Insert Power large
Insert Power small
Insert Power US
Ambient temperature (operational)
Approvals

Note

Polycarbonate PC

1

-40 °C...70 °C
CSA; CURUS

Polycarbonate PC

2

1

1

-40 °C...70 °C

CSA; CURUS; DNVGL

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-IP-PWB	1	2548060000

Type	Qty.	Order No.
IE-FC-SP-PWS/2ST/1D9	1	1450600000
IE-FC-IP-PWS/2ST/1D9	1	1450690000

Accessories

Inserts, Data
RJ45 coupling
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

Marking tags

Touch-safe protection

Touch-safe protection

Inserts, Signal

D-Sub, 9-pole, female/female
D-Sub, 9-pole, female / male
D-Sub, 9-pole, female / solder connection
VGA coupling
HDMI coupling

Type	Qty.	Order No.
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000

Note

You will find an overview of the power inserts in this chapter under Power inserts-sockets.

You will find an overview of the power inserts in this chapter under Power inserts-sockets.

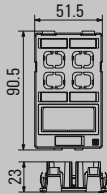
FrontCom® Vario IP65 service interface

FrontCom® Vario

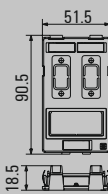
Insert plates

- IP20

1 x power, 4 x data



1 x power, 2 x signal



Technical data

Material
Insert, data
Signal insert D-Sub 9-pole / VGA / HDMI
Insert, signal, D-Sub, 25-pole
Insert Power large
Insert Power small
Insert Power US
Ambient temperature (operational)
Approvals

Note

Polycarbonate PC
4

1

-40 °C...70 °C
CSA; CURUS; DNVGL

Polycarbonate PC

2

1

-40 °C...70 °C
CSA; CURUS; DNVGL

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-SP-PWS/4ST	1	1450570000
IE-FC-IP-PWS/4ST	1	1450640000

Type	Qty.	Order No.
IE-FC-SP-PWS/2D9	1	1450610000
IE-FC-IP-PWS/2D9	1	1450680000

Accessories

Inserts, Power
Socket IT/EU

Inserts, Data
RJ45 coupling
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

Marking tags

Touch-safe protection

Inserts, Signal

D-Sub, 9-pole, female/female
D-Sub, 9-pole, female / male
D-Sub, 9-pole, female / solder connection
VGA coupling
HDMI coupling

Type	Qty.	Order No.
IE-FCI-PWS-IT	1	1450810000
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJA	10	1962850000
IE-BI-RJ45-FJB	10	1963840000
IE-BI-RJ45-FJP	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

ESG 7/20 SIRIUS MC NE WS 200 1736181044

IE-FC-PWPC 1 1450820000

Type	Qty.	Order No.
IE-FCI-PWS-IT	1	1450810000

ESG 7/20 SIRIUS MC NE WS 200 1736181044

IE-FC-PWPC 1 1450820000

IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HD15-FF	1	1556290000
IE-FCI-HDMI-FF	1	2003390000

Note

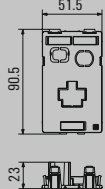
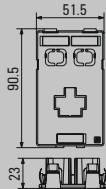
FrontCom® Vario

Insert plates

- IP20

1 x power, 2 x data

1 x power, 1 x 3A fuse, 1 x data



Technical data

Material
Insert, data
Signal insert D-Sub 9-pole / VGA / HDMI
Insert, signal, D-Sub, 25-pole
Insert Power large
Insert Power small
Insert Power US
Insert fuse
Ambient temperature (operational)
Approvals

Note

Polycarbonate PC
2

1

-40 °C...70 °C
CSA; CURUS; DNVGL

Polycarbonate PC
1

1
1
-40 °C...70 °C
CSA; CURUS

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-SP-PWU/2ST	1	1450620000
IE-FC-IP-PWU/2ST	1	1450700000

For US socket the touch-safe protection is mandatory

Type	Qty.	Order No.
IE-FC-IP-PWU/1ST/CB	1	1543710000

For US socket the touch-safe protection is mandatory

Accessories

Inserts, Signal

D-Sub, 9-pole, female/female
D-Sub, 9-pole, female / male
D-Sub, 9-pole, female / solder connection
D-Sub, 25-pole, female/female
D-Sub, 25-pole, female/male
D-Sub, 25-pole, female / solder connection
HDMI coupling
VGA coupling

Inserts, Data

RJ45 coupling
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

Marking tags

Touch-safe protection

Touch-safe protection

Inserts, Power

US socket

Fuse inserts

3 A

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FCI-PWS-US	1	1450800000

IE-FCI-PWCB-3A	1	1543690000
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Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

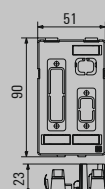
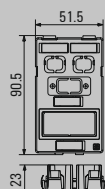
ESG 7/20 SIRIUS MC NE WS	200	1736181044
IE-FC-PWPC	1	1450820000
IE-FCI-PWS-US	1	1450800000

IE-FCI-PWCB-3A	1	1543690000
----------------	---	------------

Note

- IP20

1 x data, 2 x signal



Note

shielded
unshielded

Inserts, Signal

- D-Sub, 9-pole, female/female
- D-Sub, 9-pole, female / male
- D-Sub, 9-pole, female / solder connection
- D-Sub, 25-pole, female/female
- D-Sub, 25-pole, female/male
- D-Sub, 25-pole, female / solder connection
- HDMI coupling
- VGA coupling

Inserts, Data

RJ45 coupling
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
USB 2.0 A / A
USB 3.0 A / A
USB 2.0 A / B

Marking tags

Touch-safe protection

Inserts. Power

Fuse inserts

3A

Note

Polycarbonate PC
2
2
-40 °C...70 °C
CSA; CURUS; DNVGL

Type	Qty.	Order No.
IE-FC-SP-2ST/2D9	1	1450590000
IE-FC-IP-2ST/2D9	1	1450670000

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-HD15-FF	1	1556290000

IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

ESG 7/20 SIRIUS MC NE WS	200	1736181044
--------------------------	-----	------------

IE-FC-PWPC	1	1450820000
------------	---	------------

Note

Polycarbonate PC
1
1
1
-40 °C...70 °C
CSA; CURUS; DNUGL

Type	Qty.	Order No.
IE-FC-SP-1ST/1D9/1D25	1	1450580000
IE-FC-IP-1ST/1D9/1D25	1	1450650000

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000
IE-FCI-D25-FM	1	1450890000
IE-FCI-D25-FS	1	1450900000
IE-FCI-D25-FF	1	1450880000
IE-FCI-HDMI-FF	1	2003390000
IE-FCI-HD15-FF	1	1556290000

IE-BI-RJ45-C	10	1962840000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000
IE-BI-USB-AB	10	1131380000

ESG 7/20 SIRIUS MC NE WS	200	1736181044
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IE-FC-PWPC	1	1450820000
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Note

Data inserts

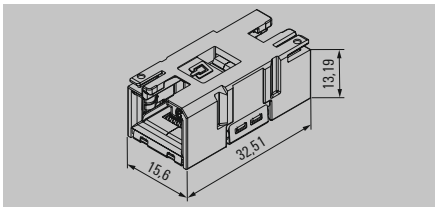
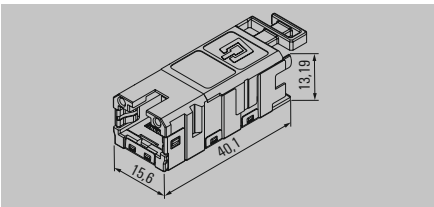
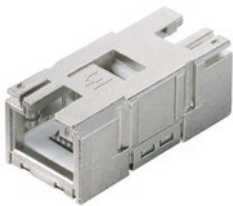
RJ45

- Completely in Cat. 6_A
- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

Module



Coupling



Technical data

Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Connection cross-section, flexible, min. / max.
Connection cross-section, solid, min. / max.
Insulation diameter, min. / max.
Connector standard
Ambient temperature (operational)
PoE / PoE+
Approvals

Note

IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
AWG 24 / AWG 22
0.85 mm...1.6 mm
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3af
CULUS

Connection of WM Cat. 7 AWG 27/7 LSZH possible

IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over nickel, Au ≥ 0.8 µm

...
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3af
CULUS; DNVGL

Ordering data

tool-free

TIA-A. Cat. 6_A
TIA-B. Cat. 6_A
PROFINET Cat. 5
Coupling

Note

Type	Qty.	Order No.
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000

Accessories

Tools

Optional pressing tool

Type	Qty.	Order No.
PWZ RJ45	1	1118040000

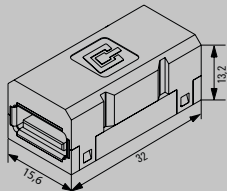
Type	Qty.	Order No.
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Note

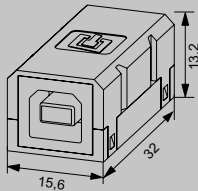
Data inserts
USB

- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

Coupling USB A/A



Coupling USB A/B



Technical data

Protection degree
Shielding
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Approvals

Note

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB A
IEC 61076-3-107
CULUS; DNVGL

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB B
IEC 61076-3-107
CULUS; DNVGL

Ordering data

USB 2.0
USB 3.0

Note

Type	Qty.	Order No.
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000

Type	Qty.	Order No.
IE-BI-USB-AB	10	1131380000

Accessories

USB cable 2.0	
0.5 m	
1.0 m	
1.5 m	
1.8 m	
3.0 m	
USB cable 3.0	
0.5 m	
1.8 m	
3.0 m	
5.0 m	

Type	Qty.	Order No.
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Type	Qty.	Order No.

Note

Signal inserts

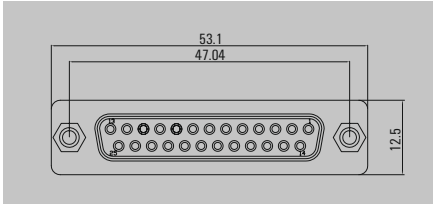
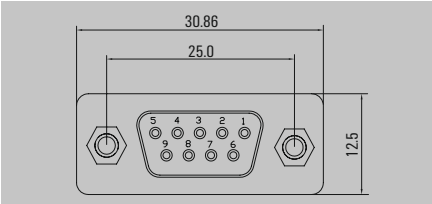
D-sub

- IP 20

9-pole



25-pole



Technical data

Protection degree
Housing main material
Number of poles
Housing surface
Material insulator
Contact surface
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Ambient temperature (operational)
Approvals

Note

IP20
SPCC
9
tin-plated
PBT glass fibre reinforced UL 94 V-0
Gold-plated
≤ 20 mΩ
1000 MΩ at 500 V DC
1 kV _{eff} / 1 min.
-55 °C...105 °C
DNVGL; UR

IP20
SPCC
25
tin-plated
PBT glass fibre reinforced UL 94 V-0
Gold-plated
≤ 20 mΩ
1000 MΩ at 500 V DC
1 kV _{eff} / 1 min.
-55 °C...105 °C
DNVGL; UR

Ordering data

Socket / socket
Socket / plug
Socket / solder connection

Note

Type	Qty.	Order No.
IE-FCI-D9-FF	1	1450840000
IE-FCI-D9-FM	1	1450850000
IE-FCI-D9-FS	1	1450870000

Type	Qty.	Order No.
IE-FCI-D25-FF	1	1450880000
IE-FCI-D25-FM	1	1450890000
IE-FCI-D25-FS	1	1450900000

Accessories

Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
------	------	-----------

Note

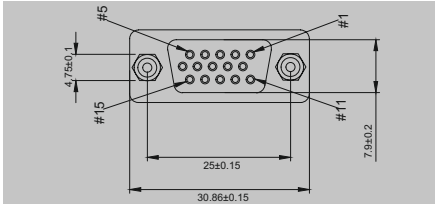
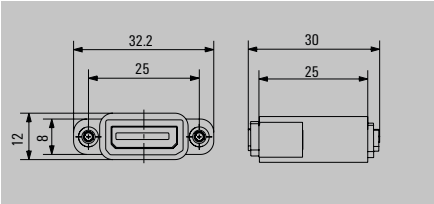
Signal inserts

- IP 20

HDMI



HD15 / VGA



Technical data

Protection degree
Housing main material
Number of poles
Housing surface
Contact surface
Contact resistance
Insulation strength
Dielectric strength, contact / contact
Ambient temperature (operational)
Approvals

IP20
PVC casting
9
Gold-plated
-15 °C...50 °C
UR

IP20
25
Gold over nickel
1000 MΩ at 500 V DC
1000 V_{eff} / 1 min
-55 °C...105 °C
DNVGL; UR

Note

Ordering data

Note

Accessories

Type	Qty.	Order No.
IE-FCHDMI-FF	1	2003390000

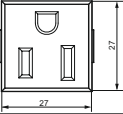
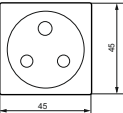
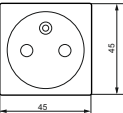
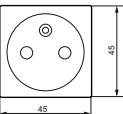
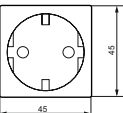
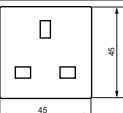
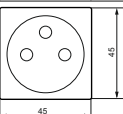
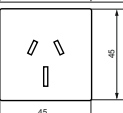
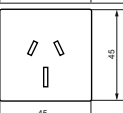
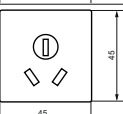
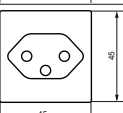
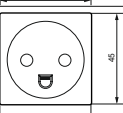
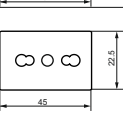
Type	Qty.	Order No.
IE-FCHD15-FF	1	1556290000

Type	Qty.	Order No.
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Type	Qty.	Order No.
------	------	-----------

Note

Type overview: Power inserts/sockets

Type	Region	Plug-Type		Qty.	Order No.
IE-FCI-PWS-US	USA	Type B		1	1450800000
IE-FCI-PWB-IND	India, South Africa	Type D		1	2500710000
IE-FCI-PWB-CZ	Czechia	Type E		1	2426700000
IE-FCI-PWB-FR	France	Type E		1	1450750000
IE-FCI-PWB-DE	Germany	Type F		1	1450730000
IE-FCI-PWB-GB	Great Britain	Type G		1	1450770000
IE-FCI-PWS-ISR	Israel	Typ H		1	2531060000
IE-FCI-PWB-AU-15A	Australia	Type I		1	1450830000
IE-FCI-PWB-AU-10A	Australia	Type I		1	1546590000
IE-FCI-PWB-CN	China	Type I		1	1450790000
IE-FCI-PWB-CH	Schweizerland	Type J		1	1450780000
IE-FCI-PWB-DK	Denmark	Type K		1	2661340000
IE-FCI-PWS-IT	Italy, Europe	Type L		1	1450810000

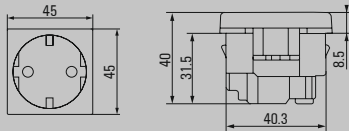
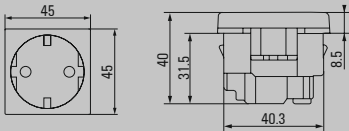
Power inserts
Power sockets

- IP 20

Germany, white



Germany, orange



Technical data

Protection degree
Housing main material
Type of connection
Connector face
Connector standard
Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
Conductor connection cross-section, rigid
Stripping length
Rated voltage (AC)
Rated current
Ambient temperature (operational)
Approvals

IP20
Polycarbonate PC
PUSH IN
Type F

1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 2.5 mm²
10 mm
250 V
16 A
-5 °C...50 °C
DNVGL

IP20
Polycarbonate PC
PUSH IN
Type F

1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 2.5 mm²
10 mm
250 V
16 A
-5 °C...50 °C
DNVGL

Note

Ordering data

Note

Accessories

FrontCom	Adapter for mounting rail installation
Flat blade connector, 6.5 mm	straight, 4.8 mm, fully insulated

Type	Qty.	Order No.
IE-FCI-PWB-DE	1	1450730000

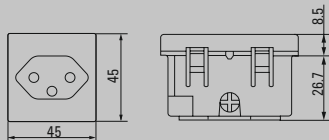
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
IE-FCI-PWB-DE-OR	1	1554000000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

Switzerland

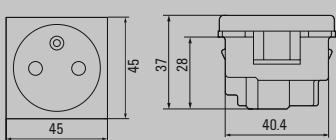


IP20
Polycarbonate PC
PUSH IN
Type J
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 2.5 mm ²
10 mm
250 V
10 A
-5 °C...50 °C
DNVGL

Type	Qty.	Order No.
IE-FCI-PWB-CH	1	1450780000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

France, white

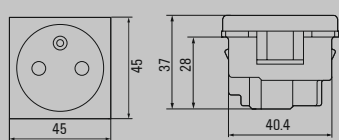


IP20
Polycarbonate PC
PUSH IN
Type E
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 2.5 mm ²
10 mm
250 V
16 A
-5 °C...50 °C
DNVGL

Type	Qty.	Order No.
IE-FCI-PWB-FR	1	1450750000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

France, orange



IP20
Polycarbonate PC
PUSH IN
Type E
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 2.5 mm ²
10 mm
250 V
16 A
-5 °C...50 °C

Type	Qty.	Order No.
IE-FCI-PWB-FR-OR	1	2007230000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

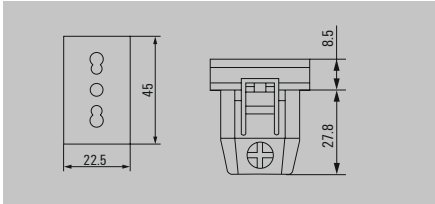
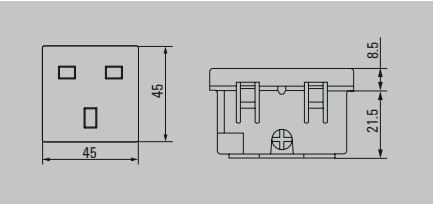
Power inserts
Power sockets

- IP 20

UK



Italy / Europe



Technical data

Protection degree
Housing main material
Type of connection
Connector face
Connector standard
Line connection cross-section
finely stranded with wire-end ferrule
finely stranded without wire-end ferrule
finely stranded with wire-end ferrule
finely stranded without wire-end ferrule
Conductor connection cross-section, rigid
Stripping length
Rated voltage (AC)
Rated current
Ambient temperature (operational)
Approvals

Note

IP20
Polycarbonate PC
Screw connection
Type G
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
250 V
13 A
-5 °C...50 °C
DNVGL

IP20
Polycarbonate PC
Screw connection
Type L
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
250 V
16 A
-5 °C...50 °C
DNVGL

Ordering data

Note

Type	Qty.	Order No.
IE-FCI-PWB-GB	1	1450770000

Type	Qty.	Order No.
IE-FCI-PWS-IT	1	1450810000

Accessories

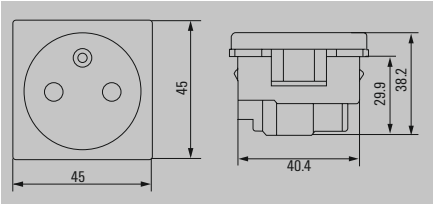
FrontCom	Adapter for mounting rail installation
Flat blade connector, 6.5 mm	straight, 4.8 mm, fully insulated

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

Czech Republic

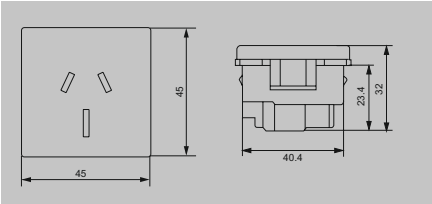


IP20
Polycarbonate PC
PUSH IN
Type E
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 1.5 mm ²
1.5 ... 2.5 mm ²
1.5 ... 2.5 mm ²
12 mm
250 V
16 A
-5 °C...50 °C

Type	Qty.	Order No.
IE-FCI-PWB-CZ	1	2426700000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Australia, 15 A

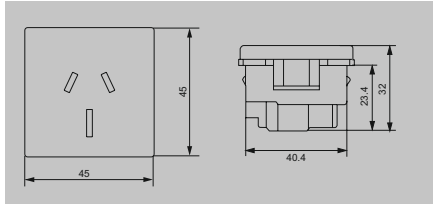


IP20
Polycarbonate PC
Screw connection
Type I
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
240 V
15 A
-5 °C...50 °C
DNVGL

Type	Qty.	Order No.
IE-FCI-PWB-AU	1	1450830000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Australia, 10 A



IP20
Polycarbonate PC
Screw connection
Type I
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 2.5 mm ²
1.5 ... 4 mm ²
1.5 ... 4 mm ²
9 mm
240 V
10 A
-5 °C...50 °C
DNVGL

Type	Qty.	Order No.
IE-FCI-PWB-AU-10A	1	1546590000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

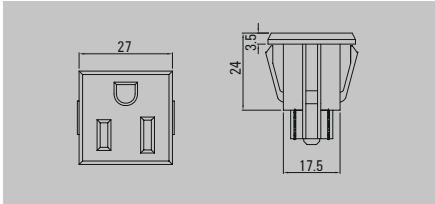
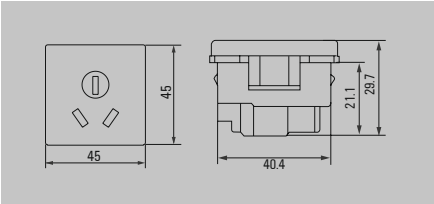
Power inserts
Power sockets

- IP 20

China



USA



Technical data

Protection degree
Housing main material
Type of connection
Connector face
Connector standard
Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
 finely stranded with wire-end ferrule
 finely stranded without wire-end ferrule
Conductor connection cross-section, rigid
Stripping length
Rated voltage (AC)
Rated current
Ambient temperature (operational)
Approvals

Note

IP20
Polycarbonate PC
Screw connection
Type I

1.5 ... 2.5 mm²
1.5 ... 4 mm²
1.5 ... 2.5 mm²
1.5 ... 4 mm²
1.5 ... 4 mm²
9 mm
250 V
10 A
-5 °C...50 °C
DNVGL

IP20
PA 66
Solder connection, FS 4.8 x 0.8
Type B

125 V
15 A
-20 °C...85 °C
DNVGL; UR

Ordering data

Note

Type	Qty.	Order No.
IE-FCI-PWB-CN	1	1450790000

Type	Qty.	Order No.
IE-FCI-PWS-US	1	1450800000

For US socket the touch-safe protection is mandatory

Accessories

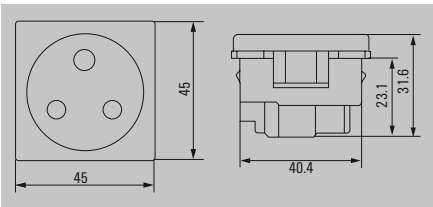
FrontCom	
	Adapter for mounting rail installation
Flat blade connector, 6.5 mm	straight, 4.8 mm, fully insulated

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Type	Qty.	Order No.
VFSKHV/1,5-2,5/485	100	1491920000

Note

India, South Africa

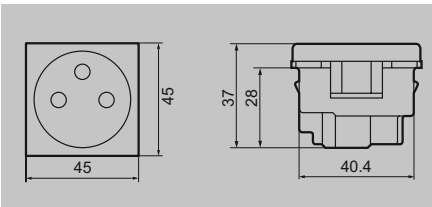


IP20
Polycarbonate PC
Screw connection
Type D
1.5 ... 2.5 mm²
...
1.5 ... 2.5 mm²
...
1.5 ... 4 mm²
9 mm
250 V
13 A
-5 °C...50 °C

Type	Qty.	Order No.
IE-FCI-PWB-IND	1	2500710000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Israel

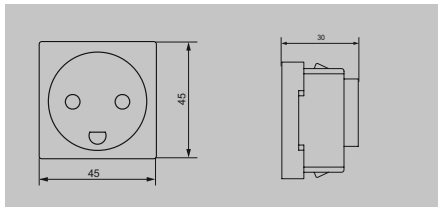


IP20
PP
Screw connection
Type H
1.5 ... 1.5 mm²
...
1.5 ... 1.5 mm²
...
1.5 ... 2.5 mm²
11 mm
250 V
16 A
-5 °C...50 °C

Type	Qty.	Order No.
IE-FCI-PWB-ISR	1	2531060000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Denmark



IP20
Polycarbonate PC
PUSH IN
Type K
1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 1.5 mm²
1.5 ... 2.5 mm²
1.5 ... 2.5 mm²
13 mm
250 V
13 A
-5 °C...40 °C

Type	Qty.	Order No.
IE-FCI-PWB-DK	1	2661340000

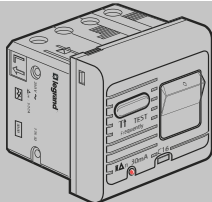
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Power inserts

RCBO

- IP 20

RCBO



Technical data

Ambient temperature (operational)
Operating voltage
Rated current
 $I_{\Delta n}$
 $I_{\Delta n}$
Triggering characteristic
Type of connection
Line connection cross-section
 finely stranded with wire-end ferrule
 finely stranded with wire-end ferrule
Conductor connection cross-section, rigid

-5 °C...40 °C
230 V AC
16 A
500 A
30 mA
Typ C
Screw connection

1.5 ... 2.5 mm²
1.5 ... 2.5 mm²
1.5 ... 2.5 mm²

Note

Ordering data

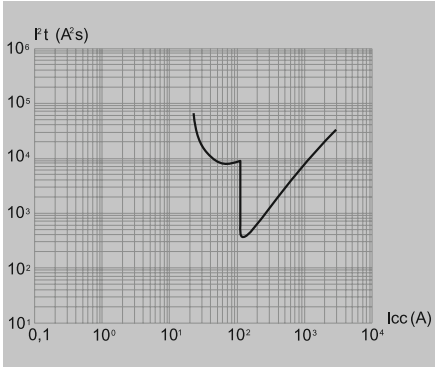
Note

Accessories

FrontCom
Adapter for mounting rail installation

Type	Qty.	Order No.
IE-FCI-PWB-RCBO	1	1534250000

Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

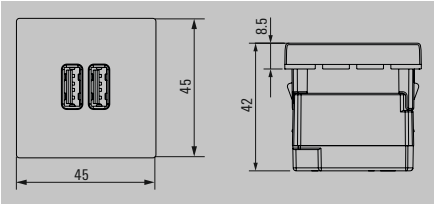


Note

Power inserts
USB charge insert

- IP 20

USB-Charger 5 V / 2.4 A



Technical data

Ambient temperature (operational)	0 °C...45 °C
Input voltage	220...240 V AC
Frequency range	50...60 Hz
Input current	≤ 300 mA
Output voltage	5 V DC
Output current	2.4 A
Degree of efficiency	81 %
Power consumption in standby mode	max. 0.1 W
Standards	EN 60950-1, EN 62684, EN 50558
Protection class	II
Housing main material	Polycarbonate PC
Type of connection	Screw connection
Line connection cross-section	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
finely stranded with wire-end ferrule	1.5 ... 2.5 mm ²
Conductor connection cross-section, rigid	1.5 ... 2.5 mm ²
Stripping length	6 mm
Note	

Ordering data

Note		

Type	Qty.	Order No.
IE-FCI-PWB-2USB-A-5V	1	2505070000

Accessories

FrontCom	Adapter for mounting rail installation
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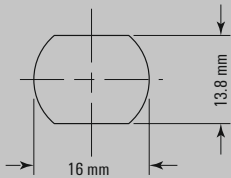
Type	Qty.	Order No.
IE-DINRAIL-AD-PWB	1	2534680000

Note

3A fuse

- IP 20

3A fuse



Technical data

Operating voltage
Rated current
Type of connection

32 V DC, 250 V AC
3 A
Flat-blade receptacles 6.5 mm

Note

Ordering data

Note

Type	Qty.	Order No.
IE-FCI-PWVCB-3A	1	1543690000

Accessories

Flat blade connector, 6.5 mm

angled
straight

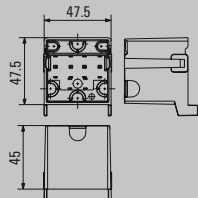
Type	Qty.	Order No.
WFSKHV/1,5-2,5	100	1491970000
VFSKHV/1,5-2,5/638	100	1491940000

Note

Accessories

Touch-safe protection

Touch-safe protection



Technical data

Length x width x height
Material

47.5 / 47.5 / 45 mm
PC

Note

Ordering data

Note

Type	Qty.	Order No.
IE-FC-PWPC	1	1450820000

Accessories

Type	Qty.	Order No.

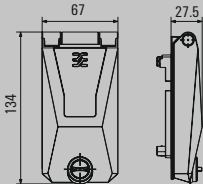
Note

Sets

- shielded

2x Data 1x Power DE

Plastic cover



Technical data

Frame
Insert plate
Data inserts
Power inserts
Rated voltage for socket
Rated current for socket
Protection degree
products included in the set

Plastic cover
2x data, 1x power, Shielded
USB 2.0 A/A, RJ45 coupling Cat.6_A
Socket DE
250 V
16 A
IP65, in closed state
1450510000;1450550000;1450730000;1019570000;1962840000

Note

Ordering data

shielded
unshielded

Note

Type	Qty.	Order No.
IE-FC-SET-SPDED001-KN-P	1	1529580000

Accessories

Type	Qty.	Order No.

Note

Sets

Incl. fixed label: "Service only!", "USB", "Ethernet", "230 V AC"



Technical data

Frame
Insert plate
Data inserts
Power inserts
Rated voltage for socket
Rated current for socket
Protection degree
products included in the set

Note

Ordering data

shielded
unshielded

Note

Accessories

Note

2x Data, 1x Power



Plastic cover, Lockable with key
2x data, 1x power, Shielded
USB 2.0 A/A, RJ45 coupling Cat.6_A
Socket DE
250 V
16 A
IP65, in closed state
1450520000;1450550000;1450730000;1019570000;19628400
00;1450820000

Type	Qty.	Order No.
IE-FC-SET-SPDEK001-KY-P	1	1989020000

Type	Qty.	Order No.



2x Data, 1x Power



Plastic cover, Lockable with key
2x data, 1x power, Unshielded
USB 2.0 A/A, RJ45 coupling Cat.6_A
Socket DE
250 V
16 A
IP65, in closed state
1450520000;1450630000;1450730000;1019570000;19628400
00;1450820000

Type	Qty.	Order No.
IE-FC-SET-IPDEK001-KY-P	1	1543680000

Type	Qty.	Order No.

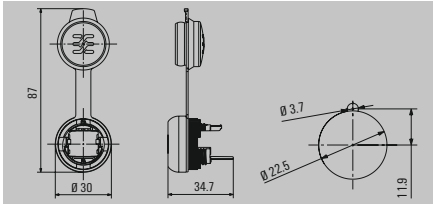
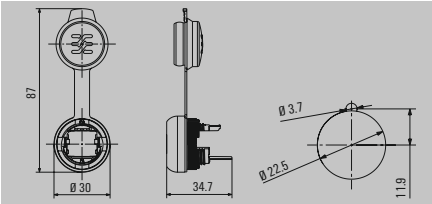


FrontCom® Micro RJ45
Module

8-wire



4-wire



Technical data

Category
Protection degree
Housing main material
Contact surface
Colour
Shielding
Type of mounting
Plugging cycles
Connector standard
Connection 1 / 2
Wall thickness, min. / max.
Dust protection cap material
PoE / PoE+
Ambient temperature (operational)
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP65, in closed state
PA UL 94 V0
Gold over nickel
black
360° shield contact
Cabinet, Distribution box
750
IEC 60603-7-51
RJ45 / IDC
1 mm / 3 mm
EPDM
conforming to IEEE 802.3af
-40 °C...70 °C
CULUS

Cat.5 (ISO/IEC 11801)
IP65, in closed state
PA UL 94 V0
Gold over nickel
black
360° shield contact
Cabinet, Distribution box
750
IEC 60603-7-51
RJ45 / IDC
1 mm / 3 mm
EPDM
conforming to IEEE 802.3af
-40 °C...70 °C
CULUS

Ordering data

PROFINET module
TIA-A module
TIA-B module

Note

Type	Qty.	Order No.
IE-FCM-RJ45-FJ-A	10	1018810000
IE-FCM-RJ45-FJ-B	10	1018820000

Type	Qty.	Order No.
IE-FCM-RJ45-FJ-P	10	1018830000

Accessories

Fixing tool
Marking tags
Holder
SwitchMark markers white
MultiCard, white

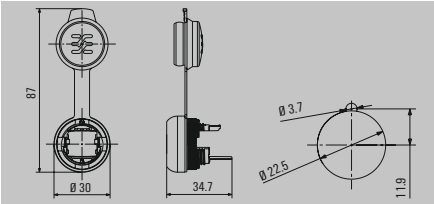
Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000

Note

FrontCom® Micro RJ45
Coupling

8-wire



Technical data

Category
Protection degree
Housing main material
Contact surface
Colour
Shielding
Type of mounting
Plugging cycles
Connector standard
Connection 1 / 2
Wall thickness, min. / max.
Dust protection cap material
PoE / PoE+
Ambient temperature (operational)
Approvals

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP65, in closed state
PA UL 94 V0
Gold over nickel
black
360° shield contact
Cabinet, Distribution box
750
IEC 60603-7-51
RJ45 / RJ45
1 mm / 3 mm
EPDM
conforming to IEEE 802.3af
-40 °C...70 °C
CULUS

Note

Ordering data

Coupling

Note

Type	Qty.	Order No.
IE-FCM-RJ45-C	10	1018790000

Accessories

Fixing tool

Marking tags

SwitchMark markers white

Holder

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
SM-H 27/18 SW	25	1716630000

Note

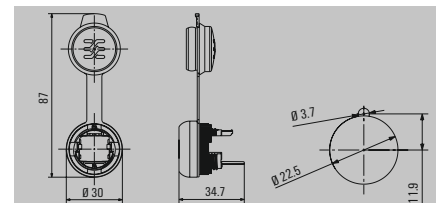
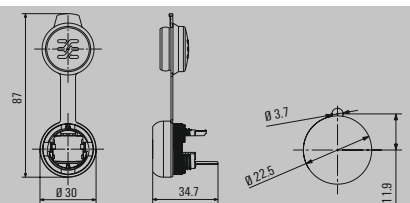
FrontCom® Micro IP65 service interface

FrontCom® Micro USB

Coupling AA



Coupling AB



Technical data

Ambient temperature (operational)
Protection degree
Housing main material
Colour
Shielding
Type of mounting
Connector standard
Connection 1 / 2
Dust protection cap material
Wall thickness, min. / max.
Approvals

Note

-40 °C...70 °C
IP65, in closed state
PA UL 94 V0
black
360° shield contact
Cabinet, Distribution box
IEC 61076-3-107
USB A / USB A
EPDM
1 mm / 3 mm
CULUS; EAC
Approvals available on request

-40 °C...70 °C
IP65, in closed state
PA UL 94 V0
black
360° shield contact
Cabinet, Distribution box
IEC 61076-3-107
USB A / USB B
EPDM
1 mm / 3 mm
CULUS; EAC

Ordering data

USB 2.0
USB 3.0

Note

Type	Qty.	Order No.
IE-FCM-USB-A	10	1018840000
IE-FCM-USB-3.0-A	10	1427960000

Type	Qty.	Order No.
IE-FCM-USB-AB	10	1222550000

Accessories

Fixing tool

Marking tags

SwitchMark markers white
MultiCard, white

Holder

USB cable 2.0

0.5 m
1.0 m
1.5 m
1.8 m
3.0 m

USB cable 3.0

0.5 m
1.8 m
3.0 m
5.0 m

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
ESG 9/11 K MC NE WS	200	1857440000
SM-H 27/18 SW	25	1716630000

Note

IP67 plug-in connectors

Overview

IP67 plug-in connectors	PushPull V14 - RJ45	N.2
	PushPull V14 - Hybrid	N.7
	PushPull V14 - FO	N.10
	Bayonet V1 Metal-RJ45	N.12
	Bayonet V1 Metal-FO	N.14
	Bayonet V1 Plastic-RJ45	N.16
	PushPull V4 - RJ45	N.19
	PushPull V4 - FO	N.23
	RockStar® V5 - RJ45	N.25
	SnapIn V6 - RJ45	N.27
	M8 Single Pair Ethernet	N.30
	M12 D-coded	N.32
	M12 X-Type	N.41
	Inserts	N.49
	PushPull Power	N.60

PushPull V14 - RJ45

Plug PushPull V14 - RJ45 PROFINET

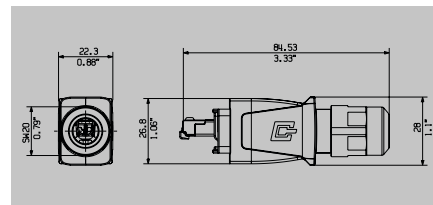
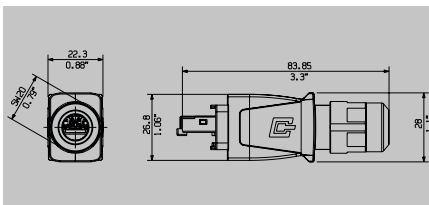
- 4-wire, RJ45 plug field attachable with colour coding on the plug

4-wire, field-attachable

PROFINET printing



4-wire, crimp



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22

CULUS

Other approvals for individual parts of the set available

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 60603-7, IEC 61076-3-117 Var. 14
0.57 mm / 0.64 mm
AWG 23 / AWG 22
0.57 mm / 0.64 mm
AWG 23 / AWG 22

Ordering data - Sets

RJ45 tool-free

Note

Type	Qty.	Order No.
IE-PS-V14M-RJ45-FHP	10	1012170000

Type	Qty.	Order No.
IE-PS-V14M-RJ45-TH-P	10	2768740000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Accessories

Dust protection cap	Protective cap
Marking tags	MultiCard, white
Plug insert for V14 PROFINET crimp	Replacement crimp inserts
Tools	Pressing tool

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000
IE-PI-RJ45-TH-P	10	2768720000
IE-CWZ-RJ45-TH-P	1	2614210000

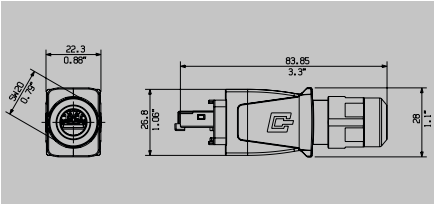
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug PushPull V14 - RJ45

- 8-wire, RJ45 plug field attachable with colour coding on the plug

8-wire, crimp



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51
0.46 mm / 0.61 mm
AWG 27/7 / AWG 24/7
0.36 mm / 0.51 mm
AWG 26/1 / AWG 24/1
EAC

Ordering data - Sets

RJ45 tool-free
Note

Type	Qty.	Order No.
IE-PS-V14M-RJ45-TH	10	1012160000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Accessories

Dust protection cap	Protective cap
Marking tags	MultiCard, white
Tools	Pressing tool

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000
TT 8 RS MP 8	1	9202800000

Note

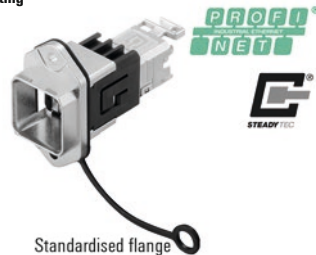
Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V14 - RJ45

PushPull V14 - RJ45 flange
Module

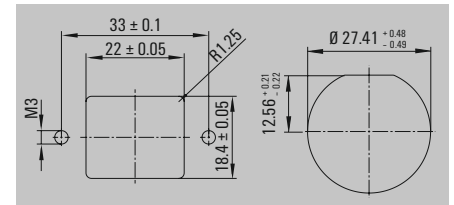
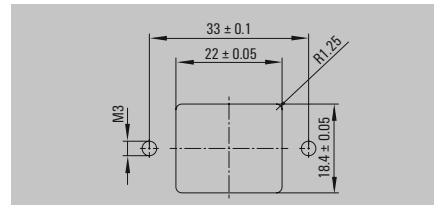
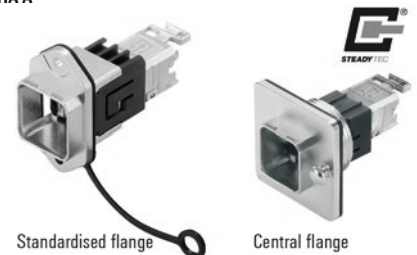
4-wire

PROFINET printing



8-wire

TIA-A



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
CULUS
Other approvals for individual parts of the set available

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51
0.48 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
CULUS
Other approvals for individual parts of the set available

Ordering data - Sets

	Standardised flange
	Central flange
Note	

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-FJ-P	10	1085260000

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-FJ-A	10	1012320000
IE-BSC-V14M-RJ45-FJ-A	10	1058270000

Ordering data - Empty housings

	Standardised flange
	Central flange
	Device flange
Note	

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000
IE-BHD-V14M	10	1047940000

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap
Protective cap

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

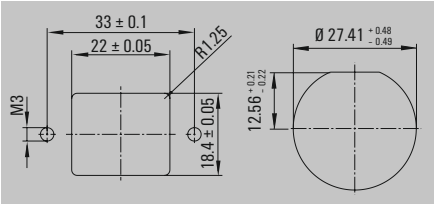
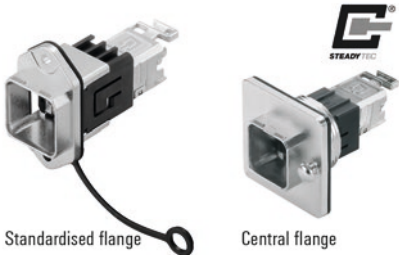
Note

Plug inserts can also be ordered separately. Refer to Inserts.
--

Plug inserts can also be ordered separately, see Inserts
--

PushPull V14 - RJ45 flange
Coupling

8-wire



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51

CULUS

Other approvals for individual parts of the set available

Ordering data - Sets

Standardised flange
Central flange

Note

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-C	10	1012310000
IE-BSC-V14M-RJ45-C	10	1058250000

Ordering data - Empty housings

Standardised flange
Central flange
Device flange

Note

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap
Protective cap

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V14 - RJ45

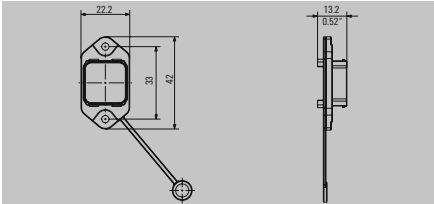
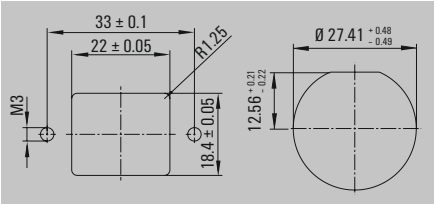
Flange-mounted empty housing /
PushPull device flange
V14

- IP 67

Empty housing



Device flange



Technical data

- Category
- Protection degree
- Housing main material
- Contact surface
- Sheath diameter, min. / max.
- Plugging cycles
- Ambient temperature (operational)
- Connector standard
- Connection diameter, flexible, min. / max.
- Connection cross-section, flexible, min. / max.
- Connection diameter, solid, min. / max.
- Connection cross-section, solid, min. / max.
- Approvals

Note

- IP67
- Zinc diecast
- 750
- 40 °C...70 °C
- IEC 61076-3-117 Var. 14

CULUS

- IP67
- Zinc diecast
- 750
- 40 °C...70 °C
- IEC 61076-3-117 Var. 14

CULUS

Ordering data

- Standardised flange
- Central flange
- Device flange

Note

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000
IE-BHC-V14M-RJA	10	1047950000

Type	Qty.	Order No.
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap

Protective cap

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

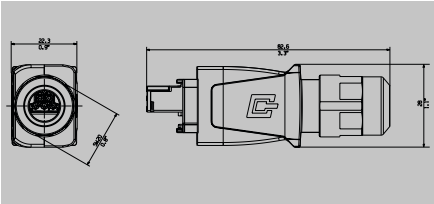
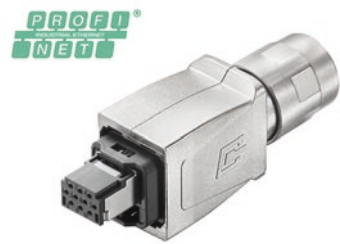
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Plug PushPull V14 - Hybrid

Hybrid



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Rated current (hybrid connector)
Volume resistance
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
500
-40 °C...70 °C
Hybrid (Q10) / Crimp
IEC 61076-3-119 CDV, IEC 61076-3-117 Var. 14
AWG 27 / AWG 20
0.08 mm² / 0.75 mm²
3 A per contact
<10 mΩ
CULUS

Other approvals for individual parts of the set available

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-PS-V14M-HYB-10P	10	1072910000
Order contacts separately		

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Accessories

Crimping contact	0.08...0.2 mm²
	0.2...0.5 mm²
	0.75 mm²
Tools	Pressing tool
Cable	Hybrid cable, 100 m
	Hybrid cable, 500 m
Dust protection cap	Protective cap
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PIC-HYB-S-0,2-300	300	1135150000
IE-PIC-HYB-S-0,5-300	300	1096180000
IE-PIC-HYB-S-0,75-300	300	1068950000
HTF HYB	1	1119580000
IE-C5DHAG-100	1	2763660000
IE-C5DHAG-500	1	2763460000
IE-PP-V14P	10	1058280000
ESG 9/11 K MC NE WS	200	1857440000

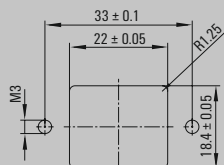
Note

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V14 - Hybrid

Flange PushPull V14 - Hybrid

Standardised flange



Technical data

Category
Protection degree
Housing main material
Seal material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Rated current (hybrid connector)
Volume resistance
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP67
Zinc diecast
EPDM
Gold over nickel
5 mm / 10 mm
500
-40 °C...70 °C
Hybrid (Q10) / Crimp
IEC 61076-3-119 CDV, IEC 61076-3-117 Var. 14
AWG 27 / AWG 20
0.08 mm ² / 0.75 mm ²
3 A per contact
<10 mΩ
CULUS

Other approvals for individual parts of the set available

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BSS-V14M-HYB-10P-FJ	10	1072900000

Order contacts separately

Ordering data - Empty housings

Note

Standardised flange

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000

Accessories

Crimping contact	
	0.08...0.2 mm ²
	0.2...0.5 mm ²
	0.75 mm ²
Tools	
	Pressing tool
Cable	
	Hybrid cable
Dust protection cap	
	Protective cap

Type	Qty.	Order No.
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB	1	1119580000
IE-C5DHAG-MW	110 M	1172250000
IE-BP-V14P	10	1058310000

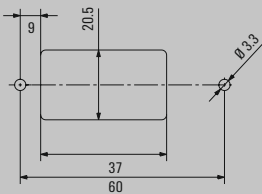
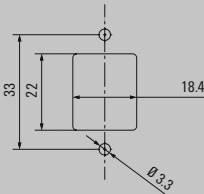
Note

Plug inserts can also be ordered separately. Refer to Inserts.

