

Industrial Ethernet Catalogue 2014/2015

Let's connect.

Industrial data communication



Weidmüller 

Dear Customers,

The PDF versions of our catalogues offer practical additional functions, helping you to find your way around our product range and simplifying the ordering process.

In addition to the catalogue, the PDF also contains:

- Internal page links
- Links to the online catalogue

Try it out for yourself. Click the order number to obtain more detailed information and close-up images via your web browser. The links in the PDF file also enable you to go directly to the next desired catalogue page.

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



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Solutions for industrial data communications

Active components

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Introduction – Passive components

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Passive components

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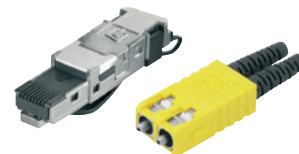
EtherNet/IP cabling solutions

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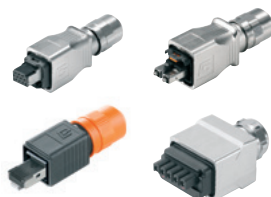
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Cabling solutions

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Passive components

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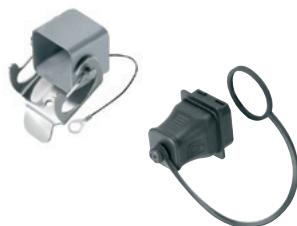
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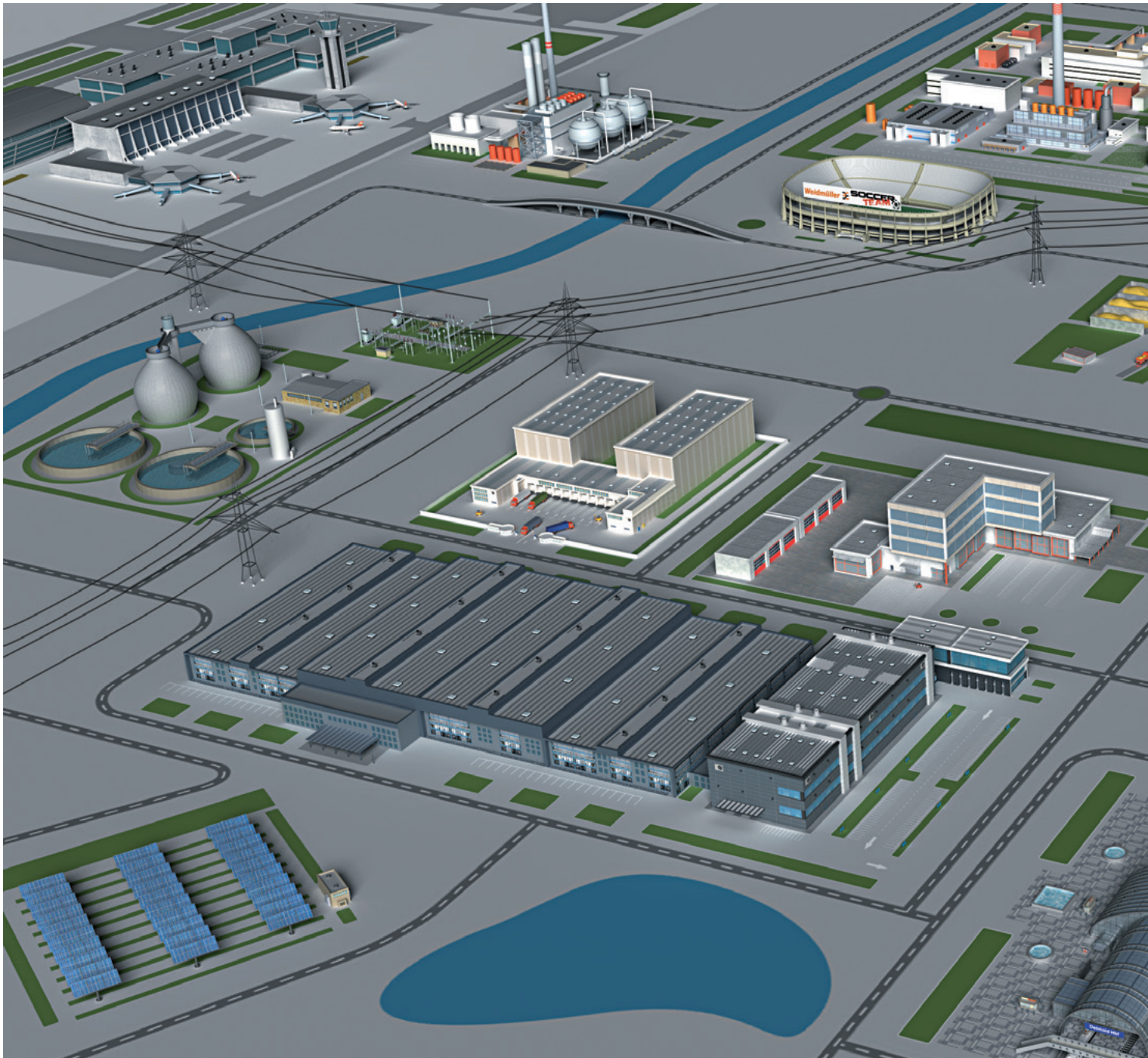
Markers

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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 and energy. 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 high-quality 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

Robust and secure from the control layer to the robot



Car manufacturers in AIDA (the German car manufacturers' automation initiative) are the driver behind the use of Industrial Ethernet in the manufacturing sector, as they clearly prefer the use of PROFINET for communication between machines and equipment parts. To make the most savings in modern communications structures, Industrial Ethernet in the automotive industry is homogeneous, from corporate management level down to production.

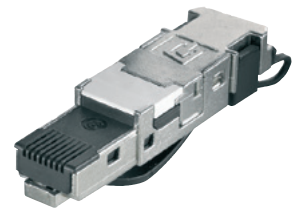
New production plants in North American car production are also being exclusively automated using Industrial Ethernet. Here the real-time Ethernet protocol EtherNet/IP is used. This, in the same way as PROFINET and other protocols, means there are different requirements for the connector systems used and the active network devices.

Extremely harsh environmental conditions – such as may be found where industrial robotics are used, for example – place high requirements on the components used. Cabling needs to be torsion resistant and there are increased EMC demands placed on plug-in connectors and active devices. For these application fields, Weidmüller offers a complete product range consisting of copper and fibre-optic connectors and passive hand-tools that are specifically designed for the requirements of cabling robotic systems.

The use of active devices with powerful redundancy mechanisms is needed to prevent network failures. Weidmüller's managed switches meet these requirements with their particularly fast recovery time of under 20 ms when an error occurs.

General machine construction

High-performance solutions, simply integrated



Important aspects of communications in machinery and device construction are networking machine segments and device parts and connecting them to the higher-level office network. Many serial devices are connected to the Ethernet infrastructure to protect investments and because of the various different communication protocols in use. Weidmüller offers active components for this which convert the protocols. By simply integrating devices with serial interfaces, you get protection for your investments in existing automation components.

The volume of data in networks is steadily rising with the applications used, for example with camera-based quality control. Weidmüller easily meets these increased demands with its product range of high-performance Gigabit switches and plug-in connectors capable of 10 Gigabit transfer.

The extensive plug-in connector range also meets the higher demands in terms of EMC as well as shock, vibration and temperature resistance and facilitates easy on-site assembly.

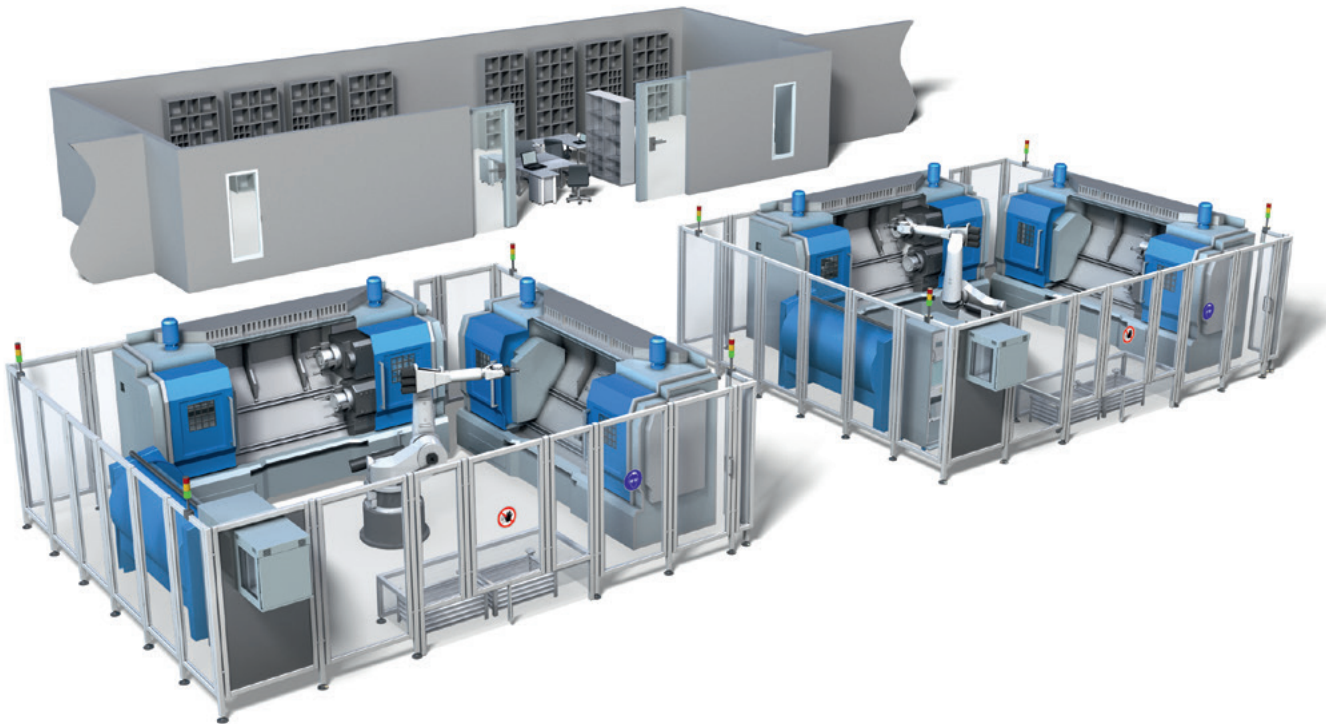
Dragline cable-compatible connection cables from Weidmüller are used on moving parts of complex machines. Hard to reach areas can be covered using the wireless modules that are available.

Machinery - in detail

Your robots are always in action

We enable them to let you know what they are up to

Let's connect.



You require a seamless flow of information to optimise the output and efficiency of your production cells – from networking the communication between machine segments, to the exchange of information with higher-level office networks. In this way you can constantly monitor the activities of your robots.

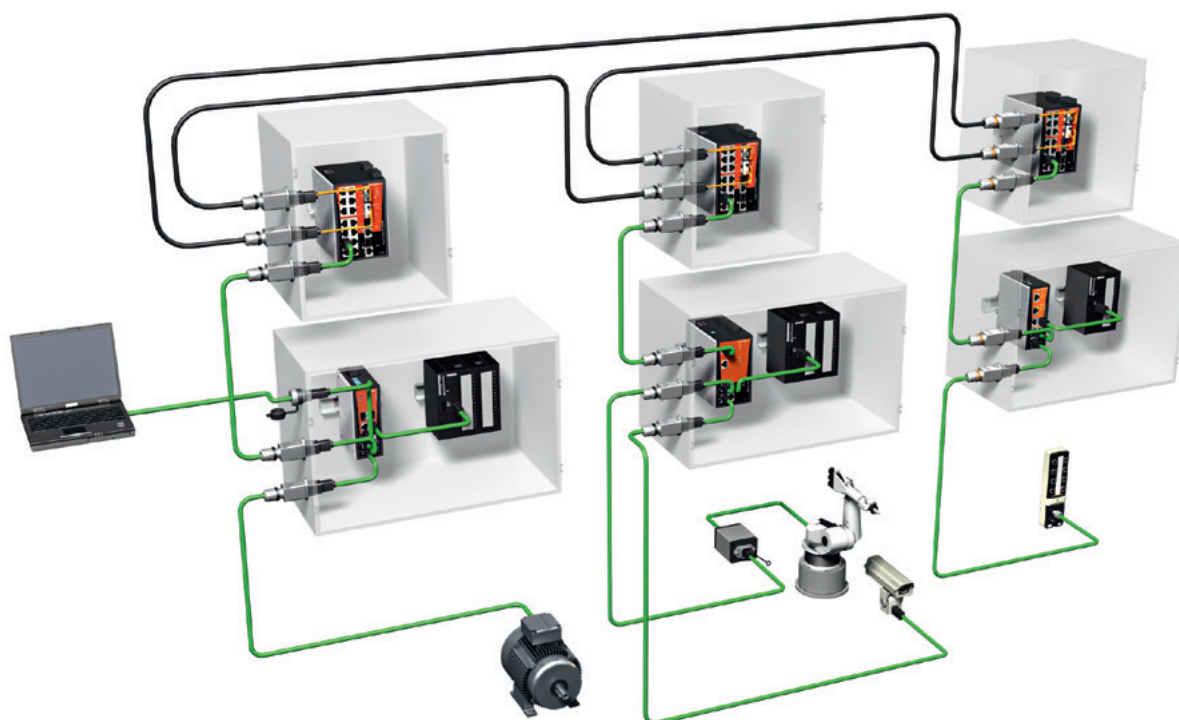
To provide you with seamless communication without media disruption, we offer you a comprehensive Industrial Ethernet product portfolio from field to control level – with significant advantages. Thanks to the innovative **STEADYTEC®** technology used, our plug-in connectors create the basis for reliable and standardised connection solutions in data communication, both in the office and in harsh production environments. With functions such as high-speed ring

redundancy or redundant power supply, our active Industrial Ethernet components guarantee uninterrupted operation of your production network.

Extensive network management functions effectively handle your data traffic. Our Power-over-Ethernet switches supply the operating voltage to the cameras that monitor your manufacturing processes, in parallel to data traffic.

With these and many other functions, our multifaceted Industrial Ethernet portfolio supports your communication at control, infrastructure and machine levels. This means that channels of communication with your robots are always open.

Let's connect.



Plug-in connectors and cabling system

- IEC-standardised connector, in variants 1, 4, 5, 6 and 14
- All in Cat. 6_A and with **STEADYTEC®** technology
- Cables pre-assembled and sold by the metre
- Copper and fibre-optic cables
- IP 20 and IP 67
- All relevant Industrial Ethernet industrial connections
- Comprehensive range of accessories

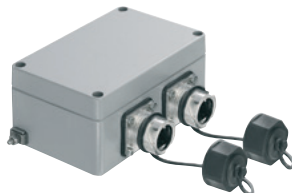
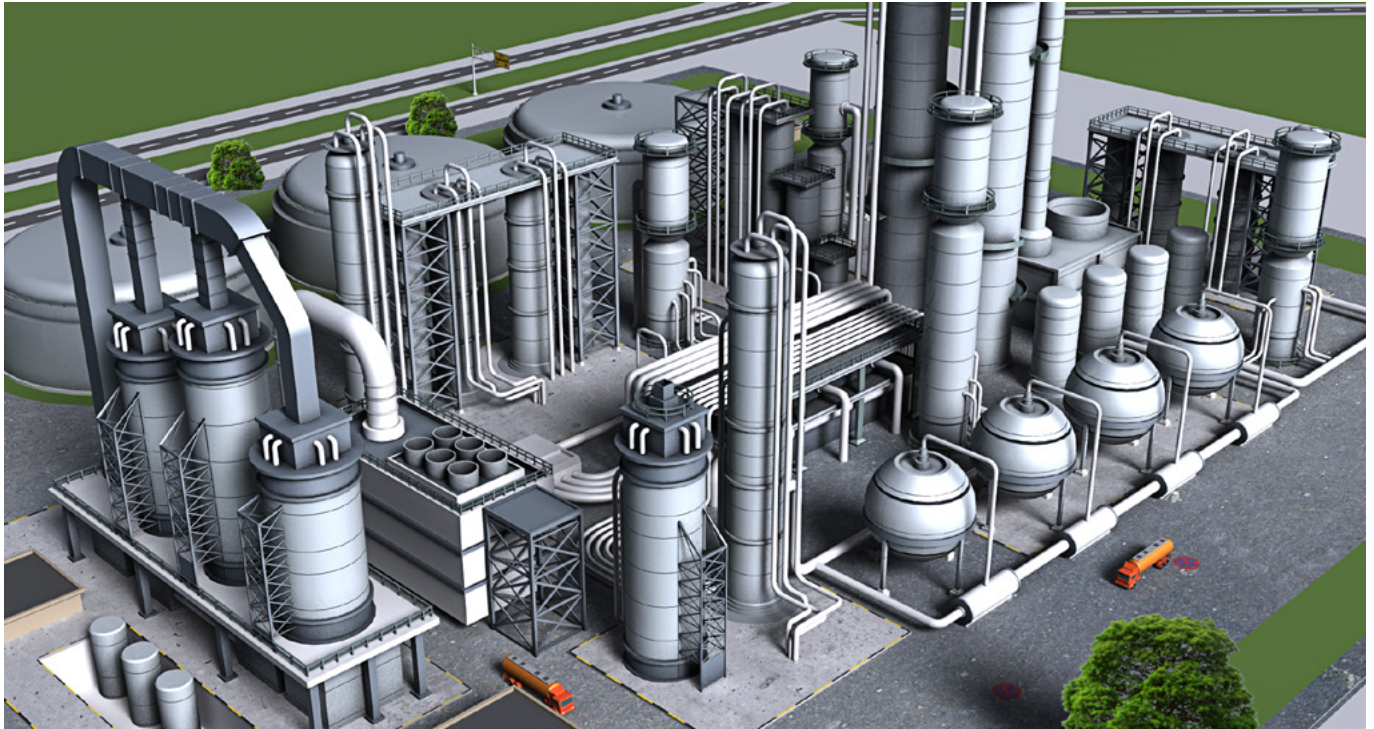


Active Industrial Ethernet components

- Unmanaged switches (Fast Ethernet, Gigabit Ethernet)
- Managed switches (Fast Ethernet, Gigabit Ethernet)
- Power-over-Ethernet switches (unmanaged, managed)
- Media converters (copper, fibre-optic cables)
- Serial/Ethernet converters
- Industrial wireless components
- Industrial security routers

Process

Secure communication, even over large distances



Weidmüller's network components for the process industry allow their use in explosion hazard areas with their certification - Class 1 Div. 2 and ATEX. The active components have high fault-tolerance and ensure high system availability with redundancy mechanisms like trunking and ring-redundancy as well as RSTP.

Long distances can be bridged using fibre-optic media in large process plants. There are requirements like high protection class when you use components in the field. The harsh environments in process plants are characterised by high temperature variations, vibrations, rain and dust, as well as electromagnetic influences. Weidmüller's active and passive Ethernet components are well able to withstand these influences.

It is particularly important to make sure the communication between various areas of the plant is secure. Weidmüller's Ethernet switches support network management and security functions like IGMP Snooping, IEEE 802.1X, QoS and VLAN.

This means that the devices form a secure and efficient communications bridge to the office, from the plant to the controller and then out to the wider IT network.

Active components

Introduction

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Active components

Solutions for global industrial use

Ethernet technology is an established standard in office communication and has existed for many years. Without it, effective communications between equipment such as PCs, printers, data servers, etc. would not be possible.

In recent years this technology has been expanded under the term Industrial Ethernet and implemented in automation systems. The common goal of both manufacturer and user is to make the networking of automation system components easier and more effective. To make process data and diagnostic functions device-independent when exchanged between network participants, all equipment in a plant should be linked with just one bus technology.

Industrial applications, however, differ significantly from office applications. In addition, there are normally much higher demands placed on the communication devices in the industrial setting. These include:

- Installation conditions
- Environmental conditions
- Protocols
- Approvals

Weidmüller's Industrial Ethernet components meet all of these requirements as they have the properties listed below:

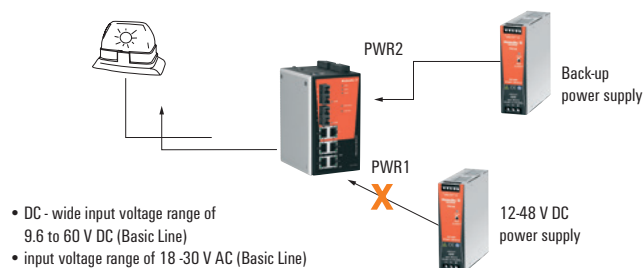
- Reliable (redundant) power supply for uninterrupted network operation
- Resistance to extreme temperatures
- Immune to electromagnetically caused malfunctions
- Insensitive to vibration, shock and corrosive environments
- Conformity with various certification standards
- Longevity

These rugged devices can therefore be used world-wide in different industries and applications.



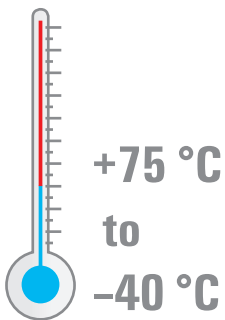
Stable and versatile power supply inputs for industrial applications

The redundant voltage inputs provide reliable functionality of the whole system. If a power supply fails, the redundant power source takes over the energy supply. All of Weidmüller's Industrial Ethernet components have a wide input voltage range of at least 12 to 48 V DC (Basic Line switches 9.6 to 60 V DC). They can also work with large fluctuations in voltage. For instance, with a rated 48 V DC input, a fluctuation of +20 % is acceptable and yet, in one of 12 V DC, a voltage drop of up to 20 % presents no problems for the attached devices.



Suitable for use in extreme temperature environments

Industrial environments often experience extreme temperature conditions. This means that devices are needed which can operate flawlessly with the vast temperature fluctuations. All of our Industrial Ethernet components undergo a burn-in test over several hours to ensure they function properly at the guaranteed temperature ranges (e.g. -40 °C to +75 °C).



Outstanding immunity to electromagnetic interference

The robust design of Weidmüller's Industrial Ethernet components also includes excellent electromagnetic compatibility and fully complies with the requirements of the EN50121-4, DNV and IEC 61000 standards.

Certified to industry standards

An extensive range of certifications confirm the reliability of Weidmüller's Industrial Ethernet components

- UL 508 and UL 60950-1
- Class I, Division 2 / ATEX Zone 2 for safe use in hazardous areas
- DNV/GL approval for use in maritime settings



Durability and reliability

- Many of the Weidmüller Ethernet components have relay outputs. These can be used for alarm signal notification (e.g. power failures or port problems). This means that, in emergencies, it is possible to react quickly to any failures.
- Weidmüller's unmanaged switches are protected from receiving too many broadcast packets. The switches discard broadcast or multicast packets if they exceed a threshold level in a given time. They then receive further broadcast and multicast packets after a given time has past, until the threshold level is reached again.
- All Weidmüller active Industrial Ethernet components are designed for a long service life and this can be seen from the high MTBF value. Weidmüller also guarantees its Industrial Ethernet components for a period of five years.