V14 flange adapter

Straight

Angled



Technical data

Protection degree
Housing main material
Seal material
Type of mounting
Ambient temperature (operational)

Note

IP67
Zinc diecast
EPDM
2 screws, M3 (not included)
-40...70 °C

IP67
Zinc diecast
EPDM
2 screws, M3 (not included)
-40...70 °C

Ordering data

Note

Type	Qty.	Order No.
IE-AD-BHS-V14M-RJA	1	1302000000

Flange and plug inserts must be ordered separately, see Inserts/Flanges

Type	Qty.	Order No.
IE-BHS-V14M-RJA-45	10	1296710000

Flange inserts must be ordered separately, see Inserts

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

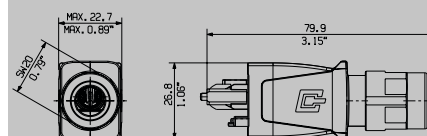
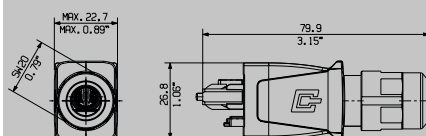
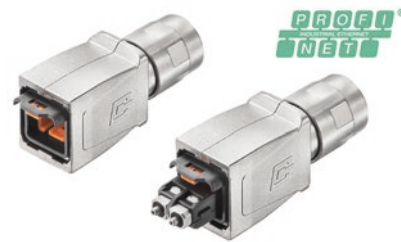
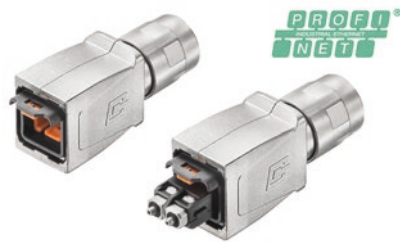
Note

PushPull V14 - F0

PushPull V14 plug - fibre-optic

Without kink prevention, crimp

Without kink prevention, reconnectable



Technical data

Protection degree
Housing main material
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

IP67
Zinc diecast
5 mm / 10 mm
750
-40...70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24
CULUS

IP67
Zinc diecast
5 mm / 10 mm
750
-40...70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24

Ordering data - Sets

POF
Note

Type	Qty.	Order No.
IE-PS-V14M-2SC-POF	10	1191550000

Type	Qty.	Order No.
IE-PS-V14M-2SC-POF-QA	10	2568260000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-F0	10	1058100000

Type	Qty.	Order No.
IE-PH-V14M-F0	10	1058100000

Accessories

Inserts	POF
Dust protection cap	Protective cap
Tools	Tool set POF, crimp Mounting tool, POF MULTI-STRIPAX IE-POF Cevlar scissors
Replacement ferrule	
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PI-SCRJ-POF	10	1067410000
IE-PP-V14P	10	1058280000
TOOL SET IE-POF	1	1208930000
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000
IE-SCRJ-IP67-POF-100	100	1278430000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PI-SCRJ-POF-QA	10	2564960000
IE-PP-V14P	10	1058280000
HTX-IE-POF-QA	1	2602860000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000
ESG 9/11 K MC NE WS	200	1857440000

Note

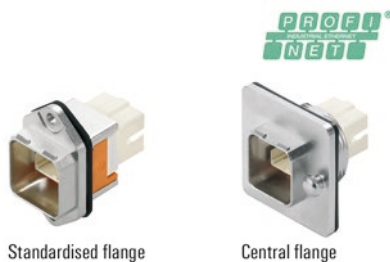
Plug inserts can also be ordered separately, see Inserts
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Flange PushPull V14 - fibre-optic

SC-RJ

LC Duplex coupling



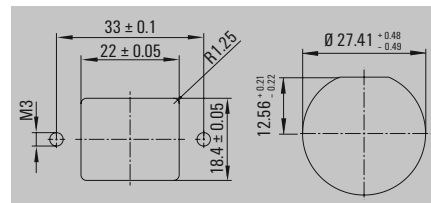
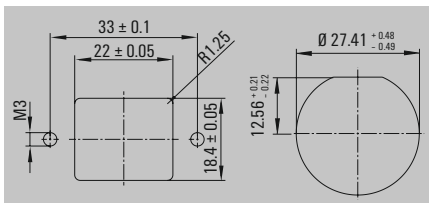
Standardised flange

Central flange



Standardised flange

Central flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Insertion loss
Connector standard
Approvals

Note

IP67
Zinc diecast
500
-40 °C...70 °C
≤ 0.5 dB
IEC 61076-3-117 Var. 14, IEC 61754-24
CULUS

IP67
Zinc diecast
500
-40 °C...70 °C
≤ 0.4 dB
IEC 61076-3-117 Var. 14, IEC 61754-20

Ordering data - Sets

Central flange Singlemode
Standardised flange Singlemode
Central flange Multimode/POF
Standardised flange Multimode/POF

Note

Type	Qty.	Order No.
IE-BSC-V14M-SCRJ-SM-C	10	1062600000
IE-BSS-V14M-SCRJ-SM-C	10	1058140000
IE-BSC-V14M-SCRJ-MM-C	10	1062590000
IE-BSS-V14M-SCRJ-MM-C	10	1058120000

Type	Qty.	Order No.
IE-BSC-V14M-LCD-SM-C	10	1062620000
IE-BSS-V14M-LCD-SM-C	10	1058150000
IE-BSC-V14M-LCD-MM-C	10	1062610000
IE-BSS-V14M-LCD-MM-C	10	1058130000

Ordering data - Empty housings

Device flange

Note

Type	Qty.	Order No.
IE-BHD-V14M	10	1047940000

Type	Qty.	Order No.
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap

Protective cap

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

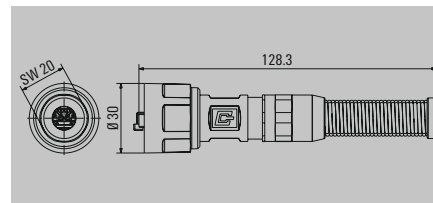
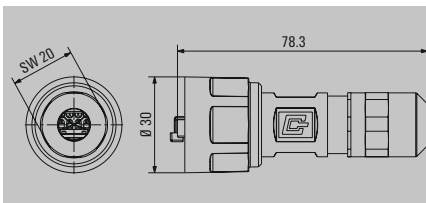
Plug inserts can also be ordered separately. Refer to Inserts.

Bayonet V1 Metal - RJ45

Plug bayonet V1 Metal - RJ45

Without kink prevention

With kink prevention



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Connector standard
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET
RJ45 Crimp. AWG 27-24

Note

Type	Qty.	Order No.
IE-PS-V01M-RJ45-FH	10	1963120000
IE-PS-V01M-RJ45-TH	10	1963140000

Type	Qty.	Order No.
IE-PS-V01M-RJ45-FH-BP	10	1963130000
IE-PS-V01M-RJ45-TH-BP	10	1963150000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V01M	10	1962550000

Type	Qty.	Order No.
IE-PH-V01M-BP	10	1962560000

Accessories

Dust protection cap	Plug housing protective cap
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 Metal - RJ45

Module

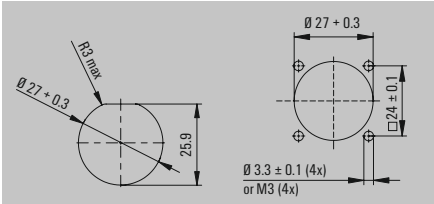
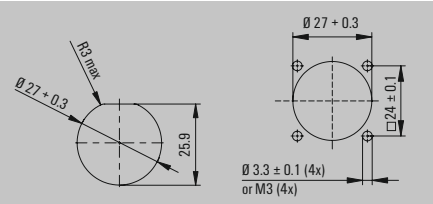
TIA-A



Coupling



IP67 plug-in connectors



Technical data

Category
Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP67
Zinc diecast
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51

Note

CULUS

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BS-V01M-RJ45-FJ-A	10	1963480000

Type	Qty.	Order No.
IE-BS-V01M-RJ45-C	10	1963470000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V01M	10	1963540000

Type	Qty.	Order No.
IE-BH-V01M	10	1963540000

Accessories

Dust protection cap
Flange-mounted housing protective cap

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

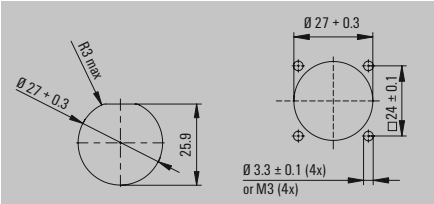
Plug inserts can also be ordered separately. Refer to Inserts.

N

Bayonet V1 Metal-F0

Flange bayonet V1 metal - fibre-optic-SC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

Note

IP67
Zinc diecast
500
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 61754-24

Ordering data - Sets

Singlemode
Multimode/POF

Note

Type	Qty.	Order No.
IE-BS-V01M-SCRJ-SM	10	1221020000
IE-BS-V01M-SCRJ-MM	10	1221010000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BHD-V01M-SCA	10	1221030000

Accessories

Dust protection cap

Flange-mounted housing protective cap

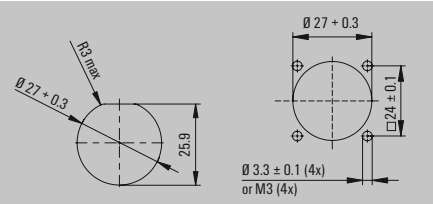
Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 metal -
fibre-optic-LC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP67
Zinc diecast
500
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 61754-20

Note

Ordering data - Sets

Singlemode
Multimode

Note

Type	Qty.	Order No.
IE-BS-V01M-LCD-SM-C	10	1963430000
IE-BS-V01M-LCD-MM-C	10	1964440000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V01M	10	1963540000

Accessories

Dust protection cap
Flange-mounted housing protective cap

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Bayonet V1 Plastic - RJ45

Plug bayonet V1 Plastic - RJ45

Without kink prevention



With kink prevention



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Connector standard
Approvals
Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET	
RJ45 Crimp. AWG 27-24	
Note	

Type	Qty.	Order No.
IE-PS-V01P-RJ45-FH	10	1012490000
IE-PS-V01P-RJ45-TH	10	1012470000

Type	Qty.	Order No.
IE-PS-V01P-RJ45-FH-BP	10	1012570000
IE-PS-V01P-RJ45-TH-BP	10	1012560000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V01P	10	1012440000

Type	Qty.	Order No.
IE-PH-V01P-BP	10	1012460000

Accessories

Dust protection cap	Plug housing protective cap
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.
--

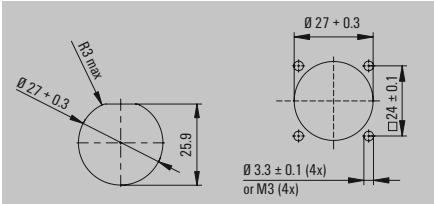
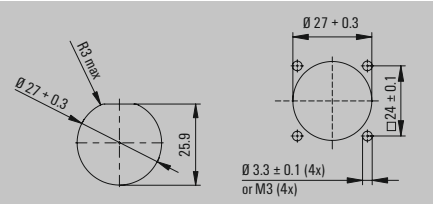
Plug inserts can also be ordered separately. Refer to Inserts.
--

Flange bayonet V1 Plastic - RJ45

Module

Coupling

TIA-A



Technical data

Category
Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51

Note

CULUS

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BS-V01P-RJ45-FJ-A	10	1012380000

Type	Qty.	Order No.
IE-BS-V01P-RJ45-C	10	1012370000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V01P	10	1016960000

Type	Qty.	Order No.
IE-BH-V01P	10	1016960000

Accessories

Dust protection cap
Flange-mounted housing protective cap

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000

Note

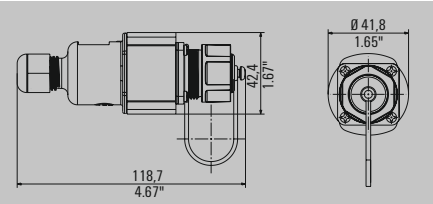
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Bayonet V1 Plastic - RJ45

Cable coupling bayonet V1
Plastic - RJ45

Cable coupling



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1
6 mm / 9.5 mm

Note

Ordering data

Variant 1
Cable coupling
Note

Type	Qty.	Order No.
IE-CC-V01P	10	1061820000
RJ45 modules can be ordered separately		

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

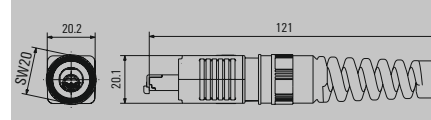
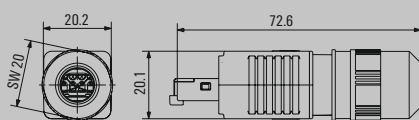
Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Note

Plug PushPull V4 - RJ45

Without kink prevention

With kink prevention



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Connector standard
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 27/7 / AWG 24/7
0.46 mm / 0.61 mm
AWG 26/1 / AWG 24/1
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
AWG 27/7 / AWG 24/7
0.46 mm / 0.61 mm
AWG 26/1 / AWG 24/1
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET
RJ45 without tools. AWG 26-22. TIA-B
RJ45 Crimp. AWG 27-24

Note

Type	Qty.	Order No.
IE-PS-V04P-RJ45-FH	10	1963160000
IE-PS-V04P-RJ45-FH-B	10	1271240000
IE-PS-V04P-RJ45-TH	10	1963180000

Type	Qty.	Order No.
IE-PS-V04P-RJ45-FH-BP	10	1963170000
IE-PS-V04P-RJ45-TH-BP	10	1963190000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V04P	10	1962520000

Type	Qty.	Order No.
IE-PH-V04P-BP	10	1962530000

Accessories

Dust protection cap	Plug housing protective cap
Marking tags	MultiCard, white

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000
ESG 9/11 K MC NE WS	200	1857440000

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

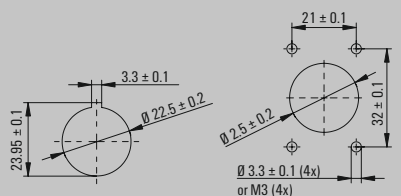
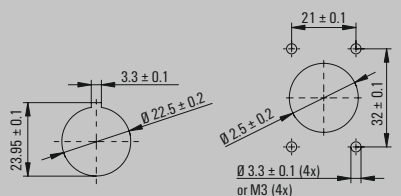
Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V4 - RJ45

Flange PushPull V4 - RJ45

Module

Coupling



Technical data

Category
Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals
Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS
Other approvals for individual parts of the set available

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
PA UL 94 V0
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS

Ordering data - Sets

	RJ45 module TIA-A
	RJ45 module TIA-B
	Coupling
Note	

Type	Qty.	Order No.
IE-BS-V04P-RJ45-FJ-A	10	1963500000
IE-BS-V04P-RJ45-FJ-B	10	1963730000

Type	Qty.	Order No.
IE-BS-V04P-RJ45-C	10	1963490000

Ordering data - Empty housings

	Empty enclosure
	Device flange
Note	

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000
IE-BHD-V04P	200	2027660000

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000
IE-BHD-V04P	200	2027660000

Accessories

Dust protection cap	Flange-mounted housing protective cap
Marking tags	MultiCard, white
Fixing tool	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

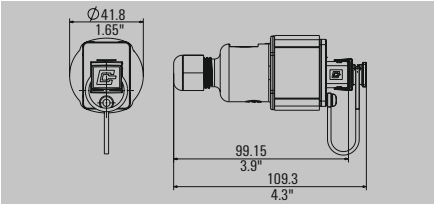
Note

Plug inserts can also be ordered separately. Refer to Inserts.
--

Plug inserts can also be ordered separately. Refer to Inserts.
--

Cable coupling PushPull V4 - RJ45

Cable coupling



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4
6 mm / 9.5 mm

Note

Ordering data

	Cable coupling
Note	

Type	Qty.	Order No.
IE-CC-V04P	10	1045960000
RJ45 modules can be ordered separately		

Accessories

Inserts, Data	
RJ45 module EIA/TIA T568 B	
RJ45 module PROFINET	
RJ45 module EIA/TIA T568 A	
Marking tags	
MultiCard, white	

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000
ESG 9/11 K MC NE WS	200	1857440000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V4 - RJ45

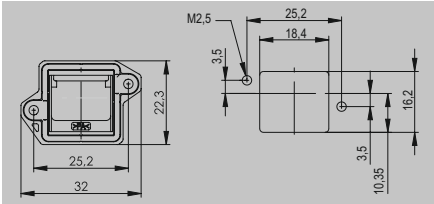
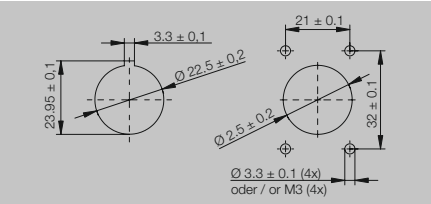
Flange-mounted empty housing / PushPull V4 device flange

- IP 67

Empty housing



Device flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals

Note

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 4
5 mm / 10 mm
CULUS

IP67
PA UL 94 V0
-40 °C...70 °C
IEC 61076-3-106 Var. 4
CULUS

Ordering data

Empty enclosure
Device flange

Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Type	Qty.	Order No.
IE-BHD-V04P	200	2027660000

Accessories

Dust protection cap	Flange-mounted housing protective cap
Marking tags	MultiCard, white
Fixing tool	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

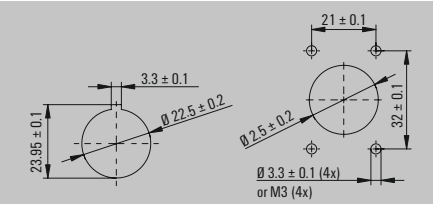
Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Flange PushPull V4 - fibre-optic-SC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

Note

IP67
PA UL 94 V0
500
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 61754-4, IEC 61754-24

Ordering data - Sets

Singlemode
Multimode

Note

Type	Qty.	Order No.
IE-BS-V04P-SCRJ2SC-SM-C	10	1963420000
IE-BS-V04P-SCRJ2SC-MM-C	10	1964470000

Ordering data - Empty housings

Empty enclosure

Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Accessories

Dust protection cap	Flange-mounted housing protective cap
Marking tags	MultiCard, white
Fixing tool	

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

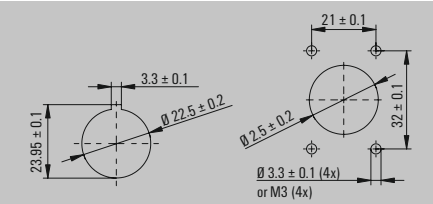
Note

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V4 - F0

Flange PushPull V4 - fibre-optic-LC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

Note

IP67
PA UL 94 V0
500
-40 °C...70 °C
IEC 61076-3-106 Var. 4, IEC 61754-20

Ordering data - Sets

Singlemode
Multimode

Note

Type	Qty.	Order No.
IE-BS-V04P-LCD-SM-C	10	1963450000
IE-BS-V04P-LCD-MM-C	10	1964460000

Ordering data - Empty housings

Empty enclosure

Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Accessories

Dust protection cap
Flange-mounted housing protective cap
Marking tags
MultiCard, white
Fixing tool

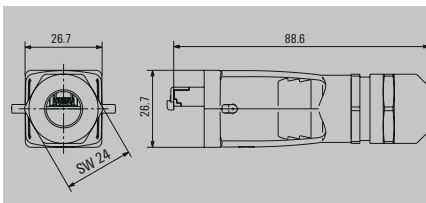
Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
ESG 9/11 K MC NE WS	200	1857440000
IE-FISP-V4	2	9204370000

Note

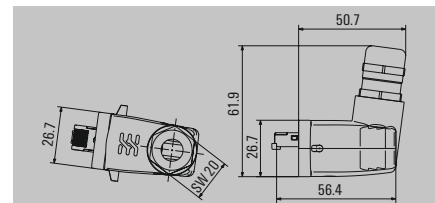
Plug inserts can also be ordered separately. Refer to Inserts.

RockStar® heavy-duty connector plug V5 - RJ45

Straight V5 - RJ45 plug



V5-RJ45 plug, angled



Technical data

Category
Protection degree
Housing main material
Contact surface
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals
Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
diecast aluminium
Gold over nickel
5 mm / 12 mm
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
CULUS

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
diecast aluminium
Gold over nickel
5 mm / 10 mm
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
EAC
Other approvals for individual parts of the set available

Ordering data - Sets

RJ45 without tools. AWG 26-22. TIA-A/B-PROFINET
RJ45 without tools. AWG 26-22. TIA-B
RJ45 Crimp. AWG 27-24
Note

Type	Qty.	Order No.
IE-PS-V05M-RJ45-FH	10	1963200000
IE-PS-V05M-RJ45-FH-B	10	1271250000
IE-PS-V05M-RJ45-TH	10	1963110000

Type	Qty.	Order No.
IE-PS-V05M-A-RJ45-FH	10	1077300000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V05M	10	1962540000

Type	Qty.	Order No.
------	------	-----------

Accessories

Dust protection cap
Plug housing protective cap
Spare insert holder

Type	Qty.	Order No.
IE-PP-V05M	1	1968920000
IE-PH-AD-V05M-RJ45	1	1993540000

Type	Qty.	Order No.
IE-PP-V05M	1	1968920000

Note

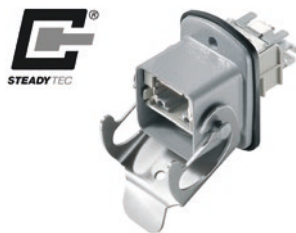
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

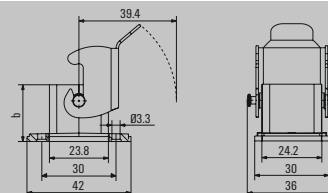
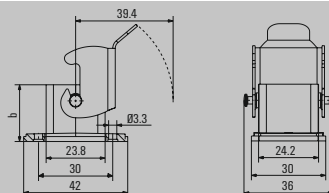
RockStar® V5 - RJ45

RockStar® heavy-duty connector flange
V5 - RJ45

Module



Coupling



Technical data

Protection degree
Housing main material
Contact surface
Plugging cycles
Ambient temperature (operational)
Connector standard
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Approvals

Note

IP67
diecast aluminium
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
CULUS

IP67
diecast aluminium
Gold over nickel
750
-40 °C...70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51

CULUS

Ordering data - Sets

TIA-A Cat. 6 _A
PROFINET Cat. 5
Coupling

Note

Type	Qty.	Order No.
IE-BS-V05M-RJ45-FJ-A	10	1963460000
IE-BS-V05M-RJ45-FJ-P	10	1963700000

Type	Qty.	Order No.
IE-BS-V05M-RJ45-C	10	1963510000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V05M	10	1963530000

Type	Qty.	Order No.
IE-BH-V05M	10	1963530000

Accessories

Dust protection cap	Flange-mounted housing protective cap
---------------------	---------------------------------------

Type	Qty.	Order No.
IE-BP-V05M	10	1968930000

Type	Qty.	Order No.
IE-BP-V05M	10	1968930000

Note

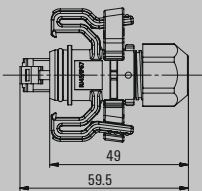
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Plug SnapIn V6 - RJ45

- Cat. 6
- IP 67

Without kink prevention



Technical data

Category
Protection degree
Shielding
Housing main material
Contact surface
Colour
Plugging cycles
Wiring
Type of mounting
Ambient temperature (operational)
Connector standard
Approvals

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
360° shield contact
PA 66, UL 94: V-0
Gold over nickel
Light Grey
750
EIA/TIA T568 A
Floor-mounted, for exposed connections, Wall mounting
-40 °C...70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
DNVGL

Note

Ordering data

Note

Accessories

Plug-in connector

Type	Qty.	Order No.
IE-P-IP67	1	8808380000

Type	Qty.	Order No.
IE-PM-RJ45-TH	100	1963580000

Note

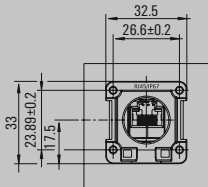
See also the "Accessories" chapter.

SnapIn V6 - RJ45

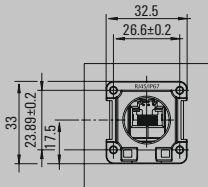
Flange SnapIn V6 - RJ45

- Cat. 6
- IP 67

Module



Coupling



Technical data

Category
Protection degree
Shielding
Housing main material
Contact surface
Colour
Plugging cycles
Type of mounting
Wiring

Ambient temperature (operational)
Connector standard
Approvals

Note

Cat.6 (ISO/IEC 11801)
IP67
360° shield contact
PA 66, UL 94: V-0
Gold over nickel
Light Grey
750
Cabinet, Distribution box
Colour-coded pin assignment according to EIA/TIA T568 A., EIA/TIA T568 B

-40 °C...70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
DNVGL

Cat.6 (ISO/IEC 11801)
IP67
360° shield contact
PA 66, UL 94: V-0
Gold over nickel
Light Grey
750
Cabinet, Distribution box

-40 °C...70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
DNVGL

Ordering data

straight
angled. upwards
angled. downwards

Note

Type	Qty.	Order No.
IE-XM-RJ45/IDC-IP67	1	8808440000

Type	Qty.	Order No.
IE-XM-RJ45/RJ45-IP67	1	8808450000
IE-XM-6U-RJ45/RJ45-IP67	1	8829440000
IE-XM-6D-RJ45/RJ45-IP67	1	8829450000

Accessories

Flange insert
RJ45 module A. straight
RJ45 coupling. straight

Type	Qty.	Order No.
IE-XRJ45/IDC	1	8808330000

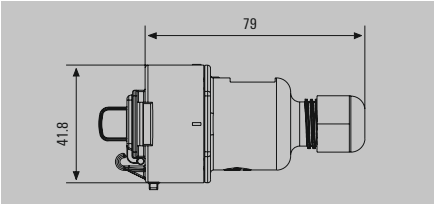
Type	Qty.	Order No.
IE-XR-RJ45/RJ45-2	24	8952950000

Note

Cable coupling SnapIn V6 - RJ45

- Cat. 6
- IP 67

Cable coupling



Technical data

Category
Protection degree
Shielding
Housing main material
Contact surface
Colour
Plugging cycles
Type of mounting
Wiring

Ambient temperature (operational)
Connector standard
Sheath diameter, min. / max.
Approvals

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP67
360° shield contact
PA 66, UL 94: V-0
Gold over nickel
Light Grey
750
Floor-mounted, for exposed connections, Wall mounting
Colour-coded pin assignment according to
EIA/TIA T568 A., EIA/TIA T568 B
-40 °C...70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
6 mm / 9.5 mm
DNVGL

Note

Ordering data

Cable coupling

Note

Type	Qty.	Order No.
IE-C-IP67	1	8813090000

Accessories

Type	Qty.	Order No.
------	------	-----------

Note

See also the "Accessories" chapter.

M8 Single Pair Ethernet

Single Pair Ethernet, M8 empty housing

Technical data	
Category	
Ambient temperature (operational)	
Protection degree	
Housing main material	
Seal material	
Configuration	
Type of mounting	
Connection thread	
Connector standard	
Tightening torque fixing nut	
Note	

Ordering data

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-FP	10	2726020000
Inserts must be ordered separately.		

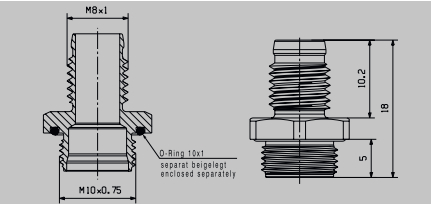
Accessories

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

Fastening nut

Note

M8 front wall mounting



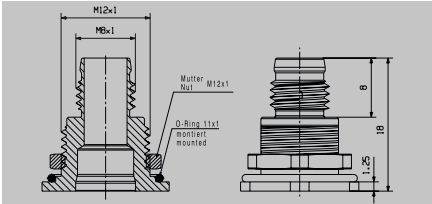
Technical data	
Category	
Ambient temperature (operational)	
Protection degree	
Housing main material	
Seal material	
Configuration	
Type of mounting	
Connection thread	
Connector standard	
Tightening torque fixing nut	
Note	

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-FP	10	2726020000
Inserts must be ordered separately.		

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

Note

M8 rear wall mounting



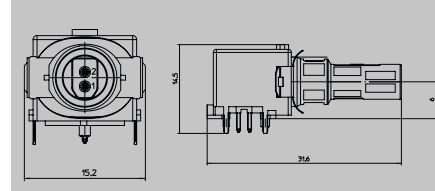
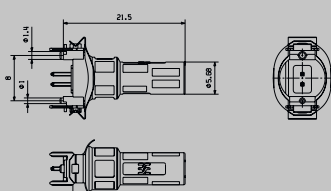
Technical data	
Category	
Ambient temperature (operational)	
Protection degree	
Housing main material	
Seal material	
Configuration	
Type of mounting	
Connection thread	
Connector standard	
Tightening torque fixing nut	
Note	

Type	Qty.	Order No.
IE-BHD-SPE-M8-OT-BP	20	2726030000
Inserts must be ordered separately.		

Type	Qty.	Order No.
IE-BHD-SPE-FP-CN-M10X0.75	10	2739640000

Note

M8 insert 90° pin contacts



Preliminary technical data!

T1-B
-40...85 °C
2
M8
2
Solder connection, Male contact
90°
Copper alloy
Ni/Au
LCP
≤ 50 V AC, ≤ 60 V DC
≥ 500 MΩ
1000 V DC
2250 V DC
IEC 63171-5
V-0

Type	Qty.	Order No.
IE-PCB-SPM-P-90-THR	100	2795100000

Type	Qty.	Order No.

M12 D-coded

M12 plug,
Tension-clamp connection,
D-coded



Ordering data

Male	4-pole. PG 9
Female	4-pole. PG 9
Note	

Technical data

Type of connection
Housing main material
Ambient temperature (operational)
Connector standard
Connection thread
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface
Note

SAISM / SAIBM

Straight



Type	Qty.	Order No.
SAISM-4/8S-M12 4P D-ZF	1	1892120001
SAIBM-4/8S-M12 4P D-ZF	1	1892130001

Tension-clamp connection
CuZn
-40 °C...
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm² / 0.5 mm²
4
250
-40 ... +85 °C
IP67
Gold-plated

SAISW / SAIBW

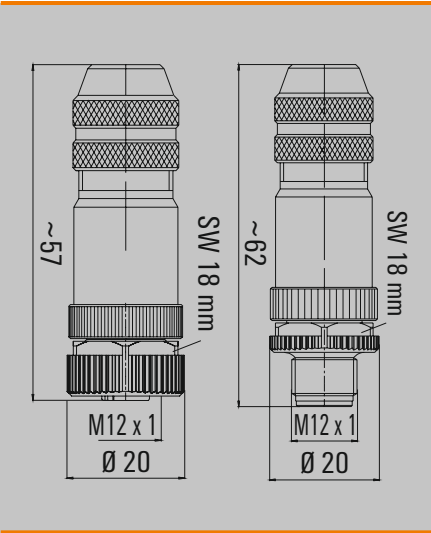
angled



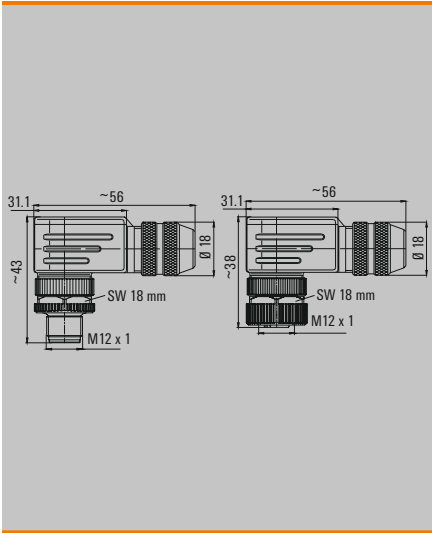
Type	Qty.	Order No.
SAISW-4/8S-M12 4P D-ZF	1	1803930001
SAIBW-4/8S-M12 4P D-ZF	1	1139330000

Tension-clamp connection
CuZn
-40 °C...
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm² / 0.5 mm²
4
250
-40 ... +85 °C
IP67
Gold-plated

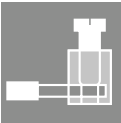
Dimensioned drawing



Dimensioned drawing



M12 plug,
Screw connection,
D-coded



SAISM / SAIBM

Straight



Ordering data

Male	4-pole. PG 9
Female	4-pole. PG 9
Note	

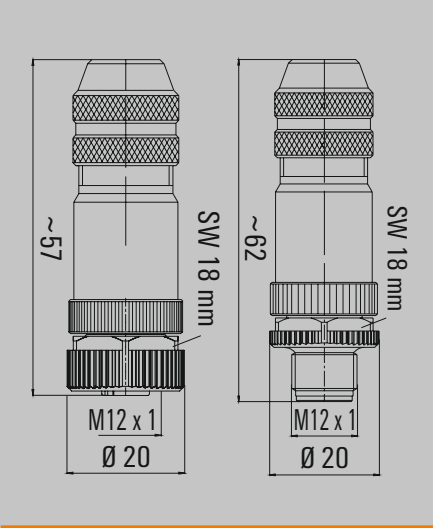
Type	Qty.	Order No.
SAISM-4/8S-M12-4P D-COD	1	1892120000
SAIBM-4/8S-M12-4P D-COD	1	1892130000

Technical data

Type of connection
Housing main material
Ambient temperature (operational)
Connector standard
Connection thread
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface
Note

Screw connection
CuZn
-40 °C...85 °C
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm² / 0.75 mm²
4
250
-40 ... +85 °C
IP67
Gold-plated

Dimensioned drawing



M12 D-coded

PUSH IN M12
with shield connection
D coded



Ordering data

Male	D-coded, 4-pole
Female	D-coded, 4-pole
Note	

Technical data

Type of connection	PUSH IN
Housing main material	PA 66
Connection thread	M12
Cable diameter	4...8 mm
Conductor cross-section min. / max.	0.14...0.75 mm²
Rated current	4 A
Rated voltage	250 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Ni/Au
Note	

SAISP / SAIBP

Straight



Type	Qty.	Order No.
SAISP-M-4D-4/8-M12	1	2681680000
SAIBP-M-4D-4/8-M12	1	2681700000
Other versions on request		

Type of connection	PUSH IN
Housing main material	PA 66
Connection thread	M12
Cable diameter	4...8 mm
Conductor cross-section min. / max.	0.14...0.75 mm²
Rated current	4 A
Rated voltage	250 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Ni/Au
Note	

SAISWP / SAIBWP

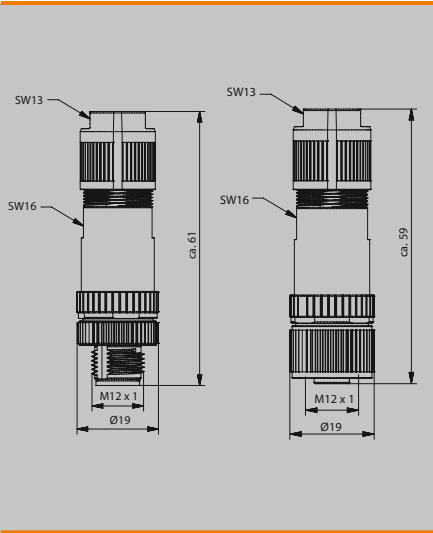
Angled



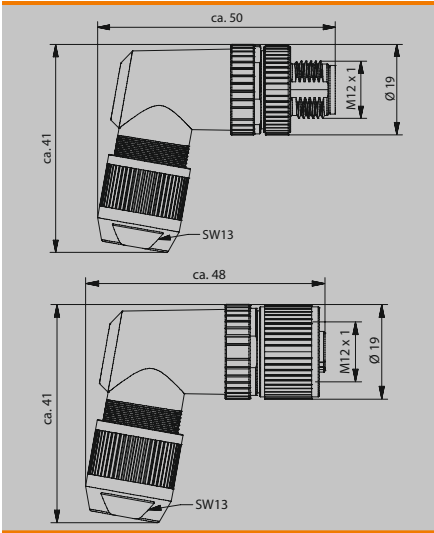
Type	Qty.	Order No.
SAISWP-M-4D-4/8-M12	1	2681690000
SAIBWP-M-4D-4/8-M12	1	2681710000
Other versions on request		

Type of connection	PUSH IN
Housing main material	PA 66
Connection thread	M12
Cable diameter	4...8 mm
Conductor cross-section min. / max.	0.14...0.75 mm²
Rated current	4 A
Rated voltage	250 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Ni/Au
Note	

Dimensioned drawing



Dimensioned drawing



Crimp connection M12
with shield connection
D-coded



SAISC / SAIBC

straight



SAISC / SAIBC

Panel feed-through



Ordering data

Male	4-pole
Female	4-pole
Note	

Type	Qty.	Order No.
SAISC-D-18/28-4/9CG	1	2664810000
SAIBC-D-18/28-4/9CG	1	2672420000

Type	Qty.	Order No.
SAISC-WDF-D-18/28-4/9CG	1	2664790000
SAIBC-WDF-D-18/28-4/9CG	1	2664780000

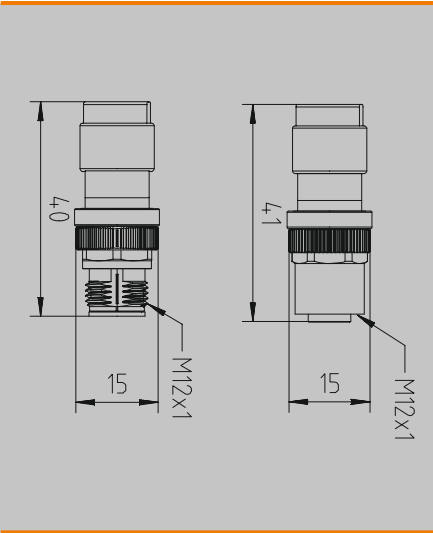
Technical data

Type of connection
Housing main material
Connection thread
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface
Note

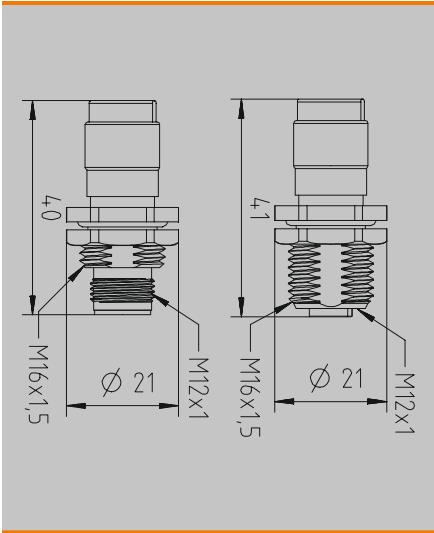
Crimp connection
CuZn
M12
4...9 mm
0.08...0.75 mm ²
4 A
50 V
-40 ... +85 °C
IP67
Gold-plated

Crimp connection
CuZn
M12
4...9 mm
0.08...0.75 mm ²
4 A
50 V
-40 ... +85 °C
IP67
Gold-plated

Dimensioned drawing



Dimensioned drawing



M12 D-coded

Crimp connection M12
with shield connection
D-coded



SAISC / SAIBC

angled



Ordering data

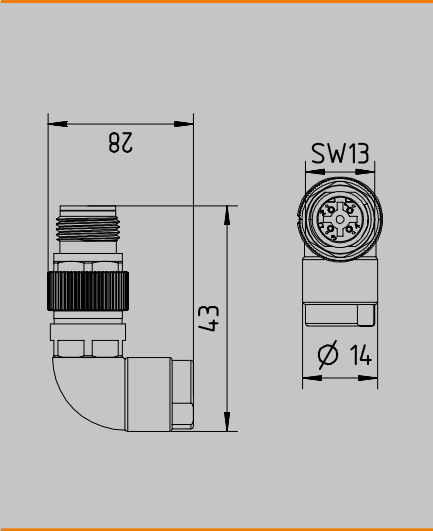
Male	4-pole
Female	4-pole
Note	

Type	Qty.	Order No.
SAISWC-D-18/28-4/9CG	1	2702690000
SAIBWC-D-18/28-4/9CG	1	2702700000

Technical data

Type of connection	Crimp connection
Housing main material	CuZn
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.08...0.75 mm²
Rated current	4 A
Rated voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	

Dimensioned drawing



Crimp contact M12

**SAI - KSC / KBC**

straight



Ordering data

Male	AWG 18-20
	AWG 20-22
	AWG 22-24
	AWG 26-28
Female	AWG 18-20
	AWG 20-22
	AWG 22-24
	AWG 26-28
Note	

Type	Qty.	Order No.
SAI-M12-KSC-18/20	100	2664840000
SAI-M12-KSC-20/22	100	2664850000
SAI-M12-KSC-22/24	100	2673710000
SAI-M12-KSC-26/28	100	2673720000
SAI-M12-KBC-18/20	100	2664860000
SAI-M12-KBC-20/22	100	2664870000
SAI-M12-KBC-22/24	100	2673730000
SAI-M12-KBC-26/28	100	2673740000

Technical data

Type of connection
Housing main material
Connection thread
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface
Note

7 A

Gold-plated

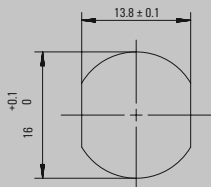
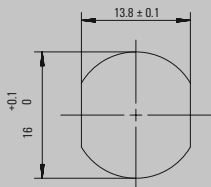
M12 D-coded

Adapter / coupling M12

- Cat. 5
 - IP67
 - D-coding

Adapter M12-RJ45, female

Adapter M12-RJ45, male



Technical data

Category
Protection degree
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP67
PA 66
Yes
-25 °C...80 °C
IEC 60603-7-5, IEC 61076-2-101
CULUS

Cat.5 (ISO/IEC 11801)
IP67
PA 66
Yes
-25 °C...80 °C
IEC 60603-7-5, IEC 61076-2-101
CULUS

Ordering data

Adaptor	
	straight
	angled

Coupling

Note

Type	Qty.	Order No.
IE-M12-ADAP S	1	8901620000
IE-M12-ADAP A	1	8901630000

Type	Qty.	Order No.
IE-AD-M12DRJ45-MF-180	1	1514970000
IE-AD-M12DRJ45-MF-90	1	1514940000

Accessories

Type	Qty.	Order No.
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Type	Qty.	Order No.
------	------	-----------

Note

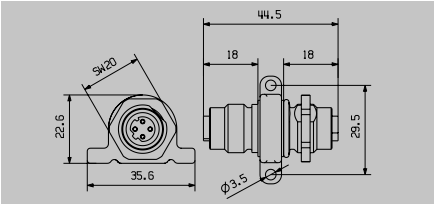
Type	Qty.	Order No.
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Type	Qty.	Order No.
------	------	-----------

Adapter / coupling M12

- Cat. 5
 - IP67
 - D-coding

Coupling M12-M12



Technical data

Category
Protection degree
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals
Note

Cat.5 (ISO/IEC 11801)
IP67
Polyamide, Brass, nickel-plated
360° shield contact
-5 °C...60 °C
IEC 61076-2-101
EAC

Ordering data

Adaptor	straight
	angled
Coupling	
Note	

Type	Qty.	Order No.
IE-M12-COUP	1	8901640000

Accessories

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Type	Qty.	Order No.

Note

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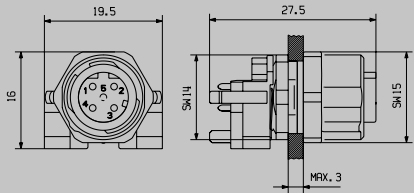
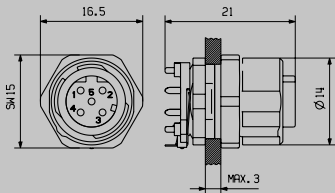
M12 D-coded

M12 PCB connection element

- Cat. 5
- For installation into the end device
- D-coded

Standard assembly

Additional fastening mechanism



Technical data

Category
Protection degree
Configuration
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP65 in acc. with DIN EN 60529
Reflow compatible
CuZn, Polyamide, nickel-plated
360° shield contact
-25...85 °C
IEC 61076-2-101
EAC

Cat.5 (ISO/IEC 11801)
IP65 in acc. with DIN EN 60529
Reflow compatible
CuZn, Polyamide, nickel-plated
360° shield contact
-25...85 °C
IEC 61076-2-101
EAC

Ordering data

Connection element

straight
angled

Note

Type	Qty.	Order No.
IE-M12-PCBCE	60	8902810000

Type	Qty.	Order No.
IE-M12-PCBCE-PANEL	10	8902820000
IE-M12-PCBCE-PANEL-A	10	1393470000

Accessories

Type	Qty.	Order No.

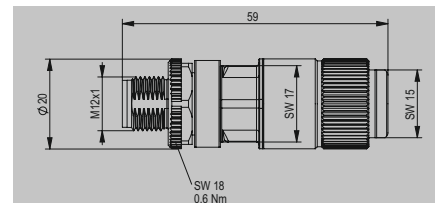
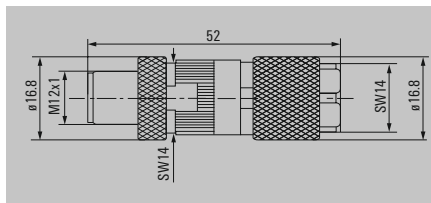
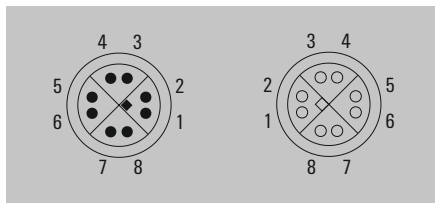
Type	Qty.	Order No.

Note

M12 plug M12 X-type Cat. 6_A

Plug, AWG 26-22

Plug, AWG 27-22



Technical data

Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Protection degree	IP67
Connection 1 / 2	M12 / Insulation displacement technology
Housing main material	Zinc diecast
Connection thread	M12
Contact material / Contact surface	Brass / Gold-plated
Ambient temperature (operational)	-40 °C...85 °C
Connector standard	IEC 61076-2-109
Current-carrying capacity at 50 °C	0.5 A @ 40 °C
Rated voltage	48 V
Insulation strength	100 MΩ
Plugging cycles	≥ 100
Configuration	
Wall thickness, min. / max.	
Shielding	360° all-round enclosure
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm
Connection cross-section, flexible, min. / max.	AWG 26/7 / AWG 22/7
Connection diameter, solid, min. / max.	0.41 mm / 0.64 mm
Connection cross-section, solid, min. / max.	AWG 26/1 / AWG 22/1
Insulation cross-section, max.	1.6 mm
Sheath diameter min. / max.	5 mm / 9.7 mm
Approvals	CULUS
Note	

Ordering data

Type	Qty.	Order No.
IE-PS-M12X-P-FH	10	1324020000
Note		

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.
IE-PS-M12X-P-FH	10	1324020000
Note		

Type	Qty.	Order No.

Type	Qty.	Order No.
IE-PS-M12X-P-AWG22/27FH	1	2007500000
Note		

Type	Qty.	Order No.