The ideal solution, whatever your needs

Our Basic, Value and Premium Line product ranges

Basic Line



Weidmüller's Basic Line series consists of unmanaged Plug & Play switches in a rugged IP 30 rated aluminium housing. The devices are available with Fast Ethernet and Gigabit Ethernet and provide an economical solution for Industrial Ethernet networks. One model is equipped with Fast Ethernet and Power-over-Ethernet ports. All devices have been developed for applications in harsh industrial environments and have international approvals such as CE, cULus, Class I Div. 2 / Atex and DNV / GL and are thus internationally available for different applications.

- Plug & Play switches in a rugged aluminium housing (IP 30)
- Compact design
- Cost efficient entry-level switches
- Fast Ethernet variants with 5 and 8 Ports
- Versions with copper or fibre-optic interface (multimode and single-mode)
- 5 port Full-Gigabit Plug & Play Switch
- Power-over-Ethernet switch with 6 Fast Ethernet ports, thereof 4 PoE+ ports
- Approvals: cULus, Class I Div. 2 / Atex, DNV / GL

Value Line



Weidmüller's Value Line series consists of unmanaged and managed switches in a high quality IP 30 rated metal housing. The devices are available with Fast Ethernet and Gigabit Ethernet ports. Value Line managed switches support a variety of useful management functions, such as fast ring redundancy, VLAN, QoS, RMON, bandwidth management, port mirroring and warning by email message or relay. The ring redundancy can be set up easily using the web-based management interface, or with the DIP switches located on the top panel of the switches.

- Unmanaged Plug & Play switches in a high quality metal housing (IP 30)
- Price-sensitive mid-range class
- Managed switches for entry into configurable network infrastructure
- Unmanaged 8 port Full-Gigabit switches
- Approvals: cULus, Class I Div. 2 / Atex, DNV / GL

Premium Line



Weidmüller's Premium Line series completes the switch range for the high-end sector and is particularly suitable for complex network solutions with high traffic levels. The devices are available in different versions, ie. number of ports, transmission rate (Fast and Gigabit Ethernet) and the type of connection (copper and fibre-optic).

With their advanced ring redundancy technology (recovery time ≤ 20 ms), these devices increase the reliability and availability of your industrial network. The option to use SFP transceivers offer a high degree of flexibility and the Gigabit variants also allow their use in networks with high traffic loads.

- Managed Fast Ethernet variants in a high quality metal housing (IP 30)
- Managed Power-over-Ethernet switch with 6 Fast Ethernet ports, thereof 4 PoE+ ports
- Variants with 10 or 18 ports and Gigabit uplink ports
- Full-Gigabit switch with 9 ports
- Supports all standard protocols in TCP/IP-based industrial networks (e.g. EtherNet/IP, Modbus/TCP)
- Built-in redundancy mechanisms (recovery time ≤ 20 ms) for increased reliability in network ring structures
- Approvals: cULus, Class I Div. 2 / Atex, DNV / GL

Switches - quick-finder

Order No.	Type	Ports total	5		6	8				
		Ports copper	5	4	6	8	5	6	6	7
		Ports fibre		1			3	2		1
		Ports SFP							2	
Industrial Ethernet Switches										
1240840000	IE-SW-BL05-5TX		●							
1240850000	IE-SW-BL05T-5TX		●							
1240870000	IE-SW-BL05-4TX-1SCS			●						
1286530000	IE-SW-BL05T-4TX-1SCS			●						
1240880000	IE-SW-BL05-4TX-1ST			●						
1286540000	IE-SW-BL05T-4TX-1ST			●						
1240890000	IE-SW-BL05-4TX-1SC			●						
1286550000	IE-SW-BL05T-4TX-1SC			●						
1240900000	IE-SW-BL08-8TX					●				
1286560000	IE-SW-BL08T-8TX					●				
1240910000	IE-SW-BL08-6TX-2SC							●		
1240920000	IE-SW-BL08T-6TX-2SC							●		
1240930000	IE-SW-BL08-6TX-2ST							●		
1286570000	IE-SW-BL08T-6TX-2ST							●		
1412070000	IE-SW-BL08-7TX-1SC									●
1412080000	IE-SW-BL08T-7TX-1SC									●
1412090000	IE-SW-BL08-7TX-1ST									●
1412100000	IE-SW-BL08T-7TX-1ST									●
1240950000	IE-SW-BL08-7TX-1SCS									●
1286580000	IE-SW-BL08T-7TX-1SCS									●
1412110000	IE-SW-BL08-6TX-2SCS							●		
1412120000	IE-SW-BL08T-6TX-2SCS							●		
1241250000	IE-SW-BL05-5GT	5 GE								
1286850000	IE-SW-BL05T-5GT	5 GE								
1241270000	IE-SW-VL08-8GT					8 GE				
1286860000	IE-SW-VL08T-8GT					8 GE				
1241280000	IE-SW-VL08-6GT-2GS								6 GE 2 GEC	
1286870000	IE-SW-VL08T-6GT-2GS								6 GE 2 GEC	
1240980000	IE-SW-VL09T-6TX-3SC									
1241000000	IE-SW-VL16-16TX									
1286590000	IE-SW-VL16T-16TX									
1241030000	IE-SW-VL16-14TX-2SC									
1286610000	IE-SW-VL16T-14TX-2SC									
1241050000	IE-SW-VL16-14TX-2ST									
1286620000	IE-SW-VL16T-14TX-2ST									
1240940000	IE-SW-VL08MT-8TX					●				
1240970000	IE-SW-VL08MT-5TX-3SC						●			
1345240000	IE-SW-VL08MT-5TX-1SC-2SCS						●			
1344770000	IE-SW-VL08MT-6TX-2SC							●		
1240990000	IE-SW-VL08MT-6TX-2ST							●		
1241020000	IE-SW-VL08MT-6TX-2SCS							●		

FE = Fast Ethernet
GE = Gigabit-Ethernet
GEC = Gigabit-Ethernet Combo-Ports
PoE+ = Power-over-Ethernet+

Switches – quick-finder

Order No. Type		Ports total	5		6	8					
		Ports copper	5	4	6	8	5	6	6	7	
		Ports fibre		1			3	2		1	
		Ports SFP							2		
Industrial Ethernet Switches											
1241040000	IE-SW-PL08M-8TX					●					
1286780000	IE-SW-PL08MT-8TX					●					
1241070000	IE-SW-PL08M-6TX-2SC						●				
1286790000	IE-SW-PL08MT-6TX-2SC						●				
1241080000	IE-SW-PL08M-6TX-2ST						●				
1286800000	IE-SW-PL08MT-6TX-2ST						●				
1241090000	IE-SW-PL08M-6TX-2SCS						●				
1286810000	IE-SW-PL08MT-6TX-2SCS						●				
1241100000	IE-SW-PL16M-16TX										
1286820000	IE-SW-PL16MT-16TX										
1241120000	IE-SW-PL16M-14TX-2SC										
1286830000	IE-SW-PL16MT-14TX-2SC										
1241130000	IE-SW-PL16M-14TX-2ST										
1286840000	IE-SW-PL16MT-14TX-2ST										
1241290000	IE-SW-PL10M-3GT-7TX										
1286930000	IE-SW-PL10MT-3GT-7TX										
1241300000	IE-SW-PL10M-1GT-2GS-7TX										
1286940000	IE-SW-PL10MT-1GT-2GS-7TX										
1241320000	IE-SW-PL18M-2GC-16TX										
1286970000	IE-SW-PL18MT-2GC-16TX										
1241330000	IE-SW-PL18M-2GC-14TX2SC										
1286990000	IE-SW-PL18MT-2GC14TX2SC										
1241340000	IE-SW-PL18M-2GC14TX2ST										
1287000000	IE-SW-PL18MT-2GC14TX2ST										
1241350000	IE-SW-PL18M-2GC14TX2SCS										
1287010000	IE-SW-PL18MT-2GC14TX2SCS										
1241370000	IE-SW-PL09M-5GC-4GT										
1287020000	IE-SW-PL09MT-5GC-4GT										
Power over Ethernet Switches											
1241380000	IE-SW-BL06-2TX-4PoE			2 FE 4 PoE+							
1286920000	IE-SW-BL06T-2TX-4PoE			2 FE 4 PoE+							
1241390000	IE-SW-PL06M-2TX-4PoE			2 FE 4 PoE+							
1286910000	IE-SW-PL06MT-2TX-4PoE			2 FE 4 PoE+							

FE = Fast Ethernet
GE = Gigabit-Ethernet
GEC = Gigabit-Ethernet Combo-Ports
PoE+ = Power-over-Ethernet+

		9		10		16		18		Unmanaged	Managed	Temperature	Fibre-optic interface	Page
		6	4	10	8	16	14	16	14					
		3					2		2					
			5		2			2	2					
										●		0 ... +60 °C		B.12
										●		-40 ... +75 °C		B.12
										●		0 ... +60 °C	SC-Multimode	B.12
										●		-40 ... +75 °C	SC-Multimode	B.12
										●		0 ... +60 °C	ST-Multimode	B.12
										●		-40 ... +75 °C	ST-Multimode	B.12
										●		0 ... +60 °C	SC-Singlemode	B.12
										●		-40 ... +75 °C	SC-Singlemode	B.12
						●				●		0 ... +60 °C		B.12
						●				●		-40 ... +75 °C		B.12
							●			●		0 ... +60 °C	SC-Multimode	B.12
							●			●		-40 ... +75 °C	SC-Multimode	B.12
							●			●		0 ... +60 °C	ST-Multimode	B.12
							●			●		-40 ... +75 °C	ST-Multimode	B.12
				3 GE 7 FE						●		0 ... +60 °C		B.13
				3 GE 7 FE						●		-40 ... +75 °C		B.13
					1GE 2 GEC 7 FE					●		0 ... +60 °C	SFP-Slot	B.13
					1GE 2 GEC 7 FE					●		-40 ... +75 °C	SFP-Slot	B.13
								2 GEC 16 FE		●		0 ... +60 °C	SFP-Slot	B.14
								2 GEC 16 FE		●		-40 ... +75 °C	SFP-Slot	B.14
									2 GEC 14 FE	●		0 ... +60 °C	SC-Multimode / SFP-Slot	B.14
									2 GEC 14 FE	●		-40 ... +75 °C	SC-Multimode / SFP-Slot	B.14
									2 GEC 14 FE	●		0 ... +60 °C	ST-Multimode / SFP-Slot	B.14
									2 GEC 14 FE	●		-40 ... +75 °C	ST-Multimode / SFP-Slot	B.14
									2 GEC 14 FE	●		0 ... +60 °C	SC-Singlemode / SFP-Slot	B.14
									2 GEC 14 FE	●		-40 ... +75 °C	SC-Singlemode / SFP-Slot	B.14
		5 GEC 4 GE								●		0 ... +60 °C	SFP-Slot	B.15
		5 GEC 4 GE								●		-40 ... +75 °C	SFP-Slot	B.15
										●		0 ... +60 °C		B.17
										●		-40 ... +75 °C		B.17
										●		0 ... +60 °C		B.18
										●		-40 ... +75 °C		B.18

Industrial Ethernet Switches

Overview

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Unmanaged Switches

Adaptable and universal

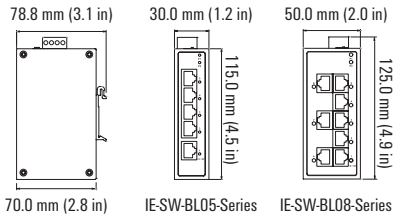
B Switches are the basic coupling elements in Ethernet networks. They connect the Ethernet participants together. In an Ethernet network the communication basically originates from the participants. The switches connect the participants together and enable the communication. Unmanaged switches are the simplest active network component. They do not need to be configured and are therefore very flexible. They use the basic standard protocols, such as auto-negotiation, auto-crossing, and flow-control and can automatically adjust to the different transmission speeds or connector wiring.

Unmanaged switches are protocol transparent. Each port on the switch creates an individual collision domain. The use of twisted-pair cabling with an RJ45 interface or fibre-optic cable based on the IEEE 802.3 specification interfaces are supported by all Weidmüller switches.



Unmanaged Fast Ethernet Switches

- 10/100BaseT(X) (RJ45 connector), 100BaseFX (multi/singlemode, SC or ST connector)
- Redundant dual 12/24/48 V DC, 18 to 30 V AC power inputs
- IP 30 aluminum housing
- Rugged hardware design well suited for hazardous locations (Class I Div. 2 / ATEX) 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	1 K	
Packet Buffer Size	512 KBit	
Interface		
Fibre Ports	100BaseFX ports (SC/ST connector, multimode, singlemode)	
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	
LED Indicators	Power, 10/100M (TP port), 100M (fibre port)	
Optical Fibre		
	100BaseFX	
	multimode	singlemode
Wavelength	1300 nm	1310 nm
Max. Transmit power	-10 dBm	0 dBm
Min. Transmit power	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km (50/125 µm multimode cable) 4 km (62.5/125 µm multimode cable)	40 km (9/125 µm singlemode cable)
Saturation	-6 dBm	-3 dBm
Power Requirements		
Input Voltage	12/24/48 V DC (9.6 to 60 V DC), 18 to 30 V AC (47 to 63 Hz), redundant dual inputs	
Input Current	IE SW BL05 5TX: 0.1 A @ 24 V IE SW BL05 1SC/1ST/1SCS: 0.11 A @ 24 V IE SW BL08 8TX: 0.13 A @ 24 V IE SW BL08 2SC/2ST/2SCS: 0.22 A @ 24 V IE SW BL08 1SC/1ST/1SCS: 0.17 A @ 24 V	
Overload Current Protection	1.1 A	
Connection	1 removable 4-contact terminal block	
Reverse Polarity Protection	Present	
Physical Characteristics		
Housing	Aluminum, IP 30 protection	
Dimensions (W x H x D)	IIE-SW-BL05-Series: 30 x 115 x 70 mm (1.18 x 4.52 x 2.76 in) IE-SW-BL08-Series: 50 x 115 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	
Installation	DIN-Rail mounting	
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)	

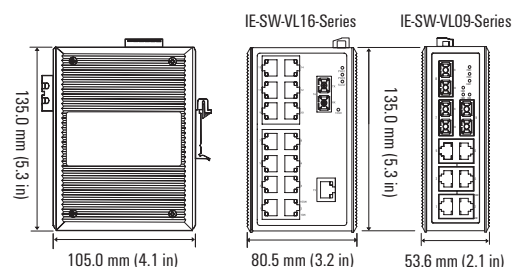


Environmental Limits			
Ambient Relative Humidity	5 to 95 % (non-condensing)		
Regulatory Approvals			
Safety	UL 508, UL 60950-1		
Hazardous Location	UL/cUL Class I, Division 2, Groups A, B, C and D; ATEX Zone 2, Ex nC IIC		
EMI	FCC Part 15, CISPR (EN55022) class A		
EMC	EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 3; EN61000-4-5 (Surge), level 3; EN61000-4-6 (CS), level 3; EN61000-4-8; EN61000-4-11		
Maritime	DNV, GL (not for 1412110000, 1412120000, 1412070000, 1412080000, 1412090000, 1412100000)		
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: 2,428,212 hrs		
Database	Telcordia (Bellcore), GB		
Warranty			
Warranty Period	5 years		
Ordering Information			
Port Variants	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
7 * RJ45, 1 * ST-Multimode	IE-SW-BL08-7TX-1ST	-10 to +60 °C	1412090000
	IE-SW-BL08T-7TX-1ST	-40 to +75 °C	1412100000
7 * RJ45, 1 * SC-Singlemode	IE-SW-BL08-7TX-1SCS	-10 to +60 °C	1240950000
	IE-SW-BL08T-7TX-1SCS	-40 to +75 °C	1286580000
Accessories			
	Model Type	Order No.	
19" Rack Mounting Kit	RM-KIT	1241440000	
Cable fixing kit	IE-CFK-05	1339610000	

Unmanaged Switches Fast Ethernet – Value Line

Unmanaged Fast Ethernet Switches

- Redundant dual 24 V DC power inputs
- Relay output warning for power failure and port break alarm
- Broadcast storm protection
- Transparent transmission of VLAN tagged packets
- -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	1 K (IE-SW-VL09...Series), 4 K (IE-SW-VL16...Series)
Packet Buffer Size	512 Kbit (IE-SW-VL09...Series), 1.25 MBit (IE-SW-VL16...Series)
Interface	
Fibre Ports	100BaseFX ports (SC/ST connector)
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
DIP Switches	Port fault alarm Enable/disable broadcast storm protection
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (fibre port)
Alarm Contact	1 relay output with current carrying capacity of 1 A @ 24 V DC
Optical Fibre	
	100BaseFX multimode
Wavelength	1300 nm
Max. TX	-10 dBm
Min. TX	-20 dBm
RX Sensitivity	-32 dBm
Link Budget	12 dB
Typical Distance	5 km (50/125 µm multimode cable) 4 km (62.5/125 µm multimode cable)
Saturation	-6 dBm
Power Requirements	
Input Voltage	IE-SW-VL09: 24 V DC (12 to 45 V DC), redundant dual inputs IE-SW-VL16: 12/24/48 V DC (9.6 to 60 V DC), redundant dual inputs
Input Current	IE-SW-VL09T-6TX-3SC: 0.31 A @ 24 V IE-SW-VL16-16TX: 0.27 A @ 24 V IE-SW-VL16 SC/ST: 0.44 A @ 24 V
Overload Current Protection	1.6 A
Connection	1 removable 6-pin terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP 30 protection
Dimensions (W x H x D)	IE-SW-VL09...Series: 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in) IE-SW-VL16...Series: 80.5 x 135 x 105 mm (3.16 x 5.31 x 4.13 in)
Weight	IE-SW-VL09: 790 g IE-SW-VL16: 1140 g



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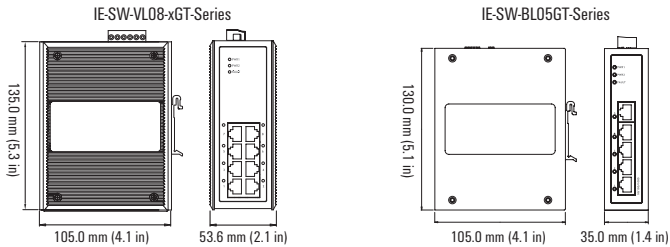
Physical Characteristics	
Installation	DIN-Rail mounting
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory 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 nC IIC
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 3; EN61000-4-5 (Surge), level 3; EN61000-4-6 (CS), level 3;
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-VL09...Series: 396,000 hrs IE-SW-VL16...Series: 257,000 hrs
Database	MIL-HDBK-217F, GB 25 °C
Warranty	
Warranty Period	5 years

Ordering Information			
Port Variants	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
6 * RJ45, 3 * SC-Multimode	IE-SW-VL09T-6TX-3SC	-40 to +75 °C	1240980000
14 * RJ45, 2 * SC-Multimode	IE-SW-VL16-14TX-2SC	0 to +60 °C	1241030000
	IE-SW-VL16T-14TX-2SC	-40 to +75 °C	1286610000
14 * RJ45, 2 * ST-Multimode	IE-SW-VL16-14TX-2ST	0 to +60 °C	1241050000
	IE-SW-VL16T-14TX-2ST	-40 to +75 °C	1286620000

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

Unmanaged Gigabit Ethernet Switches

- Full Gigabit Ethernet on all ports
- Variants with slots for Gigabit 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 (up to 9.6 KB)



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
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	1088 KBit (IE-SW-BL05-5GT), 1408 KBit (IE-SW-VL08-xGT)
Jumbo frame support	up to 9.6 KB
Interface	
Fibre Ports	100/1000BaseSFP slot (only IE-SW-VL08-6GT-2GS)
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
LED Indicators	PWR1, PWR2, FAULT, 10/100/1000M
Alarm Contact	1 relay output with current carrying capacity of 1 A @ 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-BL05-5GT: 0.20 A @ 24 V IE-SW-VL08-8GT: 0.32 A @ 24 V IE-SW-VL08-6GT-2GS: 0.34 A @ 24 V
Connection	1 removable 6-contact terminal block
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP 30 protection
Dimensions (W x H x D)	IE-SW-BL05-5GT: 35 x 130 x 105 mm (1.37 x 5.12 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-BL05-5GT: 290 g IE-SW-VL08-8GT: 630 g
Installation	DIN-Rail mounting
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) (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 nC IIC
EMI	FCC Part 15, CISPR (EN55022) class A

Regulatory Approvals	
EMC	EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 3; EN61000-4-5 (Surge), level 3; EN61000-4-6 (CS), level 3
Maritime	DNV, GL
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	478.000 hrs (Serie IE-SW-BL05-5GT) 325.000 hrs (Serie IE-SW-VL08-xGT)
Database	Telcordia (Bellcore), GB (IE-SW-VL08-xGT series)
Warranty	
Warranty Period	5 years

Ordering Information			
Port Variants	Model Type	Operating Temperature	Order No.
5 * RJ45 10/100/1000BaseT(X)	IE-SW-BL05-5GT	0 to 60 °C	1241250000
	IE-SW-BL05T-5GT	-40 to +75 °C	1286850000
8 * RJ45 10/100/1000BaseT(X)	IE-SW-VL08-8GT	0 to +60 °C	1241270000
	IE-SW-VL08T-8GT	-40 to +75 °C	1286860000
6 * RJ45 10/100/1000BaseT(X), 2 Combo Ports (10/100/1000 BaseT(X) or 100/1000BaseSFP)	IE-SW-VL08-6GT-2GS	0 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

Note	
The IE-SW-VL08-6GT-2GS supports up to 2 100/1000Base SFP slots. Corresponding SFP modules for Fast/ Gigabit Ethernet, see page F.6.	