Note

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M12 X-Type

M12 plug / flange

M12 X-type Cat. 6_A

Plug, female



Flange



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Connection thread
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity at 50 °C
Rated voltage
Insulation strength
Plugging cycles
Configuration
Wall thickness, min. / max.
Shielding
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Insulation cross-section, max.
Sheath diameter min. / max.
Approvals
Note

Ordering data

	Plugs
Note	

Accessories

Tools	
	Tool set
	Tool set with torque function
	Cable gland tool, M 12
	Cable gland tool with torque function, M 12

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
M12 / Insulation displacement technology
Zinc diecast
M12
Brass / Gold-plated
-40 °C...85 °C
IEC 61076-2-109
0.5 A @ 40 °C
48 V
100 MΩ
≥ 100
360° all-round enclosure
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
1.6 mm
5 mm / 9.7 mm
CULUS

Type	Qty.	Order No.
IE-PS-M12X-S-FH	1	1516330000

Type	Qty.	Order No.
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY- M12 F	1	1900020000
SCREWTY-M12 F-DM	1	1900021000

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
M12 / Insulation displacement technology
Zinc diecast
M12
CuZn / Gold-plated
-40 °C...85 °C
IEC 61076-2-109
0.5 A @ 40 °C
48 V
100 MΩ
≥ 100
0.9 mm / 4 mm
360° all-round enclosure
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
1.6 mm
5 mm / 9.7 mm
CULUS

Type	Qty.	Order No.
IE-BS-M12X-S-FH	1	1516340000

Type	Qty.	Order No.
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY- M12 F	1	1900020000
SCREWTY-M12 F-DM	1	1900021000

Note

Crimp connection M12
with shield connection
X-Type



SAISC / SAIBC

angled



SAISC / SAIBC

straight



Ordering data

Male	8-pole
Female	8-pole
Note	

Type	Qty.	Order No.
IE-PS-M12X-180-P-TH	1	2664820000
IE-PS-M12X-180-S-TH	1	2672440000

Type	Qty.	Order No.
IE-PS-M12X-90-P-TH	1	2702710000
IE-PS-M12X-90-S-TH	1	2702720000

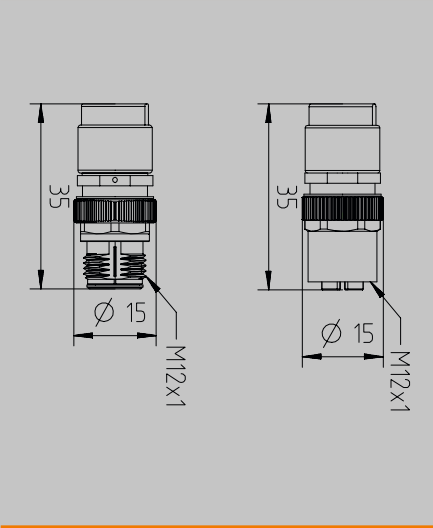
Technical data

Type of connection
Housing main material
Connection thread
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface
Note

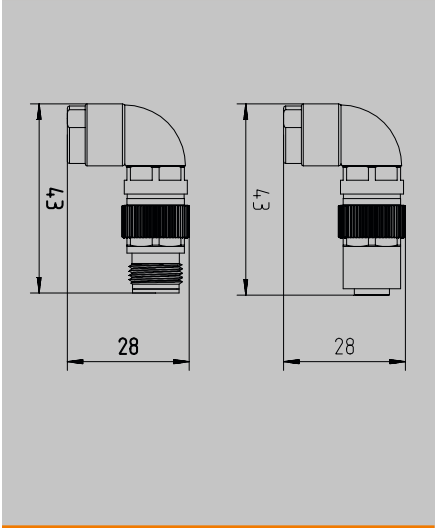
Crimp connection
CuZn
M12
4...9 mm
0.14...0.34 mm ²
4 A
50 V
-40 ... +85 °C
IP67
Gold-plated

Crimp connection
Cu alloy Ni plated
M12
4...9 mm
0.14...0.34 mm ²
2 A
30 V
-40 ... +85 °C
IP67
Gold-plated

Dimensioned drawing



Dimensioned drawing



M12 X-Type

Crimp connection M12
with shield connection
X-Type

SAISC / SAIBC

Panel feed-through, straight



SAISC / SAIBC

Panel feed-through, angled



Ordering data

Male	8-pole, Back panel mounting
Female	8-pole, Back panel mounting
Note	

Type	Qty.	Order No.
IE-BS-M12X-180-P-TH	1	2747880000
IE-BS-M12X-180-S-TH		2747900000

Type	Qty.	Order No.
IE-BS-M12X-90-P-TH	1	2747910000
IE-BS-M12X-90-S-TH		2747920000

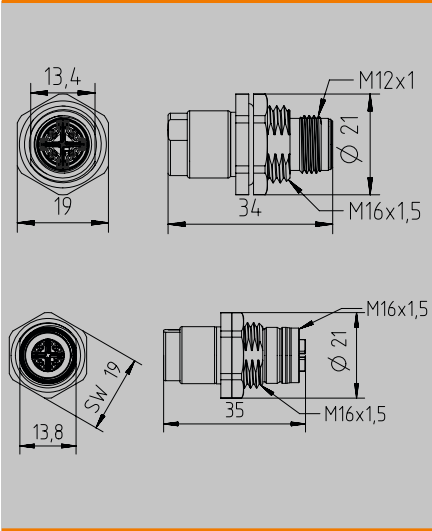
Technical data

Type of connection	Crimp connection
Housing main material	CuZn
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.14...0.34 mm²
Rated current	4 A
Rated voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	

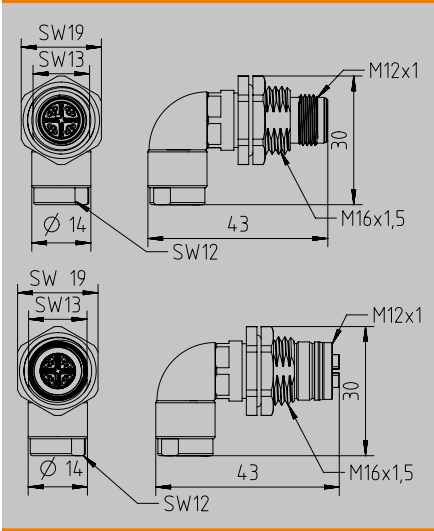
Type of connection	Crimp connection
Housing main material	CuZn
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.14...0.34 mm²
Rated current	4 A
Rated voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	

Type of connection	Crimp connection
Housing main material	CuZn
Connection thread	M12
Cable diameter	4...9 mm
Conductor cross-section min. / max.	0.14...0.34 mm²
Rated current	4 A
Rated voltage	50 V
Temperature range of housing	-40 ... +85 °C
Protection degree	IP67
Contact surface	Gold-plated
Note	

Dimensioned drawing



Dimensioned drawing



Crimp contact M12
X-Type



SAI - KSC / KBC



Ordering data

Male	AWG 22-26
Female	AWG 22-26
Note	

Type	Qty.	Order No.
IE-PIC-M12X-P-22/26	100	2664880000
IE-PIC-M12X-S-22/26	100	2673440000

Technical data

Type of connection
Housing main material
Connection thread
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact material
Note

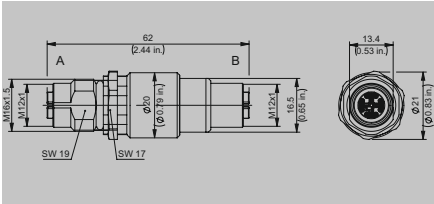
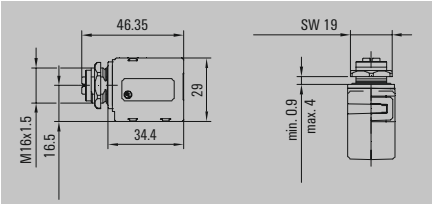
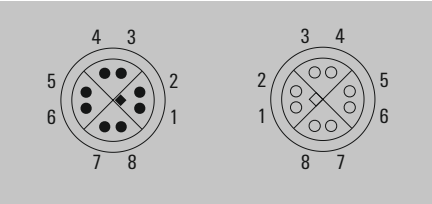
0.34...0.14 mm²
1 A
Copper alloy, Gold-plated

M12 X-Type

Adapter / Coupling M12
M12 X-type Cat. 6_A

Adapter M12 X-Type-RJ45

Coupling M12 X-Type



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Connection thread
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity at 50 °C
Rated voltage
Insulation strength
Plugging cycles
Configuration
Wall thickness, min. / max.
Shielding
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Insulation cross-section, max.
Sheath diameter min. / max.
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67
RJ45 / M12
Zinc diecast
M12
Copper alloy / Gold-plated
-25 °C...85 °C
IEC 61076-2-109, IEC 60603-7-51

50 V
100 MΩ
≥ 100 (M12), 750 (RJ45)
M12 socket to RJ45 socket
0.9 mm / 3 mm
360° shield contact

CULUS

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67 plugged
M12 / M12
Brass, Copper-tin-zinc alloy
M12 / M12
CuSn / Au (Gold), ≥ 100 MΩ
-40 °C...85 °C
IEC 61076-2-109
0.5 A @ 40 °C

≥ 100
M12 socket to M12 socket
/ 4.5 mm
360° shield contact

Ordering data

Adapter 90°
Adapter 180°
Coupling

Note

Type	Qty.	Order No.
IE-AD-M12XRJ45-90	10	1400610000
IE-AD-M12XRJ45-180	1	1400620000

Type	Qty.	Order No.
IE-BS-M12X-S-C	1	2731010000

Accessories

Type	Qty.	Order No.
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Type	Qty.	Order No.
------	------	-----------

Note

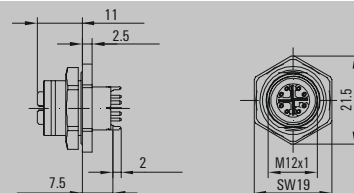
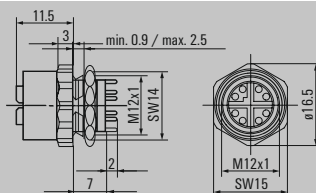
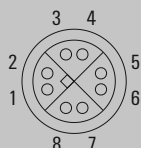
Note

Note

PCB socket M12 X-type Cat. 6_A

PCB socket

PCB socket, back panel mounting



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Connection thread
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity at 50 °C
Rated voltage
Insulation strength
Plugging cycles
Configuration
Wall thickness, min. / max.
Shielding
Approvals

Note

Ordering data

pre-assembled
2-part version

Note

Accessories

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67, when screwed in
M12 / Solder connection
CuZn
M12
CuZn / Gold over nickel
-40 °C...85 °C
IEC 61076-2-109
0.5 A @ 40 °C
48 V
100 MΩ
≥ 100
Reflow compatible
0.9 mm / 2.5 mm
360° all-round enclosure
CULUS

Type	Qty.	Order No.
IE-PCB-M12X-S-180	10	1324010000
IE-PCB2-M12X-S-180	10	1393080000

Type	Qty.	Order No.
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Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67, when screwed in
M12 / Solder connection
CuZn
M12
CuZn / Gold over nickel
-40 °C...85 °C
IEC 61076-2-109
0.5 A @ 40 °C
48 V
100 MΩ
≥ 100
Reflow compatible, Back panel mounting
0.9 mm / 2.5 mm
360° all-round enclosure
CULUS

Type	Qty.	Order No.
IE-PCBR-M12X-S-180	10	1427670000
IE-PCBR2-M12X-S-180	10	1444650000

Type	Qty.	Order No.
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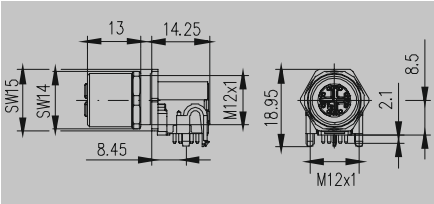
Note

M12 X-Type

PCB socket

M12 X-type Cat. 6_A

PCB socket, angled



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Connection thread
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity at 50 °C
Rated voltage
Insulation strength
Plugging cycles
Configuration
Wall thickness, min. / max.
Shielding
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67, when screwed in
M12 / Solder connection
CuZn
M12
CuZn / Gold over nickel
-40 °C...85 °C
IEC 61076-2-109
0.5 A @ 40 °C
48 V
100 MΩ
≥ 100
Reflow compatible
1 mm / 2.5 mm
360° all-round enclosure
CULUS

Ordering data

	pre-assembled
	2-part version

Note

Type	Qty.	Order No.
IE-PCB-M12X-S-90	10	2168220000

Accessories

Type	Qty.	Order No.

Note

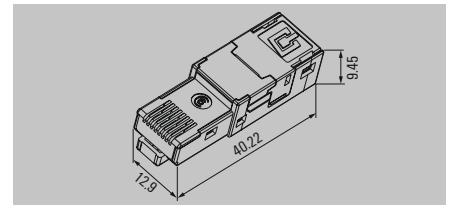
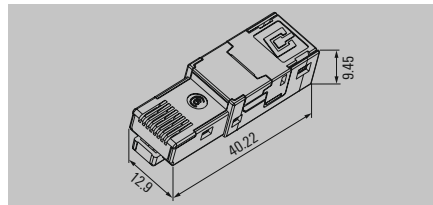
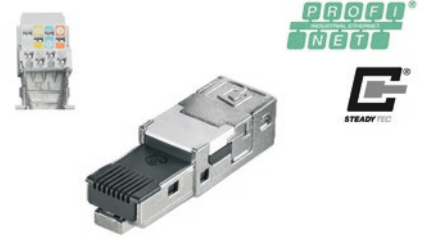
RJ45 plug inserts, tool free

- Cat. 6_A
- IP 20
- For housing variants 1, 4, 5 and 14

8-wire



4-wire



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact material
Contact surface
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Wire connection cross-section, finely stranded
Insulation diameter, min. / max.
Humidity
Ambient temperature (operational)
Insulation strength
Contact resistance
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity at 50 °C
PoE / PoE+
Speed
Connector standard
Approvals

Note

Ordering data

tool-free	
	TIA-A/B/PROFINET
	TIA-A
	TIA-B
	PROFINET

Note

Accessories

Tools	
	Optional pressing tool

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
Approval of the cable by Weidmüller necessary
0.85 mm...1.6 mm

-40 °C...70 °C

500 MΩ

≤ 20 mΩ

≥ 1000 V DC

≥ 1500 V DC

1 A

conforming to IEEE 802.3at

10 GBit/s

IEC 60603-7-51

CULUS; CURUS

Approvals available on request

Type	Qty.	Order No.
IE-PI-RJ45-FH	10	1962730000
IE-PI-RJ45-FH-A	10	1132010000
IE-PI-RJ45-FH-B	10	1132020000

Type	Qty.	Order No.
PWZ RJ45	1	1118040000

Cat.5 (ISO/IEC 11801)
IP67 with housing
750
360° all-round enclosure
Zinc diecast

Gold over nickel, Au ≥ 0.8 µm

AWG 26 / AWG 22

0.48 mm / 0.76 mm

AWG 24 / AWG 22

0.4 mm / 0.64 mm

Approval of the cable by Weidmüller necessary

0.85 mm...1.6 mm

-40 °C...70 °C

500 MΩ

≤ 20 mΩ

≥ 1000 V DC

≥ 1500 V DC

1 A

conforming to IEEE 802.3at

100 MBit/s

IEC 60603-7-51

CULUS; CURUS

Type	Qty.	Order No.
IE-PI-RJ45-FH-P	10	1132030000

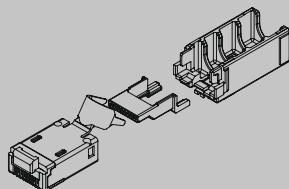
Type	Qty.	Order No.
PWZ RJ45	1	1118040000

Inserts

RJ45 plug inserts, crimp

- Cat. 6_A
- IP 20
- For housing variants 1, 4, 5 and 14

8-wire



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact material
Contact surface
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Connection cross-section, solid, min. / max.
Connection diameter, solid, min. / max.
Insulation diameter, min. / max.
Humidity
Ambient temperature (operational)
Insulation strength
Contact resistance
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity at 50 °C
PoE / PoE+
Speed
Connector standard
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP67 with housing
750
360° all-round enclosure
Brass, PC UL 94 V0
Phosphorus bronze
Gold over nickel, Au ≥ 0.8 µm, Ni 2.54 µm
AWG 27/7 / AWG 24/7
0.46 mm / 0.61 mm
AWG 26/1 / AWG 24/1
0.4 mm / 0.51 mm
0.85 mm...1.05 mm
0...93 % rel. humidity
-40 °C...70 °C
500 MΩ
≤ 20 mΩ
≥ 1000 V DC
≥ 1500 V DC
1 A
conforming to IEEE 802.3af

IEC 60603-7-51
CURUS

Ordering data

Crimp

Note

Type	Qty.	Order No.
IE-PI-RJ45-TH	10	1962720000

Accessories

Tools

Pressing tool

Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000

Note

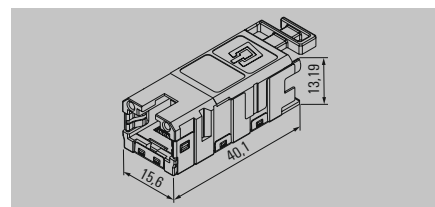
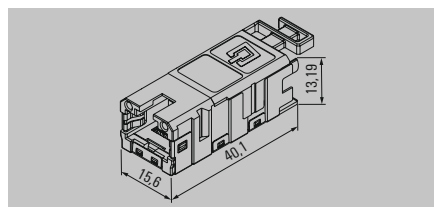
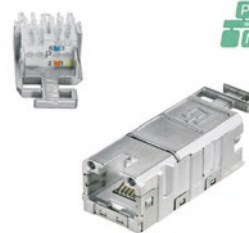
RJ45 flange inserts, module

- Completely in Cat. 6_A
- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

8-wire



4-wire



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Connection cross-section, flexible, min. / max.
Connection cross-section, solid, min. / max.
Insulation diameter, min. / max.
Connector standard
Ambient temperature (operational)
PoE / PoE+
Approvals

Note

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
AWG 24 / AWG 22
0.85 mm...1.6 mm
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3af
CULUS

Connection of WM Cat. 7 AWG 27/7 LSZH possible

Cat.5 (ISO/IEC 11801)
IP67 with housing
750
360° all-round enclosure
Zinc diecast
Gold over nickel, Au ≥ 0.8 µm
AWG 26 / AWG 22
AWG 24 / AWG 22
0.85 mm...1.6 mm
IEC 60603-7-51
-40 °C...70 °C
conforming to IEEE 802.3af
CULUS; DNVGL

Ordering data

tool-free

TIA-A. Cat. 6_A
TIA-B. Cat. 6_A
PROFINET Cat. 5

Note

Type	Qty.	Order No.
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000

Type	Qty.	Order No.
IE-BI-RJ45-FJ-P	10	1963830000

Accessories

Tools

Optional pressing tool

Type	Qty.	Order No.
PWZ RJ45	1	1118040000

Type	Qty.	Order No.
PWZ RJ45	1	1118040000

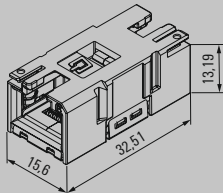
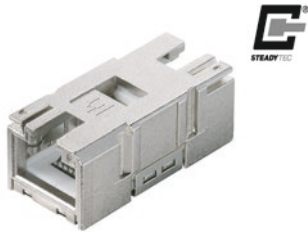
Note

Inserts

RJ45 flange inserts, coupling

- Completely in Cat. 6_A
- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

8-wire



Technical data

- Category
- Protection degree
- Plugging cycles
- Shielding
- Housing main material
- Contact surface
- Connection cross-section, flexible, min. / max.
- Connection cross-section, solid, min. / max.
- Insulation diameter, min. / max.
- Connector standard
- Ambient temperature (operational)
- PoE / PoE+
- Approvals

Note

- Cat.6_A / Class E_A (ISO/IEC 11801 2010)
- IP67 with housing
- 750
- 360° all-round enclosure
- Zinc diecast
- Gold over nickel, Au ≥ 0.8 µm

- ...
- IEC 60603-7-51
- 40 °C...70 °C
- conforming to IEEE 802.3af
- CULUS; DNVGL

Ordering data

tool-free	
	Coupling

Note

Type	Qty.	Order No.
IE-BI-RJ45-C	10	1962840000

Accessories

Type	Qty.	Order No.

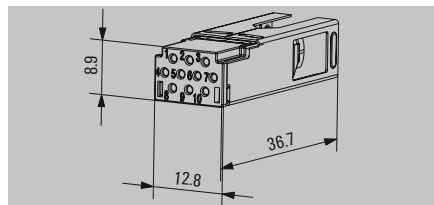
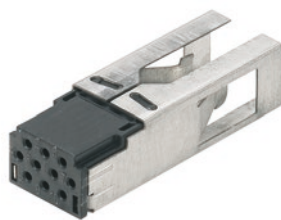
Note

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Plug inserts Hybrid

- Cat. 5
- IP 20
- For housing variants 1 (metal) and 14

Crimp



Technical data

Category	Cat.5 (ISO/IEC 11801)
Protection degree	IP67 with housing
Plugging cycles	500
Shielding	360° all-round enclosure
Housing main material	Nickel silver, PA 66
Contact surface	Gold over nickel
Number of poles	10
Connection cross-section, flexible, min. / max.	AWG 27 / AWG 20
Connection diameter, flexible, min. / max.	0.08 mm² / 0.75 mm²
Insulation diameter, min. / max.	1 mm...2.2 mm
Ambient temperature (operational)	-40 °C...70 °C
Volume resistance	<10 mΩ
Rated current	3 A per contact
Rated voltage	24 V
Contact resistance	≤ 5 mΩ
Approvals	CULUS
Note	

Ordering data

Type	Qty.	Order No.
IE-PI-HYB-10P	10	1068990000
Contacts should be ordered separately		

Accessories

Crimping contact		
	0.08...0.2 mm²	
	0.2...0.5 mm²	
	0.75 mm²	
Tools		
	Pressing tool	

Type	Qty.	Order No.
IE-PIC-HYB-S-0,2-300	300	1135150000
IE-PIC-HYB-S-0,5-300	300	1096180000
IE-PIC-HYB-S-0,75-300	300	1068950000
HTF HYB	1	1119580000

Note

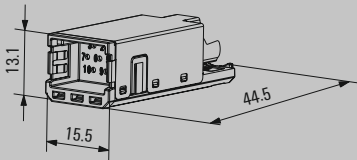
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Inserts

Flange inserts Hybrid

- Cat. 5
- IP 20
- For housing variants 1 (metal) and 14

Module



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
Number of poles
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Insulation diameter, min. / max.
Rated current
Rated voltage
Contact resistance
Volume resistance
Ambient temperature (operational)
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP67 with housing
500
360° all-round enclosure
Zinc diecast, Nickel silver, PA 66
Gold over nickel
10
AWG 27 / AWG 20
0.08 mm² / 0.75 mm²
1 mm...2.2 mm
3 A per contact
24 V
≤ 10 mΩ
< 10 mΩ
-40 °C...70 °C
CULUS

Ordering data

Note

Type	Qty.	Order No.
IE-BI-HYB-10P	10	1069010000
Contacts should be ordered separately		

Accessories

Crimping contact	0.08...0.2 mm²
	0.2...0.5 mm²
	0.75 mm²
Tools	Pressing tool

Type	Qty.	Order No.
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB	1	1119580000

Note

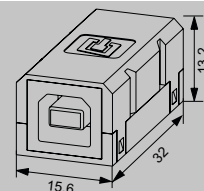
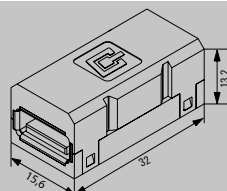
Flange inserts USB

- IP20
- For housing variants 1, 4, 5, 14 and for FrontCom®

Coupling USB A/A



Coupling USB A/B



Technical data

Protection degree
Shielding
Ambient temperature (operational)
Connection 1 / 2
Connector standard
Approvals

Note

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB A
IEC 61076-3-107
CULUS; DNVGL

IP67 with housing
360° all-round enclosure
-40 °C...70 °C
USB A / USB B
IEC 61076-3-107
CULUS; DNVGL

Ordering data

	USB 2.0
	USB 3.0

Note

Type	Qty.	Order No.
IE-BI-USB-A	10	1019570000
IE-BI-USB-3.0-A	10	1487920000

Type	Qty.	Order No.
IE-BI-USB-AB	10	1131380000

Accessories

USB cable 2.0	
	0.5 m
	1.0 m
	1.5 m
	1.8 m
	3.0 m
USB cable 3.0	
	0.5 m
	1.8 m
	3.0 m
	5.0 m

Type	Qty.	Order No.
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Type	Qty.	Order No.

Note

Inserts

Plug inserts SC

- IP 20
- For variant 1, 4 and 14 housings

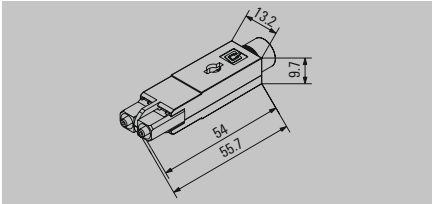
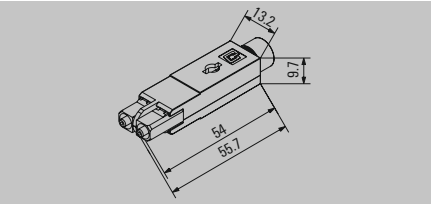
Plug insert SC, POF

only for V14



Connector insert SC, POF, reconnectable

only for V14



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

Note

IP67 with housing
Zinc diecast, PA
1000
-40 °C...70 °C
IEC 61754-24
UL

IP67 with housing
PA 66
≥ 500
-40 °C...70 °C
IEC 61754-24

Ordering data

Type	Qty.	Order No.
IE-PI-SCRJ-POF	10	1067410000

Type	Qty.	Order No.
IE-PI-SCRJ-POF-QA	10	2564960000

Accessories

Tools	Tool set POF, crimp Mounting tool, POF MULTI-STRIPAX IE-POF Cevlar scissors
Replacement ferrule	

Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000
IE-SCRJHP67-POF-100	100	1278430000

Type	Qty.	Order No.
HTX-IE-POF-QA	1	2602860000
MULTI-STRIPAX IE-POF	1	1208880000
SCISSORS KEVLAR	1	1208910000

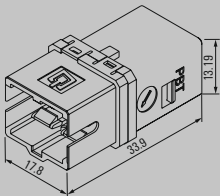
Note



Flange inserts SC

- IP 20
- SC-RJ on 2 SC
- For variant 1, 4 and 14 housings

Flange inserts SC



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Approvals

Note

IP67 with housing
PA
1000
-40 °C...70 °C

Ordering data

Flange insert
Singlemode
Multimode/POF

Note

Type	Qty.	Order No.
IE-BI-SCRJ2SC-SM-C	10	1962870000
IE-BI-SCRJ2SC-MM-C	1	1964430000

Accessories

Type	Qty.	Order No.

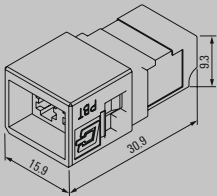
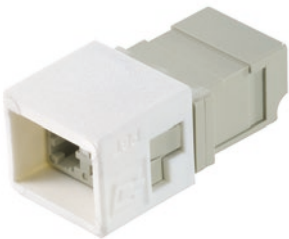
Note

Inserts

Flange inserts LC

- IP 20
- For variant 1, 4 and 14 housings

Flange inserts LC



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP67 with housing
PBT diecast zinc
1000
-40 °C...70 °C
IEC 61754-20

Note

Ordering data

Flange insert	
	Singlemode
	Multimode

Note

Type	Qty.	Order No.
IE-BH-LCD-SM-C	10	1962880000
IE-BH-LCD-MM-C	10	1964420000

Accessories

Tools	
	Crimping pliers GOF LC

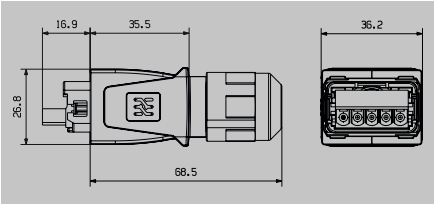
Type	Qty.	Order No.
IE-CT-LC-GOF	1	9205330000

Note

PushPull Power

Plug PushPull Power

Plug Power 24 V



Technical data

General data
Protection degree
Connector standard
Ambient temperature (operational)
Number of poles
Wire connection cross-section, flexible, min./max.
Sheath diameter, min. / max.
Connection
Approvals
Material properties
Housing base material
Sealing material
Cable sealing material
Contact material / Contact surface
UL 94 flammability rating
Pollution severity level
Plugging cycles
Electrical properties*
Current-carrying capacity at 50 °C
Rated voltage
Note

IP65, IP67
in accordance with PROFINET specification
-40 °C...70 °C
5
0.75 mm² / 2.5 mm²
6 mm / 13 mm
Tension clamp
UR
Zinc diecast, nickel-plated
NBR
EPDM
Copper alloy / Gold over nickel
V-2
2
≥ 100
16 A
24 V

Ordering data - Sets

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
We recommend using 10-mm-long wire-end ferrules		
Note		

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
We recommend using 10-mm-long wire-end ferrules		

Ordering data - Empty housings

Type	Qty.	Order No.
Note		

Type	Qty.	Order No.

Accessories

Type	Qty.	Order No.
Sealing insert 6-8 mm		

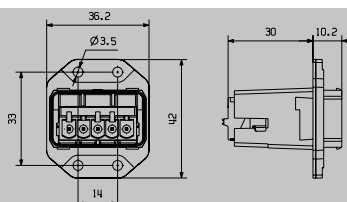
Type	Qty.	Order No.
IE-REDU-6-8-PS-VAPM	10	2531330000

Note

Note

Flanges PushPull Power

Flange Power 24 V


**PROFI
NET**


Technical data

General data

Protection degree
Connector standard
Ambient temperature (operational)
Number of poles
Connection diameter, flexible, min. / max.
Connection 1
Approvals
Installation

Material properties

Housing base material
Sealing material
Cable sealing material
Contact carrier material
Contact material / Contact surface
UL 94 flammability rating
Pollution severity level
Plugging cycles

Electrical properties*

Current-carrying capacity at 50 °C
Rated voltage

Note

IP67
in accordance with PROFINET specification
-40 °C...70 °C
5
0.75 mm² / 2.5 mm²
Tension clamp
UR
4 screws

Zinc diecast, nickel-plated
NBR
EPDM
PA
Copper alloy / Gold over nickel
V-2
2
≥ 100

16 A
24 V

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BSS-VAPM-24V	1	2493480000

We recommend using 10-mm-long wire-end ferrules

Ordering data - Empty housings

Note

Device flange

Type	Qty.	Order No.
IE-BHD-VAPM	1	2493490000

Accessories

Dust protection cap

IP54 protective cap
Dust cap

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000
IE-BP-VAPP-DC	10	2494060000

Note

IP65 connection components / FreeCon connecting components

Overview

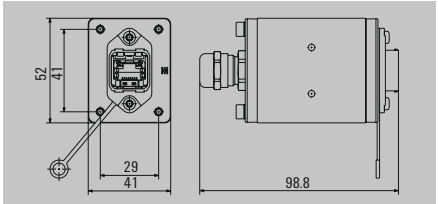
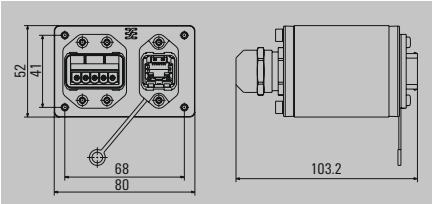
IP65 connection components / FreeCon connecting components	FreeCon Passive V14	0.2
	FreeCon Active PROFINET	0.9
	V1 junction boxes	0.12
	V4 junction boxes	0.14
	V5 junction boxes	0.16
	V6 junction boxes	0.17

FreeCon Passive V14

FreeCon V14 - junction box

Double junction box, Power / RJ45

Single junction box, RJ45



Technical data

General data	
Housing main material	Aluminium profile, Cover: die-cast zinc, nickel plated
Protection degree	IP65
Ambient temperature (operational)	-40 °C...70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5
Approvals	CULUS
Technical specifications power connector	
Housing base material	Zinc diecast, nickel-plated
Sealing material	NBR
Contact material	Copper alloy
Contact carrier material	PA
Contact surface	Gold over nickel
Plugging cycles	≤ 100
Number of poles	5
Sheath diameter, min. / max.	6 mm / 12 mm
Wire connection cross section, stranded, min. / max.	0.75 mm ² / 2.5 mm ²
Connection	Tension clamp
Electrical properties power connector	
Current-carrying capacity at 50 °C	16 A
Rated voltage	24 V
Technical specifications for RJ45 module	
Housing base material	Zinc diecast, nickel-plated
Contact surface	Gold over nickel
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22
Plugging cycles (RJ45 module)	750
Connection 1	IDC
Sheath diameter, min./max.	5 mm / 10 mm
Electrical properties for RJ45 module	
Category	Cat.5 (ISO/IEC 11801)
Contact resistance	≤ 20 mΩ
Insulation resistance	> 500 MΩ
Dielectric strength, contact - contact, max.	≤ 1000 V DC
Dielectric strength, contact - contact, min.	≤ 1500 V DC
Current carrying capacity	1 A
Note	

Ordering data

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-FJ	1	1068830000
Note		

Accessories

Mounting foot	
IE-CD-MA	10 1099580000
Dust protection cap	
IE-BP-V14P	10 1058310000
IE-BP-VAPP	10 1068930000
Note	

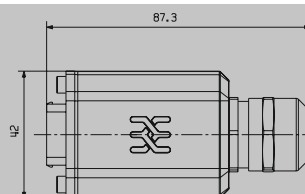
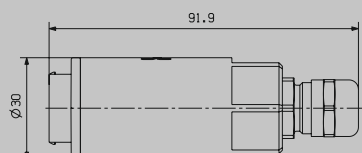
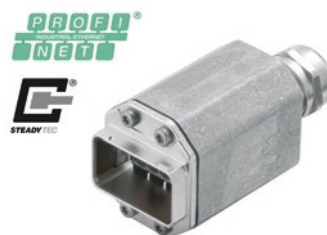
Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-FJ	1	1068830000

Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BP-V14P	10	1058310000
IE-BP-VAPP	10	1068930000

Type	Qty.	Order No.
IE-CD-V14MRJ-FJ	1	1068880000

Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BP-V14P	10	1058310000

RJ45 cable coupling



Note

Type	Qty.	Order No.
IE-CC-V14M-EH	1	2583100000

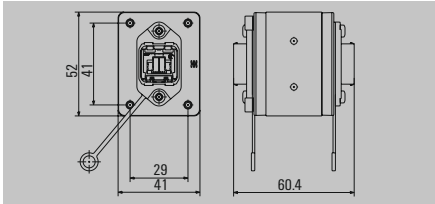
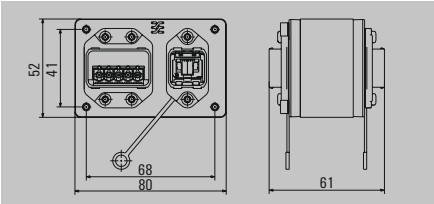
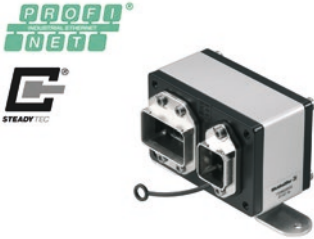
Type	Qty.	Order No.

FreeCon Passive V14

FreeCon V14 - coupling

Double coupling, Power / RJ45

Single coupling, RJ45



Technical data

General data	
Housing main material	
Protection degree	
Ambient temperature (operational)	
Connector standard	
Approvals	
Technical specifications power connector	
Housing base material	
Sealing material	
Contact material	
Contact carrier material	
Contact surface	
Plugging cycles	
Number of poles	
Electrical properties power connector	
Current-carrying capacity at 50 °C	
Rated voltage	
Technical data for RJ45 coupling	
Housing base material	
Electrical properties RJ45 coupling	
Category	
Contact resistance	
Contact surface	
Insulation resistance	
Dielectric strength, contact - contact, min.	
Dielectric strength, contact - shielding, max.	
Current carrying capacity	
Note	

Ordering data

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-C-MA	1	1068820000
Including mounting foot		

Accessories

Dust protection cap	
Protective cap	
IP54 protective cap	

Aluminium profile, Cover: die-cast zinc, nickel plated		
IP65		
-40 °C...70 °C		
IEC 61076-3-117 Var. 14, IEC 60603-7-5		
CULUS		
Zinc diecast, nickel-plated		
NBR		
Copper alloy		
PA		
Gold over nickel		
≥ 100		
5		
16 A		
24 V		
Zinc diecast, PA 66		
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)		
≤ 20 mΩ		
Gold over nickel		
> 500 MΩ		
≥ 1000 V DC		
≥ 1500 V DC		
1 A		

Type	Qty.	Order No.
IE-CD-V14MRJ/VAPM24V-C-MA	1	1068820000
Including mounting foot		

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000
IE-BP-VAPP	10	1068930000

Aluminium profile, Cover: die-cast zinc, nickel plated		
IP65		
-40 °C...70 °C		
IEC 61076-3-117 Var. 14, IEC 60603-7-5		
CULUS		
Zinc diecast, PA 66		
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)		
≤ 20 mΩ		
Gold over nickel		
> 500 MΩ		
≥ 1000 V DC		
≥ 1500 V DC		
1 A		

Type	Qty.	Order No.
IE-CD-V14MRJ-C-MA	1	1068870000
Including mounting foot		

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

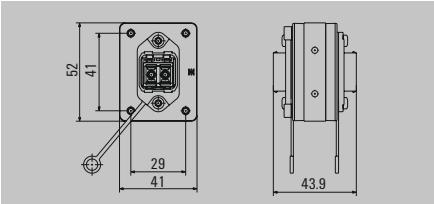
Note

Note

Note

FreeCon V14 single coupling

Single coupling, SCRJ



Technical data

General data	
Housing main material	
Protection degree	
Ambient temperature (operational)	
Connector standard	
Approvals	
Technical specifications - fibre-optic coupler	
Housing base material (fibre-optic coupling)	
Plugging cycles (fibre-optic coupling)	
Seal material (fibre-optic coupling)	
Connection 1 / 2	
Insertion attenuation (fibre-optic coupling)	
Fibre type	
Note	

Aluminium profile, Cover: die-cast zinc, nickel plated
IP65
-40...70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24
CULUS
PA
≥ 500
NBR
SCRJ / SCRJ
< 0.2 dB
Multimode, POF

Ordering data

Note	
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Type	Qty.	Order No.
IE-CD-V14MSCRJ-MM-C-MA	1	1318150000

Accessories

Dust protection cap	Protective cap
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Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

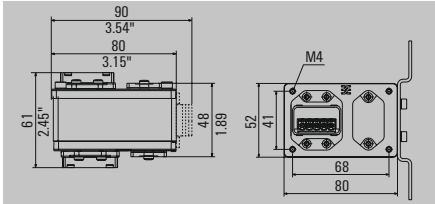
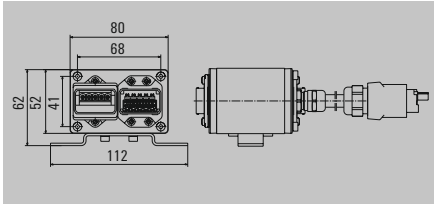
Note

Note

FreeCon V14 - Power

Y-distributor, Power

Single coupling, Power



Technical data

General data	
Housing main material	
Protection degree	
Ambient temperature (operational)	
Connector standard	
Approvals	
Technical specifications power connector	
Housing base material	
Sealing material	
Cable sealing material	
Contact material	
Contact carrier material	
Contact surface	
UL 94 flammability rating	
Plugging cycles	
Pollution severity level	
Electrical properties power connector	
Current-carrying capacity at 50 °C	
Rated voltage	
Number of poles	
Note	

Aluminium profile, Cover: die-cast zinc, nickel plated
IP65
-40...70 °C
in accordance with PROFINET specification
CULUS
Zinc diecast, nickel-plated
NBR
TPE
Copper alloy
PA
Gold over nickel
V-0
≥ 100
2
16 A @ 20 °C
24 V
5

Aluminium profile, Cover: die-cast zinc, nickel plated
IP65, If thread-locking fluid is used
-40...70 °C
in accordance with PROFINET specification
CULUS
Zinc diecast, nickel-plated
NBR
TPE
Copper alloy
PA
Gold over nickel
V-0
≥ 100
2
16 A @ 20 °C
24 V
5

Ordering data

Type	Qty.	Order No.
IE-CD-VAPM24V-Y-MA	1	1297010000
Note		

Type	Qty.	Order No.
IE-CD-VAPM24V-Y-MA	1	1297010000

Type	Qty.	Order No.
IE-CD-VAPM24V-C-MA	1	1397690000

Accessories

Dust protection cap	IP54 protective cap
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Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Note

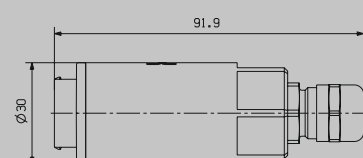
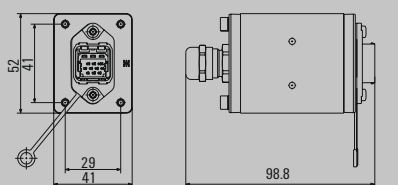
Note

Note

FreeCon V14 - junction box

Single junction box, Hybrid

Hybrid cable coupling



Technical data

General data

Housing main material
Protection degree
Ambient temperature (operational)
Approvals

Technical specifications hybrid connector

Housing base material
Sealing material
Contact material
Contact surface
Plugging cycles
Pole count
Connection cross-section, flexible, min. / max.
Connection cross-section, flexible, min. / max.

Electrical properties hybrid connector

Rated current (hybrid connector)
Rated voltage (DIN EN 61984)
Contact resistance

Note

Aluminium profile, Cover: die-cast zinc, nickel plated
IP65
-40 °C...70 °C
CULUS

Zinc diecast (flange), PA 66

NBR
Copper alloy
Gold over nickel
500
10
AWG 27 / AWG 20
0.08 mm² / 0.75 mm²

3 A per contact
24 V
≤ 10 mΩ

diecast aluminium
IP65
-40 °C...70 °C
CULUS

Zinc diecast (flange), PA 66

NBR
Copper alloy
Gold over nickel
500
10
AWG 27 / AWG 20
0.08 mm² / 0.75 mm²

3 A per contact
24 V
≤ 10 mΩ

Ordering data

Note

Type	Qty.	Order No.
IE-CD-V14MHYB-10P-FJ	1	1068850000

Contacts should be ordered separately

Type	Qty.	Order No.
IE-CC-V14M-HYB-10P-FJ	1	1990610000

Contacts should be ordered separately

Accessories

Mounting foot

Crimping contact

0.08...0.2 mm²
0.2...0.5 mm²
0.75 mm²

Tools

Pressing tool

Dust protection cap

Protective cap

Mounting frame

Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB	1	1119580000
IE-BP-V14P	10	1058310000

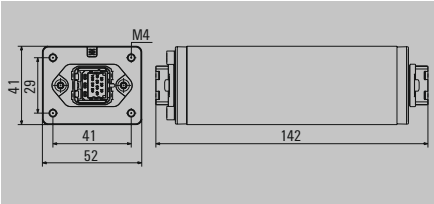
Type	Qty.	Order No.
IE-BIC-HYB-P-0,2-300	300	1135160000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
HTF HYB	1	1119580000
IE-BP-V14P	10	1058310000
IE-CC-V14M-MF	1	1990620000

Note

FreeCon Passive V14

FreeCon V14 single coupling

Single coupling, hybrid



Technical data

General data
Housing main material
Protection degree
Ambient temperature (operational)
Technical specifications hybrid connector
Housing base material
Sealing material
Contact material
Contact surface
Plugging cycles
Electrical properties hybrid connector
Rated current (hybrid connector)
Rated voltage (DIN EN 61984)
Contact resistance
Pole count
Approvals
Note

Aluminium profile, Cover: die-cast zinc, nickel plated
IP65
-40...70 °C
Zinc diecast (flange), PA 66
NBR
Copper alloy
Gold over nickel
500
3 A per contact
24
≤ 10 mΩ
10
CULUS

Ordering data

Type	Qty.	Order No.
IE-CD-V14MHYB-10P-C-MA	1	1068840000

Accessories

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-CD-V14MHYB-10P-C-MA	1	1068840000

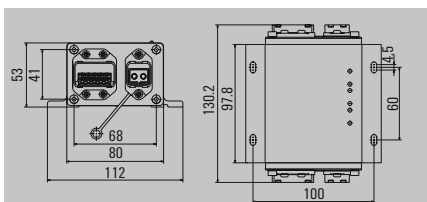
Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

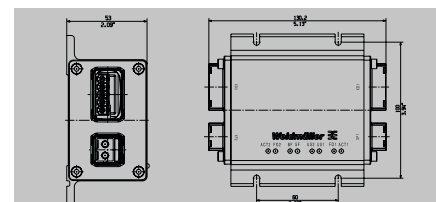
Note

FreeCon Active PROFINET with diagnostics functionality

POF repeater



POF repeater II



Technical data

General data
Housing main material
Weight
Data interface
Power interface
Protection degree
Ambient temperature (operational)
Network standard
Connector standard
Electrical data
Operating voltage
Operational voltage range
Current consumption
Baud rate
Protocol
LED indicator
Approvals
Note

Aluminium profile, Cover: die-cast zinc, nickel plated
PROFINET PushPull SCRJ POF (V14)
PROFINET PushPull Power
IP65
-20 °C...55 °C
IEC 61158, IEC 61784
IEC 61076-3-117 Var. 14, IEC 61754-24
24 V DC
18...30 V DC
200 mA typical
100 MB
PROFINET IRT
F01: port active, F02: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2
CE; CULUS

Aluminium profile, Zinc die cast, electroplated lid
PROFINET PushPull SCRJ POF (V14)
PROFINET PushPull Power
IP65
-20 °C...55 °C
IEC 61158, IEC 61784
IEC 61076-3-117 Var. 14, IEC 61754-24
24 V DC
18...30 V DC
200 mA typical
100 MB
PROFINET IRT
F01: port active, F02: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2, ACT1: activity Port1, ACT2: activity Port2
CE; CULUS

Ordering data

Type	Qty.	Order No.
IE-CDR-V14MSCPOF/VAPM-C	1	1253240000
Delivery incl. protective caps		

Type	Qty.	Order No.
IE-CDR-V14MSCPOF/VAPM-C II	1	2455360000
Further development of 1253240000, IE-CDR-V14MSCPOF/VAPM-C. For commissioning, the new GSDML file (see Downloads) must be installed.		

Accessories

Type	Qty.	Order No.
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Type	Qty.	Order No.
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Note

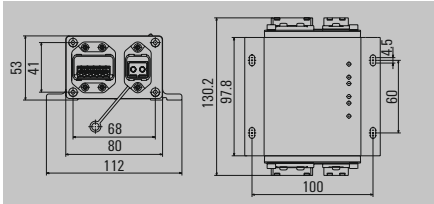
Note

Note

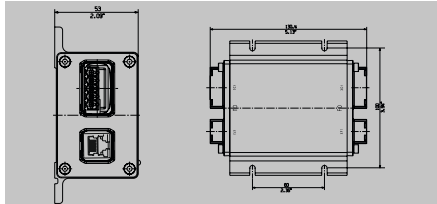
FreeCon Active PROFINET

FreeCon Active PROFINET
with diagnostics functionality

POF media converter



POF media converter II



Technical data

General data
Housing main material
Weight
Data interface
Power interface
Protection degree
Ambient temperature (operational)
Network standard
Connector standard
Electrical data
Operating voltage
Operational voltage range
Current consumption
Baud rate
Protocol
LED indicator
Approvals
Note

Ordering data

Type	Qty.	Order No.
IE-CDM-V14MRJSCP/VAPM-C	1	1324440000
Delivery incl. protective caps		

Accessories

Type	Qty.	Order No.

Aluminium profile, Cover: die-cast zinc, nickel plated
PROFINET PushPull SCRJ POF (V14), PROFINET PushPull RJ45 (V14)
PROFINET PushPull Power
IP65
-20 °C...55 °C
IEC 61158, IEC 61784
IEC 61076-3-117 Var. 14, IEC 61754-24, IEC 60603-7-51
24 V DC
18...30 V DC
200 mA typical
100 MB
PROFINET IRT
P1: port active, P2: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2
CE; CULUS

Type	Qty.	Order No.
IE-CDM-V14MRJSCP/VAPM-C	1	1324440000
Delivery incl. protective caps		

Type	Qty.	Order No.

Aluminium profile, Zinc die cast, electroplated lid
PROFINET PushPull SCRJ POF (V14), PROFINET PushPull RJ45 (V14)
PROFINET PushPull Power
IP65
-20 °C...55 °C
IEC 61158, IEC 61784
IEC 61076-3-117 Var. 14, IEC 61754-24, IEC 60603-7-51
24 V DC
18...30 V DC
200 mA typical
100 MB
PROFINET IRT
P1: port active, P2: port active, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2, ACT1: activity Port1, ACT2: activity Port2
CULUS
Further development of 1324440000, IE-CDM-V14MRJSCP/VAPM-C. For commissioning, the new GSDML file (see Downloads) must be installed.

Type	Qty.	Order No.
IE-CDM-V14MRJSCP/VAPM-C II	1	2588270000

Type	Qty.	Order No.

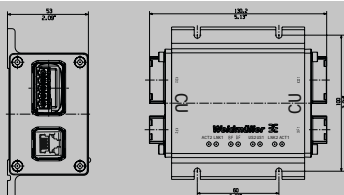
Note

Note

Note

FreeCon Active PROFINET with diagnostics functionality

Copper repeater



Technical data

General data

Housing main material
Weight
Data interface
Power interface
Protection degree
Ambient temperature (operational)
Network standard
Connector standard

Electrical data

Operating voltage
Operational voltage range
Current consumption
Baud rate
Protocol
LED indicator

Approvals

Note

Aluminium profile, Zinc die cast, electroplated lid

PROFINET PushPull RJ45 (V14)

PROFINET PushPull Power

IP65

-20 °C...55 °C

IEC 61158, IEC 61784

IEC 61076-3-117 Var. 14

24 V DC

18...30 V DC

100 mA

100 MBit/s

PROFINET IRT

ACT1: activity Port1, ACT2: activity Port2, SF: general error, BF: bus error, US1: voltage 1 (electronics), US2: voltage 2, LNK1: port active, LNK2: port active

CULUS

Ordering data

Note

Accessories

Type	Qty.	Order No.
IE-CDR-V14MRJ/VAPM-C	1	2581810000

Delivery incl. protective caps

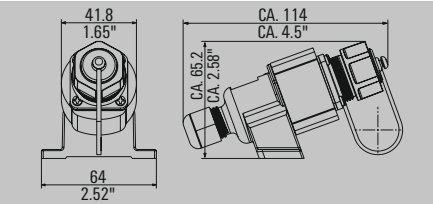
Type	Qty.	Order No.

Note

V1 junction boxes

V1 junction boxes - plastic

Single junction box



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Sheath diameter min. / max.
Approvals

IP67
PA UL 94 V0
750
-40 °C...70 °C
IEC 61076-3-106 Var. 1
6 mm / 9.5 mm

Note

Ordering data

Variant 1
Pre-assembled cable
Note

Type	Qty.	Order No.
IE-OP-V01P-1S	10	1061830000
Order RJ45 modules separately		

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

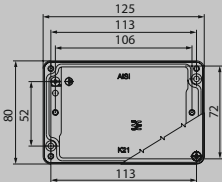
Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Note

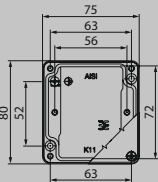
V1 junction boxes - metal

- IP 67
- For wall or floor mounting

Double junction box



Single junction box



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Ambient temperature (operational)
Plugging cycles
Connector standard
Sheath diameter min. / max.
Approvals

Note

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 1
5 mm / 10 mm
GOSTME25

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 1
5 mm / 10 mm

Ordering data

Variant 1
2 ports. straight
1 port. straight

Note

Type	Qty.	Order No.
IE-OM-V01M-K21-2S	1	1966330000

RJ45 modules can be ordered separately

Type	Qty.	Order No.
IE-OM-V01M-K11-1S	1	1966300000

RJ45 modules can be ordered separately

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

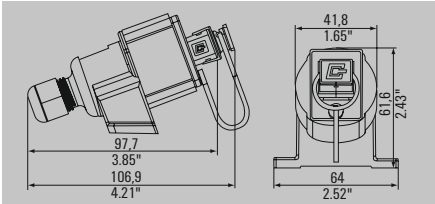
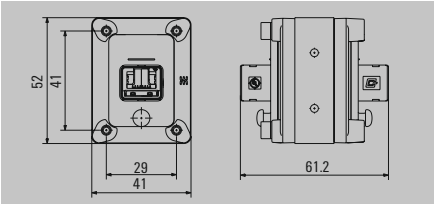
Note

V4 junction boxes

FreeCon V4 junction boxes

Single coupling, RJ45

Single junction box



Technical data

General data
Plugging cycles
Housing main material
Contact surface
UL 94 flammability rating
Connector standard
Protection degree
Ambient temperature (operational)
Sheath diameter min. / max.
Approvals
Electrical properties for RJ45 module
Category
Contact resistance
Insulation resistance
Dielectric strength, contact - contact, min.
Dielectric strength, contact - shielding, max.
Current carrying capacity
Material properties RJ45 coupling
Housing base material
Note

750
Aluminium profile, Cover: die-cast zinc, nickel plated
Gold over nickel
IEC 61076-3-106 Var. 4, IEC 60603-7-5
IP65
-40 °C...70 °C
CULUS
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
1 A
Zinc diecast, PA 66

750
PA
Gold over nickel
V-0
IEC 61076-3-106 Var. 4
IP67
-40 °C...70 °C
6 mm / 9.5 mm

Ordering data

Pre-assembled cable
Coupling
Note

Type	Qty.	Order No.
IE-CD-V04PRJ-C-MA	1	1122710000
Including mounting foot		

Type	Qty.	Order No.
IE-OP-V04P-1S	10	1045780000
Order RJ45 modules separately, IP 67 protective cap included in delivery		

Accessories

Dust protection cap
Flange-mounted housing protective cap
Inserts, Data
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A
RJ45 module EIA/TIA T568 B

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000

Note

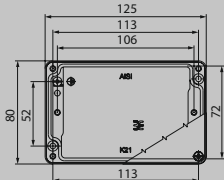
Note

Note

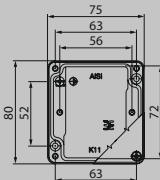
V4 junction boxes

- IP 67
- For wall or floor mounting

Double junction box



Single junction box



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Ambient temperature (operational)
Plugging cycles
Connector standard
Sheath diameter min. / max.
Approvals

Note

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 4
5 mm / 10 mm
GOSTME25

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 4
5 mm / 10 mm

Ordering data

Variant 4
2 ports. straight
1 port. straight

Note

Type	Qty.	Order No.
IE-OM-V04P-K21-2S	1	1966250000

RJ45 modules can be ordered separately

Type	Qty.	Order No.
IE-OM-V04P-K11-1S	1	1966220000

RJ45 modules can be ordered separately

Accessories

Inserts, Data
RJ45 module EIA/TIA T568 B
RJ45 module PROFINET
RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

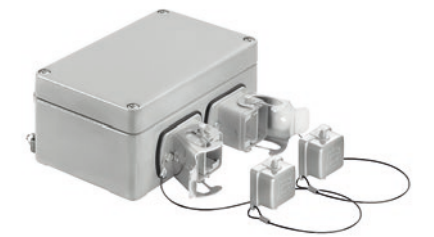
Note

V5 junction boxes

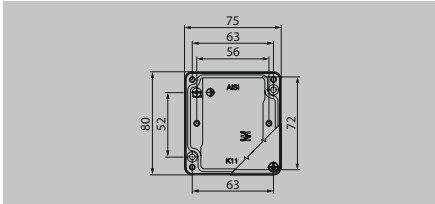
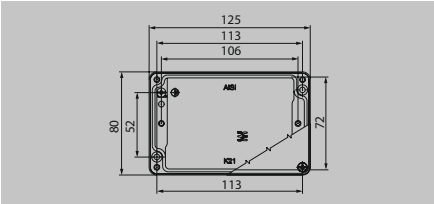
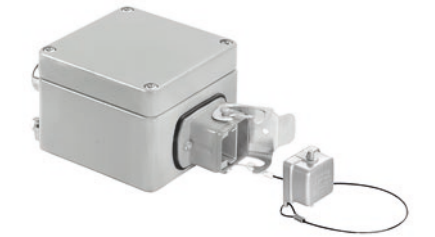
V5 junction boxes

- IP 67
- For wall or floor mounting

Double junction box



Single junction box



Technical data

Protection degree
Housing main material
Colour
Type of mounting
Ambient temperature (operational)
Plugging cycles
Connector standard
Sheath diameter min. / max.
Approvals

Note

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 5
5 mm / 10 mm
GOSTME25

IP67
AL-Si 12
grey
Floor-mounted, Wall mounting
-40 °C...70 °C
750
IEC 61076-3-106 Var. 5
5 mm / 10 mm

Ordering data

Variant 5	
	2 ports. straight
	1 port. straight
Note	

Type	Qty.	Order No.
IE-OM-V05M-K21-2S	1	1966290000
RJ45 modules can be ordered separately		

Type	Qty.	Order No.
IE-OM-V05M-K11-1S	1	1966260000
RJ45 modules can be ordered separately		

Accessories

Inserts, Data	
	RJ45 module EIA/TIA T568 B
	RJ45 module PROFINET
	RJ45 module EIA/TIA T568 A

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

Type	Qty.	Order No.
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000
IE-BI-RJ45-FJ-A	10	1962850000

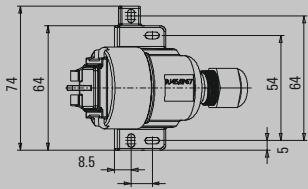
Note



V6 junction boxes

- Cat. 6
- IP 67

Single junction box, RJ45



Technical data

Protection degree
Housing main material
Colour
Type of mounting

Configuration

Wiring
Ambient temperature (operational)
Plugging cycles
Connector standard
Sheath diameter min. / max.
Approvals

IP67
PA 66, UL 94: V-0
Light Grey
Floor-mounted, for exposed connections, Wall mounting

Screw-on junction box
including RJ45 module with
IDC connection
EIA/TIA T568 A, EIA/TIA T568 B
-40 °C...70 °C
750
IEC 61076-3-106 Var. 6
6 mm / 9.5 mm
DNVGL

Note

Ordering data

Note

Accessories

Tools
Pressing tool

Type	Qty.	Order No.
IE-S-IP67	1	8808370000

Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000

Note

Contactless Transmission

Overview

Contactless Transmission	Overview	P.2
	FreeCon Contactless Power	P.5

Contactless power transmission – maintenance-free and up to 240 W

High power density and maximum efficiency with small dimensions

Burnt, bent or dirty contacts are often the cause of timeconsuming and costly production failures. This is all the more true of applications requiring frequent plugging cycles. To name but one example, these include industrial robots performing frequent tool changes. Here, the level of wear is especially high. FreeCon Contactless allows power to be transmitted via an air gap by means of an inductive resonance coupling – it's a solution that's completely wear-free and especially efficient. Double the power density and a far higher degree of efficiency is achieved compared with comparable solutions that are available on the market.

Thanks to FreeCon Contactless, you can avoid contactrelated failures and cut your maintenance costs considerably. It even opens up completely new areas of application, since for the first time ever an automated process can be used to establish a connection which previously would have to be plugged manually. The process of charging driverless transport systems, for instance, can be automated. Highmaintenance slip ring transmitters can be replaced too, since FreeCon Contactless securely transmits power even in the case of rotational movements.

Wear-free electrical connection that can be switched as part of a controlled process

FreeCon Contactless enables reliable and contactless transmission of up to 240 W of power with compact dimensions and maximum efficiency. The transmission can even be controlled via PLC. It is therefore possible to switch 10 A directly via the PLC without the need for an additional contactor.

Flexible mounting options

Fastening can optionally take place on three different sides by means of direct mounting on the relevant machine component, or by using a mounting bracket or a groove profile. This allows for maximum flexibility during installation.

**High flexibility thanks to unlimited approach options**

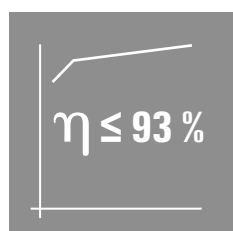
The secondary side can be approached by the primary side from any direction. The connection is established as soon as both modules are positioned opposite one another. The connection remains stable even in the event of rotational movements.

**Complete protection against humidity and dirt**

Unlike conventional plug-in connections, which only provide IP 20 protection when unplugged and are therefore unprotected, FreeCon Contactless offers IP 65 – permanently. So, with FreeCon Contactless, contacting problems caused by dirt are a thing of the past.

**High power density with maximum efficiency**

For the first time ever, 240 W of power can be transmitted contactlessly via two especially small modules. Extremely low transmission losses translate into an efficiency level of up to 93 %

**Fast commissioning with PROFINET PushPull Power connection**

Our proven standard plug-in connector for 24 V DC applications enables fast installation and ensures that the modules are provided with a secure and reliable supply.



Drive automation forwards – the intelligent way

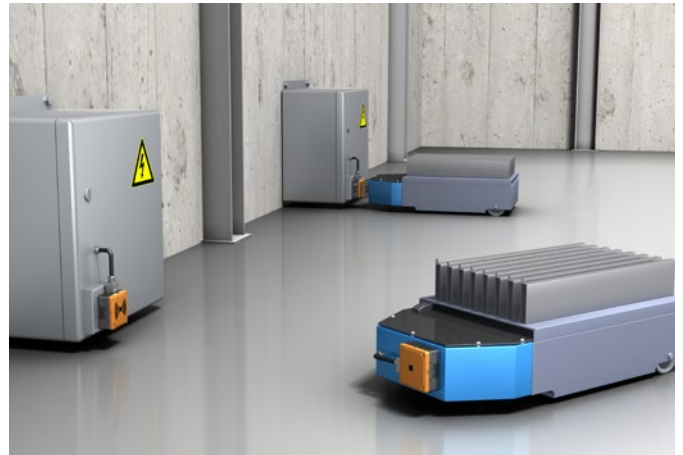
FreeCon Contactless makes your applications more efficient on many levels

FreeCon Contactless was developed in close collaboration with leading German car manufacturers. The system is suitable for an extremely wide range of sectors, such as machine construction, robotics, materials handling and even renewable energy. It can be retrofitted with ease and is thus an appealing solution for existing plants, too. With this multitude of advantages, it helps to increase the level of automation and optimises the production process. And best of all, FreeCon Contactless does more than simply help to avoid contact-related failures and cut maintenance costs. Completely new designs and areas of application are possible with a view to optimising production processes.

P



The automotive industry makes use of applications that require frequent plugging cycles, such as industrial robots performing tool changes. They work with a variety of tools, which they independently change for different tasks – such as gripping or welding. The high level of wear that occurs on the mechanical plug-in connections can be avoided entirely with FreeCon Contactless. This saves both time and money in terms of contact maintenance and replacement, in addition to minimising machine failures caused by maintenance work or defects.



Automatic transport systems, which are a common feature of many warehouses and production halls nowadays, complete all work without mechanical support. A member of staff only has to be present to make the plug-in connection, which is required for charging the battery. FreeCon Contactless makes even this manual work step superfluous. The driverless transport systems move to the charging station independently just before the battery goes flat, at the end of the working day, or at shutdown periods. The result is effective time and cost savings, which means your investment pays for itself in no time at all.

FreeCon Contactless

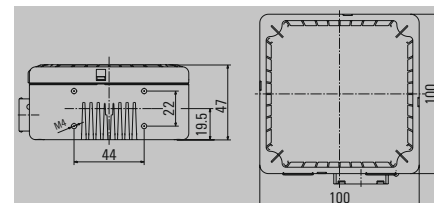
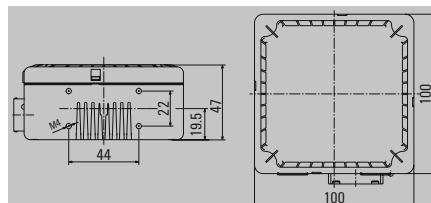
- Contactless power transmission via air gap

Primary side (base)



Secondary side (remote)

24 V / 10 A



Technical data

General data

Housing main material
Technologie, version
Loads
Turn-on time
Coupling time
Air gap
Centre offset
Power interface
Protection degree
Ambient temperature (operational)
Weight

Electrical data

Primary voltage
Secondary voltage
Secondary current max.
Degree of efficiency
LED indicator
Approvals

Note

Diecast zinc, painted, Cover PBT
Inductive resonance coupling
Inductive and resistive loads
1 s

0...5 mm
max. 5mm
PROFINET PushPull Power
IP65
-20...45 °C Consider derating
1020 g

24 V DC (21.6...26.4 V DC)

max. 91 %
Status indication via multi-coloured LED
CE

Diecast zinc, painted, Cover PBT
Inductive resonance coupling
Inductive and resistive loads

< 500 ms
0...5 mm
max. 5mm
PROFINET PushPull Power
IP65
-20...45 °C Consider derating
1020 g

24 V DC (19.2...28.8 V DC)

10 A
max. 91 %
Status indication via multi-coloured LED
CE

Ordering data

Note

Accessories

Plug

PushPull Power

Marking tags

Type	Qty.	Order No.
IE-CL240W-PP-BASE	1	1547440000

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
ESG 6/17 K MC NE WS	200	1880120000

Type	Qty.	Order No.
IE-CL240W-PP-REMOTE	1	1547450000

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
ESG 6/17 K MC NE WS	200	1880120000

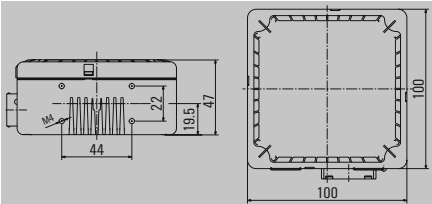
Note

FreeCon Contactless

- Contactless power transmission via air gap

Secondary side (remote)

27 V / 5 A



Technical data

General data
Housing main material
Technologie, version
Loads
Turn-on time
Coupling time
Air gap
Centre offset
Power interface
Protection degree
Ambient temperature (operational)
Weight
Electrical data
Primary voltage
Secondary voltage
Secondary current max.
Degree of efficiency
LED indicator
Approvals
Note

Diecast zinc, painted, Cover PBT
Inductive resonance coupling
Inductive and resistive loads
< 500 ms
0...5 mm
max. 5mm
PROFINET PushPull Power
IP65
-20...45 °C Consider derating
1020 g
26,5 V DC (+/- 5%) (necessary voltage for secondary voltage must be ensured)
27 V DC (±7 %)
5 A
max. 91 %
Status indication via multi-coloured LED

Ordering data

Note

Type	Qty.	Order No.
IE-CL27V5A-PP-S	1	2623940000

Accessories

Plug	PushPull Power
Marking tags	

Type	Qty.	Order No.
IE-PS-VAPM-5P-2.5	1	2465440000
ESG 6/17 K MC NE WS	200	1880120000

Note

Note

Copper cabling solutions

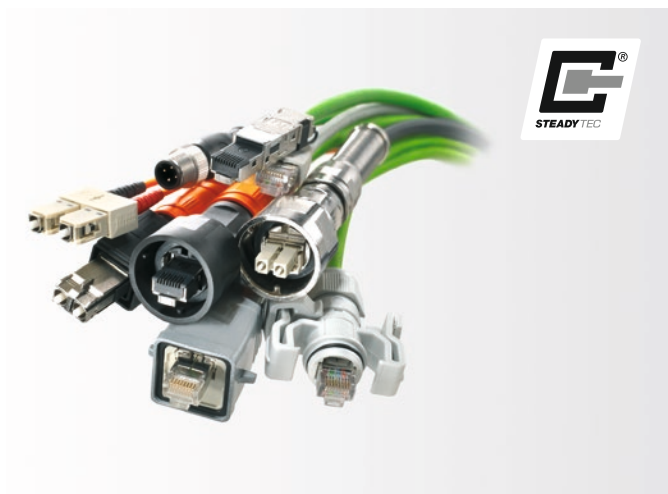
Overview

Copper cabling solutions	Introduction AdvancedLine and CabinetLine	Q.2
	Product configurator – Copper cables	Q.3
	Overview – Copper cables	Q.4
	Raw cables – Installation cable	Q.6
	Raw cables – Connection cable	Q.8
	Raw cables – Dragline cable	Q.14
	Raw cables – PROFINET cable	Q.15
	Raw cables – Hybrid cable	Q.17
	Assembled cables – Patch cable	Q.18
	Assembled cables – PROFINET cable	Q.28
	Assembled cables – PROFINET cable PushPull Power	Q.32
	Assembled cables – PROFINET cable M12	Q.34
	Assembled cables – EtherNet/IP	Q.42
	Assembled cables – PROFINET cable M8	Q.44
	Assembled cables – PROFINET cable M8, D-coded	Q.48
	Assembled cables – Railway cable M12	Q.53
	Assembled cables – Railway cable RJ45	Q.58
	Assembled cables – USB cable	Q.59
	Assembled cables – Single Pair Ethernet cable	Q.61

The ideal solution, whatever your needs

Our AdvancedLine and CabinetLine product ranges

AdvancedLine



Q The AdvancedLine from Weidmüller offers all combinations of cables that are possible with the extensive range of plug connections.

This means flexibility and robustness through the high quality of the used components. The range comprises standard cables and customer-specific versions. Standard cables can be found in the catalogue; customer-specific versions can be freely configured online using the "Galaxy" configuration software. All AdvancedLine cables are particularly suitable for industrial use.

- High-quality cables with very good technical characteristics
- Suitable for demanding IP20 to IP67 applications
- Suitable for temperatures from -40 to +70 °C
- High-quality shielding

CabinetLine



The new CabinetLine range of patch cables from Weidmüller is available in a variety of colours for visually differentiating between various networks.

Additional benefits:

All CabinetLine cables are fitted with Weidmüller TM marking sleeves for clearly labelling cables and ports. CabinetLine is available in many different colours in combination with LSZH sheathing material and transmission power Cat. 6A. CabinetLine is also available in the colour green and Cat. 5 with PUR or PVC sheathing material. All variants are fitted with protected clips which facilitate, e.g., pulling through a cable duct.

- For applications in switching cabinets and simple environmental conditions
- Suitable for temperatures from -20 to +60 °C
- Simple shielding

Configurators for copper cables

Tailor-made connections

The cable configurator in Weidmüller's online catalogue makes it possible for you to create fully-assembled cables customised specifically to your requirements and specifications.

An RJ45 plug with IP20 protection is available. The following variants are also available with IP67 protection:

- Variant 1, metal and plastic
- Variant 4, plastic
- Variant 5, metal
- Variant 14, metal
- M12 connector, straight and angled

You have the choice of configuring a cable which is identical on both ends, or with two different mating profiles, or with one end left open.

Weidmüller

English Industrial Ethernet

www.weidmueller.com

Project Management | Configuration | Parts list | Help

Product Catalogue » Product assistant » Industrial Ethernet

Industrial Ethernet product configurator

The industrial-Ethernet cable configurator allows you to custom-create assembled IE cables (copper and fibre-optic) according to your requirements and specifications. You have the choice of configuring a cable which is identical on both ends, or with two different mating profiles, or with one end left open. The cable configurator can also automatically create technical data sheets for all of your customised cable variants.

Configuration - Copper cable [Back to choice for connection type](#)

Designation: IE-C6ES8UG050B41A2E-X
Order no.:

55 m

Plug 1: RJ45 IP67 Baymo V01 metal
Type of cable: System cable
Cable colour: Green

Plug 2: RJ45 IP67 PushPull V14 metal
Category: Cat 7 / PUR
Length (m): Individual lengths

When selecting the cable, the following types are available:

- 8-wire system cable, AWG 26/7 in Cat. 5 or Cat. 7, with PVC or PUR sheath
- 8-wire dragline cable, AWG 26/7 in Cat. 5, PUR sheath
- 4-wire PROFINET dragline cable in Cat. 5, PUR sheath
- 4-wire PROFINET system cables in Cat. 5, PVC sheathing
- 4-wire railway cable in Cat. 5, Radox sheathing

The cable length can also be customised:

- From 0.3 m to 9.9 m, in 0.1 m steps
- From 10 m to 100 m, in 1 m steps

The cable configurator can automatically create technical data sheets for all of your customised cable variants.

All of your cable selections can be sent to Weidmüller using the "request list". You will then quickly receive a price proposal for the cables from your local Weidmüller representative.

Overview of copper cables

Solutions for every environment

Copper cables should be your first choice for applications in offices and harsh industrial environments.

Advantages:

- Available in many different variations and lengths
- Robust
- Easy to assemble
- RJ45 connections are the most popular

Raw cables

Industrial installation cables, horizontal cables



...for stationary, permanent installation in cable ducts and cable trays

- Cat. 5 or Cat. 7
- Available for PROFINET as well
- With PUR or PVC sheathing

Assembled cables

Industrial patch cables / CabinetLine



...not only for office applications, but also in switching cabinets for industrial applications

- Cat. 6
- With LSZH sheathing – low smoke and zero halogens
- In straight and crossover versions

Industrial system cables



...pre-assembled cables for flexible installation in machines and plants in industrial applications and difficult environments

- Cat. 5 or Cat. 6
- With PUR sheathing

Industrial connecting cables



...for flexible installation in machines and plants in industrial applications and difficult environments

- Cat. 5 or Cat. 7
- Available for PROFINET as well
- With PUR or PVC sheathing

Industrial trailing cables



...pre-assembled cable for constant motion, e.g., with draglines

- Cat. 5
- Available for PROFINET as well
- With PUR sheathing

Industrial trailing cables



...for applications subjected to constant movement

- Cat. 5
- Available for PROFINET as well
- With PUR sheathing

System cable for railway applications



...pre-assembled cable for flexible wiring on railway vehicles for both interior and exterior installations.

- In Cat. 5
- Also for PROFINET
- With Radox sheath

Single Pair Ethernet cables



IP20 and IP67 Patch Cables for compact Ethernet transmission with only one wire pair.

- according to IEC 63171-2 / -5
- very robust and space-saving

Ordering data for copper cables, raw cable

Type	Cat./Class	Colour	Plug-in connector		Length				
			left	right					
Industrial installation cables					100 m	500 m	305 m		
IE-C5CS8UG-xxx	Cat. 5	green	-	-	8813160000	2762870000			
IE-C5CS8VG-xxx	Cat. 5	green	-	-	8813150000	2763440000			
IE-C7BS8UG-xxx	Cat. 7	green	-	-	8813140000	2763530000			
IE-C7BS8VG-xxx	Cat. 7	green	-	-	8813130000	2763540000			
IE-C5AS4V-xxx	Cat. 5 PROFINET	green	-	-	8899000000	2763430000			
Industrial connecting cables									
IE-C5ES8UG-xxx	Cat. 5	green	-	-	8813200000	2763500000			
IE-C5ES8VG-xxx	Cat. 5	green	-	-	8813190000	2763510000			
IE-C7ES8UG-xxx	Cat. 7	green	-	-	8813180000	2763550000			
IE-C7ES8VG-xxx	Cat. 7	green	-	-	8813170000	2763490000			
IE-C5DS4V-xxx	Cat. 5 PROFINET	green	-	-	8898990000	2763470000			
IE-C5DHAG-xxx	Cat. 5 PROFINET	green	-	-	2763660000	2763460000			
IE-C7FS8LD-305M	Cat. 7	grey	-	-			1273090000		
IE-C7FS8LB-305M	Cat. 7	blue	-	-			1326540000		
IE-C7FS8LE-305M	Cat. 7	black	-	-			1344690000		
IE-C7FS8LG-305M	Cat. 7	green	-	-			1344680000		
IE-C7FS8LR-305M	Cat. 7	red	-	-			1287910000		
IE-C7FS8LV-305M	Cat. 7	violet	-	-			2779910000		
IE-C7FS8LM-305M	Cat. 7	magenta	-	-			1333160000		
IE-C7FS8LO-305M	Cat. 7	orange	-	-			2661080000		
IE-C7FS8LY-305M	Cat. 7	yellow	-	-			1344670000		
Industrial trailing cables									
IE-C5ED8UG-xxx	Cat. 5	green	-	-	8813210000	2763490000			
IE-C5ED8UB-xxx	Cat. 5	blue	-	-	8960670000	2763480000			
IE-C5DD4UG-xxx	Cat. 5 PROFINET	green	-	-	8899010000	2763450000			
IE-C5IT4UG-xxx	Cat. 5 PROFINET	green	-	-	2764770000	2763520000			

Raw cables – Installation cable

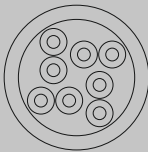
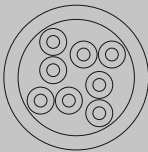
Raw cables

Installation cable Cat. 5

- In lengths from 100 or 500 metres

PUR

PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Installation cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 24/1 - 4*2*0.205 mm ²
6.7 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Installation cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 24/1 - 4*2*0.205 mm ²
6.3 mm
PVC
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
good
in acc. with IEC 60332-1

Ordering data

100.0 m
500.0 m

Note

Type	Qty.	Order No.
IE-C5CS8UG-100	1	8813160000
IE-C5CS8UG-500	1	2762870000

Type	Qty.	Order No.
IE-C5CS8VG-100	1	8813150000
IE-C5CS8VG-500	1	2763440000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label. yellow. 12 mm
Insertion label. yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

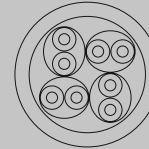
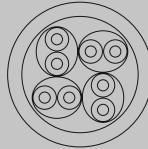
Note

Note

Note

Raw cables**Installation cable Cat. 7**

- In lengths from 100 or 500 metres

PUR**PVC****Technical data**

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Installation cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 23/1 - 4*2*0.255 mm ²
8.4 mm
PUR
green (RAL 6018)
1.4 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Installation cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 23/1 - 4*2*0.255 mm ²
8.4 mm
PVC
green (RAL 6018)
1.4 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
good
in acc. with IEC 60332-1

Ordering data

100.0 m
500.0 m

Note

Type	Qty.	Order No.
IE-C7BS8UG-100	1	8813140000
IE-C7BS8UG-500	1	2763530000

Type	Qty.	Order No.
IE-C7BS8VG-100	1	8813130000
IE-C7BS8VG-500	1	2763540000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Raw cables – Connection cable

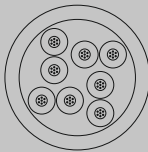
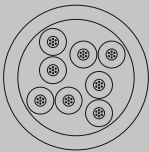
Raw cables

Connecting cable Cat. 5

- In lengths from 100 or 500 metres

PUR

PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.1 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-10 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
5.8 mm
PVC
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
good
in acc. with IEC 60332-1

Ordering data

100.0 m
500.0 m

Note

Type	Qty.	Order No.
IE-C5ES8UG-100	1	8813200000
IE-C5ES8UG-500	1	2763500000

Type	Qty.	Order No.
IE-C5ES8VG-100	1	8813190000
IE-C5ES8VG-500	1	2763510000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Note

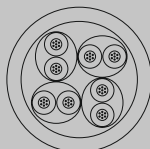
Note

Raw cables

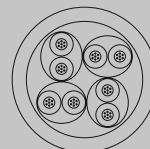
Connecting cable Cat. 7

- In lengths from 100 or 500 metres

PUR



PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

Note

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.6 mm
PUR
green (RAL 6018)
1.03 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.7 mm
PVC
green (RAL 6018)
0.98 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-15 °C...60 °C
-40 °C...80 °C
good
in acc. with IEC 60332-1
UL-Style 2879 (80°C/30V)

Ordering data

	100.0 m
	500.0 m

Note

Type	Qty.	Order No.
IE-C7ES8UG-100	1	8813180000
IE-C7ES8UG-500	1	2763550000

Type	Qty.	Order No.
IE-C7ES8VG-100	1	8813170000
IE-C7ES8VG-500	1	2763560000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

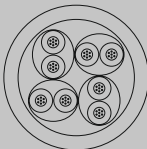
Raw cables – Connection cable

Raw cables

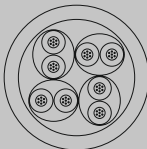
Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH grey



LSZH blue



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
light grey (RAL 7035)
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

CULUS

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
blue (RAL 5015)
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

CULUS

Ordering data

305 m / 1000 ft

Note

Type	Qty.	Order No.
IE-C7FS8LD-305M	1	1273090000

Type	Qty.	Order No.
IE-C7FS8LB-305M	1	1326540000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

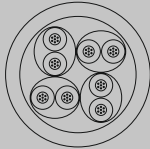
- Wire and cable markers. ø 4.7 - 7.4 mm
- Wire and cable markers. ø 5.8 - 7.8 mm
- Insertion label, yellow. 12 mm
- Insertion label, yellow. 18 mm
- Transparent sleeves. 12-mm length
- Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

LSZH black



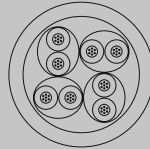
System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH
black
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

CULUS

Type	Qty.	Order No.
IE-C7FS8LE-305M	1	1344690000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

LSZH green



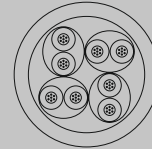
System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH
green
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

CULUS

Type	Qty.	Order No.
IE-C7FS8LG-305M	1	1344680000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

LSZH red



System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm²
5.9 mm
LSZH
red
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

CULUS

Type	Qty.	Order No.
IE-C7FS8LR-305M	1	1287910000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Raw cables – Connection cable

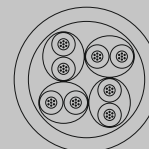
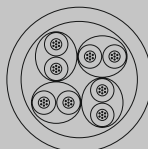
Raw cables

Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH magenta

LSZH violet



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Halogen
Resistance to spread of flame
Resistance to oils
Approvals
Note

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
Magenta
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
CULUS

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
violet
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1
CULUS

Ordering data

	305 m / 1000 ft
Note	

Type	Qty.	Order No.
IE-C7FS8LM-305M	1	1333160000

Type	Qty.	Order No.
IE-C7FS8LV-305M	1	2779910000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable markers, ø 4.7 - 7.4 mm
Wire and cable markers, ø 5.8 - 7.8 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

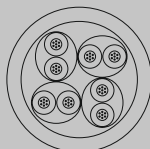
Note

Raw cables

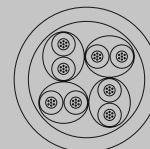
Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH yellow



LZSH orange



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
yellow
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

CULUS

System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
orange
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
No
in acc. with IEC 60332-1

Ordering data

305 m / 1000 ft

Note

Type	Qty.	Order No.
IE-C7FS8LY-305M	1	1344670000

Type	Qty.	Order No.
IE-C7FS8LO-305M	1	2661080000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable markers, ø 4.7 - 7.4 mm
Wire and cable markers, ø 5.8 - 7.8 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001

Note

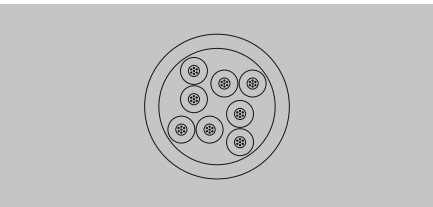
Raw cables – Dragline cable

Raw cables

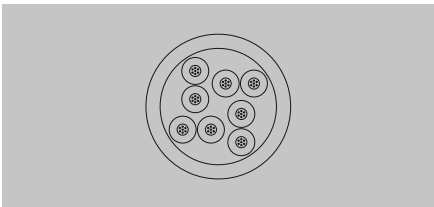
Dragline cable Cat. 5

- In lengths from 100, 500 or 1000 metres

PUR green



PUR blue



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Bending cycles
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm²
6.8 mm
PUR
green (RAL 6018)
0.95 mm
7.5 x cable diameter
4 x cable diameter
5 Mio
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm²
6.8 mm
PUR
blue (RAL 5015)
0.95 mm
7.5 x cable diameter
4 x cable diameter
5 Mio
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

Ordering data

	100.0 m
	500.0 m
	1000.0 m

Note

Type	Qty.	Order No.
IE-C5ED8UG-100	1	8813210000
IE-C5ED8UG-500	1	2763490000
IE-C5ED8UG-1000	1	2781890000

Type	Qty.	Order No.
IE-C5ED8UB-100	1	8960670000
IE-C5ED8UB-500	1	2763480000
IE-C5ED8UB-1000	1	2781880000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

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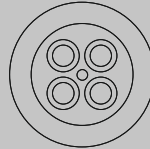
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Raw cables

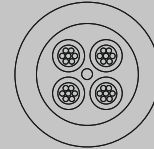
PROFINET cable

- In lengths from 100 or 500 metres

Installation cable type A, PVC



Connection cable type B, PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Resistance to spread of flame
Standard, assembly
Approvals

Note

Installation cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*AWG 22/1 - 0.33 mm ²
6.7 mm
PVC
green (RAL 6018)
1.5 mm
7.5 x cable diameter
3.5 *diameter
-40 °C...75 °C
-20 °C...60 °C
-40 °C...75 °C
good
in acc. with IEC 60332-1 / UL 1685
UL-Style 21694

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PVC
green (RAL 6018)
1.5 mm
7.5 x cable diameter
3.5 *diameter
-40 °C...70 °C
-20 °C...60 °C
-40 °C...70 °C
good
in acc. with IEC 60332-1 / UL 1685
UL-Style 21694

Ordering data

	100.0 m
	500.0 m

Note

Type	Qty.	Order No.
IE-C5AS4VG-100	1	8899000000
IE-C5AS4VG-500	1	2763430000

Type	Qty.	Order No.
IE-C5DS4VG-100	1	8898990000
IE-C5DS4VG-500	1	2763470000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

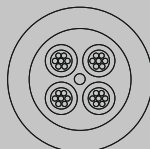
Raw cables – PROFINET cable

Raw cables

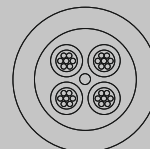
PROFINET cable

- In lengths from 100 or 500 metres

Dragline cable type C, PUR



Torsion cable type C, PUR



Technical data

Technical data
Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Bending cycles
Torsion cycles
Torsion resistance
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals
Note

Technical data
Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
3 Mio
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
Note

Technical data
Torsion cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
S/UTP
4*AWG 22/19 - 0.38 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
10 x cable diameter
5 x cable diameter
1 mill.
180 °/m
-40 °C...80 °C
-40 °C...80 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
UL Style 21161
Note

Ordering data

Cat. 5 PROFINET. PUR
100.0 m
500.0 m
Note

Type	Qty.	Order No.
IE-C5DD4UG-100	1	8899010000
IE-C5DD4UG-500	1	2763450000

Type	Qty.	Order No.
IE-C5IT4UG-100	1	2764770000
IE-C5IT4UG-500	1	2763520000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-H 12 MC NE GE	320	1718411687
TM-H 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

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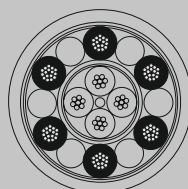
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Raw cables

Hybrid cable

- In lengths from 100 or 500 metres

PVC



Technical data

Product type
Category
Shielding
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Standard, assembly
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*AWG 22/7 - 0.36 mm ² , 6*0.5 mm ²
9.5 mm
PVC
green (RAL 6018)
1.5 mm / 1.75 mm
7.5 x cable diameter
3.5 *diameter
-30 °C...75 °C
0 °C...50 °C
-40 °C...70 °C
good
Yes
in acc. with IEC 60332-1 / UL 1685
limited

Ordering data

100.0 m
500.0 m

Note

Type	Qty.	Order No.
IE-C5DHAG-100	1	2763660000
IE-C5DHAG-500	1	2763460000

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label. yellow. 12 mm
Insertion label. yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH grey



RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
grey
1.04 mm
50 mm / 25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Ordering data

0.2 m
0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
7.5 m
10.0 m
15.0 m
20.0 m
25.0 m

Note

Type	Qty.	Order No.
IE-C6FP8LD0002M40M40-D	1	1165940002
IE-C6FP8LD0005M40M40-D	1	1165940005
IE-C6FP8LD0010M40M40-D	1	1165940010
IE-C6FP8LD0015M40M40-D	1	1165940015
IE-C6FP8LD0020M40M40-D	1	1165940020
IE-C6FP8LD0030M40M40-D	1	1165940030
IE-C6FP8LD0050M40M40-D	1	1165940050
IE-C6FP8LD0075M40M40-D	1	1165940075
IE-C6FP8LD0100M40M40-D	1	1165940100
IE-C6FP8LD0150M40M40-D	1	1165940150
IE-C6FP8LD0200M40M40-D	1	1165940200
IE-C6FP8LD0250M40M40-D	1	1165940250

Other lengths available on request

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH blue



LSZH black



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Ordering data

0.2 m
0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m
25.0 m

Note

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
blue
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Type	Qty.	Order No.
IE-C6FP8LB0002M40M40-B	1	11659000002
IE-C6FP8LB0005M40M40-B	1	11659000005
IE-C6FP8LB0010M40M40-B	1	11659000010
IE-C6FP8LB0015M40M40-B	1	11659000015
IE-C6FP8LB0020M40M40-B	1	11659000020
IE-C6FP8LB0030M40M40-B	1	11659000030
IE-C6FP8LB0050M40M40-B	1	11659000050
IE-C6FP8LB0100M40M40-B	1	11659000100
IE-C6FP8LB0150M40M40-B	1	11659000150
IE-C6FP8LB0200M40M40-B	1	11659000200
IE-C6FP8LB0250M40M40-B	1	11659000250

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
black
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Type	Qty.	Order No.
IE-C6FP8LE0002M40M40-E	1	12516100002
IE-C6FP8LE0005M40M40-E	1	12516100005
IE-C6FP8LE0010M40M40-E	1	12516100010
IE-C6FP8LE0015M40M40-E	1	12516100015
IE-C6FP8LE0020M40M40-E	1	12516100020
IE-C6FP8LE0030M40M40-E	1	12516100030
IE-C6FP8LE0050M40M40-E	1	12516100050
IE-C6FP8LE0100M40M40-E	1	12516100100
IE-C6FP8LE0150M40M40-E	1	12516100150
IE-C6FP8LE0200M40M40-E	1	12516100200
IE-C6FP8LE0250M40M40-E	1	12516100250

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables
Patch cable CabinetLine Cat. 6 straight

LSZH green



LSZH red



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RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
green
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
red
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Ordering data

	0.2 m
	0.5 m
	1.0 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
	25.0 m

Note

Type	Qty.	Order No.
IE-C6FP8LG0002M40M40-G	1	1251590002
IE-C6FP8LG0005M40M40-G	1	1251590005
IE-C6FP8LG0010M40M40-G	1	1251590010
IE-C6FP8LG0015M40M40-G	1	1251590015
IE-C6FP8LG0020M40M40-G	1	1251590020
IE-C6FP8LG0030M40M40-G	1	1251590030
IE-C6FP8LG0050M40M40-G	1	1251590050
IE-C6FP8LG0100M40M40-G	1	1251590100
IE-C6FP8LG0150M40M40-G	1	1251590150
IE-C6FP8LG0200M40M40-G	1	1251590200
IE-C6FP8LG0250M40M40-G	1	1251590250

Type	Qty.	Order No.
IE-C6FP8LR0002M40M40-R	1	1166030002
IE-C6FP8LR0005M40M40-R	1	1166030005
IE-C6FP8LR0010M40M40-R	1	1166030010
IE-C6FP8LR0015M40M40-R	1	1166030015
IE-C6FP8LR0020M40M40-R	1	1166030020
IE-C6FP8LR0030M40M40-R	1	1166030030
IE-C6FP8LR0050M40M40-R	1	1166030050
IE-C6FP8LR0100M40M40-R	1	1166030100
IE-C6FP8LR0150M40M40-R	1	1166030150
IE-C6FP8LR0200M40M40-R	1	1166030200
IE-C6FP8LR0250M40M40-R	1	1166030250

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH magenta



LSZH violet



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals
Note

Ordering data

	0.2 m
	0.5 m
	1.0 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
	25.0 m
Note	

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
Magenta
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Type	Qty.	Order No.
IE-C6FP8LM0002M40M40-M	1	1201270002
IE-C6FP8LM0005M40M40-M	1	1201270005
IE-C6FP8LM0010M40M40-M	1	1201270010
IE-C6FP8LM0015M40M40-M	1	1201270015
IE-C6FP8LM0020M40M40-M	1	1201270020
IE-C6FP8LM0030M40M40-M	1	1201270030
IE-C6FP8LM0050M40M40-M	1	1201270050
IE-C6FP8LM0100M40M40-M	1	1201270100
IE-C6FP8LM0150M40M40-M	1	1201270150
IE-C6FP8LM0200M40M40-M	1	1201270200

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
violet
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Type	Qty.	Order No.
IE-C6FP8LV0002M40M40-V	1	2701550002
IE-C6FP8LV0005M40M40-V	1	2701550005
IE-C6FP8LV0010M40M40-V	1	2701550010
IE-C6FP8LV0015M40M40-V	1	2701550015
IE-C6FP8LV0020M40M40-V	1	2701550020
IE-C6FP8LV0030M40M40-V	1	2701550030
IE-C6FP8LV0050M40M40-V	1	2701550050
IE-C6FP8LV0100M40M40-V	1	2701550100
IE-C6FP8LV0150M40M40-V	1	2701550150
IE-C6FP8LV0200M40M40-V	1	2701550200

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 6 straight

LSZH yellow



LSZH orange



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RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals
Note

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
yellow
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
orange
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)

Ordering data

	0.2 m
	0.5 m
	1.0 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
	15.0 m
	20.0 m
	25.0 m
Note	

Type	Qty.	Order No.
IE-C6FP8LY0002M40M40-Y	1	1251580002
IE-C6FP8LY0005M40M40-Y	1	1251580005
IE-C6FP8LY0010M40M40-Y	1	1251580010
IE-C6FP8LY0015M40M40-Y	1	1251580015
IE-C6FP8LY0020M40M40-Y	1	1251580020
IE-C6FP8LY0030M40M40-Y	1	1251580030
IE-C6FP8LY0050M40M40-Y	1	1251580050
IE-C6FP8LY0100M40M40-Y	1	1251580100
IE-C6FP8LY0150M40M40-Y	1	1251580150
IE-C6FP8LY0200M40M40-Y	1	1251580200
IE-C6FP8LY0250M40M40-Y	1	1251580250

Type	Qty.	Order No.
IE-C6FP8L00002M40M40-0	1	2563810002
IE-C6FP8L00005M40M40-0	1	2563810005
IE-C6FP8L00010M40M40-0	1	2563810010
IE-C6FP8L00015M40M40-0	1	2563810015
IE-C6FP8L00020M40M40-0	1	2563810020
IE-C6FP8L00030M40M40-0	1	2563810030
IE-C6FP8L00050M40M40-0	1	2563810050
IE-C6FP8L00100M40M40-0	1	2563810100
IE-C6FP8L00150M40M40-0	1	2563810150
IE-C6FP8L00200M40M40-0	1	2563810200
IE-C6FP8L00250M40M40-0	1	2563810250

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables

Patch cable CabinetLine Cat. 6 angled

LSZH grey 270°



LSZH grey 90°



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Approvals
Note

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20, Angled 270° / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
grey
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20, Angled 90° / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
grey
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Ordering data

0.5 m
1.0 m
1.2 m
1.5 m
2.0 m
3.0 m
5.0 m
10.0 m
Note

Type	Qty.	Order No.
IE-C6FP8LD0005M40W40-D	1	1233160005
IE-C6FP8LD0010M40W40-D	1	1233160010
IE-C6FP8LD0012M40W40-D	1	1233160012
IE-C6FP8LD0015M40W40-D	1	1233160015
IE-C6FP8LD0020M40W40-D	1	1233160020
IE-C6FP8LD0030M40W40-D	1	1233160030
IE-C6FP8LD0050M40W40-D	1	1233160050
IE-C6FP8LD0100M40W40-D	1	1233160100