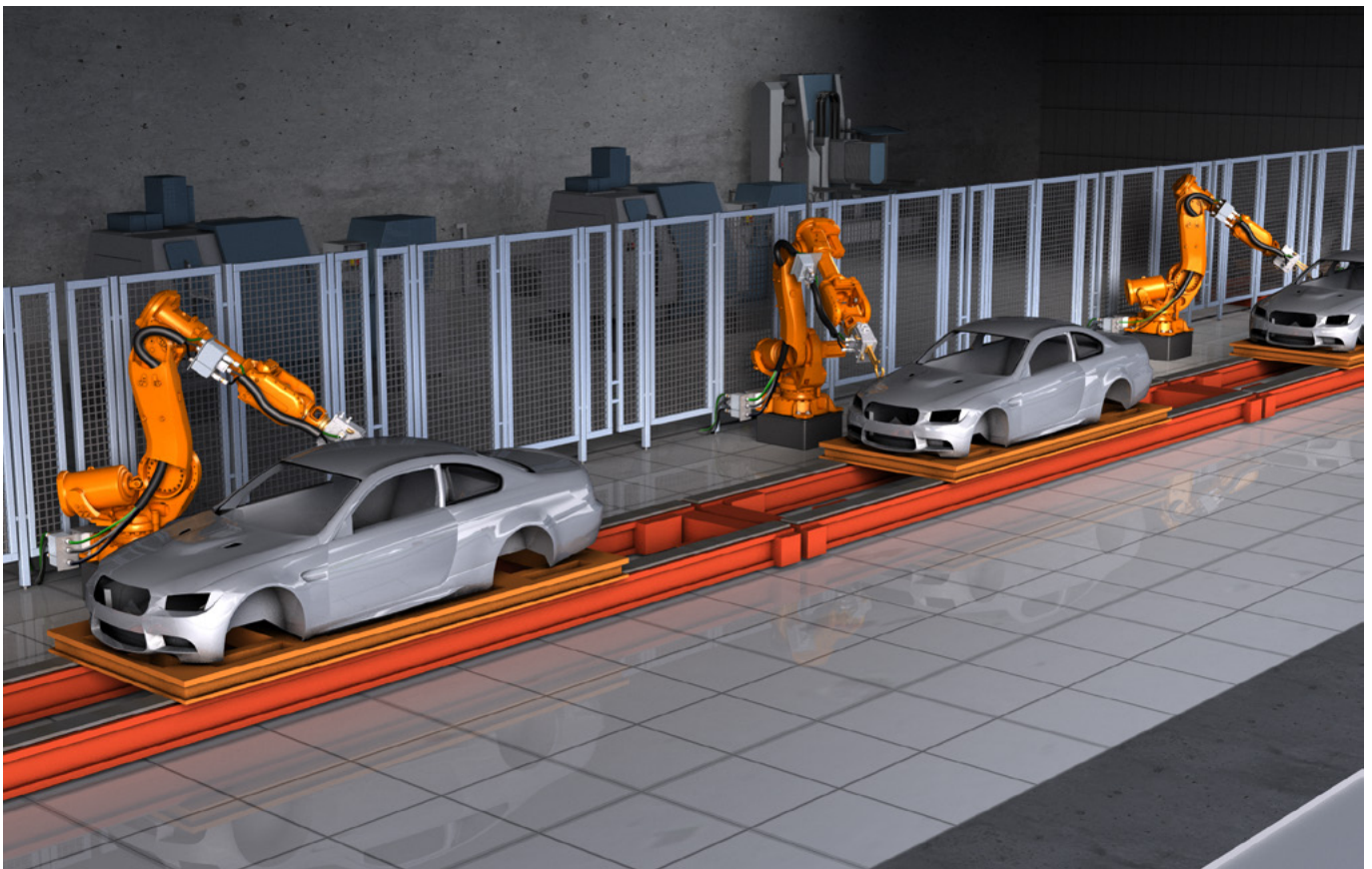
Managed Switches

Configurable according to requirements

B Managed switches offer extensive control mechanisms for data distribution and bandwidth management to co-ordinate and cope with the different requirements of communication participants in an industrial network. Configuration is either web-based using a simple and intuitive user interface or via a serial console.

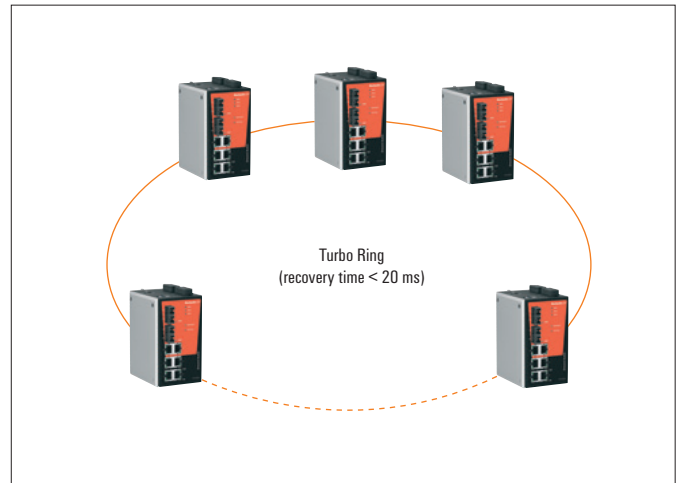
Powerful and reliable network redundancy

It is particularly important to have network redundancy to ensure system availability in today's Industrial Ethernet infrastructures. This is because in a highly integrated system, a connection error can lead to machine stoppage and thus to production losses. To minimise such risks in a managed Ethernet network, Weidmüller has integrated high-performance redundancy mechanisms into its managed switches. This is in addition to the RSTP/STP standard and port-trunking.



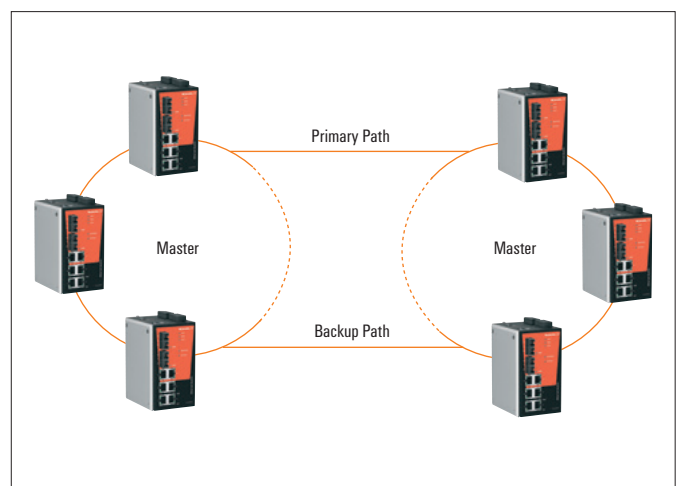
Ring redundancy

The Turbo-Ring technology integrated into Weidmüller's switches allows you to restore a network connection in case of failure in under 20 ms, and this with up to 250 switches in a ring. Turbo-Ring offers three different topology options (Ring-Coupling, Dual-Ring and Dual-Homing) for different application requirements to ensure the maximum possible availability of industrial network applications.



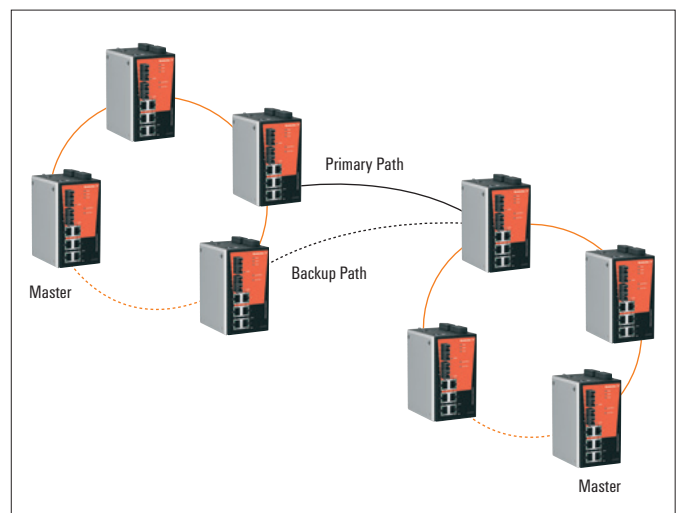
Ring-Coupling

In some applications, it is not sensible to have all equipment and devices in a single large redundant ring networked together, as some of the devices may be located in remote parts of the plant. For such structures, Ring-Coupling is ideal. It connects devices in multiple, smaller rings that are connected redundantly and directly with one another.



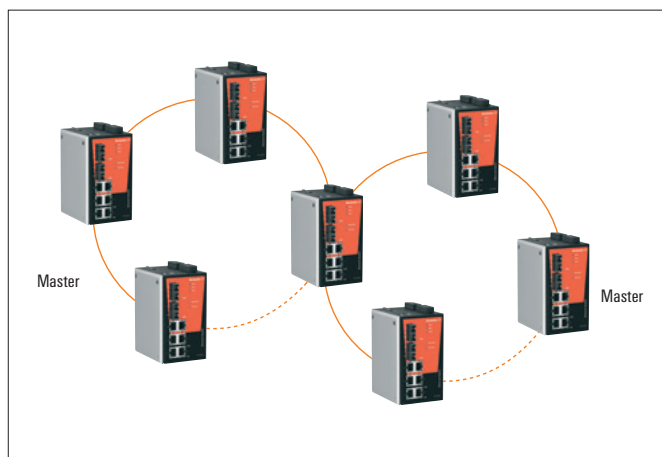
Dual-Homing

With Dual-Homing, two separate rings are connected through one managed switch via two independent connection points. The back-up connection is activated if the primary connection fails.



Dual-Ring

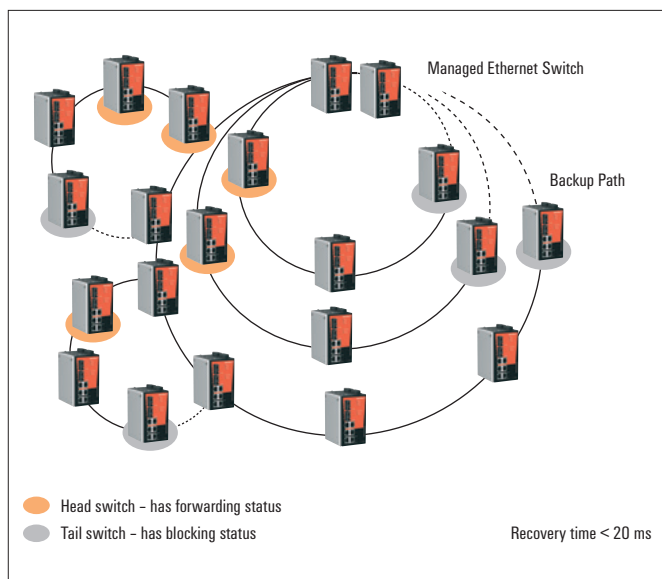
In a Dual-Ring, two neighbouring rings are connected with one another using one switch, without the need for additional ports or cabling. This configuration reduces the total number of ports and saves cabling costs, as an additional primary and back-up line is not needed.



Turbo-Chain

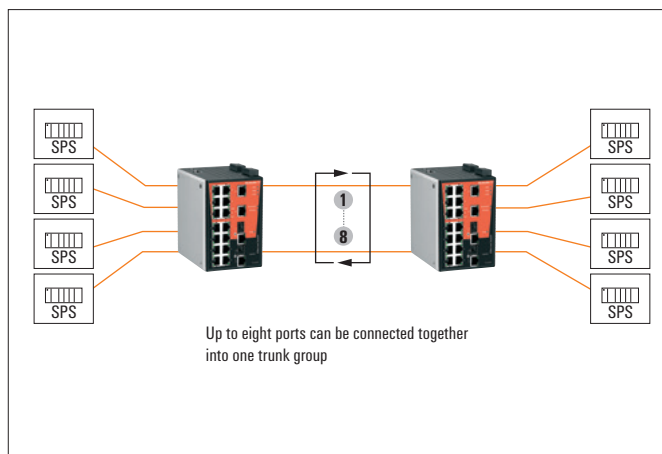
Turbo-Chain offers the possibility of creating multiple redundant networks without the limitations of ring technology. Turbo-Chain can be simply configured by defining two end-points in a segment. This means you can connect or extend existing redundant networks. When compared with traditional ring coupling or a network re-design, Turbo-Chain is more flexible as well as being more cost efficient and it has significant savings potential when compared to the effort for network restructuring and re-cabling. In addition Turbo Chain also supports IEEE 802.1w/D RSTP and STP protocols.