Type	Qty.	Order No.
IE-C6FP8LD0005M40V40-D	1	1248280005
IE-C6FP8LD0010M40V40-D	1	1248280010
IE-C6FP8LD0012M40V40-D	1	1248280012
IE-C6FP8LD0015M40V40-D	1	1248280015
IE-C6FP8LD0020M40V40-D	1	1248280020
IE-C6FP8LD0030M40V40-D	1	1248280030
IE-C6FP8LD0050M40V40-D	1	1248280050
IE-C6FP8LD0100M40V40-D	1	1248280100

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Note

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Assembled cables - Patch cable

Assembled cables
Patch cable CabinetLine Cat. 6 angled

LSZH 90° left



LSZH 90° right



RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20, Angled 90° left
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
grey
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20, Angled 90° right
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
grey
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Approvals

Note

Ordering data

	0.5 m
	1.0 m
	1.2 m
	1.5 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m

Note

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap

Note

Type	Qty.	Order No.
IE-C6FP8LD0005M40L40-D	1	2703320005
IE-C6FP8LD0010M40L40-D	1	2703320010
IE-C6FP8LD0012M40L40-D	1	2703320012
IE-C6FP8LD0015M40L40-D	1	2703320015
IE-C6FP8LD0020M40L40-D	1	2703320020
IE-C6FP8LD0030M40L40-D	1	2703320030
IE-C6FP8LD0050M40L40-D	1	2703320050
IE-C6FP8LD0100M40L40-D	1	2703320100

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Note

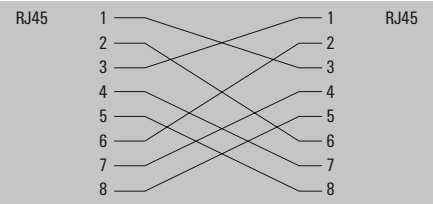
Type	Qty.	Order No.
IE-C6FP8LD0005M40R40-D	1	2703330005
IE-C6FP8LD0010M40R40-D	1	2703330010
IE-C6FP8LD0012M40R40-D	1	2703330012
IE-C6FP8LD0015M40R40-D	1	2703330015
IE-C6FP8LD0020M40R40-D	1	2703330020
IE-C6FP8LD0030M40R40-D	1	2703330030
IE-C6FP8LD0050M40R40-D	1	2703330050
IE-C6FP8LD0100M40R40-D	1	2703330100

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Note

Assembled cables
Patch cable CabinetLine Cat. 6 crossover

LSZH grey



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame

Approvals

Note

Patch cable, crossover
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
grey
1.04 mm
50 mm
25 mm
-20 °C...60 °C
0 °C...50 °C
-20 °C...60 °C
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-2-2, in acc. with IEC 60332-1-2, in acc. with IEC 60332-3-24, in acc. with UL 2556 (FT1)
CULUS

Ordering data

0.3 m
0.4 m
0.5 m
1.0 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C6FP8LD0003X40X40-Y	1	1312160003
IE-C6FP8LD0004X40X40-Y	1	1312160004
IE-C6FP8LD0005X40X40-Y	1	1312160005
IE-C6FP8LD0010X40X40-Y	1	1312160010
IE-C6FP8LD0020X40X40-Y	1	1312160020
IE-C6FP8LD0030X40X40-Y	1	1312160030
IE-C6FP8LD0050X40X40-Y	1	1312160050
IE-C6FP8LD0100X40X40-Y	1	1312160100
IE-C6FP8LD0150X40X40-Y	1	1312160150
IE-C6FP8LD0200X40X40-Y	1	1312160200

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle

Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TMH 12 MC NE GE	320	1718411687
TMH 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - Patch cable

Assembled cables

Patch cable CabinetLine Cat. 5 straight

PVC green

PUR green



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RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 26/7 - 4*2*0.128 mm²
5.8 mm
PVC
green (RAL 6018)
0.98 mm
10 x cable diameter
5 x cable diameter
-40 °C...75 °C
good
in acc. with IEC 60332-1
EAC

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 26/7 - 4*2*0.128 mm²
6 mm
PUR
green (RAL 6018)
0.98 mm
10 x cable diameter
5 x cable diameter
-40 °C...85 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
EN 50305

Ordering data

0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C5ES8VG0005M40M40-G	1	1166020005
IE-C5ES8VG0010M40M40-G	1	1166020010
IE-C5ES8VG0015M40M40-G	1	1166020015
IE-C5ES8VG0020M40M40-G	1	1166020020
IE-C5ES8VG0030M40M40-G	1	1166020030
IE-C5ES8VG0050M40M40-G	1	1166020050
IE-C5ES8VG0100M40M40-G	1	1166020100
IE-C5ES8VG0150M40M40-G	1	1166020150
IE-C5ES8VG0200M40M40-G	1	1166020200

Type	Qty.	Order No.
IE-C5ES8UG0005M40M40-G	1	1166000005
IE-C5ES8UG0010M40M40-G	1	1166000010
IE-C5ES8UG0015M40M40-G	1	1166000015
IE-C5ES8UG0020M40M40-G	1	1166000020
IE-C5ES8UG0030M40M40-G	1	1166000030
IE-C5ES8UG0050M40M40-G	1	1166000050
IE-C5ES8UG0100M40M40-G	1	1166000100
IE-C5ES8UG0150M40M40-G	1	1166000150
IE-C5ES8UG0200M40M40-G	1	1166000200

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap
Cable routing
90° outlet angle

Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Note

Note

Assembled cables

Patch cable CabinetLine Cat. 6 straight

PUR green



RJ45	1	white (orange)	1	RJ45
	2	orange	2	
	3	white (green)	3	
	4	blue	4	
	5	white (blue)	5	
	6	green	6	
	7	white (brown)	7	
	8	brown	8	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Connector standard
PoE / PoE+
Cross-section
Sheath diameter, max.
Material sheath / Sheathing colour
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Ambient temperature (operational)
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 27/7 - 4*2*0.1 mm ²
6.4 mm
PUR / green (RAL 6018)
1.02 mm
10 x cable diameter / 5 x cable diameter
-40 °C...85 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1 / UL 1581 FT2
in acc. with IEC 60811-2-1

Ordering data

0.3 m
0.5 m
1.0 m
1.5 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C6FS8UG0003A40A40-G	1	8941350003
IE-C6FS8UG0005A40A40-G	1	8941350005
IE-C6FS8UG0010A40A40-G	1	8941350010
IE-C6FS8UG0015A40A40-G	1	8941350015
IE-C6FS8UG0020A40A40-G	1	8941350020
IE-C6FS8UG0030A40A40-G	1	8941350030
IE-C6FS8UG0050A40A40-G	1	8941350050
IE-C6FS8UG0100A40A40-G	1	8941350100
IE-C6FS8UG0150A40A40-G	1	8941350150
IE-C6FS8UG0200A40A40-G	1	8941350200

Other lengths available on request

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm
Insertion label, yellow. 12 mm
Insertion label, yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length
Dust protection cap
Protective cap
Cable routing
90° outlet angle
Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
IE-PP-RJ45	10	2552580000
IE-CABLE-BENDER-90	50	2704480000

Assembled cables - PROFINET cable

Assembled cables

Patch cable PROFINET dragline cable (type C)

Cat. 5

IP 20

RJ45 IP20



RJ45 IP20 incl. protective cap



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Bending cycles
Speed
Acceleration
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45 IP 20 / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
1.5 mm
7.5 x cable diameter / 5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45 IP 20 with protective cap / RJ45 IP 20 with protective cap
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
1.5 mm
7.5 x cable diameter / 5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Ordering data

Type	Qty.	Order No.
IE-C5DD4UG0005A20A20-E	1	1173030005
IE-C5DD4UG0010A20A20-E	1	1173030010
IE-C5DD4UG0020A20A20-E	1	1173030020
IE-C5DD4UG0030A20A20-E	1	1173030030
IE-C5DD4UG0050A20A20-E	1	1173030050
IE-C5DD4UG0100A20A20-E	1	1173030100
IE-C5DD4UG0150A20A20-E	1	1173030150
IE-C5DD4UG0200A20A20-E	1	1173030200

Note

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Dust protection cap
Protective cap

Note

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Assembled cables

Patch cable PROFINET RJ45 crimp

Cat.5

IP20

Connecting cable (Type B), PVC



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Dragline cable (Type C), PUR



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Bending cycles
Speed
Acceleration
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals
Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45 IP 20 / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PVC
1.5 mm
7.5 x cable diameter / 3.5 *diameter
-40 °C...70 °C
-20 °C...60 °C
-40 °C...70 °C
good
in acc. with IEC 60332-1 / UL 1685

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45 IP 20 / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
1.5 mm
7.5 x cable diameter / 5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Ordering data

0.5 m	
1.0 m	
1.5 m	
2.0 m	
2.5 m	
3.0 m	
4.0 m	
5.0 m	
7.5 m	
10.0 m	
15.0 m	
20.0 m	
Note	

Type	Qty.	Order No.
IE-C5DS4VG0005A60A60-E	1	1522100005
IE-C5DS4VG0010A60A60-E	1	1522100010
IE-C5DS4VG0015A60A60-E	1	1522100015
IE-C5DS4VG0020A60A60-E	1	1522100020
IE-C5DS4VG0025A60A60-E	1	1522100025
IE-C5DS4VG0030A60A60-E	1	1522100030
IE-C5DS4VG0040A60A60-E	1	1522100040
IE-C5DS4VG0050A60A60-E	1	1522100050
IE-C5DS4VG0075A60A60-E	1	1522100075
IE-C5DS4VG0100A60A60-E	1	1522100100
IE-C5DS4VG0150A60A60-E	1	1522100150
IE-C5DS4VG0200A60A60-E	1	1522100200
Other lengths available on request		

Type	Qty.	Order No.
IE-C5DD4UG0005A60A60-E	1	2047310005
IE-C5DD4UG0010A60A60-E	1	2047310010
IE-C5DD4UG0015A60A60-E	1	2047310015
IE-C5DD4UG0020A60A60-E	1	2047310020
IE-C5DD4UG0025A60A60-E	1	2047310025
IE-C5DD4UG0030A60A60-E	1	2047310030
IE-C5DD4UG0040A60A60-E	1	2047310040
IE-C5DD4UG0050A60A60-E	1	2047310050
IE-C5DD4UG0075A60A60-E	1	2047310075
IE-C5DD4UG0100A60A60-E	1	2047310100
IE-C5DD4UG0150A60A60-E	1	2047310150
IE-C5DD4UG0200A60A60-E	1	2047310200

Accessories

Dust protection cap	
	Protective cap

Type	Qty.	Order No.
IE-PP-RJ45	10	2552580000

Type	Qty.	Order No.
IE-PP-RJ45	10	2552580000

Note

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Assembled cables - PROFINET cable

Assembled cables

Patch cable PROFINET dragline cable (type C)

Cat. 5

IP 67

V14 RJ45 IP67



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Connector standard
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Bending cycles
Speed
Acceleration
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals
Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
IEC 61076-3-117 Var. 14, IEC 60603-7-51
SF/UTP
RJ45 IP 67 PushPull V14 metal / RJ45 IP 67 PushPull V14 metal
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
1.5 mm
7.5 x cable diameter / 5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Ordering data

1.0 m
2.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0010A2EA2E-X	1	1119730010
IE-C5DD4UG0020A2EA2E-X	1	1119730020
IE-C5DD4UG0030A2EA2E-X	1	1119730030
IE-C5DD4UG0050A2EA2E-X	1	1119730050
IE-C5DD4UG0100A2EA2E-X	1	1119730100
IE-C5DD4UG0150A2EA2E-X	1	1119730150
IE-C5DD4UG0200A2EA2E-X	1	1119730200

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

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Assembled cables

Patch cable PROFINET (Type C) Cat. 5, over-moulded
IP 67

V14 RJ45 IP67

Dragline cable



V14 RJ45 IP67

Torsion cable



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Connector standard
Shielding
Version connector left / Version connector right

Cross-section
Sheath diameter, max.
Material sheath
Insulation diameter
Min. bending radius, repetitive / Min. bending radius, once only
Bending cycles / Pulling force
Torsion cycles / Torsion resistance
Speed / Acceleration
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
IEC 61076-3-117 Var. 14
SF/UTP
RJ45 IP 67 PushPull moulded V14 metal / RJ45 IP 67 PushPull moulded V14 metal
4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
1.5 mm
7.5 x cable diameter / 5 x cable diameter
3 Mio / ≤ 150 N

180 m/min / 4 m/s²
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Torsion cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
IEC 61076-3-117 Var. 14
S/UTP
RJ45 IP 67 PushPull moulded V14 metal / RJ45 IP 67 PushPull moulded V14 metal
4*AWG 22/19 - 0.38 mm²
6.7 mm
PUR
1.5 mm
10 x cable diameter / 5 x cable diameter

1 mill. / 180 °/m
-40 °C...80 °C
-40 °C...80 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Ordering data

1.0 m
2.0 m
3.0 m
5.0 m
10.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0010B2EB2E-X	1	1307610010
IE-C5DD4UG0020B2EB2E-X	1	1307610020
IE-C5DD4UG0030B2EB2E-X	1	1307610030
IE-C5DD4UG0050B2EB2E-X	1	1307610050
IE-C5DD4UG0100B2EB2E-X	1	1307610100

Type	Qty.	Order No.
IE-C5IT4UG0010B2EB2E-X	1	1312690010
IE-C5IT4UG0020B2EB2E-X	1	1312690020
IE-C5IT4UG0030B2EB2E-X	1	1312690030
IE-C5IT4UG0050B2EB2E-X	1	1312690050
IE-C5IT4UG0100B2EB2E-X	1	1312690100

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables – PROFINET cable PushPull Power

Assembled cables

Patch cable PushPull Power

Power IP67, PVC



Power IP67, PUR



Technical data

Connector standard
Version connector left / Version connector right
Ambient temperature (operational)
Cross-section
Wire connection cross section AWG, max.
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation
Number of wires
Min. bending radius, once only
Rated voltage
Current-carrying capacity at 50 °C
Approvals

Note

in acc. with PROFINET specification
PushPull Power / PushPull Power
-40 °C...70 °C
5*1.5 mm²
AWG 16
8.1 mm
PVC
grey (similar to RAL 7001)
PVC
5
4 x cable diameter
24 V
16 A
EAC

in acc. with PROFINET specification
PushPull Power / PushPull Power
-40 °C...80 °C
5*1.5 mm²
AWG 16
9 mm
PUR
grey (similar to RAL 7001)
TPE
5
5 x cable diameter
24 V
16 A
EAC

Ordering data

1.0 m
3.0 m
5.0 m
10.0 m
15.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-CSPS5VS0010VAPVAP-X	1	1350120010
IE-CSPS5VS0030VAPVAP-X	1	1350120030
IE-CSPS5VS0050VAPVAP-X	1	1350120050
IE-CSPS5VS0100VAPVAP-X	1	1350120100
IE-CSPS5VS0150VAPVAP-X	1	1350120150
IE-CSPS5VS0200VAPVAP-X	1	1350120200
Other lengths available on request		

Type	Qty.	Order No.
IE-CSPD5US0050VAPVAP-X	1	1403680050
IE-CSPD5US0100VAPVAP-X	1	1403680100
IE-CSPD5US0150VAPVAP-X	1	1403680150

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables

Patch cable PushPull Power

M12 L-coded

Power IP67, PUR



Technical data

Connector standard
Version connector left / Version connector right
Ambient temperature (operational)
Cross-section
Wire connection cross section AWG, max.
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation
Number of wires
Min. bending radius, once only
Min. bending radius, repetitive
Rated voltage
Rated current
Approvals

Note

in acc. with PROFINET specification, IEC 61076-2-111

M12 L-code – IP 67 straight socket / PushPull Power

-25 °C...70 °C

5*1.5 mm²

8.2 mm

PUR

Silver grey

PP

5

4 x cable diameter

7.5 x cable diameter

24 V

16 A

Ordering data

1.5 m
3.0 m
5.0 m
10.0 m

Note

Type	Qty.	Order No.
IE-CSPD5UD0015LSSVAP-X	1	2732640015
IE-CSPD5UD0030LSSVAP-X	1	2732640030
IE-CSPD5UD0050LSSVAP-X	1	2732640050
IE-CSPD5UD0100LSSVAP-X	1	2732640100

Accessories

Tools

Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables – PROFINET cable M12

Assembled cable

Dragline cable M12

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 - M12

Plug / plug



M12 - M12

Plug / socket



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Bending cycles
Speed
Acceleration
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals
Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / M12 D-code - IP 67 straight pin
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / M12 D-code - IP 67 straight socket
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

Ordering data

	0.5 m
	1.5 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG0005MCSMCS-E	1	1025950005
IE-C5DD4UG0015MCSMCS-E	1	1025950015
IE-C5DD4UG0030MCSMCS-E	1	1025950030
IE-C5DD4UG0050MCSMCS-E	1	1025950050
IE-C5DD4UG0100MCSMCS-E	1	1025950100

Type	Qty.	Order No.
IE-C5DD4UG0015MSSMCS-E	1	1059330015
IE-C5DD4UG0030MSSMCS-E	1	1059330030
IE-C5DD4UG0050MSSMCS-E	1	1059330050
IE-C5DD4UG0100MSSMCS-E	1	1059330100

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12
Note	

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Assembled cable

Dragline cable M12

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 - open



M12 - RJ45

Plug / plug



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Bending cycles
Speed
Acceleration
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame

Resistance to oils

Approvals

Note

Ordering data

	1.0 m
	1.5 m
	3.0 m
	5.0 m
	10.0 m

Note

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Tool set
Tool set with torque function
Mounting tool
Screwty-M12

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Dust protection cap

Protective cap

Note

	M12
yellow	1
white	2
orange	3
blue	4

RJ45		M12
1	yellow	1
3	white	2
2	orange	3
6	blue	4

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / Open
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1

Type	Qty.	Order No.
IE-C5DD4UG0010MCSXXX-X	1	1025940010
IE-C5DD4UG0015MCSXXX-X	1	1025940015
IE-C5DD4UG0030MCSXXX-X	1	1025940030
IE-C5DD4UG0050MCSXXX-X	1	1025940050
IE-C5DD4UG0100MCSXXX-X	1	1025940100

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

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Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
3 Mio
180 m/min
4 m/s ²
≤ 150 N
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

Type	Qty.	Order No.
IE-C5DD4UG0010MCSA20-E	1	1044470010
IE-C5DD4UG0015MCSA20-E	1	1044470015
IE-C5DD4UG0030MCSA20-E	1	1044470030
IE-C5DD4UG0050MCSA20-E	1	1044470050
IE-C5DD4UG0100MCSA20-E	1	1044470100

Type	Qty.	Order No.
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

IE-PP-RJ45	10	2552580000
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Assembled cables – PROFINET cable M12

Assembled cables

M12 dragline cable, angled

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 - M12

Plug / plug



M12 - M12

Plug / plug



Technical data

Product type
Category
Shielding
Version connector left / Version connector right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter, min. / max.
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / M12 D-code - IP 67 straight pin

4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60811-2-1

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 angled pin / M12 D-code - IP 67 angled pin

4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60811-2-1

Ordering data

Cat. 5 PROFINET. PUR. M12 straight-M12 angled	
1.5 m	
3.0 m	
5.0 m	
10.0 m	
Cat. 5 PROFINET. PUR. M12 angled-M12 angled	
1.5 m	
3.0 m	
5.0 m	
10.0 m	
Cat. 5. PUR. M12 angled-open	
1.5 m	
3.0 m	
5.0 m	
10.0 m	

Note

Type	Qty.	Order No.
IE-C5DD4UG0015MCSMCA-E	1	1059770015
IE-C5DD4UG0030MCSMCA-E	1	1059770030
IE-C5DD4UG0050MCSMCA-E	1	1059770050
IE-C5DD4UG0100MCSMCA-E	1	1059770100

Type	Qty.	Order No.

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Accessories

Marking tags
Insertion label. yellow. 12 mm
Insertion label. yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Note

Type	Qty.	Order No.
IE-C5DD4UG0015MCAMCA-E	1	1059890015
IE-C5DD4UG0030MCAMCA-E	1	1059890030
IE-C5DD4UG0050MCAMCA-E	1	1059890050
IE-C5DD4UG0100MCAMCA-E	1	1059890100

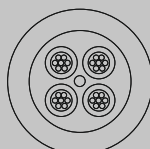
Type	Qty.	Order No.

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

- Cat. 5
- PUR
- D-coded
- PROFINET type C

Plug / -



Product type
Category
Shielding
Version connector left / Version connector right

- Cross-section
- Sheath diameter, max.
- Material sheath
- Sheathing colour
- Insulation diameter, min. / max.
- Min. bending radius, repetitive
- Ambient temperature (operational)
- Installation temperature
- Storage temperature
- Abrasion resistance
- Halogen
- Resistance to oils
- Fire safety for railway vehicles

Note

Cat. 5 PROFINET. PUR. M12 straight-M12 angled

1.5 m
3.0 m
5.0 m
10.0 m

Cat. 5 PROFINET. PUR. M12 angled-M12 angled

1.5 m
3.0 m
5.0 m
10.0 m

Cat. 5. PUR. M12 angled-open

1.5 m
3.0 m
5.0 m
10.0 m

Note

Marking tags

Insertion label. yellow. 12 mm
Insertion label. yellow. 18 mm
Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Dragline cable

Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)

SF/UTP

M12 D-code - IP 67 angled pin / Open

4*AWG 22/7 - 0.36 mm²

6.7 mm

PUR

green (RAL 6018)

1.5 mm

7.5 x cable diameter

-40 °C...70 °C

-20 °C...60 °C

-50 °C...70 °C

very good

halogen-free, according to IEC 60754-2

in acc. with IEC 60811-2-1

[illegible]

Type	Qty.	Order No.
TM-12 MC NE GE	320	1718411687
TM-18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables – PROFINET cable M12

Assembled cables

System cable M12 flange

- Cat. 5
- PUR
- D-coded
- PROFINET type B

M12 flange - M12 male

Plug / socket



M12 flange - RJ45

Plug / socket



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
360° shield contact
M12 D-code - flange / M12 D-code - pin straight
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
15 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
360° shield contact
M12 D-code - flange / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
15 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

	0.5 m
	1.0 m
	1.5 m
	2.0 m
	5.0 m
Note	

Type	Qty.	Order No.
IE-C5DS4UG0005MBSMCS-E	1	1244130005
IE-C5DS4UG0010MBSMCS-E	1	1244130010
IE-C5DS4UG0015MBSMCS-E	1	1244130015
IE-C5DS4UG0020MBSMCS-E	1	1244130020
IE-C5DS4UG0050MBSMCS-E	1	1244130050

Type	Qty.	Order No.
IE-C5DS4UG0005MBSA20-E	1	1234750005
IE-C5DS4UG0010MBSA20-E	1	1234750010
IE-C5DS4UG0015MBSA20-E	1	1234750015
IE-C5DS4UG0020MBSA20-E	1	1234750020
IE-C5DS4UG0050MBSA20-E	1	1234750050

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12
Dust protection cap	
	Protective cap

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000
IE-PP-RJ45	10	2552580000

Note

- Cat. 5
- PUR
- D-coded
- PROFINET type B

Socket / -



	M12
yellow	1
white	2
orange	3
blue	4

- Product type
- Category
- Shielding
- Version connector left / Version connector right
- Cross-section
- Sheath diameter, max.
- Material sheath
- Sheathing colour
- Insulation diameter
- Min. bending radius, repetitive
- Min. bending radius, once only
- Ambient temperature (operational)
- Installation temperature
- Storage temperature
- Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
360° shield contact
M12 D-code - flange / Open
4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
15 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

0.5 m
1.0 m
1.5 m
2.0 m
5.0 m

Note

Type	Qty.	Order No.
IE-C5DS4UG0005MBSXXX-E	1	1234770005
IE-C5DS4UG0010MBSXXX-E	1	1234770010
IE-C5DS4UG0015MBSXXX-E	1	1234770015
IE-C5DS4UG0020MBSXXX-E	1	1234770020
IE-C5DS4UG0050MBSXXX-E	1	1234770050

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools

Tool set
Tool set with torque function
Mounting tool
Screwty-M12

Dust protection cap

Protective cap

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY- M12	1	1900000000

Note

Assembled cables – PROFINET cable M12

Assembled cable

Connecting cable M12

- Cat. 6
- PVC
- X-type
- PROFINET type B

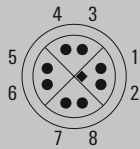
M12 - M12

Plug / plug



M12 - open

Plug / -



M12				M12
1	white, orange			1
2	orange			2
3	white, green			3
4	green			4
5	white, brown			5
6	brown			6
7	white, blue			7
8	blue			8

				M12
	White, Orange			1
	Orange			2
	White, Green			3
	Green			4
	White, Brown			5
	Brown			6
	White, Blue			7
	Blue			8

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Standard, assembly
Approvals

Note

Connecting line
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
M12 X-type IP 67 straight male / M12 X-type IP 67 straight male
4*2*AWG 23/7
8.8 mm
PVC
green (RAL 6018)
1.58 mm
8 x cable diameter
4 x cable diameter
≤ 150 N
-40 °C...80 °C
-40 °C...80 °C
-40 °C...80 °C
in acc. with IEC 60332-1-2
UL-Style 2461

Connecting line
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
M12 X-type IP 67 straight male / Open
4*2*AWG 23/7
8.8 mm
PVC
green (RAL 6018)
1.58 mm
8 x cable diameter
4 x cable diameter
≤ 150 N
-40 °C...80 °C
-40 °C...80 °C
-40 °C...80 °C
in acc. with IEC 60332-1-2
UL-Style 2461

Ordering data

	0.5 m
	1.5 m
	3.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-C6KS8VG0005XCSXCS-E	1	1398070005
IE-C6KS8VG0015XCSXCS-E	1	1398070015
IE-C6KS8VG0030XCSXCS-E	1	1398070030
IE-C6KS8VG0050XCSXCS-E	1	1398070050
IE-C6KS8VG0100XCSXCS-E	1	1398070100

Type	Qty.	Order No.
IE-C6KS8VG0005XCSXXX-E	1	1449470005
IE-C6KS8VG0015XCSXXX-E	1	1449470015
IE-C6KS8VG0030XCSXXX-E	1	1449470030
IE-C6KS8VG0050XCSXXX-E	1	1449470050
IE-C6KS8VG0100XCSXXX-E	1	1449470100

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cable

Dragline cable M12

- Cat. 6
- PUR
- X-type
- PROFINET type C

M12 - M12

Plug / plug



M12	1	white, orange	1	M12
	2	orange	2	
	3	white, green	3	
	4	green	4	
	5	white, brown	5	
	6	brown	6	
	7	white, blue	7	
	8	blue	8	

M12 - RJ45

Plug / plug



RJ45	1	White, Orange	1	M12
	2	Orange	2	
	3	White, Green	3	
	4	Blue	8	
	5	White, Blue	7	
	6	Green	4	
	7	White, Brown	5	
	8	Brown	6	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Standard, assembly
Approvals

Note

Dragline cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
M12 X-type IP 67 straight male / M12 X-type IP 67 straight male
4*2*AWG 26/19 - 4*2*0.128 mm ²
7.8 mm
PUR
green (RAL 6018)
0.98 mm
7.5 x cable diameter
4 x cable diameter
≤ 100 N
-40 °C...80 °C
-30 °C...70 °C
...
halogen-free
in acc. with IEC 60332-1-2, in acc. with UL 1581 VW-1 and CSA FT1

Dragline cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
M12 X-type IP 67 straight male / RJ45 IP 20
4*2*AWG 26/19 - 4*2*0.128 mm ²
7.8 mm
PUR
green (RAL 6018)
0.98 mm
7.5 x cable diameter
4 x cable diameter
≤ 100 N
-40 °C...80 °C
-30 °C...70 °C
...
halogen-free
in acc. with IEC 60332-1-2, in acc. with UL 1581 VW-1 and CSA FT1

Ordering data

	1.0 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	15.0 m

Note

Type	Qty.	Order No.
IE-C6HD8UG0010XCSXCS-E	1	2723040010
IE-C6HD8UG0030XCSXCS-E	1	2723040030
IE-C6HD8UG0050XCSXCS-E	1	2723040050
IE-C6HD8UG0075XCSXCS-E	1	2723040075
IE-C6HD8UG0100XCSXCS-E	1	2723040100
IE-C6HD8UG0150XCSXCS-E	1	2723040150

Type	Qty.	Order No.
IE-C6HD8UG0010E40XCS-E	1	2723030010
IE-C6HD8UG0030E40XCS-E	1	2723030030
IE-C6HD8UG0050E40XCS-E	1	2723030050
IE-C6HD8UG0075E40XCS-E	1	2723030075
IE-C6HD8UG0100E40XCS-E	1	2723030100
IE-C6HD8UG0150E40XCS-E	1	2723030150

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

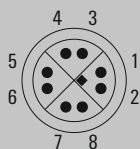
Assembled cables

M12 connecting cables

- Cat. 6
- PUR
- X-type

M12 - RJ45

Plug / plug



RJ45		M12
1	White, Orange	1
2	Orange	2
3	White, Green	3
4	Blue	8
5	White, Blue	7
6	Green	4
7	White, Brown	5
8	Brown	6

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Standard, assembly
Approvals

Note

System cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20 / M12 X-type IP 67 straight male
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.7 mm
PUR
green (RAL 6018)
0.98 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C
halogen-free, according to IEC 60754-1
in acc. with IEC 60332-1-2
UL Style 20963

Ordering data

1.0 m
2.0 m
3.0 m
5.0 m
10.0 m
12.0 m

Note

Type	Qty.	Order No.
IE-C6EL8UG0010U40XCS-E	1	1457580010
IE-C6EL8UG0020U40XCS-E	1	1457580020
IE-C6EL8UG0030U40XCS-E	1	1457580030
IE-C6EL8UG0050U40XCS-E	1	1457580050
IE-C6EL8UG0100U40XCS-E	1	1457580100
IE-C6EL8UG0120U40XCS-E	1	1457580120

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Dust protection cap	Protective cap

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
IE-PP-RJ45	10	2552580000

Note

Assembled cables

EtherNet/IP patch cable

- in PUR

V1 RJ45 IP 67 - metal



V1 RJ45 IP 67 - plastic



RJ45				RJ45
1	white (orange)			1
2	orange			2
3	white (green)			3
4	blue			4
5	white (blue)			5
6	green			6
7	white (brown)			7
8	brown			8

RJ45				RJ45
1	white (orange)			1
2	orange			2
3	white (green)			3
4	blue			4
5	white (blue)			5
6	green			6
7	white (brown)			7
8	brown			8

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to spread of flame
Resistance to oils
Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45 IP 67 Baymo V01 metal / RJ45 IP 67 Baymo V01 metal
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.1 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-10 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
RJ45 IP 67 Baymo V01 plastic / RJ45 IP 67 Baymo V01 plastic
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.1 mm
PUR
green (RAL 6018)
1 mm
10 x cable diameter
5 x cable diameter
-40 °C...80 °C
-10 °C...60 °C
-40 °C...80 °C
very good
halogen-free, according to IEC 60754-2
in acc. with IEC 60332-1
in acc. with IEC 60811-2-1
CULUS

Ordering data

	1.0 m
	2.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-C5ES8UG0010B41B41-E	1	1066850000
IE-C5ES8UG0020B41B41-E	1	1066860000
IE-C5ES8UG0050B41B41-E	1	1066870000
IE-C5ES8UG0100B41B41-E	1	1066880000

Type	Qty.	Order No.
IE-C5ES8UG0010P41P41-E	1	1106010000
IE-C5ES8UG0020P41P41-E	1	1106020000
IE-C5ES8UG0050P41P41-E	1	1106030000
IE-C5ES8UG0100P41P41-E	1	1106040000

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables – PROFINET cable M8

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- P-coded

M8 - open

Plug / -



M8 - open

Plug / -



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 straight socket / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Dragline cable
Cat. 5e
SF/UTP
M8 D-code - IP67 straight pin / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Ordering data

1.5 m
3.0 m
5.0 m
7.5 m
10.0 m
20.0 m
30.0 m

Note

Type	Qty.	Order No.
IE-C5DE4UP0015PSSXXX-E	1	2717740015
IE-C5DE4UP0030PSSXXX-E	1	2717740030
IE-C5DE4UP0050PSSXXX-E	1	2717740050
IE-C5DE4UP0075PSSXXX-E	1	2717740075
IE-C5DE4UP0100PSSXXX-E	1	2717740100
IE-C5DE4UP0200PSSXXX-E	1	2717740200
IE-C5DE4UP0300PSSXXX-E	1	2717740300

Type	Qty.	Order No.
IE-C5DE4UP0015PCSXXX-E	1	2717750015
IE-C5DE4UP0030PCSXXX-E	1	2717750030
IE-C5DE4UP0050PCSXXX-E	1	2717750050
IE-C5DE4UP0075PCSXXX-E	1	2717750075
IE-C5DE4UP0100PCSXXX-E	1	2717750100
IE-C5DE4UP0200PCSXXX-E	1	2717750200
IE-C5DE4UP0300PCSXXX-E	1	2717750300

Accessories

Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Tools
Tool set
Tool set with torque function
Mounting tool
Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Note

Note

Assembled cable

Dragline cable M8

- Cat. 5
- PUR
- P-coded

M8 - open

Plug angled / -



M8 - open

Socket angled / -



M8	yellow
1	white
2	blue
3	orange
4	

M8	yellow
1	white
2	blue
3	orange
4	

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 angled socket / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 angled pin / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m

Note

Type	Qty.	Order No.
IE-C5DE4UP0015PSAXXX-E	1	2717760015
IE-C5DE4UP0030PSAXXX-E	1	2717760030
IE-C5DE4UP0050PSAXXX-E	1	2717760050
IE-C5DE4UP0075PSAXXX-E	1	2717760075
IE-C5DE4UP0100PSAXXX-E	1	2717760100
IE-C5DE4UP0200PSAXXX-E	1	2717760200
IE-C5DE4UP0300PSAXXX-E	1	2717760300

Type	Qty.	Order No.
IE-C5DE4UP0015PCAXXX-E	1	2717770015
IE-C5DE4UP0030PCAXXX-E	1	2717770030
IE-C5DE4UP0050PCAXXX-E	1	2717770050
IE-C5DE4UP0075PCAXXX-E	1	2717770075
IE-C5DE4UP0100PCAXXX-E	1	2717770100

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Tools	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cables – PROFINET cable M8

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- P-coded

M8 - M8

Plug straight / Plug straight



M8 - M8

Plug straight / Socket straight



M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 straight pin / M8 P-code - IP67 straight pin
2*2*AWG 22/7 - 2*2*0.36 mm ²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 straight pin / M8 P-code - IP67 straight socket
2*2*AWG 22/7 - 2*2*0.36 mm ²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Ordering data

1.5 m	
3.0 m	
5.0 m	
7.5 m	
10.0 m	
20.0 m	
30.0 m	
Note	

Type	Qty.	Order No.
IE-C5DE4UP0015PCSPCS-E	1	2717780015
IE-C5DE4UP0030PCSPCS-E	1	2717780030
IE-C5DE4UP0050PCSPCS-E	1	2717780050
IE-C5DE4UP0075PCSPCS-E	1	2717780075
IE-C5DE4UP0100PCSPCS-E	1	2717780100
IE-C5DE4UP0200PCSPCS-E	1	2717780200
IE-C5DE4UP0300PCSPCS-E	1	2717780300

Type	Qty.	Order No.
IE-C5DE4UP0015PCSPSS-E	1	2717790015
IE-C5DE4UP0030PCSPSS-E	1	2717790030
IE-C5DE4UP0050PCSPSS-E	1	2717790050
IE-C5DE4UP0075PCSPSS-E	1	2717790075
IE-C5DE4UP0100PCSPSS-E	1	2717790100
IE-C5DE4UP0200PCSPSS-E	1	2717790200
IE-C5DE4UP0300PCSPSS-E	1	2717790300

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

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Assembled cable

Dragline cable M8

- Cat. 5
- PUR
- P-coded

M8 - M8

Plug angled / Plug angled



M8 - M8

Plug angled / socket angled



M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

M8		M8
1	yellow	1
2	white	2
3	blue	3
4	orange	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 angled pin / M8 P-code - IP67 angled pin

2*2*AWG 22/7 - 2*2*0.36 mm²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Dragline cable
Cat. 5e
SF/UTP
M8 P-code - IP67 angled pin / M8 P-code - IP67 angled socket

2*2*AWG 22/7 - 2*2*0.36 mm²
6.7 mm
PUR
black
1.6 mm
8 x cable diameter
5 x cable diameter
-40 °C...80 °C
...
...

Ordering data

1.5 m
3.0 m
5.0 m
7.5 m
10.0 m

Note

Type	Qty.	Order No.
IE-C5DE4UP0015PCAPCA-E	1	2717800015
IE-C5DE4UP0030PCAPCA-E	1	2717800030
IE-C5DE4UP0050PCAPCA-E	1	2717800050
IE-C5DE4UP0075PCAPCA-E	1	2717800075
IE-C5DE4UP0100PCAPCA-E	1	2717800100

Type	Qty.	Order No.
IE-C5DE4UP0015PCAPSA-E	1	2717810015
IE-C5DE4UP0030PCAPSA-E	1	2717810030
IE-C5DE4UP0050PCAPSA-E	1	2717810050
IE-C5DE4UP0075PCAPSA-E	1	2717810075
IE-C5DE4UP0100PCAPSA-E	1	2717810100

Accessories

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Tools

Tool set
Tool set with torque function
Mounting tool
Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY- M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY- M12	1	1900000000

Note

Assembled cables – PROFINET cable M8, D-coded

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - open

Plug / -



M8 - open

Socket / -



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

M8	yellow
1	white
2	orange
3	blue
4	

M8	yellow
1	white
2	orange
3	blue
4	

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 straight pin / Open
4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 straight socket / Open
4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

1.5 m
3.0 m
5.0 m
7.5 m
10.0 m
20.0 m
30.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015DCSXXX-E	1	2706150015
IE-C5DD4UG0030DCSXXX-E	1	2706150030
IE-C5DD4UG0050DCSXXX-E	1	2706150050
IE-C5DD4UG0075DCSXXX-E	1	2706150075
IE-C5DD4UG0100DCSXXX-E	1	2706150100
IE-C5DD4UG0200DCSXXX-E	1	2706150200
IE-C5DD4UG0300DCSXXX-E	1	2706150300

Type	Qty.	Order No.
IE-C5DD4UG0015DSSXXX-E	1	2706260015
IE-C5DD4UG0030DSSXXX-E	1	2706260030
IE-C5DD4UG0050DSSXXX-E	1	2706260050
IE-C5DD4UG0075DSSXXX-E	1	2706260075
IE-C5DD4UG0100DSSXXX-E	1	2706260100
IE-C5DD4UG0200DSSXXX-E	1	2706260200
IE-C5DD4UG0300DSSXXX-E	1	2706260300

Accessories

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Tools

Tool set
Tool set with torque function
Mounting tool
Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable

Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - open

Plug angled / -



M8 - open

Socket angled / -



M8	
1	yellow
2	white
3	orange
4	blue

M8	
1	yellow
2	white
3	orange
4	blue

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 angled pin / Open
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 angled socket / Open
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

	1.5 m
	3.0 m
	5.0 m
	7.5 m
	10.0 m
	20.0 m
	30.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015DCAXXX-E	1	2706190015
IE-C5DD4UG0030DCAXXX-E	1	2706190030
IE-C5DD4UG0050DCAXXX-E	1	2706190050
IE-C5DD4UG0075DCAXXX-E	1	2706190075
IE-C5DD4UG0100DCAXXX-E	1	2706190100

Type	Qty.	Order No.
IE-C5DD4UG0015DSAXXX-E	1	2706160015
IE-C5DD4UG0030DSAXXX-E	1	2706160030
IE-C5DD4UG0050DSAXXX-E	1	2706160050
IE-C5DD4UG0075DSAXXX-E	1	2706160075
IE-C5DD4UG0100DSAXXX-E	1	2706160100
IE-C5DD4UG0200DSAXXX-E	1	2706160200
IE-C5DD4UG0300DSAXXX-E	1	2706160300

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	
	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cables – PROFINET cable M8, D-coded

Assembled cable
Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - M8

Plug straight / Plug straight



M8 - M8

Plug straight / Socket straight



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

M8	yellow
1	white
2	orange
3	blue
4	

M8	yellow
1	white
2	orange
3	blue
4	

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 straight pin / M8 D-code - IP67 straight pin
4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 straight pin / M8 D-code - IP67 straight socket
4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

1.5 m
3.0 m
5.0 m
7.5 m
10.0 m
20.0 m
30.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015DCSDCS-E	1	2706200015
IE-C5DD4UG0030DCSDCS-E	1	2706200030
IE-C5DD4UG0050DCSDCS-E	1	2706200050
IE-C5DD4UG0075DCSDCS-E	1	2706200075
IE-C5DD4UG0100DCSDCS-E	1	2706200100
IE-C5DD4UG0200DCSDCS-E	1	2706200200
IE-C5DD4UG0300DCSDCS-E	1	2706200300

Type	Qty.	Order No.
IE-C5DD4UG0015DCSDSS-E	1	2706210015
IE-C5DD4UG0030DCSDSS-E	1	2706210030
IE-C5DD4UG0050DCSDSS-E	1	2706210050
IE-C5DD4UG0075DCSDSS-E	1	2706210075
IE-C5DD4UG0100DCSDSS-E	1	2706210100
IE-C5DD4UG0200DCSDSS-E	1	2706210200
IE-C5DD4UG0300DCSDSS-E	1	2706210300

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable

Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - M8

Plug angled / Plug angled



M8 - M8

Plug angled / socket angled



M8	
1	yellow
2	white
3	orange
4	blue

M8	
1	yellow
2	white
3	orange
4	blue

Technical data

Product type
Category
Shielding
Version connector left / Version connector right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 angled pin / M8 D-code - IP67 angled pin

4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 angled pin / M8 D-code - IP67 angled socket

4*AWG 22/7 - 0.36 mm²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

1.5 m
3.0 m
5.0 m
7.5 m
10.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015DCADCA-E	1	2706220015
IE-C5DD4UG0030DCADCA-E	1	2706220030
IE-C5DD4UG0050DCADCA-E	1	2706220050
IE-C5DD4UG0075DCADCA-E	1	2706220075
IE-C5DD4UG0100DCADCA-E	1	2706220100

Type	Qty.	Order No.
IE-C5DD4UG0015DCADSA-E	1	2706230015
IE-C5DD4UG0030DCADSA-E	1	2706230030
IE-C5DD4UG0050DCADSA-E	1	2706230050
IE-C5DD4UG0075DCADSA-E	1	2706230075
IE-C5DD4UG0100DCADSA-E	1	2706230100

Accessories

Marking tags

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Tools

Tool set
Tool set with torque function
Mounting tool
Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY- M12	1	1900000000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET -DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY- M12	1	1900000000

Note

Assembled cables – PROFINET cable M8, D-coded

Assembled cable

Dragline cable M8

- Cat. 5
- PUR
- D-coded

M8 - RJ45

Plug straight / Plug straight



RJ45		M8
1	yellow	1
3	white	2
2	orange	3
6	blue	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Min. bending radius, once only
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M8 D-code - IP67 straight pin / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 x cable diameter
5 x cable diameter
-40 °C...70 °C
-20 °C...60 °C
-50 °C...70 °C

Ordering data

1.5 m
3.0 m
5.0 m
7.5 m
10.0 m
20.0 m
30.0 m

Note

Type	Qty.	Order No.
IE-C5DD4UG0015DCSE40-E	1	2706250015
IE-C5DD4UG0030DCSE40-E	1	2706250030
IE-C5DD4UG0050DCSE40-E	1	2706250050
IE-C5DD4UG0075DCSE40-E	1	2706250075
IE-C5DD4UG0100DCSE40-E	1	2706250100
IE-C5DD4UG0200DCSE40-E	1	2706250200
IE-C5DD4UG0300DCSE40-E	1	2706250300

Accessories

Marking tags	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
Tools	Tool set
	Tool set with torque function
	Mounting tool
	Screwty-M12

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
SCREWTY SET	1	1910000000
SCREWTY SET-DM	1	1920000000
SCREWTY-M12-DM	1	1900001000
SCREWTY-M12	1	1900000000

Note

Assembled cable Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - M12

Plug / plug



M12 - M12

Plug / socket



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / M12 D-code - IP 67 straight pin
2*2*AWG 22/7 - 2*2*0.36 mm ²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3
CULUS

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / M12 D-code - IP 67 straight socket
2*2*AWG 22/7 - 2*2*0.36 mm ²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3
CULUS

Ordering data

	1.5 m
	3.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-C5DB4RE0015MCSMCS-E	1	1010850015
IE-C5DB4RE0030MCSMCS-E	1	1010850030
IE-C5DB4RE0050MCSMCS-E	1	1010850050
IE-C5DB4RE0100MCSMCS-E	1	1010850100

Type	Qty.	Order No.
IE-C5DB4RE0015MSSMCS-E	1	1059340015
IE-C5DB4RE0030MSSMCS-E	1	1059340030
IE-C5DB4RE0050MSSMCS-E	1	1059340050
IE-C5DB4RE0100MSSMCS-E	1	1059340100

Accessories

Marking tags	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables - Railway cable M12

Assembled cable
Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - open

Plug / -



	M12
yellow	1
white	2
orange	3
blue	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3
CULUS

Ordering data

1.5 m
3.0 m
5.0 m
10.0 m

Note

Type	Qty.	Order No.
IE-C5DB4RE0015MCSXXX-X	1	1010840015
IE-C5DB4RE0030MCSXXX-X	1	1010840030
IE-C5DB4RE0050MCSXXX-X	1	1010840050
IE-C5DB4RE0100MCSXXX-X	1	1010840100

Accessories

Tools
Sheathing strippers, For UTP and STP data cables
Sheathing strippers, For coaxial and round data cables
Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables

Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 - M12

Plug / plug



M12 - M12

Plug / plug



M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

Technical data

Product type
Category
Shielding
Version connector left / Version connector right

Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter, min. / max.
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Note

Ordering data

1.5 m
3.0 m
5.0 m
10.0 m

Note

Accessories

Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 straight pin / M12 D-code - IP 67 angled pin

2*2*AWG 22/7 - 2*2*0.36 mm²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 angled pin / M12 D-code - IP 67 angled pin

2*2*AWG 22/7 - 2*2*0.36 mm²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3

Type	Qty.	Order No.
IE-C5DB4RE0015MCSMCA-E	1	1059940015
IE-C5DB4RE0030MCSMCA-E	1	1059940030
IE-C5DB4RE0050MCSMCA-E	1	1059940050
IE-C5DB4RE0100MCSMCA-E	1	1059940100

Type	Qty.	Order No.
IE-C5DB4RE0015MCAMCA-E	1	1059970015
IE-C5DB4RE0030MCAMCA-E	1	1059970030
IE-C5DB4RE0050MCAMCA-E	1	1059970050
IE-C5DB4RE0100MCAMCA-E	1	1059970100

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables - Railway cable M12

Assembled cables

Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 – open

Plug / -



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter, min. / max.
Min. bending radius, repetitive
Ambient temperature (operational)
Installation temperature
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Note

Ordering data

1.5 m
3.0 m
5.0 m
10.0 m

Note

Accessories

Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length

Note

	M12
yellow	1
white	2
orange	3
blue	4

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 D-code - IP 67 angled pin / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
7.55 mm
Radox GKW S
black
1.95 mm
6 *diameter
-40 °C...90 °C
-25 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3

Type	Qty.	Order No.
IE-C5DB4RE0015MCAXXX-X	1	1059900015
IE-C5DB4RE0030MCAXXX-X	1	1059900030
IE-C5DB4RE0050MCAXXX-X	1	1059900050
IE-C5DB4RE0100MCAXXX-X	1	1059900100

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Assembled cables

Railway cable RW M12

- Cat. 5
- Radox
- D-coded
- RW (reduced wire): suitable for RJ45 connectors

M12 - open

Plug / -



M12 - RJ45

Plug / plug



Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Ambient temperature (operational)
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

Ordering data

	4.0 m
	5.0 m
	10.0 m
Note	

Accessories

Tools	
Sheathing strippers, For UTP and STP data cables	
Sheathing strippers, For coaxial and round data cables	
Marking tags	
Transparent sleeves, 12-mm length	
Transparent sleeves, 18-mm length	
Dust protection cap	
Protective cap	

Note

	M12
yellow	1
white	2
orange	3
blue	4

RJ45		M12
1	yellow	1
3	white	2
2	orange	3
6	blue	4

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
M12 D-code - IP 67 straight pin / Open
2*2*AWG 22/7 - 2*2*0.36 mm ²
7 mm
Radox GKW S
black
1.58 mm
6 *diameter
-40 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3

Type	Qty.	Order No.
IE-C5DB4WE0050MCSXXX-E	1	1269740050
IE-C5DB4WE0100MCSXXX-E	1	1269740100

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
M12 D-code - IP 67 straight pin / RJ45 IP 20 no tools needed
2*2*AWG 22/7 - 2*2*0.36 mm ²
7 mm
Radox GKW S
black
1.58 mm
6 *diameter
-40 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3

Type	Qty.	Order No.
IE-C5DB4WE0040MCSA20-E	1	1220310040

Type	Qty.	Order No.
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
IE-PP-RJ45	10	2552580000

Assembled cables

Railway cable RJ45 - RJ45

- Cat. 5
- Radox
- RW (reduced wire)

RJ45 - RJ45

Plug / plug



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type
Category
Shielding
Version connector left / Version connector right
Cross-section
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation diameter
Min. bending radius, repetitive
Ambient temperature (operational)
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

Approvals

Note

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
RJ45 IP 20 no tools needed / RJ45 IP 20 no tools needed
2*2*AWG 22/7 - 2*2*0.36 mm²
7 mm
Radox GKW S
black
1.58 mm
6 *diameter
-40 °C...90 °C
-40 °C...90 °C
very good
halogen-free, according to IEC 60754-2
in acc. with EN 50306-3
According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2, According to EN 45545, HL1 - HL3

Ordering data

1.0 m
2.0 m
3.0 m
4.0 m
5.0 m
10.0 m
20.0 m

Note

Type	Qty.	Order No.
IE-C5DB4WE0010A20A20-E	1	1421710010
IE-C5DB4WE0020A20A20-E	1	1421710020
IE-C5DB4WE0030A20A20-E	1	1421710030
IE-C5DB4WE0040A20A20-E	1	1421710040
IE-C5DB4WE0050A20A20-E	1	1421710050
IE-C5DB4WE0100A20A20-E	1	1421710100
IE-C5DB4WE0200A20A20-E	1	1421710200

Accessories

Marking tags

Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

Dust protection cap

Protective cap

Type	Qty.	Order No.
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
IE-PP-RJ45	10	2552580000

Note

Assembled cables
USB cable

USB A - USB A



USB A - USB Micro



Technical data

Sheathing colour
Material sheath
Version connector left
Version connector right
Ambient temperature (operational)

Note

black
PVC
USB A
USB A
-15 °C...80 °C

black
PVC
USB A
USB Micro
-15 °C...80 °C

Ordering data

	0.3 m
	0.5 m
	1.0 m
	1.5 m
	1.8 m
	3.0 m

Note

Type	Qty.	Order No.
IE-USB-A-A-0.3M	1	1993550003
IE-USB-A-A-0.5M	1	1993550005
IE-USB-A-A-1.0M	1	1993550010
IE-USB-A-A-1.5M	1	1993550015
IE-USB-A-A-1.8M	1	1993550018
IE-USB-A-A-3.0M	1	1993550030

Type	Qty.	Order No.
IE-USB-A-MICRO-1.8M	1	1487980000

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

Note

Assembled cables - USB cable

Assembled cables
USB cable

USB A 3.0 - USB A 3.0



Technical data

Sheathing colour
Material sheath
Version connector left
Version connector right
Ambient temperature (operational)

blue
PVC
USB A 3.0
USB A 3.0
-15 °C...80 °C

Note

Ordering data

Type	Qty.	Order No.
IE-USB-3.0-A-A-0.5M	1	2581730005
IE-USB-3.0-A-A-1.8M	1	2581730018
IE-USB-3.0-A-A-3M	1	2581730030
IE-USB-3.0-A-A-5M	1	2581730050

Note

Accessories

Type	Qty.	Order No.