- Flexible network topology
- Unlimited and simple network expansion
- Quick troubleshooting (recovery time < 20 ms)
- Cost-effective configurations



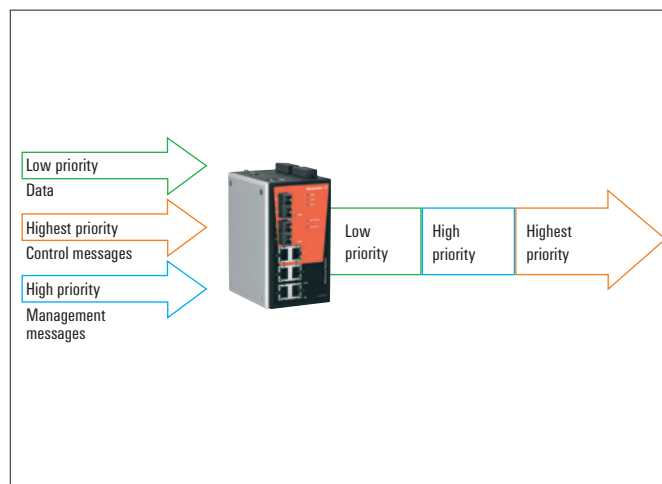
Port trunking for flexible connections

IEEE 802.3ad (LACP, Link Aggregation Control Protocol) permits flexible network connections and a redundant path for critical applications. It provides the means for a user to link via a higher bandwidth over the PremiumLine managed switches by combining more ports into a trunk group.



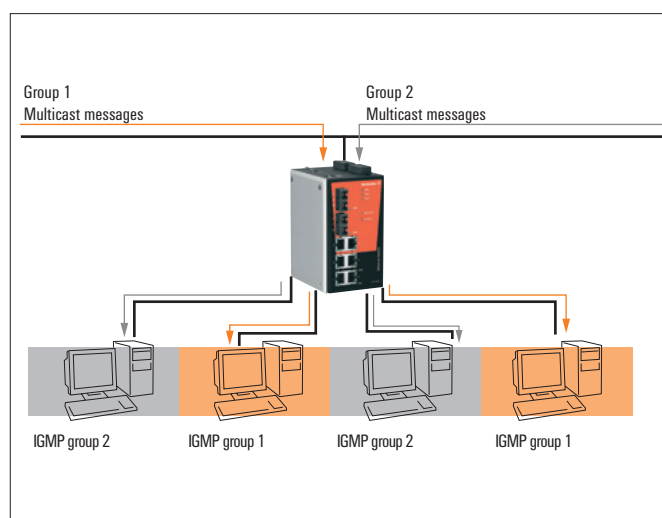
QoS supports real-time capability

Quality of Service (QoS) enables the possibility of prioritisation of data traffic in a network and ensures that important data is consistently available. Weidmüller managed switches can deal with IEEE 802.1p/1Q layer 2 CoS tags and also layer 3 TOS information. The QoS functionality of Weidmüller's managed switches improves network performance and ensures that time-critical applications are given priority.



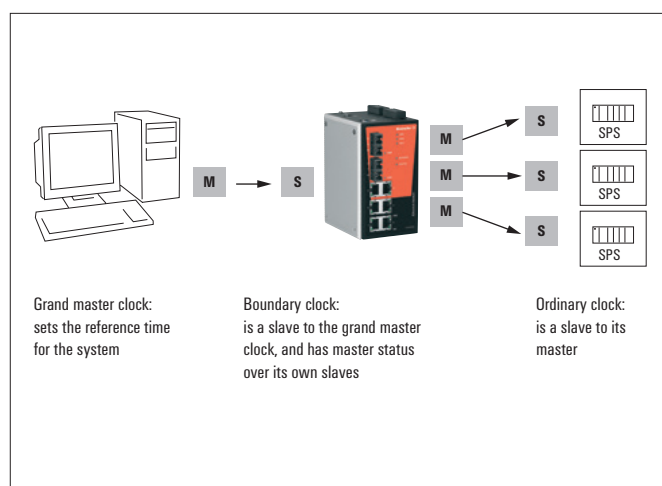
IGMP snooping and GMRP for filtering multicast data traffic

Weidmüller managed switches support GMRP (Generic Multicast Registration Protocol) and IGMP snooping. These protocols limit multicast data traffic so that it is only forwarded to the devices that actually require it. This reduces unnecessary network data traffic.



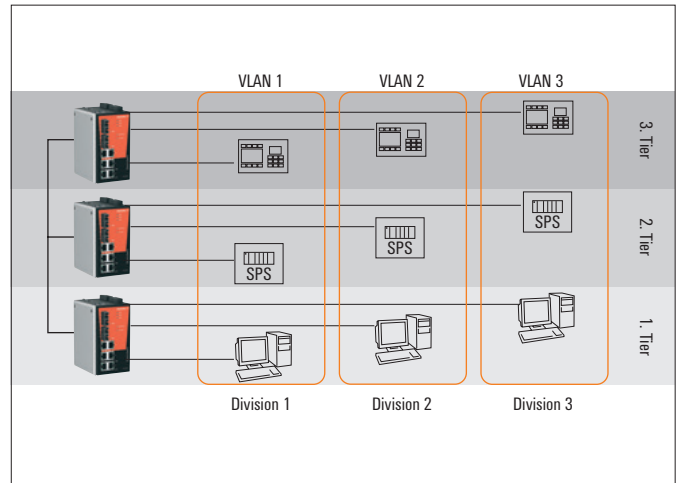
IEEE 1588 PTP - improves time synchronisation of automation devices

IEEE 1588 PTP, also known as Precision Time Protocol (PTP), was developed to synchronise real-time clocks which are located at specific nodes of a distributed system. Weidmüller managed switches with IEEE 1588 PTP are particularly suited for motion control applications where distributed clocks must be synchronised with high levels of accuracy.



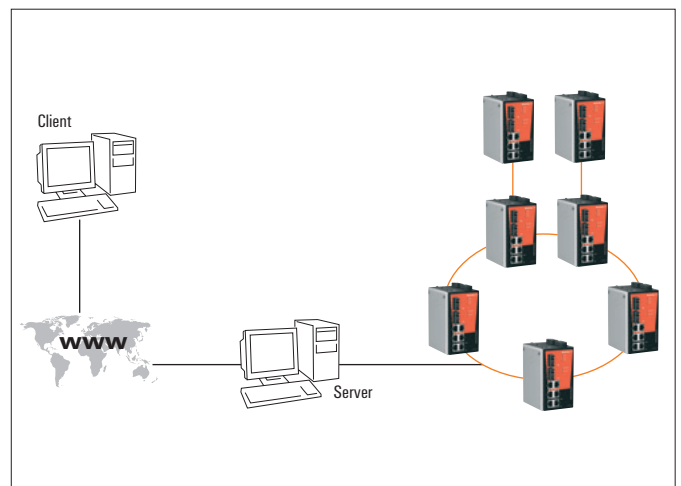
VLAN – simplifies network planning

VLAN stands for virtual LAN. It is a network structure with all the characteristics of a normal LAN, but not geographically constrained. A network can be divided into different sections using the VLAN function. It is possible, for example, to group servers or workstations together, based on their function. Data will only then be sent to Ethernet devices of a specific VLAN group. The option for isolating VLANs completely from one another serves to increase the security of data transfer and offers additional protection from unauthorised access or unauthorised data traffic.



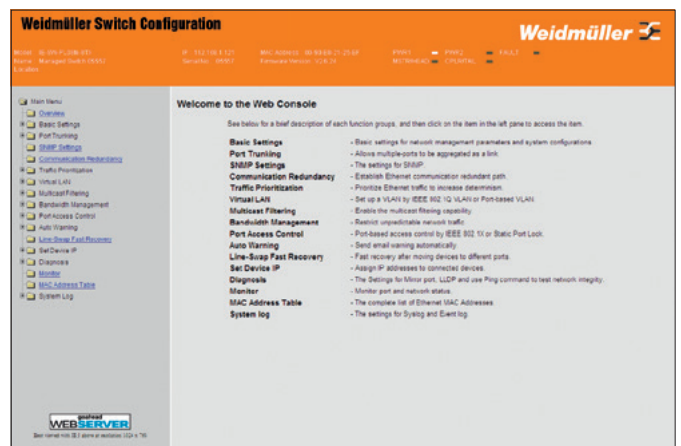
Automatic topology detection using LLDP

The Link Layer Discovery Protocol (LLDP - IEEE 802.1AB) is a data link layer protocol which publishes information about a device containing its IP address, description and functional information to its neighbouring devices over the network. All of Weidmüller's managed switches fully support LLDP.



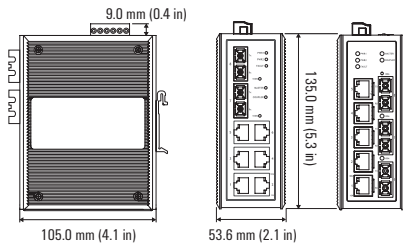
Simple browser based configuration

Weidmüller's managed switches can be easily configured using a web browser, telnet console or the Weidmüller switch configuration utility. Further switch configurations can be saved or the firmware updated using this user-friendly tool.



Managed Entry-level Ethernet Switches

- Turbo Ring and Turbo Chain with fast recovery time (<20 ms @ 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
- External Backup and Restoring Module for easy system reconfiguration (optional accessory)

**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 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 • SNMP • SMTP • RARP • R MON • HTTP • Telnet • Syslog • DHCP Option 66/67/82 • BootP • LLDP • Modbus/TCP • IPv6

MIB

MIB-II • Ethernet-like MIB • P-BRIDGE MIB • Bridge MIB • RSTP MIB • RMON MIB Group 1, 2, 3, 9

Flow Control

IEEE 802.3x flow control • back pressure flow control

Switch Properties

MAC Table Size 8 K

Packet Buffer Size 1 MBit

Interface

Fibre Ports 100BaseFX ports (SC/ST connector)

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

LED Indicators PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL, 10/100M

Alarm Contact 1 relay output with current carrying capacity of 1 A @ 24 V DC

Optical Fibre

	100BaseFX	
	multimode	singlemode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km ^a	40 km ^c
	4 km ^b	
Saturation	-6 dBm	-3 dBm

^a 50/125 µm, 800 MHz*km fibre optic cable

^b 62.5/125 µm, 500 MHz*km fibre optic cable

^c 9/125 µm singlemode fibre optic cable

Power Requirements

Input Voltage	24 V DC (12 to 45 V DC), redundant dual inputs
Input Current	IE-SW-VL08M-8TX: 0.26 A @ 24 V IE-SW-VL08M-6TX-2ST/SC: 0.35 A @ 24 V IE-SW-VL08M-5TX-3SC: 0.32 A @ 24 V
Overload Current Protection	Present
Connection	1 removable 6-contact terminal block
Reverse Polarity Protection	Present



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**Physical Characteristics**

Housing	Metal, IP 30 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/3SC/5TX-1SC-2SCS: 890 g
Installation	DIN-Rail mounting

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, 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 nC IIC (not for 1345240000)
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD), level 3; 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 (not 1345240000 and 1344770000)
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

MTBF (mean time between failures)

Time	1,102,845 hrs (IE-SW-VL08MT-6TX/8TX devices) 363,000 hrs (IE-SW-VL08MT-5TX devices)
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Database Telcordia (Bellcore), GB

Warranty

Warranty Period	5 years
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Ordering Information

Port Variants	Model Type	Operating Temperature	Order No.
8 * RJ45	IE-SW-VL08MT-8TX	-40 to +75 °C	1240940000
5 * RJ45, 3 * SC-Multimode	IE-SW-VL08MT-5TX-3SC	-40 to +75 °C	1240970000
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

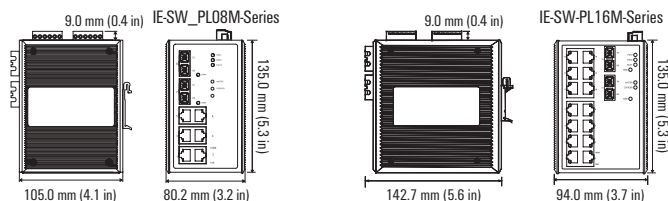
Accessories

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

Managed Switches Fast Ethernet – Premium Line

Managed Fast Ethernet Switches

- Plug-n-play Turbo Ring and Turbo Chain (<20 ms @ 250 switches), RSTP/STP (IEEE 802.1w/D) for Ethernet redundancy
- IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- EBR-Module (External Backup and Restore Module) for system configuration backup (optional accessory)