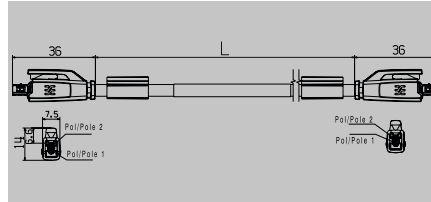
Note

Assembled cable

Single Pair Ethernet IP20

Plug - Plug

Socket contact / Socket contact



Technical data

Technical data	
Product type	Patch cable
Category	STP
Shielding	-40...80 °C
Ambient temperature (operational)	60 V
Rated voltage (DC)	3.5 A
Rated current	PoDL acc. to IEEE 802.3bu / cg
PoE / PoE+	10/100 Mbit/s, 1000 Mbit/s, 1000 Mbit/s
Transmission rate	1000 V DC
Dielectric strength, contact / contact	2250 V DC
Dielectric strength, contact / shield	100 ± 15 Ω at 20 MHz
Characteristic impedance	1.6 nF/km
Capacity at 800 Hz	Type I
Coupling attenuation 1 to 600 MHz	1 kV DC, 1 min
Coupling attenuation up to 1000 MHz	2 %
Test voltage: wire-wire-shield	10/100 Mbit/s, 1000 Mbit/s, 1000 Mbit/s
Resistance differential	SPE plug (IEC 63171-2) - IP20 socket contact straight
Transmission rate	SPE plug (IEC 63171-2) - IP20 socket contact straight
Version connector left	2
Version connector right	white / blue
Number of wires	Shielding braid made from copper wiring / 80 %
Colour coding	PE
Complete shielding / Overlap of shielding braid	1.65 mm
Insulation	4.9 / 5.3 mm
Insulation diameter	2*AWG 22 / 7
Sheath diameter, min. / max.	STP
Cross-section / Strands	PVC
Shielding	black
Material sheath	Yes
Colour	Complies with UL 1581 Sec. 1200
Halogen	IEC 63171-2
UV-resistant	
Connector standard	
Note	

Ordering data

	Type	Qty.	Order No.
1.0 m	IE-S1DS2VE0010T01T01-E	1	2725850010
2.0 m	IE-S1DS2VE0020T01T01-E	1	2725850020
3.0 m	IE-S1DS2VE0030T01T01-E	1	2725850030
5.0 m	IE-S1DS2VE0050T01T01-E	1	2725850050
Note			

Accessories

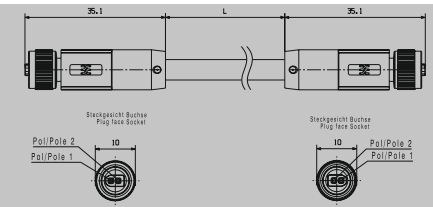
Type	Qty.	Order No.
Note		

Assembled cables – Single Pair Ethernet cable

Assembled cable
Single Pair Ethernet IP67

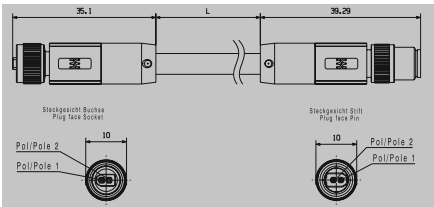
M8 / M8

Socket contact / Socket contact



M8 / M8

Socket contact / Pin contact



Technical data

Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Rated current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Transmission rate
Version connector left
Version connector right
Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard

Note

Ordering data

2.0 m
Note

Accessories

Note

Patch cable
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I

1 kV DC, 1 min
2 %
10/100 MBit/s, 1000 MBit/s
M8 SPE (IEC63171-5) - IP67 socket contact straight
M8 SPE (IEC63171-5) - IP67 socket contact straight
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM1-E	1	2726050020

Type	Qty.	Order No.
------	------	-----------

Note

Patch cable
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I

1 kV DC, 1 min
2 %
10/100 MBit/s, 1000 MBit/s
M8 SPE (IEC63171-5) - IP67 socket contact straight
M8 SPE (IEC63171-5) - IP67 pin contact straight
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5

Type	Qty.	Order No.
IE-S1DS2VE0020TM1TM2-E	1	2726060020

Type	Qty.	Order No.
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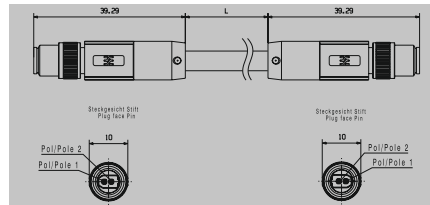
Note

Assembled cable

Single Pair Ethernet IP67

M8 / M8

Pin contact / Pin contact



Technical data

Product type
Category
Shielding
Ambient temperature (operational)
Rated voltage (DC)
Rated current
PoE / PoE+
Transmission rate
Dielectric strength, contact / contact
Dielectric strength, contact / shield
Current-carrying capacity
Characteristic impedance
Capacity at 800 Hz
Coupling attenuation 1 to 600 MHz
Coupling attenuation up to 1000 MHz
Test voltage: wire-wire-shield
Resistance differential
Transmission rate
Version connector left
Version connector right
Number of wires
Colour coding
Complete shielding / Overlap of shielding braid
Insulation
Insulation diameter
Sheath diameter, min. / max.
Cross-section / Strands
Shielding
Material sheath
Colour
Halogen
UV-resistant
Connector standard

Note

Ordering data

2.0 m

Note

Accessories

Note

Patch cable
STP
-40...85 °C
60 V
3.5 A
PoDL acc. to IEEE 802.3bu / cg
10/100 MBit/s, 1000 MBit/s
1000 V DC
2250 V DC
3.5A @ 0°C
100 ± 15 Ω at 20 MHz
1.6 nF/km
Type I
1 kV DC, 1 min
2 %
10/100 MBit/s, 1000 MBit/s
M8 SPE (IEC63171-5) - IP67 pin contact straight
M8 SPE (IEC63171-5) - IP67 pin contact straight
2
white / blue
Shielding braid made from copper wiring / 80 %
PE
1.65 mm
4.9 / 5.3 mm
2*AWG 22 / 7
STP
PVC
black
Yes
Complies with UL 1581 Sec. 1200
IEC 63171-5

Type	Qty.	Order No.
IES1DS2VE0020TM2TM2-E	1	2726070020

Type	Qty.	Order No.
------	------	-----------

Fibre-optic cabling solutions

Overview

Fibre-optic cabling solutions	Overview – Fibre-optic cables	R.2
	Product configurator – Fibre-optic cables	R.3
	Raw cable – FO connection cable / dragline cable	R.4
	Assembled cables – FO patch cable	R.5
	Assembled cables – FO PROFINET cable	R.10
	Assembled cables – FO dragline cable	R.11

Overview – Fibre-optic cables

First choice for industry

Fibre-optic cables are the best option for working in harsh industrial environments, especially if you:

- Need long transmission paths (up to 120 km!)
- Need to take account of EMC issues
- Must ensure electrical isolation in the case of potential differences

Raw cables

Industrial fibre-optic dragline cable



For flexible installations in and around machinery and plants – for harsh, industrial surroundings, dragline cable compatible

- Polymer optic fibre (POF)
- Breakout cable
- Raw cable for assembling your own connecting cables

Assembled cables

Industrial FO patch cables



...for use in industrial switching cabinets or junction boxes

- Multimode glass fibre
- Zipcord cable

Industrial FO adapter cables



...for linking ST and SC connections

- Multimode glass fibre
- Zipcord cable

Industrial fibre-optic dragline cable



...for flexible installations in and around machinery and plants – for harsh, industrial surroundings, dragline cable compatible

- Multimode fibre-optic
- Breakout cable
- Pre-assembled cable

Configurators for fibre-optic cables

Tailor-made connections

The cable configurator in Weidmüller's online catalogue makes it possible for you to create a fully-assembled cable adapted to your requirements and specifications.

A variety of plug types in the following protective classes are available:

IP20

- SCRJ
- ST
- LC Duplex
- SC duplex

IP67

- Variant 1, metal with SC- or LC-Duplex plugs
- Variant 4, plastic with SC- or LC-Duplex plugs
- Additional housing variants to follow shortly.
- Variant 14, metal with SC or LC Duplex plugs

You then have the choice of configuring a cable which is identical on both ends, or with two different mating profiles, or with one end left open.

When selecting the cable, the following types are available:

- Zipcord, inner conductor G50 µm/125 µm and G62.5 µm/125 µm with PVC sheath
- Breakout, interior wire G50 µm/125 µm and G62.5 µm/125 µm with PVC sheath
- Breakout dragline cable, inner conductor G50 µm/125 µm and G62.5 µm/125 µm with PUR sheath.
- Zipcord inner conductor POF 980/1000 µm with PE sheathing

The cable length can also be customised:

- From 0.3 m to 9.9 m, in 0.1 m steps
- From 10 m to 9999 m, in 1 m steps

The cable configurator can also automatically create technical data sheets for all of your customised cable variants.

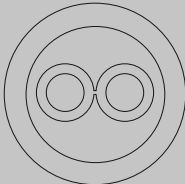
All of your customised cable selections can be sent to Weidmüller using the "request list". You will then quickly receive a price proposal for the cables from your local Weidmüller representative.

Raw cables – FO connection cable / dragline cable

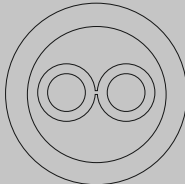
Raw cables

- Polymer optical fibre
- Customisable

Mini-Breakout (Typ B)



Breakout (Typ C)



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Insulation
Min. bending radius, repetitive
Min. bending radius, once only
Bending cycles
Ambient temperature (operational)
Fibre type
Bandwidth
Attenuation
Core diameter
Installation temperature
Storage temperature
Halogen
Approvals

Note

System cable
Mini-Breakout
7,5 mm
Polyethylene
green
10.000
-30 °C...70 °C
POF
> 35 MHz*100 m at 650 nm
≤ 160 dB/km at 650 nm
980 µm
...
-30 °C...70 °C
No

Dragline cable
Break-out dragline
7,5 mm
PUR
green
60 mm
25 mm
6 Mio
-40 °C...85 °C
POF
> 35 MHz*100 m at 650 nm
≤ 160 dB/km at 650 nm
980 µm
...
-40 °C...85 °C
No

Ordering data

POF 980/1000 µm 500.0 m

Note

Type	Qty.	Order No.
IE-FPOB2EG-500	1	2781950000

Type	Qty.	Order No.
IE-FPOD2UG-500	1	2763640000

Accessories

Marking tags
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable markers, ø 4.7 - 7.4 mm
Wire and cable markers, ø 5.8 - 7.8 mm

Tools

Crimping tool POF
POF tool set

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
HTX-IE-POF	1	1208870000
TOOL SET IE-POF	1	1208930000

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 MC NE WS VO	160	1689470001
VT SF 6/21 MC NE WS VO	160	1730560001
HTX-IE-POF	1	1208870000
TOOL SET IE-POF	1	1208930000

Note

Assembled cables

CabinetLine FO patch cable

- Multi-mode glass fibre optics
- LSZH Casing

SC-Duplex / SC-Duplex

ST / ST



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Patch cable, duplex clip included
ZIPCORD
2.8 * 5.7 mm
LSZH
orange
-20 °C...70 °C
...
...

Patch cable
ZIPCORD
2.8 * 5.7 mm
LSZH
orange
-20 °C...70 °C
...
...

Ordering data

Core 62.5 µm, OM1

0.5 m
1.0 m
2.0 m
3.0 m
5.0 m
10.0 m

Type	Qty.	Order No.
IE-FM6Z2L00005DS0SD0-X	1	1433960005
IE-FM6Z2L00001MSD0SD0-X	1	1433960010
IE-FM6Z2L00002MSD0SD0-X	1	1433960020
IE-FM6Z2L00003MSD0SD0-X	1	1433960030
IE-FM6Z2L00005MSD0SD0-X	1	1433960050
IE-FM6Z2L00010MSD0SD0-X	1	1433960100

Core 50 µm, OM2

0.5 m
1.0 m
2.0 m
3.0 m
5.0 m
10.0 m

IE-FM5Z2L00005DS0SD0-X	1	1433970005
IE-FM5Z2L00001MSD0SD0-X	1	1433970010
IE-FM5Z2L00002MSD0SD0-X	1	1433970020
IE-FM5Z2L00003MSD0SD0-X	1	1433970030
IE-FM5Z2L00005MSD0SD0-X	1	1433970050
IE-FM5Z2L00010MSD0SD0-X	1	1433970100

Note

Type	Qty.	Order No.
IE-FM6Z2L00005DST0ST0-X	1	1433980005
IE-FM6Z2L00001MST0ST0-X	1	1433980010
IE-FM6Z2L00002MST0ST0-X	1	1433980020
IE-FM6Z2L00003MST0ST0-X	1	1433980030
IE-FM6Z2L00005MST0ST0-X	1	1433980050
IE-FM6Z2L00010MST0ST0-X	1	1433980100

IE-FM5Z2L00005DST0ST0-X	1	1433990005
IE-FM5Z2L00001MST0ST0-X	1	1433990010
IE-FM5Z2L00002MST0ST0-X	1	1433990020
IE-FM5Z2L00003MST0ST0-X	1	1433990030
IE-FM5Z2L00005MST0ST0-X	1	1433990050
IE-FM5Z2L00010MST0ST0-X	1	1433990100

Accessories

Marking tags

Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

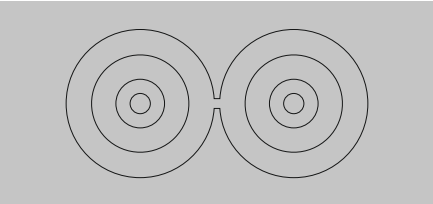
Note

Assembled cables - FO patch cable

Assembled cables
CabinetLine FO patch cable

- Multi-mode glass fibre optics
- LSZH Casing

LC-Duplex / LC-Duplex



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals
Note

Patch cable, duplex clip included
ZIPCORD
2.0 * 4.1 mm
LSZH
orange
-20 °C...70 °C
...
...

Ordering data

Core 62.5 µm, OM1	0.5 m
	1.0 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
Core 50 µm, OM2	0.5 m
	1.0 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-FM6Z2L00005DL0LD0-X	1	1433930005
IE-FM6Z2L00001MLD0LD0-X	1	1433930010
IE-FM6Z2L00002MLD0LD0-X	1	1433930020
IE-FM6Z2L00003MLD0LD0-X	1	1433930030
IE-FM6Z2L00005MLD0LD0-X	1	1433930050
IE-FM6Z2L00010MLD0LD0-X	1	1433930100
IE-FM5Z2L00005DL0LD0-X	1	1433940005
IE-FM5Z2L00001MLD0LD0-X	1	1433940010
IE-FM5Z2L00002MLD0LD0-X	1	1433940020
IE-FM5Z2L00003MLD0LD0-X	1	1433940030
IE-FM5Z2L00005MLD0LD0-X	1	1433940050
IE-FM5Z2L00010MLD0LD0-X	1	1433940100

Accessories

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

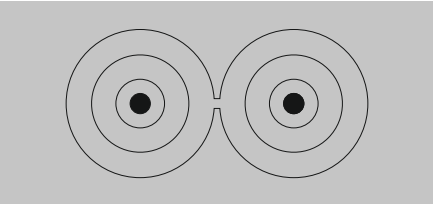
Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

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- Assembled cables
- CabinetLine FO patch cable
- Single-mode glass fibre optics
 - LSZH Casing

LC-Duplex / LC-Duplex



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Patch cable, duplex clip included
ZIPCORD
2.0 * 4.1 mm
LSZH
yellow
-20 °C...70 °C
...
...

Ordering data

Core 9 µm. OS2	
	0.5 m
	1.0 m
	2.0 m
	3.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-FSMZ2LY0005DLDOLD0-X	1	1433950005
IE-FSMZ2LY0001MLDOLD0-X	1	1433950010
IE-FSMZ2LY0002MLDOLD0-X	1	1433950020
IE-FSMZ2LY0003MLDOLD0-X	1	1433950030
IE-FSMZ2LY0005MLDOLD0-X	1	1433950050
IE-FSMZ2LY0010MLDOLD0-X	1	1433950100

Accessories

Marking tags	
	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

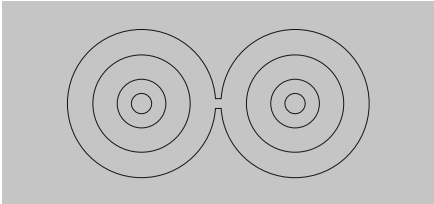
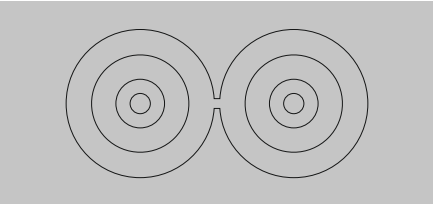
Assembled cables - FO patch cable

Assembled cable
FO patch cable

- Multimode glass optical fibre
- PVC outer cladding

SC-Duplex / SC-Duplex

ST / ST



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Pre-assembled patch cable, crossover
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C

Patch cable
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C

Note

Ordering data

Core 50 µm, OM2	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Core 62.5 µm, OM1	
1.0 m	
2.0 m	
3.0 m	
5.0 m	
10.0 m	
Note	

Type	Qty.	Order No.
IE-FM5Z2V00001MSD0SD0X	1	8813300000
IE-FM5Z2V00002MSD0SD0X	1	8813310000
IE-FM5Z2V00003MSD0SD0X	1	8813320000
IE-FM5Z2V00005MSD0SD0X	1	8876350050
IE-FM5Z2V00010MSD0SD0X	1	8876350100
IE-FM6Z2V00001MSD0SD0X	1	8813330000
IE-FM6Z2V00002MSD0SD0X	1	8813340000
IE-FM6Z2V00003MSD0SD0X	1	8813350000
IE-FM6Z2V00005MSD0SD0X	1	8876360050
IE-FM6Z2V00010MSD0SD0X	1	8876360100

Type	Qty.	Order No.
IE-FM5Z2V00001MST0ST0X	1	8876370010
IE-FM5Z2V00002MST0ST0X	1	8876370020
IE-FM5Z2V00003MST0ST0X	1	8876370030
IE-FM5Z2V00005MST0ST0X	1	8876370050
IE-FM5Z2V00010MST0ST0X	1	8876370100
IE-FM6Z2V00001MST0ST0X	1	8813270000
IE-FM6Z2V00002MST0ST0X	1	8813280000
IE-FM6Z2V00003MST0ST0X	1	8813290000
IE-FM6Z2V00005MST0ST0X	1	8876380050
IE-FM6Z2V00010MST0ST0X	1	8876380100

Accessories

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

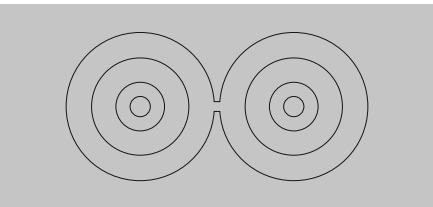
Note

Note

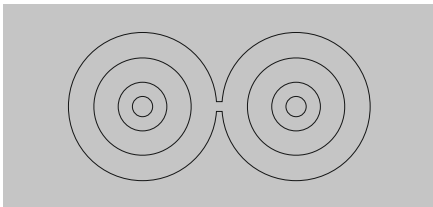
Assembled cable
FO patch cable

- Multimode glass optical fibre
- PVC outer cladding

ST / SC-Duplex



LC-Duplex / LC-Duplex



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Pre-assembled patch cable, crossover
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C

Pre-assembled patch cable, crossover
ZIPCORD
3*6 mm
PVC
orange
-5 °C...75 °C
-5 °C...50 °C
-25 °C...75 °C

Ordering data

Core 62.5 µm, OM1	
	1.0 m
	2.0 m
Core 50 µm, OM2	
	1.0 m
	2.0 m
	5.0 m
	10.0 m

Note

Type	Qty.	Order No.
IE-FM6Z2V00002MSTOSDOX	1	8813400000
IE-FM5Z2V00002MSTOSDOX	1	8813390000

Type	Qty.	Order No.
IE-FM6Z2V00001MLDOLD0X	1	1296450000
IE-FM5Z2V00001MLDOLD0X	1	1276880000
IE-FM5Z2V00002MLDOLD0X	1	1062570000
IE-FM5Z2V00005MLDOLD0X	1	1062550000
IE-FM5Z2V00010MLDOLD0X	1	1062580000

Accessories

Marking tags
Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

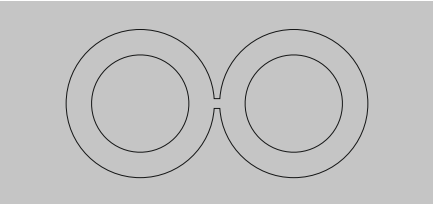
Note

Assembled cables - FO PROFINET cable

Assembled cable
FO patch cable PROFINET

- Polymer optical fibre

SC-RJ / SC-RJ



Technical data

Product type	Connecting line
Version connector left / Version connector right	SCRJ IP 20 / SCRJ IP 20
Cable layout	ZIPCORD
Sheath diameter	2.2*4.5 mm
Insulation	PE
Sheathing colour	black
Fibre type	POF
Core diameter	980 µm
Ambient temperature (operational)	-20 °C...80 °C
Attenuation	≤ 160 dB/km at 650 nm
Insertion loss	≤ 1.0 dB
Bandwidth	≥ 100 MHz*km at 650 nm
Halogen	No
Approvals	
Note	

Ordering data

POF 980/1000 µm	Type	Qty.	Order No.
1.0 m	IE-FPOZ2EE0001MSJOSJO-X	1	1273430010
3.0 m	IE-FPOZ2EE0003MSJOSJO-X	1	1273430030
5.0 m	IE-FPOZ2EE0005MSJOSJO-X	1	1273430050
10.0 m	IE-FPOZ2EE0010MSJOSJO-X	1	1273430100
20.0 m	IE-FPOZ2EE0020MSJOSJO-X	1	1273430200
Note			

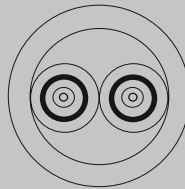
Accessories

Marking tags	Type	Qty.	Order No.
Wire and cable markers. ø 4.7 - 7.4 mm	VT SF 5/21 MC NE WS V0	160	1689470001
Wire and cable markers. ø 5.8 - 7.8 mm	VT SF 6/21 MC NE WS V0	160	1730560001

Note	
------	--

Assembled cables**FO dragline cable**

- Multimode glass optical fibre

LC-Duplex / LC-Duplex**Technical data**

Product type
Version connector left / Version connector right
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
LC-Duplex IP 20 / LC-Duplex IP 20
Break-out dragline
6 mm
PUR
black
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C

Ordering data**Core 62.5 µm, OM1**

5.0 m
20.0 m
50.0 m

Core 50 µm, OM2

10.0 m
50.0 m
100.0 m

Note

Type	Qty.	Order No.
IE-FM6D2UE0005MLDOLDX	1	1220930000
IE-FM6D2UE0020MLDOLDX	1	1174830000
IE-FM6D2UE0050MLDOLDX	1	8993220000
IE-FM5D2UE0010MLDOLDX	1	8979020000
IE-FM5D2UE0050MLDOLDX	1	8979040000
IE-FM5D2UE0100MLDOLDX	1	8979030000

Accessories**Marking tags**

Wire and cable markers. ø 4.7 - 7.4 mm
Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

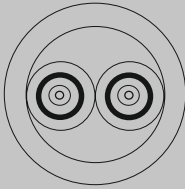
Note

Assembled cables - FO dragline cable

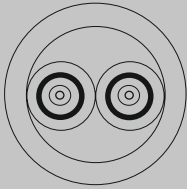
Assembled cable FO dragline cable

- Multimode glass optical fibre

SC-Duplex / SC-Duplex



ST / ST



Technical data

Product type
Cable layout
Sheath diameter
Material sheath
Sheathing colour
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Break-out dragline
6 mm
PUR
black
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C

Dragline cable
Break-out dragline
6 mm
PUR
black
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C

Ordering data

Core 62.5 μm. OM1	1.0 m
	3.0 m
	5.0 m
	10.0 m
	50.0 m
	100.0 m
Core 50 μm, OM2	1.0 m
	3.0 m
	5.0 m
	10.0 m
	50.0 m
	100.0 m
Note	

Type	Qty.	Order No.
IE-FM6D2UE0001MSD0SD0X	1	8876440010
IE-FM6D2UE0003MSD0SD0X	1	8876440030
IE-FM6D2UE0005MSD0SD0X	1	8876440050
IE-FM6D2UE0010MSD0SD0X	1	8876440100
IE-FM6D2UE0050MSD0SD0X	1	8876440500
IE-FM6D2UE0100MSD0SD0X	1	8876441000
Type	Qty.	Order No.
IE-FM5D2UE0001MSD0SD0X	1	8876430010
IE-FM5D2UE0003MSD0SD0X	1	8876430030
IE-FM5D2UE0005MSD0SD0X	1	8876430050
IE-FM5D2UE0010MSD0SD0X	1	8876430100
IE-FM5D2UE0050MSD0SD0X	1	8876430500
IE-FM5D2UE0100MSD0SD0X	1	8876431000
Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
IE-FM6D2UE0001MST0ST0X	1	8876460010
IE-FM6D2UE0003MST0ST0X	1	8876460030
IE-FM6D2UE0005MST0ST0X	1	8876460050
IE-FM6D2UE0010MST0ST0X	1	8876460100
IE-FM6D2UE0100MST0ST0X	1	8876461000
Type	Qty.	Order No.
IE-FM5D2UE0001MST0ST0X	1	8876450010
IE-FM5D2UE0003MST0ST0X	1	8876450030
IE-FM5D2UE0005MST0ST0X	1	8876450050
IE-FM5D2UE0010MST0ST0X	1	8876450100
IE-FM5D2UE0050MST0ST0X	1	8876450500
IE-FM5D2UE0100MST0ST0X	1	8876451000
Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Accessories

Marking tags	
	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

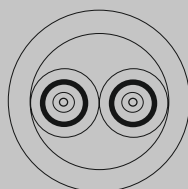
Note

Note

Note

Assembled cables**FO dragline cable with extended temperature range**

- Multimode glass optical fibre

SC-Duplex IP67**Technical data**

Product type
Cable layout
Version connector left / Version connector right
Sheath diameter
Material sheath
Sheathing colour
Fibre type
Bandwidth
Attenuation
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Note

Dragline cable
Break-out dragline
SC IP 67 bayonet V01 metal / SC IP 67 bayonet V01 metal
7.5-8 mm
PUR
black
GOF, Multimode, OM1
200 MHz*km at 850 nm, 500 MHz*km at 1300 nm
2.7 dB/km at 850 nm, ≤ 0.5 dB/km at 1300 nm
-40 °C...85 °C
-55 °C...60 °C
-55 °C...85 °C

Ordering data

Core 62.5 µm. OM1	
	100.0 m
	180.0 m
	200.0 m
	250.0 m
	300.0 m
	350.0 m
	500.0 m

Note

Type	Qty.	Order No.
IE-FM6C2UE0100MSD1SD1X	1	1318011000
IE-FM6C2UE0180MSD1SD1X	1	1318011800
IE-FM6C2UE0200MSD1SD1X	1	1318012000
IE-FM6C2UE0250MSD1SD1X	1	1318012500
IE-FM6C2UE0300MSD1SD1X	1	1318013000
IE-FM6C2UE0350MSD1SD1X	1	1318013500
IE-FM6C2UE0500MSD1SD1X	1	1318015000

Accessories

Marking tags	
	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

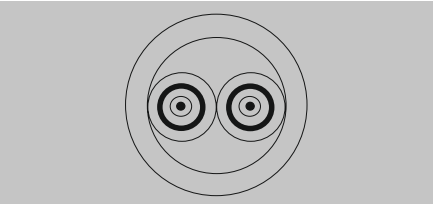
Note

Assembled cables - FO dragline cable

Assembled cables
FO dragline cable

- Singlemode glass optical fibre

SC-Duplex IP67



Technical data

Product type
Cable layout
Version connector left / Version connector right
Sheath diameter
Material sheath
Sheathing colour
Fibre type
Bandwidth
Insertion loss
Attenuation
Ambient temperature (operational)
Installation temperature
Storage temperature
Approvals

Dragline cable
Break-out dragline
SC IP 67 PushPull V14 metal / SC IP 67 PushPull V14 metal
6 mm
PUR
black
Singlemode, OS 2
≤ 0.5 dB
≤0.4 dB/km at 1310 nm
-40 °C...80 °C
-20 °C...60 °C
-40 °C...80 °C

Note

Ordering data

Core 9 µm. OS2	
	5.0 m
	20.0 m
	25.0 m
	40.0 m

Note

Type	Qty.	Order No.
IE-FSMD2UE0005MSDESDEX	1	1449420050
IE-FSMD2UE0020MSDESDEX	1	1449420200
IE-FSMD2UE0025MSDESDEX	1	1449420250
IE-FSMD2UE0040MSDESDEX	1	1449420400

Accessories

Marking tags	
	Wire and cable markers. ø 4.7 - 7.4 mm
	Wire and cable markers. ø 5.8 - 7.8 mm

Type	Qty.	Order No.
VT SF 5/21 MC NE WS V0	160	1689470001
VT SF 6/21 MC NE WS V0	160	1730560001

Note

Passive components

Overview of accessories

Accessories – Passive components	Introduction	S.2
	Connection system	S.3
	Copper cabling tools	S.4
	Fibre-optic cabling tools	S.10
	General tools	S.15
	Cabtite cable entry system	S.18
	Cable guiding	S.23
	Protective caps	S.24
	Inkjet printer	S.25
	Markers for cables and STEADYTEC®	S.27
	Surge protection for data interfaces	S.28

Overview of accessories

Everything from a single source

Cable connector



Connection, repair or extension of Industrial Ethernet cables to Cat.7_A

- fieldattachable with IDC connection technology
- Specified for class F_A
- IP67

Cable guiding



Cable bender to guide patch cables safely and without cable breakage or data loss by 90° angles

Copper cabling tools



For assembling

- RJ45 crimp
- Hybrid insert

for stripping
to test the wiring

Cabtite



System-based cable entry

- Cable entry strips
- Cable grommets

Fibre-optic cabling tools



For assembling

- SCRJ-POF
- SC-GOF
- ST-GOF

Protective caps



to protect all IE-LINE connectors with **STEADYTEC**® technology

General tools



For pressing conductors into IDC terminals and pressing RJ45 contacts

- Indentation tool
- Pressing tool

Marker



For identifying conductors, plugs and devices

- Line markers
- Housing and plug marker

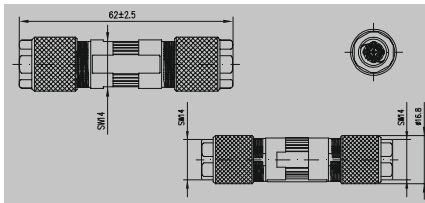
Surge protection for data interfaces



For the protection of Cat. 5 and Cat. 6 data lines - also in PoE and PoE + applications

Cable connector class 7

Cable connector



Technical data

Category
Protection degree
Connection 1 / 2

Housing main material
Ambient temperature (operational)
Current-carrying capacity at 50 °C
Rated voltage
Insulation strength
Shielding
Connection diameter, flexible, min. / max.
Connection cross-section, flexible, min. / max.
Connection diameter, solid, min. / max.
Connection cross-section, solid, min. / max.
Insulation cross-section, max.
Sheath diameter min. / max.
Approvals

Note

Class F_A(ISO/IEC11801 2011) with cat. 7_A Cable
IP67
Insulation displacement technology / Insulation displacement technology
Zinc diecast
-40 °C...85 °C
0.5 A @ 40 °C
63 V
100 MΩ
360° all-round enclosure
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
1.6 mm
5 mm / 9.7 mm
EAC

Ordering data

Note

Type	Qty.	Order No.
IE-CC-8W-FA-IP67	1	1499940000

Accessories

Type	Qty.	Order No.

Note

Pressing tools

- Press (punch-down) tool for Ethernet connectors
- Ratchet for precise crimping
- Release option in the event of incorrect operationg

TT 8 RS MP 8



For 8-pole shielded RJ45 plug

- AWG 27...24



Technical data

Description of contact	
No. of poles	
Tool data	
Length	mm
Weight	g
Note	

TT 8 RS MP 8	
8	
255	
1251	

Ordering data

Version	
Note	

Type	Qty.	Order No.
TT 8 RS MP 8	1	9202800000

Copper cabling tools

Pressing tools

- Press (punch-down) tool for Ethernet connectors
- Ratchet for precise crimping
- Release option in the event of incorrect operationg

IE-CWZ-RJ45-TH-P



For 4-pole shielded RJ45 plug

- AWG 23...22



S

Technical data

Description of contact	
No. of poles	
Tool data	
Length	mm
Weight	g
Note	

IE-CWZ-RJ45-TH-P	
No. of poles	4
Length	250
Weight	570

Ordering data

Version	
Note	

Type	Qty.	Order No.
IE-CWZ-RJ45-TH-P	1	2614210000

Cable Tester

Test devices for testing Ethernet cables, including remote box

LAN USB TESTER



- Indication of connection errors:
 - Connection error
 - Interrupt
 - Short-circuit
 - Permutation
- Network cable tester for LAN and USB connections



IE-CT



- Indication of connection errors:
 - Connection error
 - Interrupt
 - Short-circuit
 - Permutation
 - Wire mix-up (split pair)
 - External voltage
- External voltage resistance: 80 V AC / DC

Technical data

Display	
Supply	
Type of connection	
Remote box dimensions	
Remote box weight	
Length / Width / Height	mm
Weight	
Note	

LED
9 V battery
RJ45, USB A, USB B
65 x 28 x 27 mm
30 g
135 / 65 / 27
174 g

7-segment display
9 V battery
RJ45
30 x 68 x 23 mm
31 g
140 / 70 / 36
185 g

Ordering data

Version
Note

Type	Qty.	Order No.
LAN USB TESTER	1	9205400000
Battery, accessories and bag included in delivery.		

Type	Qty.	Order No.
IE-CT	1	8808420000
Battery, accessories and bag included in delivery. Spare IE-CT: 1506880000		

Copper cabling tools

Cutting tools

- The cutting blade design for different cable sizes increases the quality of the cuts for smaller cross-sections
- Not suitable for steel wires, steel-armoured cables, aluminium alloys and hard-drawn copper conductors!
- Cutting without deformation of the conductor
- Do not cut live conductors
- Individually tested protective insulation, 1000V, VDE and GS tested in accordance with EN/IEC 60900
- Optimised handle ergonomics
- Minimal hand force required



KT 8



max. 8 mm

 max. 16 mm²

 max. 16 mm²

 max. 16 mm²


KT 12



max. 12 mm

 max. 16 mm²

 max. 25 mm²

 max. 35 mm²


Technical data

Max. cutting performance, copper cable

Copper cable - solid, max.
Copper cable - stranded, max.
Copper cable - flexible, max.
Copper cable, max. diameter

Max. cutting performance, aluminium cable

Stranded aluminium cable, max (mm²)
Stranded aluminium cable, max. diameter
Single-core aluminium cable, max.(mm²)

Data / telephone / control cable

Data / telephone / control cable, max. Ø

Tool data

Depth / Width / Height
Weight

Note

KT8

16 mm² / 6 AWG
16 mm² / 6 AWG
16 mm² / 6 AWG
8 mm

16 mm² / 6 AWG
8 mm
16 mm²

8 mm

30 / 185 / 65.5 mm
180 g

Tool closed

KT12

16 mm² / 6 AWG
25 mm² / 3 AWG
35 mm² / 2 AWG
12 mm

25 mm² / 6 AWG
8 mm
25 mm²

12 mm

30 / 225 / 63.5 mm
300 g

Tool closed

Ordering data

Version

Type	Qty.	Order No.
KT 8	1	9002650000

Note

Type	Qty.	Order No.
KT 12	1	9002660000

SEE ESD 120**Electronic ESD diagonal-cutting pliers with pointed head**

- Hard wire (spring wire or steel nails):
0.2 mm/AWG 32
- Semi-hard wire (iron or nails):
1.0 mm/AWG 18
- Soft wire (copper or aluminium):
1.5 mm/AWG 15

Ordering data

Type	Qty.	Order No.
SEE ESD 120	1	9205130000

Technical data

Weight	90 g
--------	------

**SEE ESD 125****Electronic ESD diagonal-cutting pliers with oval head**

- Semi-hard wire (iron or nails):
0.3 mm/AWG 29
- Soft wire (copper or aluminium):
1.5 mm/AWG 15

Ordering data

Type	Qty.	Order No.
SEE ESD 125	1	9204750000

Technical data

Weight	90 g
--------	------

**FZE ESD 130****Electronic ESD flat-nosed pliers****Ordering data**

Type	Qty.	Order No.
FZE ESD 130	1	9204760000

Technical data

Weight	90 g
--------	------

**SZE ESD 130****Electronic ESD Snipe-nosed pliers****Ordering data**

Type	Qty.	Order No.
SZE ESD 130	1	9204770000

Technical data

Weight	90 g
--------	------

**SVSE ESD 130****Electronic ESD angle-cutting pliers**

- Hard wire (spring wire or steel nails):
0.6 mm/AWG 22
- Semi-hard wire (iron or nails):
1.0 mm/AWG 18
- Soft wire (copper or aluminium):
1.2 mm/AWG 16

Ordering data

Type	Qty.	Order No.
SVSE ESD 130	1	9205140000

Technical data

Weight	90 g
--------	------

**SUPER CUT****Electronic diagonal-cutting pliers**

- Soft wire (copper or aluminium):
1.2 mm/AWG 16

Ordering data

Type	Qty.	Order No.
SUPER CUT	1	9205150000

Technical data

Weight	78 g
--------	------

**KOF SET ESD****Electronic ESD case set**

Contents:

- Diagonal-cutting pliers
- Snipe-nosed pliers
- Flat-nose pliers
- Angle-cutting pliers

Ordering data

Type	Qty.	Order No.
KOF SET ESD	1	9205210000

Technical data

Weight	547 g
--------	-------



Fibre-optic cabling tools

Crimping tools

Cutting, stripping and crimping tools for processing POF fibres in compliance with IEC 60793-2 A4A fibres (1000 µm/980 µm POF)

- Multifunction tool for POF fibres
- Processing the duplex POF fibres
- Stripping tool for processing POF fibres and cables
- The new set of blades for POF cables makes stripping the outer covering and the POF fibres simple
- Cable shears specially designed for aramid fibres
- Only for cutting aramid fibres (strain relief in fibre-optic cables)

Tool-Set IE-POF



Contents:

- Assortment case PSC 80
- Kevlar scissors for aramid fibres
- Multifunction tool HTX-IE-POF
- Stripping tool multi-stripax® IE-POF

multi-stripax® POF



- Excellent stripping quality for industrial applications
- Specially shaped blades enable stripping of special types of insulation and conductor configurations
- Stripping length with end stop, adjustable from 2.3...30 mm
- Very versatile thanks to interchangeable stripping units
- Stripping results reproduced accurately over and over again
- No damage to the conductor
- A long-lasting, reliable tool thanks to its sturdy design
- Integrated cutting function up to 6 mm²

S

Technical data

Length / Width / Height	mm
Weight	g
Note	

241 / 338 / 79
1,800

250 / 85 / 40
250

Ordering data

Version

Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000

Type	Qty.	Order No.
MULTI-STRIPAX IE-POF	1	1208880000

Note

Accessories

Note

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
MULTI-STRIPAX IE-POF	1	1208880000
KEVLAR SCISSORS	1	1208910000

Type	Qty.	Order No.
Replacement cutting blade	1	9203100000
Replacement stop set	1	9203070000
AIE MULTI-STRIPAX POF	1	1212770000

Mounting tools

- Release option in the event of incorrect operation
- With end stop for exact positioning of the contacts

HTX-IE-POF

- Only one tool needed for all SC-RJ plug processing steps
- For processing 1 mm thick polymer optical fibres, especially for the PROFINET and EtherNet/IP-SC-RJ connectors
- For stripping Duplex polymer optical fibres
- The plug is crimped and the polymer optical fibres are separated, all in a single step
- Cut surfaces do not need to be polished after cutting
- Locator for precise positioning of the SC-RJ plugs
- Ergonomic handles
- High repeat accuracy
- Ratchet for precise crimping

Three steps to produce IP67 connectors:

- 1) Strip the Duplex polymer optical fibres
- 2) Crimp and separate
- 3) Crimp the strain relief

HTX-HTX-IE-POF-QA

- Only one tool needed for all SC-RJ QA (reconnectable) plug processing steps
- For processing 1 mm thick polymer optical fibres, especially for the PROFINET and EtherNet/IP-SC-RJ connectors
- For stripping Duplex polymer optical fibres
- Cut surfaces do not need to be polished after cutting
- Locator for precise positioning of the SC-RJ plugs
- Ergonomic handles
- High repeat accuracy

Three steps to produce IP67 connectors:

- 1) Strip the Duplex polymer optical fibres
- 2) Tighten strain relief
- 3) Insert and Cutting

Technical data

Material data
Length
Weight
Note

Ordering data

Version
Note

HTX-IE-POF
220
450

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000

HTX-HTX-IE-POF-QA
220
450

Type	Qty.	Order No.
HTX-HTX-IE-POF-QA	1	2602860000

Fibre-optic cabling tools

Kevlar Scissor

- Cable shears specially designed for aramid fibres

SCISSOR Kevlar



- Only for cutting aramid fibres (strain relief in fibre-optic cables)
- Do not use for other materials
- Special blade geometry
- Blades ground
- With teeth on the cutting edge
- Riveted joint
- Hand-friendly, impact-resistant plastic handles

S

Technical data

Material data
Length
Weight
Note

Ordering data

Version
Note

SCISSORS KEVLAR
147
100

Type	Qty.	Order No.
SCISSORS KEVLAR	1	1208910000

Crimping tool for other contacts

- Ratchet for precise crimping
- Release option in the event of incorrect operation
- With end stop for exact positioning of the contacts
- Contact and insulation are crimped in one step

HTF HYB

0.08...1.0 mm²



For Weidmüller hybrid sockets and pins

- ~AWG 28...AWG 17



Technical data

Description of contact	
Type of contact	
Crimping range	mm²
Crimping range 1 (with multiple crimping positions)	mm²
Crimping range 2 (with multiple crimping positions)	mm²
Crimping range 3 (with multiple crimping positions)	mm²
Tool data	
Length	mm
Weight	g
Note	

HTF HYB	
Hybrid sockets / plugs	
Crimping range	0.08...1
Crimping range 1 (with multiple crimping positions)	0.08...0.2
Crimping range 2 (with multiple crimping positions)	0.2...0.5
Crimping range 3 (with multiple crimping positions)	0.75...1
Tool data	
Length	200
Weight	438
Note	

Ordering data

Version
Note

Type	Qty.	Order No.
HTF HYB	1	1119580000
Note		

Fibre-optic cabling tools

Special stripping tools

- Quick and accurate stripping
- No need to adjust cutting depth
- No damage to inner conductors

LWL-stripax®



Stripping and cutting tool for plastic fibre-optic cables with 1-mm diameter inner conductor

- Stripping length adjustable via end stop
- Automatic opening of the clamping jaws after stripping

S

Technical data

Max. stripping performance	
Cable type	
Conductor diameter, min. / max.	-
Stripping length, max.	-
Tool data	
Width	mm
Height	mm
Weight	g
Note	

Ordering data

Version
Note

Accessories

Note

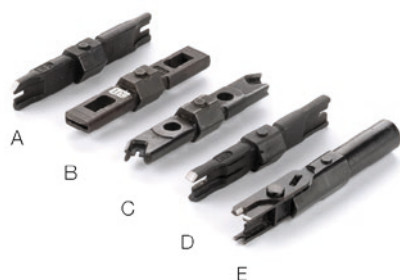
M-D-STRIPAX LWL	
POF conductor with an inner conductor of 1 mm Ø	
	7.5
	82
	135
	110
POF: polymer optical fibre	

Type	Qty.	Order No.
M-D-STRIPAX LWL	1	9003750000

Type	Qty.	Order No.
Spare stripping blades	1	9003760000

Incision tool for twisted-pair cable

For connecting twisted-pair cable to terminal rails with IDC contacts e.g. in main and floor distributors, and in modular wall junction boxes for structured building cabling.