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 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 ■ 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		
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 (IE-SW-PL08M), 2 MBit (IE-SW-PL16M)	
Interface		
Fibre Ports	100BaseFX ports (SC/ST connector)	
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 (only IE-SW-PL08M)	
LED Indicators	PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL, 10/100M	
Alarm Contact	2 relay outputs with current carrying capacity of 1 A @ 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	
Optical Fibre		
	100BaseFX	
	multimode	singlemode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km (50/125 µm multimode cable) 4 km (62.5/125 µm multimode cable)	40 km (9/125 µm singlemode cable)
Saturation	-6 dBm	-3 dBm
Power Requirements		
Input Voltage	24 V DC (12 to 45 V DC), redundant dual inputs	
Input Current	IE-SW-PL08M-8TX: 0.26 A @ 24 V IE-SW-PL08M-6TX-2SC/ST/2SCS: 0.36 A @ 24 V IE-SW-PL16M-16TX: 0.41 A @ 24 V IE-SW-PL16M-14TX-2SC/ST: 0.51 A @ 24 V	



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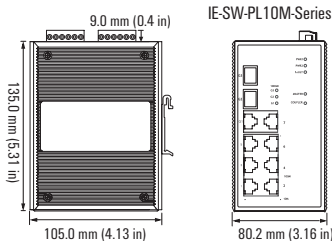


Power Requirements	
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP 30 protection
Dimensions (W x H x D)	IE-SW-PL08M: 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in) IE-SW-PL16M: 94 x 135 x 142.7 mm (3.7 x 5.31 x 5.62 in)
Weight	IE-SW-PL08M: 1040 g, IE-SW-PL16M: 1586 g
Installation	DIN-Rail mounting
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) (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, 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 nC IIC
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD); IE-SW-PL08M...Series: level 3 IE-SW-PL16M...Series: 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	IE-SW-PL08M...Series: 339,000 hrs IE-SW-PL16M...Series: 247,000 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering Information			
Port Variants	Model Type	Operating Temperature	Order No.
8 * RJ45	IE-SW-PL08M-8TX	0 to 60 °C	1241040000
	IE-SW-PL08MT-8TX	-40 to +75 °C	1286780000
6 * RJ45, 2 * SC-Multimode	IE-SW-PL08M-6TX-2SC	0 to 60 °C	1241070000
	IE-SW-PL08MT-6TX-2SC	-40 to +75 °C	1286790000
6 * RJ45, 2 * ST-Multimode	IE-SW-PL08M-6TX-2ST	0 to 60 °C	1241080000
	IE-SW-PL08MT-6TX-2ST	-40 to +75 °C	1286800000
6 * RJ45, 2 * SC-Singlemode	IE-SW-PL08M-6TX-2SCS	0 to 60 °C	1241090000
	IE-SW-PL08MT-6TX-2SCS	-40 to +75 °C	1286810000
16 * RJ45	IE-SW-PL16M-16TX	0 to 60 °C	1241100000
	IE-SW-PL16MT-16TX	-40 to +75 °C	1286820000
14 * RJ45, 2 * SC-Multimode	IE-SW-PL16M-14TX-2SC	0 to 60 °C	1241120000
	IE-SW-PL16MT-14TX-2SC	-40 to +75 °C	1286830000
14 * RJ45, 2 * ST-Multimode	IE-SW-PL16M-14TX-2ST	0 to 60 °C	1241130000
	IE-SW-PL16MT-14TX-2ST	-40 to +75 °C	1286840000

Managed Gigabit Ethernet Switches

- 2 Gigabit Ethernet ports for redundant ring and 1 Gigabit Ethernet port for uplink solution
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy
- IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- EBR-Module - External Backup and Restoring Module for easy system reconfiguration (optional accessory)



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Technical data

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 802.1D 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 ■ SNMP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ Syslog ■ DHCP Option 66/67/82 ■ SSH ■ SNMP Inform ■ Modbus/TCP ■ 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	
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	
Fibre Ports	1000BaseSFP-Slot (1000BaseSFP modules are not supported)
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
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP-Port), 1000M (Gigabit-Port), MSTR/HEAD, CPLR/TAIL
Alarm Contact	2 relay outputs with current carrying capacity of 1 A @ 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	IE-SW-PL10M-3GT-7TX: 0.65 A @ 24 V IE-SW-PL10M-1GT-2GS-7TX: 0.44 A @ 24 V
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP 30 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
Installation	DIN-Rail mounting

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 nC IIC
EMI	FCC Part 15, CISPR (EN55022) Class A
EMC	EN61000-4-2 (ESD), level 3; 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	204.000 hrs
Database	MIL-HDBK-217J, GB 25 °C
Warranty	
Warranty Period	5 years

Ordering Information			
Port Variants	Model Type	Operating Temperature	Order No.
3 * RJ45 10/100/1000BaseT(X),	IE-SW-PL10M-3GT-7TX	0 to 60 °C	1241290000
7 * RJ45 10/100BaseT(X)	IE-SW-PL10MT-3GT-7TX	-40 to +75 °C	1286930000
1 * RJ45 10/100/1000BaseT(X),	IE-SW-PL10M-1GT-2GS-7TX	0 to 60 °C	1241300000
2 * Slots 1000BaseSFP,	IE-SW-PL10MT-1GT-2GS-7TX	-40 to +75 °C	1286940000
7 * RJ45 10/100BaseT(X)			

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

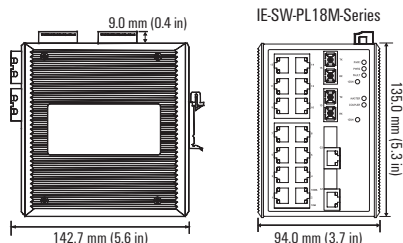
Note

The IE-SW-PL10M 1GT-2GS-7TX supports up to 2 1000Base SFP slots. Corresponding SFP modules for Gigabit Ethernet, see page F.6.

Managed Switches Gigabit Ethernet – Premium Line

Managed Gigabit Ethernet Switches

- 2 Gigabit Ethernet ports plus 16 Fast Ethernet ports for copper and fibre
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy
- IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- EBR-Module - External Backup and Restoring Module for easy system reconfiguration (optional accessory)

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Technical data

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 802.1D 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 ■ SNTP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ Syslog ■ DHCP-Option 66/67/82 ■ SSH ■ SNMP Inform ■ Modbus/TCP ■ 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	
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	100BaseFX (SC/ST connection) and 1000BaseSFP slot (100BaseSFP modules are not supported)
RJ45 Ports	10/100BaseT(X) oder 10/100/1000BaseT(X) auto negotiation
Console Port	RS 232 (RJ45 connector)
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP-Port), 100M (Glasfaser-Port), MSTR/HEAD, CPLR/TAIL
Alarm Contact	2 relay outputs with current carrying capacity of 1 A @ 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

Optical Fibre		
	100BaseFX	
	multimode	singlemode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link Budget	12 dB	29 dB
Typical Distance	5 km (50/125 µm multimode cable) 4 km (62.5/125 µm multimode cable)	40 km (9/125 µm singlemode cable)
Saturation	-6 dBm	-3 dBm

Power Requirements	
Input Voltage	24 V DC (12 to 45 V DC), redundant dual inputs
Input Current	IE-SW-PL18M-2GC-16TX: 0.51 A @ 24 V IE-SW-PL18M-SC/ST/SCS: 0.61 A @ 24 V
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP 30 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
Installation	DIN-Rail mounting
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 nC IIC
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 Information			
Port Variants	Model Type	Operating Temperature	Order No.
16 * RJ45 10/100BaseT(X), 2 * Kombi-Ports ¹	IE-SW-PL18M-2GC-16TX	0 to +60 °C	1241320000
14 * RJ45 10/100BaseT(X), 2 * SC-Multimode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18MT-2GC-16TX	-40 to +75 °C	1286970000
14 * RJ45 10/100BaseT(X), 2 * ST-Multimode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18M-2GC-14TX2SC	0 to +60 °C	1241330000
14 * RJ45 10/100BaseT(X), 2 * SC-Singlemode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18MT-2GC-14TX2SC	-40 to +75 °C	1286990000
14 * RJ45 10/100BaseT(X), 2 * SC-Singlemode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18M-2GC-14TX2SCS	0 to +60 °C	1241340000
14 * RJ45 10/100BaseT(X), 2 * SC-Singlemode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18MT-2GC-14TX2SCS	-40 to +75 °C	1287000000
14 * RJ45 10/100BaseT(X), 2 * SC-Singlemode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18M-2GC-14TX2SCS	0 to +60 °C	1241350000
14 * RJ45 10/100BaseT(X), 2 * SC-Singlemode 100FX, 2 * Kombi-Ports ¹	IE-SW-PL18MT-2GC-14TX2SCS	-40 to +75 °C	1287010000

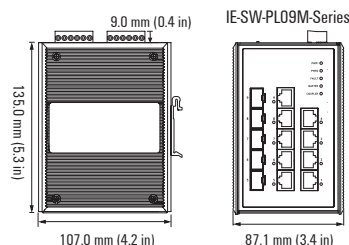
Note

The IE-SW-PL18M series supports up to 2 1000Base SFP slots. Corresponding SFP modules for Gigabit Ethernet, see page F.6.

¹ (10/100/1000BaseT(X) or 100/1000BaseSFP)

Managed Full Gigabit Ethernet Switch

- 4 10/100/1000BaseT(X) ports plus 5 combo (10/100/1000BaseT(X) or 100/1000BaseSFP slot) Gigabit ports
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy
- IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- EBR-Module - External Backup and Restoring Module for easy system reconfiguration (optional accessory)

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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 802.1D 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 ■ DHCP Option 66/67/82 ■ BootP ■ TFTP ■ SNTP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ SSH ■ Syslog ■ M odbus/TCP ■ SNMP Inform ■ 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	
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	ID 1 to 4094
IGMP Groups	256
MAC Table Size	8 K
Packet Buffer Size	1 MBit
Interface	
Fibre Ports	100/1000Base SFP Slot
RJ45 Ports	10/100/1000BaseT(X) auto negotiation
Console Port	RS 232 (RJ45 connector)
DIP Switches	Turbo-Ring, Master, Coupler, Reserve
LED Indicators	PWR1, PWR2, FAULT, 10/100/1000M, MSTR/HEAD, CPLR/TAIL
Alarm Contact	2 relay outputs with current carrying capacity of 1 A @ 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	12/24/48 V DC, redundant dual inputs
Input Current	0.81 A @ 24 V
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP 30 protection
Dimensions (W x H x D)	87.1 × 135 × 107 mm (3.43 × 5.31 × 4.21 in)
Weight	1510 g
Installation	DIN-Rail mounting

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, EN60950-1
Hazardous Location	UL/cUL, Class I Division 2, Groups A, B, C and D (Pending); ATEX-Zone 2, Ex nC IIC (Pending)
EMI	FCC Part 15, CISPR (EN55022) Class A
EMC	EN61000-4-2 (ESD), level 3; 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
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	330.000 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Port Variants	Model Type	Operating Temperature	Order No.
4 * RJ45 10/100/1000BaseT(X)	IE-SW-PL09M-5GC-4GT	0 to 60 °C	1241370000
5 * Kombi-Ports ¹	IE-SW-PL09MT-5GC-4GT	-40 to +75 °C	1287020000

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

Note

The IE-SW-PL09M series supports up to 5 100/1000Base SFP slots. Corresponding SFP modules for Fast/Gigabit Ethernet, see page F.6.