Technical data

Length / Width / Height	mm
Weight	g
Note	

Ordering data

Version	
---------	--

Note

Accessories

Note

PDT



The punch-down tool has the following features:

- Mechanics made from metal components
- Adjustable pressing force for conductor sizes AWG 20 to AWG 28
- Different blades for connector blocks of type 110 from AT&T, type 66, type LSA Plus from Krone (Standard and scissors cutting function) as well as for telephone outlets 630A6
- Incision blades with 2 functions: incision or incision with cutting off of remaining conductor
- Storage compartment for one blade

A = PD blade 110

B = PD blade 66

C = PD blade 630

D = PD blade Krone LSA (standard)

E = PD blade Krone LSA (scissor)

PUNCH DOWN TOOL PDT

160 / 37 / 29
142

Type	Qty.	Order No.
PUNCH DOWN TOOL PDT	1	9013970000

FRANKLIN ROOSEVELT	1882-1945
(without blade)	

Type	Qty.	Order No.
------	------	-----------

PD blade Krone LSA Plus (scissor)	1	9014050000
PD blade 110	1	9013960000
PD blade 630	1	9013990000
PD blade 66	1	9013980000
PD blade Krone LSA Plus (standard)	1	9014000000

IE-FISP-V4



Fastening tool for the hexagon cap nut from

STEADYTEC® V4 flange and FrontCom® Micro.

Fixing tool

115 / 28 / 28
21

Type	Qty.	Order No.
------	------	-----------

IE-FISP-V4	2	9204370000
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Type	Qty.	Order No.
------	------	-----------

Year	Value	Unit
2010	100	100
2011	100	100
2012	100	100
2013	100	100
2014	100	100
2015	100	100
2016	100	100
2017	100	100
2018	100	100
2019	100	100
2020	100	100
2021	100	100
2022	100	100
2023	100	100
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2090	100	100
2091	100	100
2092	100	100
2093	100	100
2094	100	100
2095	100	100
2096	100	100
2097	100	100
2098	100	100
2099	100	100
2100	100	100

General tools

Hydraulic sheet holes

- Incl. accessories:
- 1 HSS pre-drill Ø 10 mm
 - 1 tension bolt Ø 19 mm
 - 1 tension bolt Ø 19 x 9.5 mm
 - 1 spacer nut set (3-part)
 - 1 bridge

IE-KO-HAT



- Pressure relief valve protects against overloading
- Cylinder head angled at 90°
- Angled head can be rotated through 360°
- Ergonomic handle springs back automatically
- The waste piece no longer becomes jammed thanks to 3-fold splitter
- Hydraulic punch made of high-strength aluminium (approx. 40% weight saving)
- Service life greatly reduced when stainless steel sheets are used

Technical data

Maximum steel-sheet punching performance
Round holes from 1 to Ø 85 mm
Round holes from 2 to Ø 64 mm
Square holes up to
Rectangular holes up to
Maximum stainless steel sheet punching performance
Round holes from 3 to Ø 64 mm
Tool data
Depth / Width / Height
Weight
Punching force
Max. operating pressure
Note

Ordering data

Version
Note

Accessories

	Tension bolt
	Tension bolts
	Pre-drill
Note	

IE-KO-HAT
2,0 mm F = 370 N/mm²
3,0 mm F = 370 N/mm²
68 x 68 mm; 2,0 mm F = 370 N/mm²
36 x 112 mm; 2,0 mm F = 370 N/mm²
2,5 mm F = 600 N/mm²
70 / 290 / 120 mm
1,9 kg
75 kN
650 bar

Type	Qty.	Order No.
IE-KO-HAT	1	1966810000

Type	Qty.	Order No.
KOHS 19	1	9205010000
KOHS 9.5+19	1	9205000000
KOPD 10.0	1	9205020000
Splitting stamp on the next page		



Tension bolt KOHS 19



Tension bolts KOHS 9.5+19



Pre-drill KOPD 10.0

Custom stamp for Industrial Ethernet connections



Type	Description	Dimensions	Qty.	Order No.
IE-KOK-V1	Custom shape for Bajonet 01 metal	Diameter 27 mm x 1 side 25.9 mm	1	1966780000
IE-KOK-V4	Custom shape for Push Pull V04 plastic	Diameter 23.2 mm x 2 sides 20.2 mm	1	1966790000
IE-KOK-V5	Custom shape for RockStar® V05 metal	22.0 x 22.0 mm	1	9204790000

Cabtite cable entry system

Cabtite SE - Sealing element small



Cable grommets
for ASI cables

The Cabtite SE sealing elements are used in the Cabtite FR frame or in the separable cable gland Cabtite CGS. The conical design allows easy installation, reliably seals gaps and provides strain relief in accordance with DIN EN 62444. For installation, the sealing elements are pressed from the inside to the outside into the snap-in inlays previously fitted in the frame or, in the case of the Cabtite CGS divisible cable gland, are placed between the cable gland half-shells. Various sealing elements with different cable diameters and geometries are available.

Technical data

Material	TPE
Halogen / Silicone	No / No
Operating temperature, min.	Light Grey: -40 °C; Deep black: -40 °C
Operating temperature, max.	Light Grey: 90 °C; Deep black: 120 °C
UL 94 flammability rating	Light Grey: V-0; Deep black: HB
Note	

Ordering data

Type	Clamping range	Qty.	Deep black Order No.	Light Grey Order No.
Individual sealing elements				
CABTITE SE 1.5-2 SML	1.5...2 mm	10	2584780000	2583360000
CABTITE SE 2-3 SML	2...3 mm	10	2584760000	2583380000
CABTITE SE 3-4 SML	3...4 mm	10	2584730000	2583400000
CABTITE SE 4-5 SML	4...5 mm	10	2584680000	2583440000
CABTITE SE 5-6 SML	5...6 mm	10	2584710000	2583450000
CABTITE SE 6-7 SML	6...7 mm	10	2584690000	2583460000
CABTITE SE 7-8 SML	7...8 mm	10	2584670000	2584660000
CABTITE SE 8-9 SML	8...9 mm	10	2584330000	2584650000
CABTITE SE 9-10 SML	9...10 mm	10	2584080000	2584630000
CABTITE SE 10-11 SML	10...11 mm	10	2584060000	2584610000
CABTITE SE 11-12 SML	11...12 mm	10	2584040000	2584600000
CABTITE SE 12-13 SML	12...13 mm	10	2584020000	2584590000
CABTITE SE 13-14 SML	13...14 mm	10	2584000000	2584570000
CABTITE SE 14-15 SML	14...15 mm	10	2583980000	2584560000
CABTITE SE 15-16 SML	15...16 mm	10	2583960000	2584550000
Special geometry ASI				
CABTITE SE 1/ASI SML		10	2583530000	2584810000
CABTITE SE 2/ASI SML		10	2583520000	2584800000
Multiple sealing element				
CABTITE SE 2/4-5 SML	4...5 mm	10	2583620000	2584900000
CABTITE SE 2/5-6 SML	5...6 mm	10	2583610000	2584890000
CABTITE SE 2/7 SML	7...8 mm	10	2583550000	2584830000
CABTITE SE 2/8 SML	8...9 mm	10	2583540000	2584820000
CABTITE SE 3/5-6 SML	5...6 mm	10	2652280000	2652290000
CABTITE SE 4/2-3 SML	2...3 mm	10	2583590000	2584870000
CABTITE SE 4/3-4 SML	3...4 mm	10	2583580000	2584860000
CABTITE SE 4/4-5 SML	4...5 mm	10	2583560000	2584840000
Cone sealing element				
CABTITE CSE 2-11 SML	2...11 mm	10	2583510000	
Blind plugs				
CABTITE BSE SML		10	2584790000	2583350000
Note				

Cabtite SE - sealing elements large



Blanking plugs

Cone sealing element

The Cabtite SE sealing elements in large design are identical in construction to those in small design. However, they can accommodate cables with a larger outer diameter.

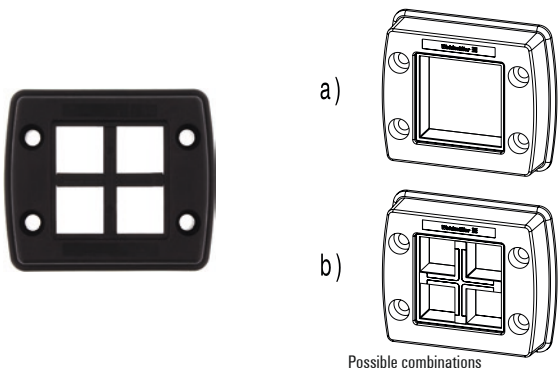
Technical data

Material	TPE
Halogen / Silicone	No / No
Operating temperature, min.	Deep black: -40 °C; Light Grey: -40 °C
Operating temperature, max.	Deep black: 120 °C; Light Grey: 90 °C
UL 94 flammability rating	Deep black: HB; Light Grey: V-0
Note	

Ordering data

Type	Clamping range	Qty.	Deep black Order No.	Light Grey Order No.
Individual sealing elements				
CABTITE SE 14-15 LRG	14...15 mm	10	2583880000	2584510000
CABTITE SE 15-16 LRG	15...16 mm	10	2583860000	2584500000
CABTITE SE 16-17 LRG	16...17 mm	10	2583850000	2584490000
CABTITE SE 17-18 LRG	17...18 mm	10	2583840000	2584480000
CABTITE SE 18-19 LRG	18...19 mm	10	2583830000	2584470000
CABTITE SE 19-20 LRG	19...20 mm	10	2583810000	2584460000
CABTITE SE 20-21 LRG	20...21 mm	10	2583790000	2584450000
CABTITE SE 21-22 LRG	21...22 mm	10	2583770000	2584440000
CABTITE SE 22-23 LRG	22...23 mm	10	2583750000	2584430000
CABTITE SE 23-24 LRG	23...24 mm	10	2583730000	2584420000
CABTITE SE 24-25 LRG	24...25 mm	10	2583710000	2584410000
CABTITE SE 25-26 LRG	25...26 mm	10	2583700000	2584400000
CABTITE SE 26-27 LRG	26...27 mm	10	2583690000	2584390000
CABTITE SE 27-28 LRG	27...28 mm	10	2583680000	2584370000
CABTITE SE 28-29 LRG	28...29 mm	10	2583670000	2584350000
CABTITE SE 29-30 LRG	29...30 mm	10	2583660000	2584380000
CABTITE SE 30-31 LRG	30...31 mm	10	2583650000	2584360000
CABTITE SE 31-32 LRG	31...32 mm	10	2583640000	2584340000
CABTITE SE 32-33 LRG	32...33 mm	10	2583630000	2584920000
CABTITE SE 33-34 LRG	33...34 mm	10	2595510000	2584910000
CABTITE SE 34-35 LRG	34...35 mm	10	2595520000	2595530000
Cone sealing element				
CABTITE CSE 7-24 LRG	7...24 mm	10	2583500000	
Blind plugs				
CABTITE BSE LRG		10	2583900000	2584520000
Note				

Cabtite FR - CABTITE FR 4-1 BK SET



The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble and available in four different sizes. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP54, IP65, IP66 / Type 12, Type 4x
UL 94 flammability rating	V-0
Note	

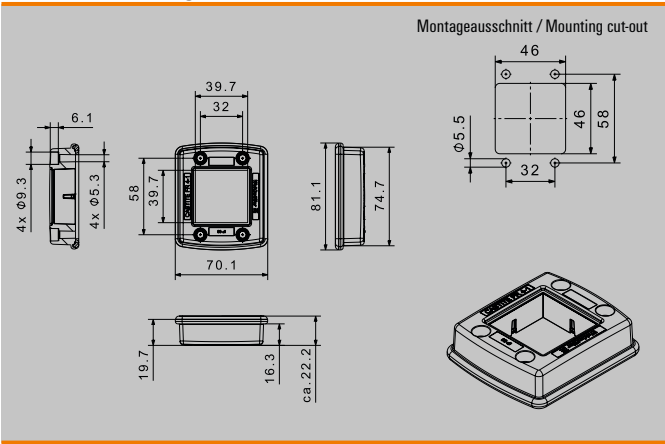
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 4-1 BK SET	1	2583780000
Single frame (without snap-in inlay)		
CABTITE FR 4-1 BK	1	2583490000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

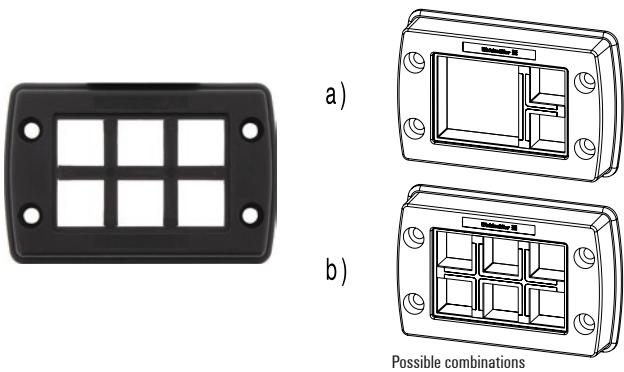
Accessories

Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 4-1 BK	10	2584260000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FR - CABTITE FR 10/6 BK SET



The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble and available in four different sizes. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a or b) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameter.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP54, IP65, IP66 / Type 12, Type 4x
UL 94 flammability rating	V-0
Note	

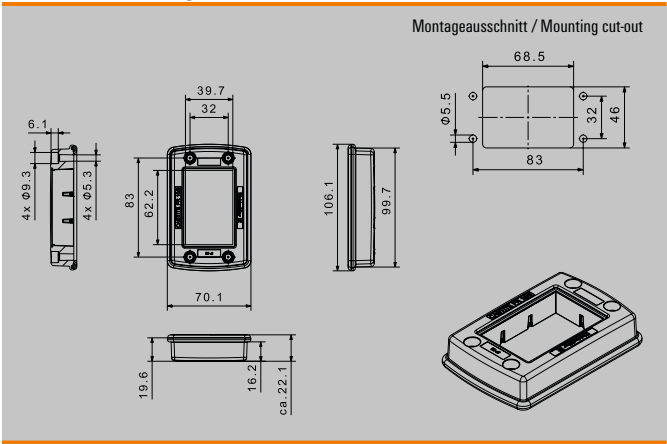
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 10/6 BK SET	1	2583760000
Single frame (without snap-in inlay)		
CABTITE FR 10/6 BK	1	2583480000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

Accessories

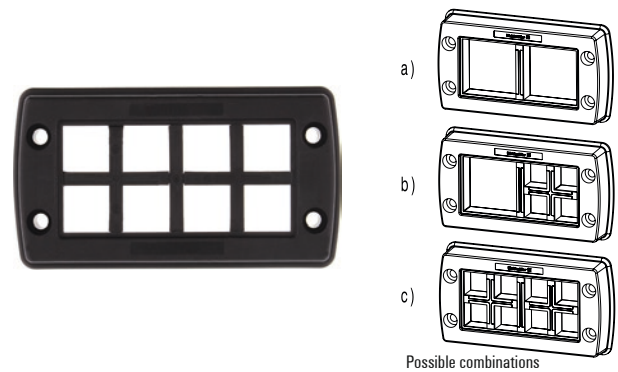
Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 10/6 BK	10	2584240000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite cable entry system

Cabtite FR - CABTITE FR 16/8 BK SET



The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble and available in four different sizes. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a, b or c) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameters.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP54, IP65, IP66 / Type 12, Type 4x
UL 94 flammability rating	V-0
Note	

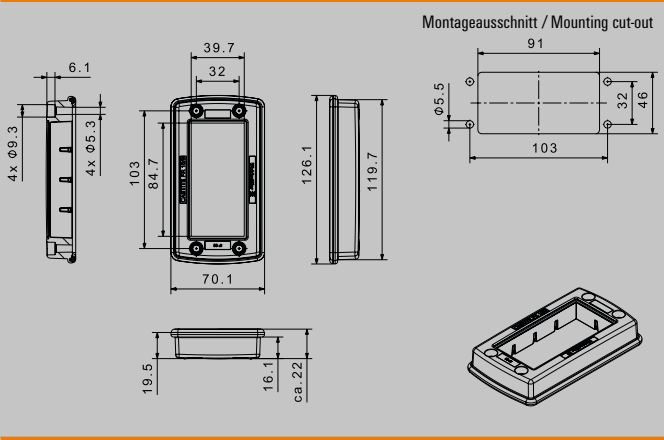
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 16/8 BK SET	1	2583740000
Single frame (without snap-in inlay)		
CABTITE FR 16/8 BK	1	2583470000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

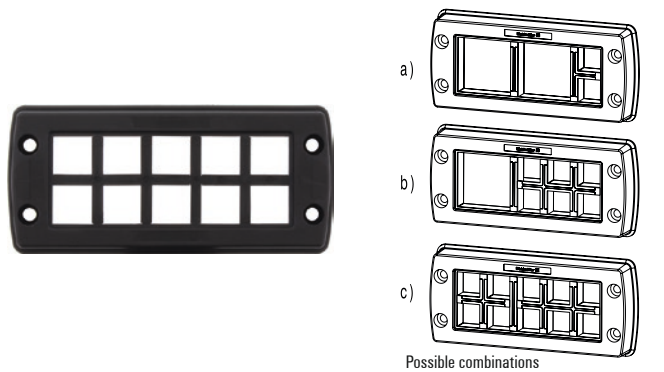
Accessories

Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 16/8 BK	10	2584220000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite FR - CABTITE FR 24/10 BK SET



The one-piece frame, consisting of a dimensionally stable, fibreglass-reinforced plastic, is quick and easy to assemble and available in four different sizes. The foamed, captive seal guarantees a high degree of impermeability to IP66, even with painted or rough surfaces. The frame sets contain the appropriate Rastinlays to realize the individual configuration (see above a, b or c) of small and large sealing elements. The sealing elements are not included in the frame set and must be selected to match the cable diameters.

Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP54, IP65, IP66 / Type 12, Type 4x
UL 94 flammability rating	V-0
Note	

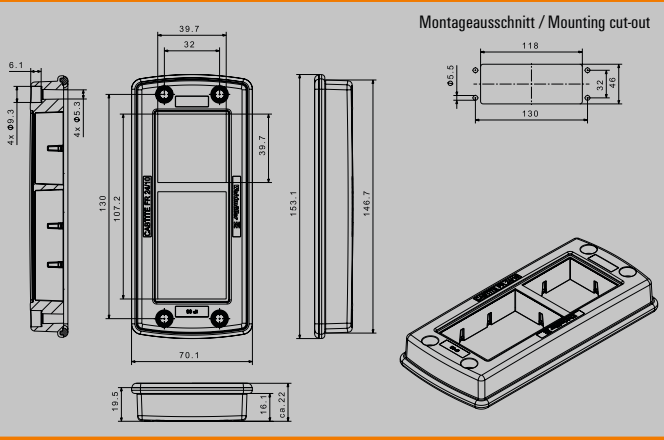
Ordering data

Type	Qty.	Order No.
Set		
CABTITE FR 24/10 BK SET	1	2583720000
Single frame (without snap-in inlay)		
CABTITE FR 24/10 BK	1	2583800000
Note	The individual frames do not contain any Rastinlays or sealing elements.	

Accessories

Product type	Type	Qty.	Order No.
Locking frame (inside)	CABTITE FRL 24/10 BK	10	2584210000
Operating tool	CABTITE TOOL ATSE PA	1	2637360000
Mounting screw set	CABTITE SC M5X25 SET	1	2635120000
Note			

Dimensioned drawing



Cabtite CGD - separable cable gland



Spare counter nut

For metric through holes from M20 to M63, the Cabtite cable entry system offers separable cable glands for cables with and without plugs. In case of maintenance or changes in the system, pre-assembled cables with diameters from 2 to 35 mm can be quickly and safely inserted into switch cabinets or housings. After inserting the sealing elements (Cabtite SE), the two halves of the cable gland are simply snapped together. A likewise separable lock nut on the inside of the cabinet ensures a secure and firm hold.

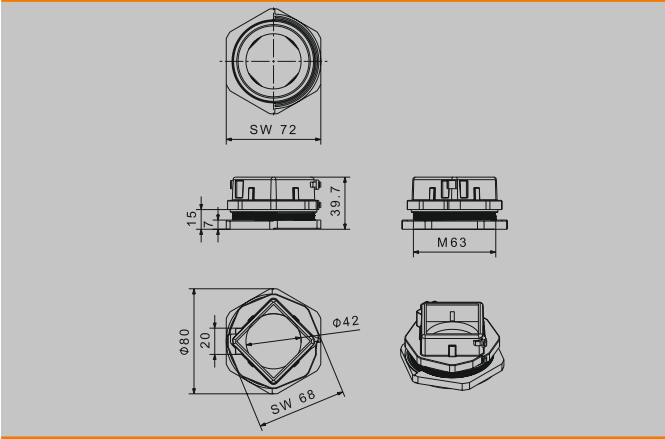
Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP54, IP65, IP66 /
UL 94 flammability rating	V-0
Note	

Ordering data

Type	Qty.	Order No.
Divisible cable gland*		
CABTITE CGS M20 BK	10	2584200000
CABTITE CGS M25 BK	10	2584180000
CABTITE CGS M32 BK	10	2584160000
CABTITE CGS M40 BK	5	2584150000
CABTITE CGS M50 BK	5	2584130000
CABTITE CGS M63 BK	5	2584120000
Articulated locknut		
CABTITE LNS M20 BK	10	2584110000
CABTITE LNS M25 BK	10	2584090000
CABTITE LNS M32 BK	10	2584070000
CABTITE LNS M40 BK	5	2584050000
CABTITE LNS M50 BK	5	2584030000
CABTITE LNS M63 BK	5	2584010000
Rastinly for M40-M63**		
CABTITE GI X BK	5	2584290000
Note		
*The cable glands are supplied with a locknut. **The snap-in insert is required to install 4 small sealing elements in the cable gland.		

Dimensioned drawing



Cabtite GI - Rastinlay



The insertable snap-in inlay allows the frame openings/cable glands to be configured as required for the small or large sealing elements used. Thus the Cabtite cable entry system can be variably configured for different requirements (cables, lines, hoses, pneumatic and hydraulic lines).

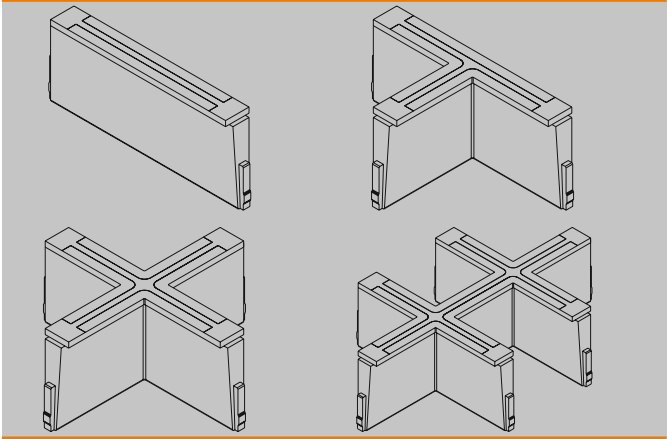
Technical data

Material	Polyamide, glass fibre-reinforced
Colour	Deep black
Operating temperature	-40...120 °C
Protection class / Protection class (UL)	IP54, IP65, IP66 /
UL 94 flammability rating	V-0
Note	

Ordering data

Type	Qty.	Order No.
CABTITE GI I BK	5	2584320000
CABTITE GI T BK	5	2584300000
CABTITE GI H BK	5	2584270000
Rastinly for M40-M63**		
CABTITE GI X BK	5	2584290000
Note		
**The locking inlay is required to install 4 small sealing elements in the cable gland.		

Dimensioned drawing



Cabtite cable entry system

Cabtite CR - Cable support strips (EMC)



In combination with a large number of different shield connection clamps (KLBÜ), the shield connection rails enable practical, uncomplicated and fast shielding of cables.

Technical data

Material	Steel, galvanized
Colour	silver

Note

Ordering data

Type	Qty.	Order No.
CABTITE CR 4-1 EMV	10	2583950000
CABTITE CR 10/6 EMV	10	2583930000
CABTITE CR 16/8 EMV	10	2583910000
CABTITE CR 24/10 EMV	10	2583890000

Note

Cabtite BP - Blanking plug



The blind plugs are used for the safe closing of unneeded cable passages in the sealing elements.

Technical data

Material	Polyamide
Colour	red
Operating temperature	-60...100 °C

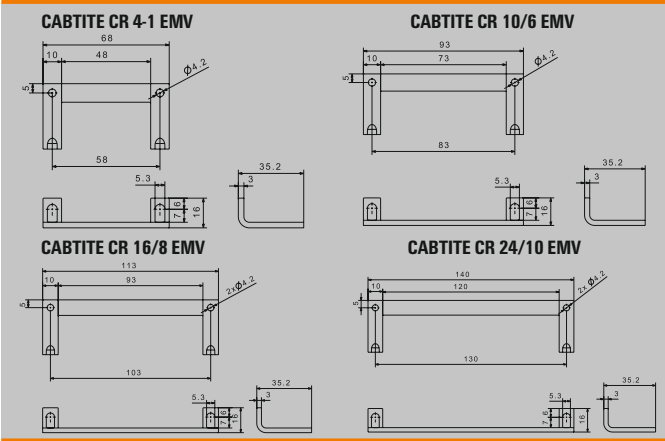
Note

Ordering data

Type	Qty.	Order No.
CABTITE BP 2MM PA	50	2652300000
CABTITE BP 3MM PA	50	2652310000
CABTITE BP 4MM PA	50	2652320000
CABTITE BP 5MM PA	50	2652330000
CABTITE BP 6MM PA	50	2652340000
CABTITE BP 7MM PA	50	2652350000
CABTITE BP 8MM PA	50	2652360000
CABTITE BP 9MM PA	50	2652370000
CABTITE BP 10MM PA	50	2652380000
CABTITE BP 12MM PA	50	2652400000
CABTITE BP 13MM PA	50	2652410000
CABTITE BP 14MM PA	50	2652420000
CABTITE BP 17MM PA	50	2652430000
CABTITE BP 20MM PA	50	2652440000
CABTITE BP 21MM PA	50	2652450000
CABTITE BP 25MM PA	50	2652460000
CABTITE BP 28MM PA	50	2652470000
CABTITE BP 35MM PA	50	2652480000

Note

Dimensioned drawing



Cable Bender

Cable bender to guide patch cables safely and without cable breakage or data loss by 90° angles

Cable bender



Technical data

Cable bending radius
Colour
Temperature range
Sheath diameter, min.
Sheath diameter, max
Hinweis

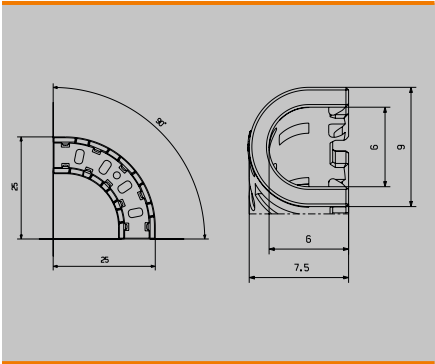
90 °
black
-25 °C...85 °C
5.5 mm
6.5 mm

Ordering data

Note

Type	Qty.	Order No.
IE-CABLE-BENDER-90	50	2704480000

Dimensioned drawings



Protective caps

Dust-protection plugs for protecting empty ports

- RJ45
- **STEADYTEC**® variants
- M12

Dust Cap RJ45



- Dust Cap RJ45 with finger grip

Protective caps IP67



- Protective caps for all **STEADYTEC**® variants and for M12 plug-in connectors

Ordering data

Type	Qty.	Order No.
IE-DPC	100	8813490000
Note		

Type	Qty.	Order No.
IE-DPC	100	8813490000

Type	Qty.	Order No.
V1 Bayonet plug	10	1965690000
V1 Bayonet flange	10	1965700000
V4 PushPull plug	10	1963890000
V4 PushPull flange	10	1963900000
V5 HDC plug	10	1968920000
V5 HDC flange	10	1968930000
V14 PushPull plug	10	1058280000
V14 PushPull flange	10	1058310000
PushPull Power flange	10	1068930000
M12 plug	1	2330260000
M12 flange	1	8425960000

PrintJet CONNECT

The networked high-performance printer for efficient and high-quality markings

Your direct connection to the optimal marking process

The PrintJet CONNECT is the consistent further development of our tried-and-tested PrintJet series. Focusing on the modern needs of industry and panel building, it combines maximum process and cost efficiency with intelligent networking and complete data consistency. For example, you can use existing data directly in the marking process – for working more efficiently and with a minimal error rate. The PrintJet CONNECT is part of the Weidmüller marking system consisting of software, markers and printers. It has an extremely durable industrial print head and has been specially optimised for fast working speed and high throughput.

Your advantages at a glance:

- Perfect printing results every time
- Fast handling of large volumes
- High level of automation thanks to magazine capacity of 50 MultiCards
- Durable and robust markers thanks to thermal fixing
- User-friendly operation thanks to intuitive touch display
- Flexible connection possibilities
- Simple function monitoring on the device



The new 7" touch colour display with a multitude of new functions ensures optimal operation.



Whether LAN, WLAN or USB: the PrintJet CONNECT offers a wide connectivity spectrum.

Technical data

	Description
Intended use	Printing Weidmüller MultiCards and MetalliCards
Technology	Inkjet procedure with integrated thermal fixing unit
Feed	Automatic magazine for max. 30 MultiCards Individual feed for MetalliCards and MultiCards
Removal	Automatic dispenser magazine for up to 50 MultiCards
Fuses	10 ATH 240/120 V
Application site	Office conditions
Ambient temperature	10 °C – 35 °C 0 °F – 95 °F
Dimensions	Length including output rail: approx. 1.133 mm (44,60") Length not including output rail: approx. 930 mm (36,60") Width: 590 mm (23,20") Height: 454 mm (17,90")
Weight	63 kg with packaging 38 kg without packaging
Ink system	Colour system – black, cyan, magenta, yellow
Included in delivery	• PrintJet CONNECT • Mains cable • LAN cable • USB cable • WIFI stick • one MultiCard DEK 5/5 • DVD with M-Print® PRO software • Quick start guide • Operating manual • Ink set PJ CON INK SET • 2 PrintJet cleaner cloths
The ink cartridges are not installed in the printer.	

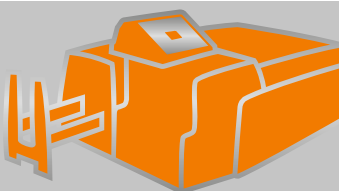


High magazine capacity for loading and dispensing of up to 50 MultiCards.

Inkjet printer

Ink-jet printer

PrintJet CONNECT



Technical data

EAN	4064675016922
Depth	930 mm
Width	590 mm
Height	454 mm
Net weight	38 kg
Printing method	Ink jet technology
Printer driver / Operating system	Windows 7, Windows 8, Windows 8.1, Windows 10
Printing speed	Depends on printing quality
Print quality	300 dpi, 600 dpi, 1200 dpi
Marker type	MultiCard, MetalliCard
Interface	USB, LAN, Wi-Fi
Fueling system	Ink cartridge, CMYK
Voltage supply	230 V AC / 16 A, 115 V AC / 20 A
Software	M-Print® PRO
Note	

Ordering data

Type	Qty.	Order No.
PRINTJET CONNECT	1	2715590000
Note		

Accessories

PrintJet CONNECT		Type	Qty.	Order No.
	Software	M-PRINT PRO	1	1905490000
	Ink set	PJ CON INK SET	1	2715600000
	Cyan ink	PJ CON INK C	1	2715610000
	Magenta ink	PJ CON INK M	1	2715620000
	Yellow ink	PJ CON INK Y	1	2715630000
	Black ink	PJ CON INK K	1	2715640000
	Fluid set	PJ CON FLUID SET	1	2715650000
	Ink collecting tray	PJ CON WASTE PAD	1	2715660000
	Textile cover	PJ CON TEXTILE COVER	1	2715670000
	WiFi Stick	PJ CON WIFI STICK	1	2715680000
PrintJet ADVANCED				
	Ink collecting tray	PJ ADV TNAW	1	1338710000
	Cyan ink	PJ ADV TNTK INK C	1	1338680000
	Magenta ink	PJ ADV TNTK INK M	1	1338670000
	Yellow ink	PJ ADV TNTK INK Y	1	1338650000
	Black ink	PJ ADV TNTK INK K	1	1338690000
	Ink set	PJ ADV TNTK INK SET	1	1338720000
Note				

Markers for cables and wires

SlimFix V0 for cables and wires

- Ø 4.7 to 6.8 mm SF5/21
- Ø 5.8 to 8.5 mm SF6/21

Ordering data

Type	Qty.	Order No.
VT SF 5/21 NE WS V0	160	1689470001
VT SF 6/21 NE WS V0	160	1730560001

Note: Can be printed with PrintJet PRO.**Accessories**

Type	Qty.	Order No.

Markers for IE-Line **STEADYTEC®**MultiCard ESG 9/11 K for IE-Line **STEADYTEC®**

- 9 x 11 mm
- White

Ordering data

Type	Qty.	Order No.
ESG 9/11 K MC NE WS	200	1857440000

Note: Can be printed with PrintJet PRO.**Accessories**

Type	Qty.	Order No.

TM-I for pre-assembled M12 cables

MultiCard markers for labelling transparent M12 TM-I sleeves

- Tag length: 18 mm
- Tag width: 4 mm

Ordering data

Type	Qty.	Order No.
TM-I 18 MC NE WS	320	1718431044
TM-I 18 MC NE GE	320	1718431687

Accessories

Type	Qty.	Order No.
TM 4/12 HF/HB Length 12 mm	500	1719840000
TM 4/18 HF/HB Length 18 mm	500	1719850000

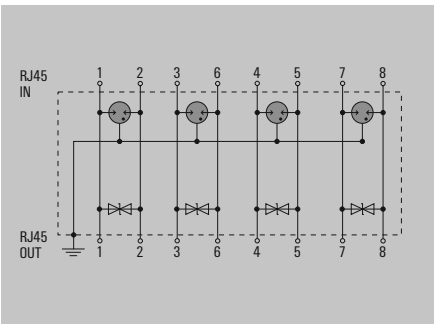
Note: Can be printed with PrintJet PRO.

Surge protection for data interfaces

V DATA Cat. 6 - surge protection for 8 wires with RJ45 socket

- RJ45 connection
- All 4 lines are protected
- Robust and compact metal housing
- Suitable for Cat. 5 (to 100 MHz) and Cat. 6 to 250 MHz (class E)
- Suitable for PoE (IEEE 802.3af) and PoE + (IEEE 802.3at)

V DATA CAT6



Technical data

Requirements category acc. to IEC 61643-21
 Surge current-carrying capacity C2
 Surge current-carrying capacity D1
 Discharge current I_n (8/20 μ s) wire-wire/wire-PE/GND-PE
 Discharge I_{max} (8/20 μ s) wire-wire/wire-PE/GND-PE
 Lightning test I_{imp} (10/350 μ s) wire-wire/wire-PE/GND-PE
 Type of connection
 Storage temperature
 Ambient temperature (operational)
 Protection degree
 Rated voltage (AC)
 Rated current
 Insertion loss at 250 MHz
 Protection level U_p typical

Approvals

Standards

Dimensions of complete module (arrester + base element)

Height x width x depth

Note

C2, D1
 10 kA
 1 kA 10/350 μ s
 150 A / 1,25 kA
 10 kA / 5 kA
 1 kA / 1 kA
 RJ45-Port
 -40 ... +85 °C
 -40 ... +80 °C
 IP20
 48 V
 1 A
 ≤ 1 dB at 250 MHz
 ≤ 550 V

According to IEC61643-21

75 / 19 / 46 mm

Can also be used for Cat.5 applications

Ordering data

Note

Type	Qty.	Order No.
V DATA CAT6	1 ST	1348590000

Service and support

Service and support	Our expertise for your requirements	V.2
	Engineering support and customised assembly	V.3
	Personal support	V.4

Our expertise for your requirements

Service connects – worldwide



Automation technology functions are becoming more complex in a globally-oriented world facing ambitious targets in terms of energy efficiency and smart production. We are your equal partners for the best connections in Industrial Connectivity.

Our personal support can answer any questions reliably and expertly. Our online services are available 365 day a year around the clock to provide answers to your questions on our products – from user documentation through software to planning tools.

In short: Weidmüller's global service combines our expertise with your requirements.

V



Your way to our service
www.weidmueller.com/service

Engineering support and customised assembly

Automation engineering and connectivity consulting belongs to our services as well as assembly of engineered products. We also support the process from the idea to the product with our Weidmüller Configurator and the Configure-to-Order process.



Consulting and engineering

The challenge for you is reducing costs and increasing efficiency. This requires intelligent, individual solutions. Whether it is modified products, pre-fitted mounting rails or complete small cabinets – our application centres provide a highly qualified custom-made engineering and production service.



Connectivity Consulting

Alongside our product offering, we support you with our range of services through all the phases of machine construction. The result of this collaboration is a reduction of up to 30% in cycle times, up to 20% more space in the control cabinet and significant fault reduction. Our experienced Connectivity Consulting team delivers a practical impetus rather than just abstract theories.



Fitted mounting rails

Your processes in panel building have to be fast, flexible and productive. This is the only way you can cut your costs and increase efficiency. Depending on the application in question, you will have different requirements with respect to the engineering service, delivery speed and flexibility to be provided.



Processed and assembled enclosures

To compete internationally, your plants need to satisfy high standards of safety, quality and performance. The smart combination of consultation, application expertise and industry know-how is our key to finding a custom-fit solution for your application. Reduce costs and increase efficiency.

Personal support

Exactly the right help and information on our solutions and products



If our products are used in your automation technology applications, you need the best possible individual support, from planning through installation to operation. For every stage of your application, we can offer the right tools and information for our products and solutions. Up-to-date, uncomplicated, comprehensive and around the clock via our service portal at www.weidmueller.com/support.

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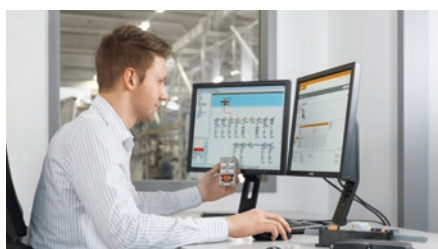


Your way to your local personal support
www.weidmueller.com/support



Technical downloads

All information, such as technical data, manuals, certificates and much more for the appropriate use of our products and solutions in your application.



Engineering data

For the quick integration of our products into your design, there are a lot of digital product data for engineering systems like EPLAN, Zuken E3.series, WSCAD and many others available for download.



Product software

Our software makes using and configuration of our products easier for you when it comes to operation, configuration and monitoring.



Approvals, certificates & declaration of conformity

We supply product- or company-related approvals and certificates for your documentation.



Security advisory board

Our Product Security Incident Response Team (PSIRT) continuously informs you about possible security-related vulnerabilities of our products.

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CABTITE CGS M32 BK	2584160000	S.21
CABTITE CGS M40 BK	2584150000	S.21
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CABTITE FRL 4-1 BK	2584260000	S.19
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CABTITE SE 17-18 LRG GY	2584480000	S.18
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CABTITE SE 18-19 LRG GY	2584470000	S.18
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CABTITE SE 19-20 LRG GY	2584460000	S.18
CABTITE SE 2-3 SML BK	2584760000	S.18
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CABTITE SE 2/ASI SML GY	2584800000	S.18
CABTITE SE 20-21 LRG BK	2583790000	S.18
CABTITE SE 20-21 LRG GY	2584450000	S.18
CABTITE SE 21-22 LRG BK	2583770000	S.18
CABTITE SE 21-22 LRG GY	2584440000	S.18
CABTITE SE 22-23 LRG BK	2583750000	S.18
CABTITE SE 22-23 LRG GY	2584430000	S.18
CABTITE SE 23-24 LRG BK	2583730000	S.18
CABTITE SE 23-24 LRG GY	2584420000	S.18
CABTITE SE 24-25 LRG BK	2583710000	S.18
CABTITE SE 24-25 LRG GY	2584410000	S.18
CABTITE SE 25-26 LRG BK	2583700000	S.18
CABTITE SE 25-26 LRG GY	2584400000	S.18
CABTITE SE 26-27 LRG BK	2583690000	S.18
CABTITE SE 26-27 LRG GY	2584390000	S.18
CABTITE SE 27-28 LRG BK	2583680000	S.18
CABTITE SE 27-28 LRG GY	2584370000	S.18
CABTITE SE 28-29 LRG BK	2583670000	S.18
CABTITE SE 28-29 LRG GY	2584350000	S.18
CABTITE SE 29-30 LRG BK	2583660000	S.18
CABTITE SE 29-30 LRG GY	2584380000	S.18
CABTITE SE 3-4 SML BK	2584730000	S.18
CABTITE SE 3-4 SML GY	2583400000	S.18
CABTITE SE 3/5-6 SML BK	2652280000	S.18
CABTITE SE 3/5-6 SML GY	2652290000	S.18
CABTITE SE 30-31 LRG BK	2583650000	S.18
CABTITE SE 30-31 LRG GY	2584360000	S.18
CABTITE SE 31-32 LRG BK	2583640000	S.18
CABTITE SE 31-32 LRG GY	2584340000	S.18
CABTITE SE 32-33 LRG BK	2583630000	S.18
CABTITE SE 32-33 LRG GY	2584330000	S.18
CABTITE SE 33-34 LRG BK	2595510000	S.18
CABTITE SE 33-34 LRG GY	2584910000	S.18
CABTITE SE 34-35 LRG BK	2595520000	S.18
CABTITE SE 34-35 LRG GY	2595530000	S.18
CABTITE SE 4-5 SML BK	2584680000	S.18
CABTITE SE 4-5 SML GY	2583440000	S.18
CABTITE SE 4/2-3 SML BK	2583590000	S.18
CABTITE SE 4/2-3 SML GY	2584870000	S.18
CABTITE SE 4/3-4 SML BK	2583580000	S.18
CABTITE SE 4/3-4 SML GY	2584860000	S.18
CABTITE SE 4/4-5 SML BK	2583560000	S.18
CABTITE SE 4/4-5 SML GY	2584840000	S.18
CABTITE SE 5-6 SML BK	2584710000	S.18
CABTITE SE 5-6 SML GY	2583450000	S.18
CABTITE SE 6-7 SML BK	2584690000	S.18
CABTITE SE 6-7 SML GY	2583460000	S.18
CABTITE SE 7-8 SML BK	2584670000	S.18
CABTITE SE 7-8 SML GY	2584660000	S.18
CABTITE SE 8-9 SML BK	2584330000	S.18
CABTITE SE 8-9 SML GY	2584650000	S.18
CABTITE SE 9-10 SML BK	2584080000	S.18
CABTITE SE 9-10 SML GY	2584630000	S.18
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ERME 630 PDT	9013990000	S.15
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ERME ISA PLUS STANDARD	9014000000	S.15
ERME MULTI-STRIPAX	9203070000	S.10
ESG 6/17 K MC NE WS	1880120000	P.5
ESG 6/17 K MC NE WS	1880120000	P.6
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ESG 7/20 SIRIUS MC NE WS	1736181044	M.4
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ESG 7/20 SIRIUS MC NE WS	1736181044	M.6
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ESG 9/11 K MC NE WS	1857440000	M.30
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ESG 9/11 K MC NE WS	1857440000	N.7
ESG 9/11 K MC NE WS	1857440000	N.10
ESG 9/11 K MC NE WS	1857440000	N.12
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ESG 9/11 K MC NE WS	1857440000	N.19
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ESG 9/11 K MC NE WS	1857440000	N.21
ESG 9/11 K MC NE WS	1857440000	N.22
ESG 9/11 K MC NE WS	1857440000	N.23
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HTX IE-POF-QA	2602860000	L.10
HTX IE-POF-QA	2602860000	N.10
HTX IE-POF-QA	2602860000	N.56
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IE-ADM12XRJ45-90	1400610000	N.46
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IE-BHD-SPE-M8-OT-BP	2726030000	K.13
IE-BHD-SPE-M8-OT-BP	2726030000	N.30
IE-BHD-SPE-M8-OT-FP	2726020000	K.13
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IE-BI-RJ45-FJA	1962850000	M.12
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IE-BI-RJ45-FJB	1963840000	M.5
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IE-BI-RJ45-FJB	1963840000	M.10
IE-BI-RJ45-FJB	1963840000	M.11
IE-BI-RJ45-FJB	1963840000	M.12
IE-BI-RJ45-FJB	1963840000	M.13
IE-BI-RJ45-FJB	1963840000	N.18
IE-BI-RJ45-FJB	1963840000	N.21
IE-BI-RJ45-FJB	1963840000	N.51
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IE-BI-RJ45-FJB	1963840000	0.13
IE-BI-RJ45-FJB	1963840000	0.14
IE-BI-RJ45-FJB	1963840000	0.15
IE-BI-RJ45-FJB	1963840000	0.16
IE-BI-RJ45-FJP	1963830000	M.5
IE-BI-RJ45-FJP	1963830000	M.6
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IE-BI-RJ45-FJP	1963830000	M.11
IE-BI-RJ45-FJP	1963830000	M.12
IE-BI-RJ45-FJP	1963830000	M.13
IE-BI-RJ45-FJP	1963830000	N.18
IE-BI-RJ45-FJP	1963830000	N.21
IE-BI-RJ45-FJP	1963830000	N.51
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IE-BI-RJ45-FJP	1963830000	0.14
IE-BI-RJ45-FJP	1963830000	0.15
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IE-BH-USB-3.0.A	1487920000	M.12
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IE-BIC-HYB-P,0,5-300	1096150000	0.7	IE-C5CS8UG-500	2762870000	J.15	IE-C5D04UG0030MCAMCA-E	1059890030	0.36	IE-C5DE4UP0050PCAPSA-E	2717810050	0.47
IE-BIC-HYB-P,0,75-300	1068970000	J.10	IE-C5CS8UG-500	2762870000	0.5	IE-C5D04UG0030MCAXXX-X	1059750030	0.37	IE-C5DE4UP0050PCAXXX-E	2717770050	0.45
IE-BIC-HYB-P,0,75-300	1068970000	N.8	IE-C5CS8UG-500	2762870000	0.6	IE-C5D04UG0030MCSA20-E	1044470030	0.35	IE-C5DE4UP0050PCSPCS-E	2717780005	0.46
IE-BIC-HYB-P,0,75-300	1068970000	N.54	IE-C5CS8VG-100	8813150000	J.15	IE-C5D04UG0030MCSMCA-E	1059770030	0.36	IE-C5DE4UP0050PCSPSS-E	2717790050	0.46
IE-BIC-HYB-P,0,75-300	1068970000	0.7	IE-C5CS8VG-100	8813150000	0.5	IE-C5D04UG0030MCSMCS-E	1025950030	0.34	IE-C5DE4UP0050PCSPXX-E	2717750050	0.44
IE-BPV01P	1965700000	N.13	IE-C5CS8VG-100	8813150000	0.6	IE-C5D04UG0030MCSXXX-X	1025940030	0.35	IE-C5DE4UP0050PSAXXX-E	2717760050	0.45
IE-BPV01P	1965700000	N.14	IE-C5CS8VG-500	2763440000	J.15	IE-C5D04UG0030MSSMCS-E	1059330030	0.34	IE-C5DE4UP0050PCSPXX-E	2717740050	0.44
IE-BPV01P	1965700000	N.15	IE-C5CS8VG-500	2763440000	0.5	IE-C5D04UG0040A60A60-E	2047310040	0.29	IE-C5DE4UP0075PCAPCA-E	2717800075	0.47
IE-BPV01P	1965700000	N.17	IE-C5CS8VG-500	2763440000	0.6	IE-C5D04UG0050A20A20-E	1173030050	0.28	IE-C5DE4UP0075PCAPSA-E	2717810075	0.47
IE-BPV01P	1965700000	S.24	IE-C5D04RE0015MCAMCA-E	1059970015	0.55	IE-C5D04UG0050A20A20-E	1376510050	0.28	IE-C5DE4UP0075PCAXXX-E	2717770075	0.45
IE-BPV04P	1963900000	N.20	IE-C5D04RE0015MCAXXX-X	1059990015	0.56	IE-C5D04UG0050A2EA2E-X	1119730050	J.11	IE-C5DE4UP0075PCSPCS-E	2717780075	0.46
IE-BPV04P	1963900000	N.22	IE-C5D04RE0015MCSMCA-E	1059940015	0.55	IE-C5D04UG0050A2EA2E-X	1119730050	0.30	IE-C5DE4UP0075PCSPSS-E	2717790075	0.46
IE-BPV04P	1963900000	N.23	IE-C5D04RE0015MCSMCS-E	1010850015	0.53	IE-C5D04UG0050A60A60-E	2047310050	0.29	IE-C5DE4UP0075PCSPXX-E	2717750075	0.44
IE-BPV04P	1963900000	N.24	IE-C5D04RE0015MCSXXX-X	1010840015	0.54	IE-C5D04UG0050B2EB2E-X	1307610050	0.31	IE-C5DE4UP0075PSAXXX-E	2717760075	0.45
IE-BPV04P	1963900000	0.14	IE-C5D04RE0015MSSMCS-E	1059340015	0.53	IE-C5D04UG0050DCADCA-E	2706220050	0.51	IE-C5DE4UP0075PCSPXX-E	2717740075	0.44
IE-BPV04P	1963900000	S.24	IE-C5D04RE0030MCAMCA-E	1059970030	0.55	IE-C5D04UG0050DCADSA-E	2706230050	0.51	IE-C5DE4UP0075PCAXXX-E	27177800100	0.47
IE-BPV05M	1968930000	N.26	IE-C5D04RE0030MCAXXX-X	1059990030	0.56	IE-C5D04UG0050DCAXXX-E	2706190050	0.49	IE-C5DE4UP0100PCAPSA-E	2717810100	0.47
IE-BPV05M	1968930000	S.24	IE-C5D04RE0030MCSMCA-E	1059940030	0.55	IE-C5D04UG0050DCSDCS-E	2706200050	0.50	IE-C5DE4UP0100PCAXXX-E	2717770100	0.45
IE-BPV14P	1058310000	N.4	IE-C5D04RE0030MCSMCS-E	1010850030	0.53	IE-C5D04UG0050DCSDSS-E	2706210050	0.50	IE-C5DE4UP0100PCSPCS-E	2717780100	0.46
IE-BPV14P	1058310000	N.5	IE-C5D04RE0030MCSXXX-X	1010840030	0.54	IE-C5D04UG0050DCSE40-E	2706250050	0.52	IE-C5DE4UP0100PCSPSS-E	2717790100	0.46
IE-BPV14P	1058310000	N.6	IE-C5D04RE0030MSSMCS-E	1059340030	0.53	IE-C5D04UG0050DCSPXX-E	2706150050	0.48	IE-C5DE4UP0100PCSPXX-E	2717750100	0.44
IE-BPV14P	1058310000	N.8	IE-C5D04RE0050MCAMCA-E	1059970050	0.55	IE-C5D04UG0050DCSAXXX-E	2706160050	0.49	IE-C5DE4UP0100PSAXXX-E	2717760100	0.45
IE-BPV14P	1058310000	N.11	IE-C5D04RE0050MCAXXX-X	1059990050	0.56	IE-C5D04UG0050DSSXXX-E	2706260050	0.48	IE-C5DE4UP0100PSSXXX-E	2717740100	0.44
IE-BPV14P	1058310000	0.2	IE-C5D04RE0050MCSMCA-E	1059940050	0.55	IE-C5D04UG0050MCAMCA-E	1059890050	0.36	IE-C5DE4UP0200PCSPCS-E	2717780200	0.46
IE-BPV14P	1058310000	0.4	IE-C5D04RE0050MCSMCS-E	1010850050	0.53	IE-C5D04UG0050MCAXXX-X	1059750050	0.37	IE-C5DE4UP0200PCSPSS-E	2717790200	0.46
IE-BPV14P	1058310000	0.5	IE-C5D04RE0050MCSXXX-X	1010840050	0.54	IE-C5D04UG0050MCSA20-E	1044470050	0.35	IE-C5DE4UP0200PCSPXX-E	2717750200	0.44
IE-BPV14P	1058310000	0.7	IE-C5D04RE0050MSSMCS-E	1059340050	0.53	IE-C5D04UG0050MCSMCA-E	1059770050	0.36	IE-C5DE4UP0200PSAXXX-E	2717760200	0.45
IE-BPV14P	1058310000	0.8	IE-C5D04RE0100MCAMCA-E	1059970100	0.55	IE-C5D04UG0050MCSMCS-E	1025950050	0.34	IE-C5DE4UP0200PSSXXX-E	2717740200	0.44
IE-BPV14P	1058310000	S.24	IE-C5D04RE0100MCAXXX-X	1059990100	0.56	IE-C5D04UG0050MCSXXX-X	1025940050	0.35	IE-C5DE4UP0300PCSPCS-E	2717790300	0.46
IE-BPV14P	1058310000	0.2	IE-C5D04RE0100MCSMCA-E	1059940100	0.55	IE-C5D04UG0050MSSMCS-E	1059330050	0.34	IE-C5DE4UP0300PCSPSS-E	2717790300	0.46
IE-BPV14P	1058310000	0.4	IE-C5D04RE0100MCSMCS-E	1010850100	0.53	IE-C5D04UG0075A60A60-E	2047310075	0.29	IE-C5DE4UP0300PCSPXX-E	2717750300	0.44
IE-BPV14P	1058310000	0.5	IE-C5D04RE0100MCSXXX-X	1010840100	0.54	IE-C5D04UG0075DCADCA-E	2706220075	0.51	IE-C5DE4UP0300PSAXXX-E	2717760300	0.45
IE-BPV14P	1058310000	0.6	IE-C5D04RE0100MSSMCS-E	1059340100	0.53	IE-C5D04UG0075DCADSA-E	2706230075	0.51	IE-C5DE4UP0300PSSXXX-E	2717740300	0.44
IE-BPV14P	1058310000	S.24	IE-C5D04WE0010A20A20-E	1421710010	0.58	IE-C5D04UG0075DCAXXX-E	2706190075	0.49	IE-C5DHAG-100	2763660000	N.7
IE-BPV14P	1058310000	0.2	IE-C5D04WE0020A20A20-E	1421710020	0.58	IE-C5D04UG0075DCSDCS-E	2706200075	0.50	IE-C5DHAG-100	2763660000	0.5
IE-BPV14P	1058310000	0.4	IE-C5D04WE0030A20A20-E	1421710030	0.58	IE-C5D04UG0075DCSDSS-E	2706210075	0.50	IE-C5DHAG-100	2763660000	0.17
IE-BPV14P	1058310000	N.44	IE-C5D04WE0040A20A20-E	1421710040	0.58	IE-C5D04UG0075DCSE40-E	2706250075	0.52	IE-C5DHAG-500	2763460000	J.11
IE-BPV14P	1058310000	N.44	IE-C5D04WE0040MCSA20-E	1220310040	0.57	IE-C5D04UG0075DCSPXX-E	2706150075	0.48	IE-C5DHAG-500	2763460000	N.7
IE-BPV14P	1058310000	N.44	IE-C5D04WE0050A20A20-E	1421710050	0.58	IE-C5D04UG0075DSAXXX-E	2706160075	0.49	IE-C5DHAG-500	2763460000	0.5
IE-BPV14P	1058310000	N.46	IE-C5D04WE0050MCSXXX-E	1269740050	0.57	IE-C5D04UG0075DSSXXX-E	2706260075	0.48	IE-C5DHAG-500	2763460000	0.17
IE-BPV14P	1058310000	S.24	IE-C5D04WE0100A20A20-E	1421710100	0.58	IE-C5D04UG0100A20A20-E	1173030100	0.28	IE-C5DHAG-MW	1172250000	N.8
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IE-BPV14P	1058310000	0.4	IE-C5D04WE0200A20A20-E	1421710200	0.58	IE-C5D04UG0100A2EA2E-X	1119730100	J.11	IE-C5D04UG0005MBSMCS-E	1244130005	0.38
IE-BPV14P	1058310000	N.15	IE-C5D04UG-100	8899010000	J.11	IE-C5D04UG0100A2EA2E-X	1119730100	0.30	IE-C5D04UG0005MBSXXX-E	1234770005	0.39
IE-BPV14P	1058310000	0.5	IE-C5D04UG-100	8899010000	0.5	IE-C5D04UG0100A60A60-E	2047310100	0.29	IE-C5D04UG010MBSA20-E	1234750010	0.38
IE-BPV14P	1058310000	N.13	IE-C5D04UG-100	8899010000	0.16	IE-C5D04UG0100B2EB2E-X	1307610100	0.31	IE-C5D04UG010MBSMCS-E	1244130010	0.38
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IE-BPV14P	1058310000	J.14	IE-C5D04UG0005A20A20-E	1173030005	0.28	IE-C5D04UG0100DCSDCS-E	2706200100	0.50	IE-C5D04UG010MBSXXX-E	1234770015	0.39
IE-BPV14P	1058310000	N.14	IE-C5D04UG0005A20A20-E	1376510005	0.28	IE-C5D04UG0100DCSDSS-E	2706210100	0.50	IE-C5D04UG020MBSA20-E	1234750020	0.38
IE-BPV14P	1058310000	N.17	IE-C5D04UG0005A60A60-E	2047310005	0.29	IE-C5D04UG0100DCSE40-E	2706250100	0.52	IE-C5D04UG020MBSMCS-E	1244130020	0.38
IE-BPV14P	1058310000	J.14	IE-C5D04UG0005MCSMCS-E	1025950005	0.34	IE-C5D04UG0100DCSPXX-E	2706150100	0.48	IE-C5D04UG020MBSXXX-E	1234770020	0.39
IE-BPV14P	1058310000	N.17	IE-C5D04UG0010A20A20-E	1173030010	0.28	IE-C5D04UG0100DSAXXX-E	2706160100	0.49	IE-C5D04UG020MBSA20-E	1234750025	0.38
IE-BPV14P	1058310000	J.14	IE-C5D04UG0010A20A20-E	1376510010	0.28	IE-C5D04UG0100DSSXXX-E	2706260100	0.48	IE-C5D04UG020MBSMCS-E	1244130025	0.38
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IE-BPV14P	1058310000	J.10	IE-C5D04UG0015DCSE40-E	2706250015	0.52	IE-C5D04UG0100MCAMCA-E	1059890100	0.36	IE-C5D04UG020MBSXXX-E	1234770045	0.39
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IE-BPV14P	1058310000	J.10	IE-C5D04UG0015DSSXXX-E	2706260015	0.48	IE-C5D04UG0100MCSMCS-E	1025950100	0.34	IE-C5D04UG020MBSXXX-E	1234770050	0.39
IE-BPV14P	1058310000	N.11	IE-C5D04UG0015MCAMCA-E	1059890015	0.36	IE-C5D04UG0100MCSXXX-X	1025940100	0.35	IE-C5D04UG020MBSA20-E	1234750055	0.38
IE-BPV14P											

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IE-C6FS8UG0030A40A40-G	8941350030	0.27

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IE-C6FS8UG0050A40A40-G	8941350050	0.27
IE-C6FS8UG0100A40A40-G	8941350100	0.27
IE-C6FS8UG0150A40A40-G	8941350150	0.27
IE-C6FS8UG0200A40A40-G	8941350200	0.27
IE-C6HD8UG0010E40XCSE	2723030010	0.41
IE-C6HD8UG0010E40XCSE	2723040010	0.41
IE-C6HD8UG0030E40XCSE	2723030030	0.41
IE-C6HD8UG0030E40XCSE	2723040030	0.41
IE-C6HD8UG0050E40XCSE	2723030050	0.41
IE-C6HD8UG0050E40XCSE	2723040050	0.41
IE-C6HD8UG0075E40XCSE	2723030075	0.41
IE-C6HD8UG0075E40XCSE	2723040075	0.41
IE-C6HD8UG0100E40XCSE	2723030100	0.41
IE-C6HD8UG0100E40XCSE	2723040100	0.41
IE-C6HD8UG0150E40XCSE	2723030150	0.41
IE-C6HD8UG0150E40XCSE	2723040150	0.41
IE-C6KS8VG0005XCSCXSE	1398070005	0.40
IE-C6KS8VG0005XCSCXSE	1449470005	0.40
IE-C6KS8VG0015XCSCXSE	1398070015	0.40
IE-C6KS8VG0015XCSCXSE	1449470015	0.40
IE-C6KS8VG0030XCSCXSE	1398070030	0.40
IE-C6KS8VG0030XCSCXSE	1449470030	0.40
IE-C6KS8VG0050XCSCXSE	1398070050	0.40
IE-C6KS8VG0050XCSCXSE	1449470050	0.40
IE-C6KS8VG0100XCSCXSE	1398070100	0.40
IE-C6KS8VG0100XCSCXSE	1449470100	0.40
IE-C7BS8UG-100	8813140000	0.5
IE-C7BS8UG-100	8813140000	0.7
IE-C7BS8UG-500	2763530000	0.5
IE-C7BS8UG-500	2763530000	0.7
IE-C7BS8VG-100	8813130000	0.5
IE-C7BS8VG-100	8813130000	0.7
IE-C7BS8VG-500	2763540000	0.5
IE-C7BS8VG-500	2763540000	0.7
IE-C7ES8UG-100	8813180000	0.9
IE-C7ES8UG-100	8813180000	0.9
IE-C7ES8UG-500	2763550000	0.5
IE-C7ES8UG-500	2763550000	0.9
IE-C7ES8VG-100	8813170000	0.5
IE-C7ES8VG-100	8813170000	0.9
IE-C7ES8VG-500	2763560000	0.5
IE-C7ES8BL-305M	1326540000	0.5
IE-C7ES8BL-305M	1326540000	0.10
IE-C7FS8LD-305M	1273090000	0.5
IE-C7FS8LD-305M	1273090000	0.10
IE-C7FS8LE-305M	1346690000	0.5
IE-C7FS8LE-305M	1346690000	0.11
IE-C7FS8LE-305M	1346680000	0.5
IE-C7FS8LE-305M	1346680000	0.11
IE-C7FS8LM-305M	1333160000	0.5
IE-C7FS8LM-305M	1333160000	0.12
IE-C7FS8LO-305M	2661080000	0.5
IE-C7FS8LO-305M	2661080000	0.13
IE-C7FS8LR-305M	1287910000	0.5
IE-C7FS8LR-305M	1287910000	0.11
IE-C7FS8LV-305M	2779910000	0.5
IE-C7FS8LV-305M	2779910000	0.12
IE-C7FS8LY-305M	1346670000	0.5
IE-C7FS8LY-305M	1346670000	0.13
IE-CABLE-BENDER-90	2704480000	0.19
IE-CABLE-BENDER-90	2704480000	0.19
IE-CABLE-BENDER-90	2704480000	0.20
IE-CABLE-BENDER-90	2704480000	0.21
IE-CABLE-BENDER-90	2704480000	0.22
IE-CABLE-BENDER-90	2704480000	0.25
IE-CABLE-BENDER-90	2704480000	0.26
IE-CABLE-BENDER-90	2704480000	0.27
IE-CABLE-BENDER-90	2704480000	0.28
IE-CABLE-BENDER-90	2704480000	0.23
IE-CC-BW-FA-IP67	1499940000	0.13
IE-CCV01P	1061820000	5.35
IE-CCV01P	1061820000	N.18
IE-CCV04P	1045960000	N.21
IE-CC-V14M-FEH	2583100000	0.3
IE-CC-V14M-HYB-10P-FJ	1990610000	0.11
IE-CC-V14M-HYB-10P-FJ	1990610000	0.11
IE-CC-V14M-MF	1990620000	0.7
IE-CC-V14M-RJ45-FJ-P	1990620000	0.11
IE-CC-V14M-RJ45-FJ-P	1990600000	0.3
IE-CC-VAPM-24V	1990630000	0.11
IE-CC-VAPM-24V	1990630000	0.33
IE-CD-MA	1099580000	0.2
IE-CD-MA	1099580000	0.2
IE-CD-V04PRJ-CMA	1122710000	0.14
IE-CD-V14MHYB-10P-CMA	1068840000	0.8
IE-CD-V14MHYB-10P-CMA	1068840000	0.11
IE-CD-V14MHYB-10P-FJ	1068850000	0.11
IE-CD-V14MHYB-10P-FJ	1068850000	0.11
IE-CD-V14MRJ-CMA	1068870000	0.11
IE-CD-V14MRJ-CMA	1068870000	0.11
IE-CD-V14MRJ-FJ	1068890000	0.11
IE-CD-V14MRJ-FJ	1068890000	0.11
IE-CD-V14MRJ-FJ	1068880000	0.2
IE-CD-V14MRJ/VAPM24V-CMA	1068820000	0.11
IE-CD-V14MRJ/VAPM24V-CMA	1068820000	0.11
IE-CD-V14MRJ/VAPM24V-FJ	1068830000	0.40
IE-CD-V14MRJ/VAPM24V-FJ	1068830000	0.40
IE-CD-V14MRJ/VAPM24V-FJ	1068830000	0.22
IE-CD-V14MSCRJ-MM-CMA	1318150000	0.5
IE-CD-V14MSCRJ-MM-CMA	1318150000	0.5
IE-CD-VAPM24V-CMA	1397690000	0.11
IE-CD-VAPM24V-CMA	1397690000	0.6

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IEFCDFM-KNOB-4X	2669640000	M.4	IEFCI-PWB-CZ	2426700000	M.21	IE-FM522V00010MLDOLDX	1062580000	R.9	IE-MC-VL-1TX-1ST	1241410000	F.4
IEFC-DIP-BP	2004890000	M.7	IEFCI-PWB-DE	1450730000	L.19	IE-FM522V00010MSDOSDX	8876350100	R.8	IE-MC-VL-1TX-1SC	1286880000	F.4
IEFC-DIP-C/3A/2ST/1D9	2003370000	M.6	IEFCI-PWB-DE	1450730000	M.17	IE-FM522V00010MSTOSTX	8876370100	R.8	IE-MC-VL-1TX-1SCS	1286900000	F.4
IEFC-DIP-PWB/2ST/FLS	2067070000	M.5	IEFCI-PWB-DE	1450730000	M.18	IE-FM6C2UE01100MSD1SD1X	1318011000	R.13	IE-MC-VL-1TX-1ST	1286890000	F.4
IEFC-DSP-C/3A/2ST/1D9	2004810000	M.6	IEFCI-PWB-DE-OR	1554000000	L.19	IE-FM6C2UE01180MSD1SD1X	1318011800	R.13	IE-OM-V01M-K11-1S	1966300000	0.13
IEFC-DSP-PWB/2ST/FLS	2067080000	M.5	IEFCI-PWB-DE-OR	1554000000	M.18	IE-FM6C2UE0200MSD1SD1X	1318012000	R.13	IE-OM-V01M-K21-2S	1966330000	0.13
IEFCI-P1ST/1D9/1D25	1450650000	M.12	IEFCI-PWB-DK	2861340000	M.17	IE-FM6C2UE0250MSD1SD1X	1318012500	R.13	IE-OM-V04P-K11-1S	1966220000	0.15
IEFCI-P2ST/2D9	1450670000	M.12	IEFCI-PWB-DK	2861340000	M.23	IE-FM6C2UE0300MSD1SD1X	1318013000	R.13	IE-OM-V04P-K21-2S	1966250000	0.15
IEFCI-P-BP	1450710000	M.7	IEFCI-PWB-FR	1450750000	L.19	IE-FM6C2UE0350MSD1SD1X	1318013500	R.13	IE-OM-V05M-K11-1S	1966260000	0.16
IEFCI-P-PWB	2548060000	M.9	IEFCI-PWB-FR	1450750000	M.17	IE-FM6C2UE0500MSD1SD1X	1318015000	R.13	IE-OM-V05M-K21-2S	1966290000	0.16
IEFCI-P-PWB/1D9	2003350000	M.8	IEFCI-PWB-FR	1450750000	M.19	IE-FM6D2UE00011MSDOSDX	8876440010	R.12	IE-OP-V01P-1S	1061830000	J.15
IEFCI-P-PWB/2ST	1450630000	M.8	IEFCI-PWB-FR-OR	2007230000	L.19	IE-FM6D2UE00011MSTOSTX	8876460010	R.12	IE-OP-V01P-1S	1061830000	0.12
IEFCI-P-PWS/2D9	1450680000	M.10	IEFCI-PWB-FR-OR	2007230000	M.19	IE-FM6D2UE0003MSDOSDX	8876440030	R.12	IE-OP-V04P-1S	1045780000	0.14
IEFCI-P-PWS/2ST/1D9	1450690000	M.9	IEFCI-PWB-GB	1450770000	L.19	IE-FM6D2UE0003MSTOSTX	8876460030	R.12	IE-P	8813100000	L.8
IEFCI-P-PWS/4ST	1450640000	M.10	IEFCI-PWB-GB	1450770000	M.17	IE-FM6D2UE0005MLDOLDX	1220930000	R.11	IE-IP67	8808380000	N.27
IEFCI-P-PWU/1ST/CB	1543710000	M.11	IEFCI-PWB-GB	1450770000	M.20	IE-FM6D2UE0005MSDOSDX	8876440050	R.12	IE-P63	8813110000	L.8
IEFCI-P-PWU/2ST	1450700000	M.11	IEFCI-PWB-IND	2500710000	L.19	IE-FM6D2UE0005MSTOSTX	8876460050	R.12	IE-P70	8813120000	L.8
IEFCKEY2	2068650000	M.2	IEFCI-PWB-IND	2500710000	M.17	IE-FM6D2UE0010MSDOSDX	8876440100	R.12	IE-PCB-M12X-S-180	1324010000	N.47
IEFCKEY2	2068650000	M.3	IEFCI-PWB-IND	2500710000	M.23	IE-FM6D2UE0010MSTOSTX	8876460100	R.12	IE-PCB-M12X-S-90	2168220000	N.48
IEFC-PWPC	1450820000	M.2	IEFCI-PWB-ISR	2531060000	L.19	IE-FM6D2UE0020MLDOLDX	1174830000	R.11	IE-PCB-SP0-P-180V-THR	2795170000	K.12
IEFC-PWPC	1450820000	M.3	IEFCI-PWB-ISR	2531060000	M.17	IE-FM6D2UE0050MLDOLDX	8993220000	R.11	IE-PCB-SP0-P-180V-THR	2795170000	L.3
IEFC-PWPC	1450820000	M.4	IEFCI-PWB-ISR	2531060000	M.23	IE-FM6D2UE0050MSDOSDX	8876440500	R.12	IE-PCB-SP0-P-90V-THR	2726010000	K.12
IEFC-PWPC	1450820000	M.5	IEFCI-PWB-RCB0	1534250000	L.19	IE-FM6D2UE01100MSDOSDX	8876441000	R.12	IE-PCB-SP0-P-90V-THR	2726010000	L.3
IEFC-PWPC	1450820000	M.8	IEFCI-PWB-RCB0	1534250000	M.24	IE-FM6D2UE01100MSTOSTX	8876461000	R.12	IE-PCB-SP0-P-90V-THR-YG/YG	2795120000	K.12
IEFC-PWPC	1450820000	M.9	IEFCI-PWB-CA	1543690000	M.6	IE-FM622L00001MLDOLDX	1433930010	R.6	IE-PCB-SP0-P-90V-THR-YG/YG	2795120000	L.3
IEFC-PWPC	1450820000	M.10	IEFCI-PWB-CA	1543690000	M.11	IE-FM622L00001MSDOSDX	1433960010	R.5	IE-PCB-SPM-P-180-SMD	2795110000	K.14
IEFC-PWPC	1450820000	M.11	IEFCI-PWB-CA	1543690000	M.26	IE-FM622L00001MSTOSTX	1433980010	R.5	IE-PCB-SPM-P-180-SMD	2795110000	N.31
IEFC-PWPC	1450820000	M.12	IEFCI-PWS-IT	1450810000	L.19	IE-FM622L00002MLDOLDX	1433930020	R.6	IE-PCB-SPM-P-180-THR	2735920000	K.14
IEFC-PWPC	1450820000	M.27	IEFCI-PWS-IT	1450810000	M.10	IE-FM622L00002MSDOSDX	1433960020	R.5	IE-PCB-SPM-P-180-THR	2735920000	N.31
IEFC-SET-IPDEK001-KY-P	1543680000	M.29	IEFCI-PWS-IT	1450810000	M.17	IE-FM622L00002MSTOSTX	1433980020	R.5	IE-PCB-SPM-P-90-THR	2795100000	K.14
IEFC-SET-SPOED001-KN-P	1529580000	M.28	IEFCI-PWS-IT	1450810000	M.20	IE-FM622L00003MLDOLDX	1433930030	R.6	IE-PCB-SPM-P-90-THR	2795100000	N.31
IEFC-SET-SPOEK001-KY-P	1989020000	M.29	IEFCI-PWS-US	1450800000	M.11	IE-FM622L00003MSDOSDX	1433960030	R.5	IE-PCB2-M12X-S-180	1393080000	N.47
IEFC-SFM-CAB	2003160000	M.3	IEFCI-PWS-US	1450800000	M.17	IE-FM622L00003MSTOSTX	1433980030	R.5	IE-PCBR-M12X-S-180	1427670000	N.47
IEFC-SFM-CAB-DB	2663200000	M.3	IEFCI-PWS-US	1450800000	M.22	IE-FM622L00005DLOLDX	1433930005	R.6	IE-PCBR2-M12X-S-180	1444650000	N.47
IEFC-SFM-KEY2	1450540000	M.3	IEFCM-RJ45-C	1018790000	J.10	IE-FM622L00005MSDOSDX	1433960005	R.5	IE-PHAD-V05M-RJ45	1993540000	N.25
IEFC-SFM-KNOB	1450530000	M.3	IEFCM-RJ45-C	1018790000	J.14	IE-FM622L00005DSTOSTX	1433980005	R.5	IE-PHRJ45-TH-BK	1962500000	L.8
IEFC-SFM-KNOB-4X	2669630000	M.4	IEFCM-RJ45-C	1018790000	M.31	IE-FM622L00005MSDOSDX	1433930050	R.6	IE-PHRJ45-TH-BU	1962470000	L.8
IEFC-SFP-CAB	2003140000	M.3	IEFCM-RJ45-FJA	1018810000	J.14	IE-FM622L00005MSDOSDX	1433960050	R.5	IE-PHRJ45-TH-GN	1962490000	L.8
IEFC-SFP-CAB-DB	2663190000	M.3	IEFCM-RJ45-FJA	1018810000	M.30	IE-FM622L00005MSTOSTX	1433980050	R.5	IE-PHRJ45-TH-GY	1962440000	L.8
IEFC-SFP-KEY2	1450520000	M.3	IEFCM-RJ45-FJB	1018820000	J.14	IE-FM622L00010MLDOLDX	1433930100	R.6	IE-PHRJ45-TH-OG	1962450000	L.8
IEFC-SFP-KNOB	1450510000	M.3	IEFCM-RJ45-FJB	1018820000	M.30	IE-FM622L00010MSDOSDX	1433960100	R.5	IE-PHRJ45-TH-WH	1962430000	L.8
IEFC-SP-1ST/1D9/1D25	1450580000	M.12	IEFCM-RJ45-FJP	1018830000	J.10	IE-FM622L00010MSTOSTX	1433980100	R.5	IE-PHRJ45-TH-YE	1962480000	L.8
IEFC-SP-2ST/2D9	1450590000	M.12	IEFCM-RJ45-FJP	1018830000	M.30	IE-FM622V00001MLDOLDX	1296450000	R.9	IE-PHV01M	1962550000	N.12
IEFC-SP-PWB/2ST	1450550000	M.8	IEFCM-USB-3.0-A	1427960000	M.32	IE-FM622V00001MSDOSDX	8813330000	R.8	IE-PHV01M-BP	1962560000	N.12
IEFC-SP-PWS/2D9	1450610000	M.10	IEFCM-USB-A	1018840000	M.32	IE-FM622V00001MSTOSTX	8813270000	R.8	IE-PHV01P	1012440000	N.16
IEFC-SP-PWS/2ST/1D9	1450600000	M.9	IEFCM-USB-AB	1222550000	M.32	IE-FM622V00002MSDOSDX	8813340000	R.8	IE-PHV01P-IP	1012460000	N.16
IEFC-SP-PWS/4ST	1450570000	M.10	IE-RISP-V4	9204370000	M.30	IE-FM622V00002MSTOSTDX	8813400000	R.9	IE-PHV04P	1962520000	N.19
IEFC-SP-PWU/2ST	1450620000	M.11	IE-RISP-V4	9204370000	M.31	IE-FM622V00002MSTOSTX	8813280000	R.8	IE-PHV04P-BP	1962530000	N.19
IEFCI-D25-FF	1450880000	M.12	IE-RISP-V4	9204370000	M.32	IE-FM622V00003MSDOSDX	8813350000	R.8	IE-PHV05M	1962540000	N.25
IEFCI-D25-F	1450880000	M.15	IE-RISP-V4	9204370000	N.20	IE-FM622V00003MSTOSTX	8813290000	R.8	IE-PHV14M-F0	1058100000	N.10
IEFCI-D25-FM	1450890000	M.12	IE-RISP-V4	9204370000	N.22	IE-FM622V00005MSDOSDX	8876360050	R.8	IE-PHV14M-RJ	1011560000	N.2
IEFCI-D25-FM	1450890000	M.12	IE-RISP-V4	9204370000	N.23	IE-FM622V00005MSTOSTX	8876380050	R.8	IE-PHV14M-RJ	1011560000	N.3
IEFCI-D25-FS	1450900000	M.12	IE-RISP-V4	9204370000	N.24	IE-FM622V00010MSDOSDX	8876360100	R.8	IE-PHV14M-RJ	1011560000	N.7
IEFCI-D25-FS	1450900000	M.15	IE-RISP-V4	9204370000	S.15	IE-FM622V00010MSTOSTX	8876380100	R.8	IE-PHYB-10P	1068990000	N.53
IEFCI-D9-FF	1450840000	M.6	IE-FM5D2UE0001MSDOSDX	8876430010	R.12	IE-FP0B2EG-500	2781950000	J.11	IE-PHRJ45-FH	1962730000	N.49
IEFCI-D9-FF	1450840000	M.8	IE-FM5D2UE0001MSTOSTX	8876450010	R.12	IE-FP0B2EG-500	2781950000	J.15	IE-PHRJ45-FHA	1132010000	N.49
IEFCI-D9-FF	1450840000	M.9	IE-FM5D2UE0003MSDOSDX	8876430030	R.12	IE-FP0B2EG-500	2781950000	R.4	IE-PHRJ45-FHA-1.1	1992920000	L.5
IEFCI-D9-FF	1450840000	M.10	IE-FM5D2UE0003MSTOSTX	8876450030	R.12	IE-FP0D2UG-500	2763640000	J.11	IE-PHRJ45-FHA-1.1	1992920000	L.6
IEFCI-D9-FF	1450840000	M.12	IE-FM5D2UE0005MSDOSDX	8876430050	R.12	IE-FP0D2UG-500	2763640000	J.15	IE-PHRJ45-FHA-1.6	1992880000	L.5
IEFCI-D9-FF	1450840000	M.15	IE-FM5D2UE0005MSTOSTX	8876450050	R.12	IE-FP0D2UG-500	2763640000	R.4	IE-PHRJ45-FHA-1.6	1992880000	L.6
IEFCI-D9-FM	1450850000	M.6	IE-FM5D2UE0010MLDOLDX	8979020000	R.11	IE-FP0D2UG-500	2763640000	J.10	IE-PHRJ45-FHB	1132020000	N.49
IEFCI-D9-FM	1450850000	M.8	IE-FM5D2UE0010MSDOSDX	8876430100	R.12	IE-FP0Z2EE0001MSJOSJ0-X	1273430010	J.14	IE-PHRJ45-FHB-1.1	1992930000	L.5
IEFCI-D9-FM	1450850000	M.9	IE-FM5D2UE0010MSTOSTX	8876450100	R.12	IE-FP0Z2EE0001MSJOSJ0-X	1273430010	R.10	IE-PHRJ45-FHB-1.1	1992930000	L.6
IEFCI-D9-FM	1450850000	M.10	IE-FM5D2UE0050MLDOLDX	8979040000	R.11	IE-FP0Z2EE0003MSJOSJ0-X	1273430030	J.10	IE-PHRJ45-FHB-1.6	1992900000	L.5
IEFCI-D9-FM	1450850000	M.12	IE-FM5D2UE0050MSDOSDX	8876430050	R.12	IE-FP0Z2EE0003MSJOSJ0-X	1273430030	J.14	IE-PHRJ45-FHB-1.6	1992900000	L.6
IEFCI-D9-FM	1450850000	M.15	IE-FM5D2UE0050MSTOSTX	8876450050	R.12	IE-FP0Z2EE0003MSJOSJ0-X	1273430030	R.10	IE-PHRJ45-FHP	1132030000	N.49
IEFCI-D9-FS	1450870000	M.6	IE-FM5D2UE0100MLDOLDX	8979030000	R.11	IE-FP0Z2EE0005MSJOSJ0-X	1273430050	J.10	IE-PHRJ45-FHP-1.6	1992910000	L.7
IEFCI-D9-FS	1450870000	M.8	IE-FM5D2UE0100MSDOSDX	8876431000	R.12	IE-FP0Z2EE0005MSJOSJ0-X	1273430050	J.14	IE-PHRJ45-TH	1962720000	N.50
IEFCI-D9-FS	1450870000	M.9	IE-FM5D2UE0100MSTOSTX	8876451000	R.12	IE-FP0Z2EE0005MSJOSJ0-X	1273430050	R.10	IE-PHRJ45-TH-P	2788720000	N.2
IEFCI-D9-FS	1450870000	M.10	IE-FM522L00001MLDOLDX	1433940010	R.6	IE-FP0Z2EE0010MSJOSJ0-X	1273430100	J.10	IE-PI-SCRJ-PDF	1067410000	N.10
IEFCI-D9-FS	1450870000	M.12	IE-FM522L00001MSDOSDX	1433970010	R.5	IE-FP0Z2EE0010MSJOSJ0-X	1273430100	J.14	IE-PI-SCRJ-PDF	1067410000	N.56
IEFCI-D9-FS	1450870000	M.15	IE-FM522L00001MSTOSTX	1433990010	R.5	IE-FP0Z2EE0010MSJOSJ0-X	1273430100	R.10	IE-PI-SCRJ-PDF-0A	2564960000	N.10
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1736181044	ESG 7/20 SIRIUS MC NE WS	M.8
1736181044	ESG 7/20 SIRIUS MC NE WS	M.9
1736181044	ESG 7/20 SIRIUS MC NE WS	M.10
1736181044	ESG 7/20 SIRIUS MC NE WS	M.11
1736181044	ESG 7/20 SIRIUS MC NE WS	M.12

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1803930001	SAISW-4/8S-M12 4P D-ZF	N.32
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1850000000

1857440000	ESG 9/11 K MC NE WS	L.13
1857440000	ESG 9/11 K MC NE WS	L.15
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1857440000	ESG 9/11 K MC NE WS	L.17
1857440000	ESG 9/11 K MC NE WS	L.18
1857440000	ESG 9/11 K MC NE WS	M.30
1857440000	ESG 9/11 K MC NE WS	M.32
1857440000	ESG 9/11 K MC NE WS	N.2
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1866730000	REMOVAL TOOL HD	L.10
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1880000000

1880120000	ESG 6/17 K MC NE WS	P.5
1880120000	ESG 6/17 K MC NE WS	P.6

1890000000

1892120000	SAISM-4/8S-M12-4P D-COD	N.33
1892120001	SAISM-4/8S-M12 4P D-ZF	N.32
1892130000	SAIBM-4/8S-M12-4P D-COD	N.33
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1900000000	SCREWTY-M12	Q.44
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1900001000	SCREWTY-M12-DM	Q.34
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1900001000	SCREWTY-M12-DM	Q.39
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1910000000	SCREWTY SET	Q.35
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1910000000	SCREWTY SET	Q.39
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1910000000	SCREWTY SET	Q.50
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1920000000

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1920000000	SCREWTY SET-DM	Q.35
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1920000000	SCREWTY SET-DM	Q.50
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2583450000	CABTITE SE 5-6 SML GY	S.18
2583460000	CABTITE SE 6-7 SML GY	S.18
2583470000	CABTITE FR 16/8 BK	S.20
2583480000	CABTITE FR 10/6 BK	S.19
2583490000	CABTITE FR 4-1 BK	S.19
2583500000	CABTITE CSE 7-24 LRG BK	S.18
2583510000	CABTITE CSE 2-11 SML BK	S.18
2583520000	CABTITE SE 2/ASI SML BK	S.18
2583530000	CABTITE SE 1/ASI SML BK	S.18
2583540000	CABTITE SE 2-8 SML BK	S.18
2583550000	CABTITE SE 2/7 SML BK	S.18
2583560000	CABTITE SE 4/4.5 SML BK	S.18
2583580000	CABTITE SE 4/3-4 SML BK	S.18
2583590000	CABTITE SE 4/2-3 SML BK	S.18
2583610000	CABTITE SE 2/5-6 SML BK	S.18
2583620000	CABTITE SE 2/4-5 SML BK	S.18
2583630000	CABTITE SE 32-33 LRG BK	S.18
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2583650000	CABTITE SE 30-31 LRG BK	S.18
2583660000	CABTITE SE 29-30 LRG BK	S.18
2583670000	CABTITE SE 28-29 LRG BK	S.18
2583680000	CABTITE SE 27-28 LRG BK	S.18
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2583700000	CABTITE SE 25-26 LRG BK	S.18
2583710000	CABTITE SE 24-25 LRG BK	S.18
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2583730000	CABTITE SE 23-24 LRG BK	S.18
2583740000	CABTITE FR 16/8 BK SET	S.20
2583750000	CABTITE SE 22-23 LRG BK	S.18
2583760000	CABTITE FR 10/6 BK SET	S.19
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2583880000	CABTITE SE 14-15 LRG BK	S.18
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2583900000	CABTITE B5E LRG BK	S.18
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2583930000	CABTITE CR 10/6 EMV	S.22
2583950000	CABTITE CR 4/1 EMV	S.22
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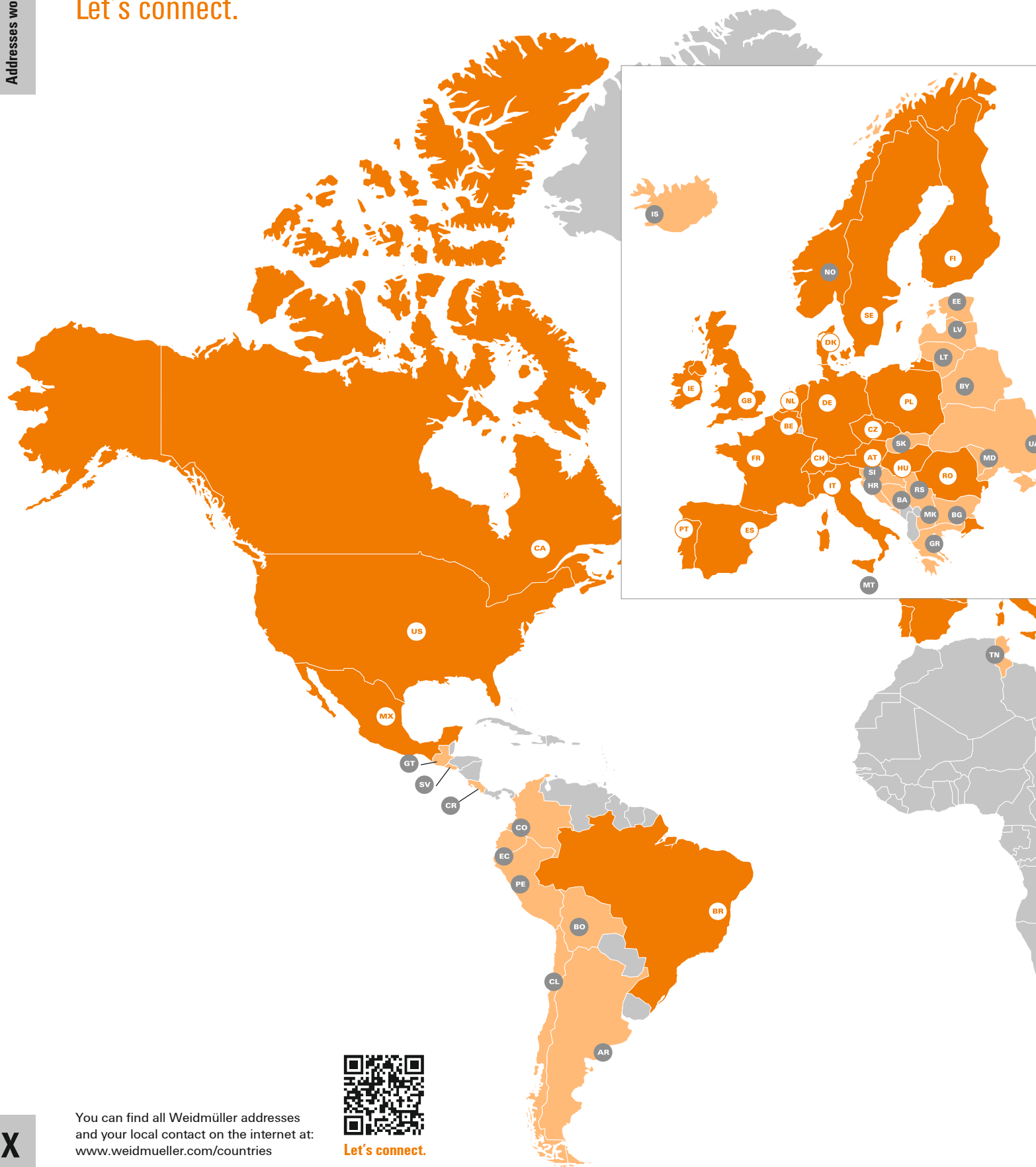
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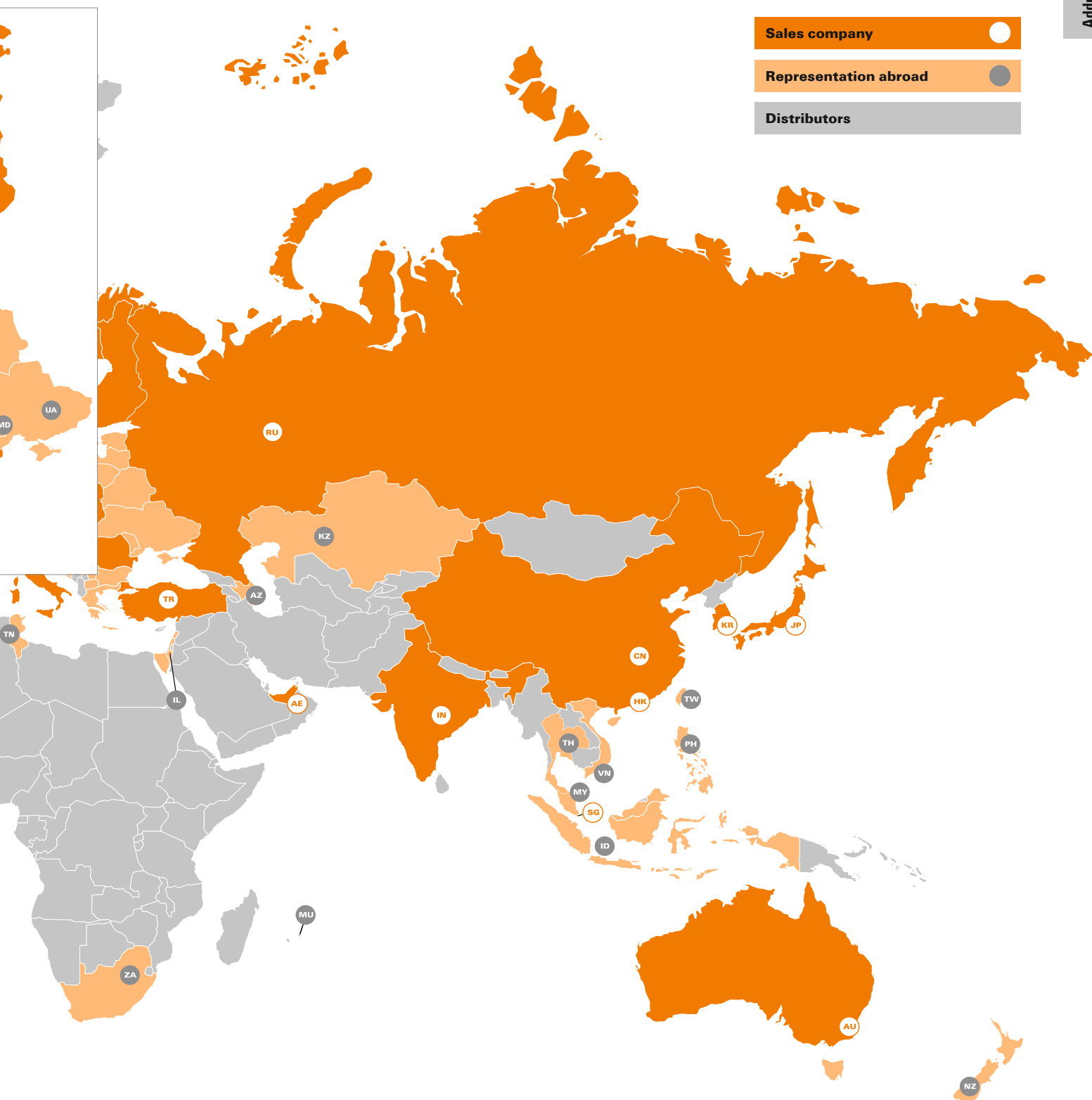
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