¹ (10/100/1000BaseT(X) or 100/1000BaseSFP)

Power-over-Ethernet switches

Power and data transferred in parallel

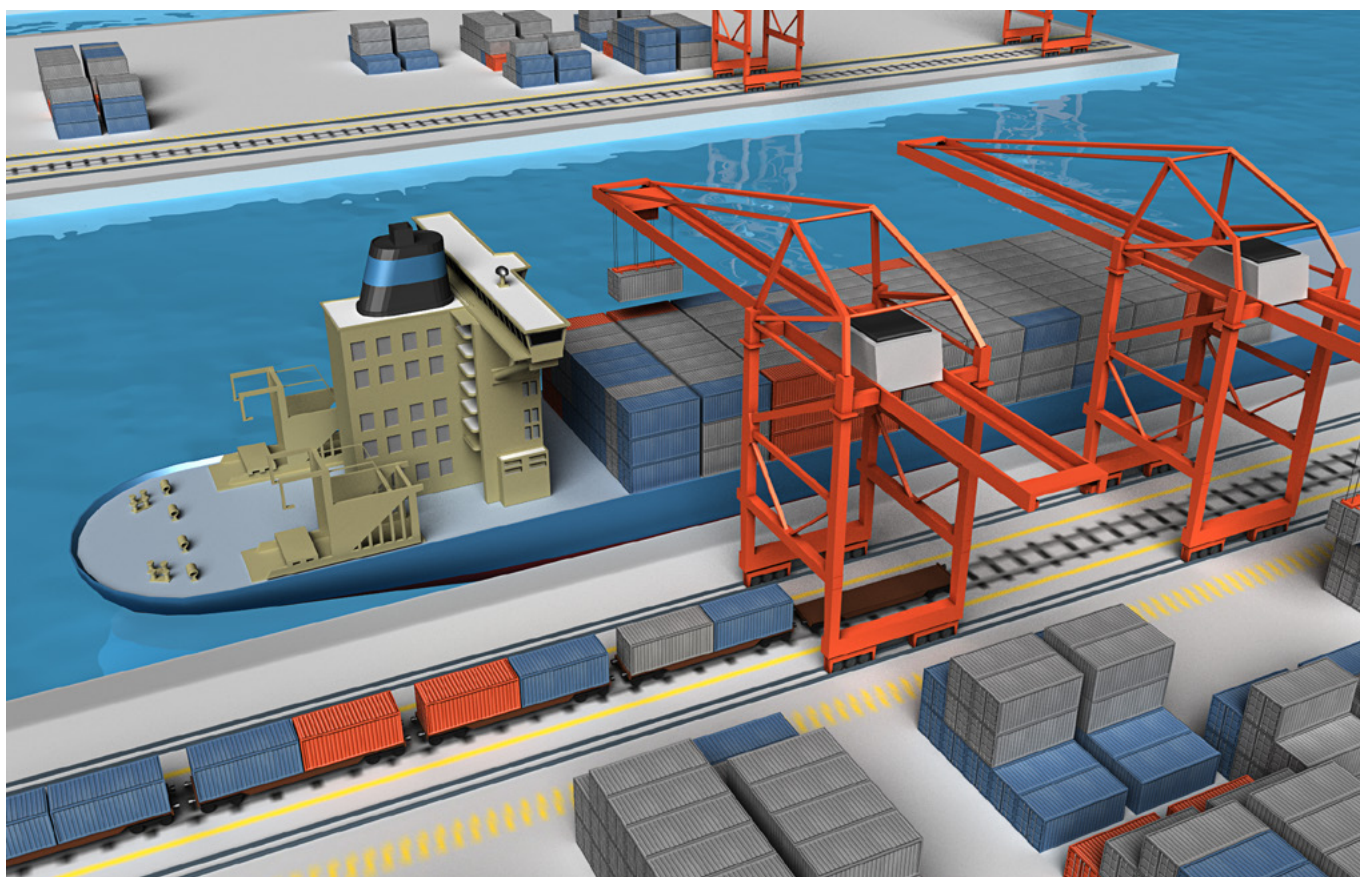
Power over Ethernet (PoE) describes a process where power can be supplied to a network-compatible device over the 8-wire Ethernet cable. In a narrower sense, PoE today means the IEEE 802.3af (DTE Power over MDI) standard which was adopted in June 2003.

The main advantage of Power over Ethernet is that you do not require a separate power supply cable and so can install Ethernet devices in hard-to-reach places or in areas where there is not sufficient room for many cables. This means that you can save some significant installation costs, and that you can also integrate the power supply into a central uninterruptible power supply (UPS) to improve the reliability of the connected devices.

PoE is used by network devices that need small amounts of power. It is typically used for IP telephones, network cameras, operating panels or wireless communications devices such as WLAN access points.

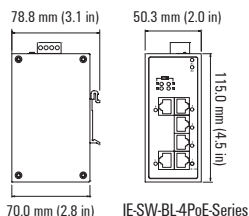
Weidmüller PoE switches support the IEEE 802.3at standard (also known as PoE+) and can therefore supply end devices with up to 30 W per PoE port.

Weidmüller PoE switches also offer further advantages by their simple power supply needs. They do not require an additional 48 V supply in addition to the standard 24 V supply.



6-port IEEE 802.3af/at PoE+ unmanaged Ethernet Switch

- 4 IEEE 802.3af/at compliant PoE ports
- Up to 30 watts per PoE port
- 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 24 to 48 V DC
- Intelligent power consumption detection and classification
- Redundant dual V DC power inputs
- Broadcast Storm Protection

**Technical data**

Technology	
Standards	802.3af/at for Power-over-Ethernet 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	1 K
Packet buffer size	512 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
PoE pin assignment	V-, V+, V+, V+ for pin 1, 2, 3, 6 (endspan, MDI-X alternative A)
LED Indicators	PWR1, PWR2, 10/100M, PoE
Power Requirements	
Input Voltage	24/48 (20 to 60 V) V DC, 2 redundant inputs
Input Current	Max 7.5 A @ 24 V DC (supports up to 4 ports at 30 watts per PoE port)
Overload Current Protection	Present
Connection	1 removable 4-contact terminal block
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Aluminium, IP 30 protection
Dimensions (W x H x D)	50 x 115 x 70 mm (1.96 x 4.52 x 2.76 in)
Weight	375 g
Installation	TS 35
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
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD), level 3; 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
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	645.138 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering Information

Port Variants	Type	Operating Temperature	Order No.
2 * RJ45 10/100 BaseT(X), 4 * RJ45 10/100 BaseT(X) PoE+	IE-SW-BL06-2TX-4POE	0 to 60 °C	1241380000
	IE-SW-BL06T-2TX-4POE	-40 to +75 °C	1286920000

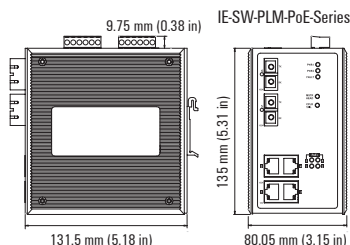
Accessories

	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000
Cable fixing kit	IE-CFK-05	1339610000

Power-over-Ethernet Switches – Premium Line

6-port IEEE 802.3af/at PoE+ managed Ethernet Switch

- 4 IEEE 802.3af/at compliant PoE ports
- Up to 30 watts per PoE port
- 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 24 to 48 V DC
- Extended PoE management functions, including PoE error checking or configuring the operational times of connected PoE devices



Technical data

Standards	
IEEE 802.3at/af for Power-over-Ethernet ■ IEEE 802.3 for 10BaseT ■ IEEE 802.3u for 100BaseT (X) and 100BaseFX ■ IEEE 802.3x for Flow Control ■ IEEE 802.1D 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 ■ DHCP Option 66/67/82 ■ BootP ■ TFTP ■ SNTP ■ SMTP ■ RARP ■ RMON ■ HTTP ■ HTTPS ■ Telnet ■ SSH ■ Syslog ■ Modbus/TCP ■ SNMP Inform ■ 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	
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) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection
PoE pin assignment	V-, V-, V+, V+ for pin 1, 2, 3, 6 (endspan, MDI-X alternative A)
Console Port	RS 232 (RJ45 connector)
DIP Switches	Turbo Ring, Master, Coupler, Reserve
LED Indicators	PWR1, PWR2, FAULT, 10/100M, MSTR/HEAD, CPLR/TAIL, PoE
Alarm Contact	2 relay outputs with current carrying capacity of 1 A @ 24 V DC
Alarm Contact	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	24/48 (20 to 60 V) V DC
Input Current	Max. 7.8 A @ 24 V DC (supports up to 4 ports at 30 watts per PoE port)
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Technical data	
Housing	Metal, IP 30 protection
Dimensions (W x H x D)	80 x 135 x 131.5 mm (3.15 x 5.31 x 5.18 in)
Weight	1270 g
Installation	DIN-Rail mounting



Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Operating 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
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD), level 3; 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
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
MTBF (mean time between failures)	
Time	433.000 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

Ordering data			
Port Variants	Type	Operating Temperature	Order No.
2 * RJ45 10/100 BaseT(X), 4 * RJ45 10/100 BaseT(X) PoE+	IE-SW-PL06M-2TX-4PoE	0 to 60 °C	1241390000
	IE-SW-PL06MT-2TX-4PoE	-40 to +75 °C	1286910000

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

Industrial Security Router

Overview

Industrial Security Router	Industrial Security Router introduction	C.2
	Industrial Security Router	C.6

Gigabit Industrial Security Router

Secure data communication with integrated VPN technology

You want to be able to communicate with your machinery and systems securely, reliably, and from anywhere? Should only verified data gain access to your industrial network? Then the new Industrial Security Router from Weidmüller is just the right choice.

Due to the steady increase in networking data and information in office-based communication, a strong trend has evolved where the advantages of Ethernet communication are progressively being used in the area of industrial automation technology.

As well as the standardisation provided by Ethernet technology, vertical data integration from the field/production level across the office network to the Internet is an important driver for its rapid spread in industrial applications.

In addition to LAN switching technologies, we are seeing increased use of industrial routers for enhanced security and for efficient management of data traffic between LANs.

Routers with integrated VPN technologies are also ideally suited to secure remote access to components and systems in the LAN, via either a wired or wireless Internet connection.

Technical features of Weidmüller routers at a glance

Compact and robust industrial-grade metal housing (aluminium die casting)

Gigabit Ethernet interfaces (LAN/WAN) for high data throughput

Digital inputs/outputs (24 V DC) with functions for disconnecting WAN port, indicating alarm status, starting/stopping of pre-configured VPN connections and indicating active VPN tunnel

Supports all standard router functions such as static/dynamic routing, SNMP, DHCP server, Dynamic DNS, event logging or DSL connection (PPPoE) via external DSL modem

Flexibly configurable stateful inspection firewall with filter functions for both Layer 3 (IP layer) and Layer 2 (MAC address level)

Extensive configuration options for IP address mapping (1:1 NAT, virtual mapping/NAT masquerading/port-forwarding/IP address forwarding), e.g. for connecting multiple machine networks in the same IP address range into a primary production network



Integrated VPN functionality (OpenVPN and IPSec) for secure remote access over the Internet. The router can be used with both VPN technologies, either as a VPN client or a VPN server.

Variable bandwidth management by prioritising and limiting network traffic to IP and Ethernet protocol level

Variable user management through multiple user profiles with detailed assignment of rights

Integrated Modbus/TCP server for controlling and querying the status of the digital inputs and outputs and pre-configured VPN connections with Modbus/TCP-capable devices (e.g. PLC)

Client Monitoring for the monitoring of network devices

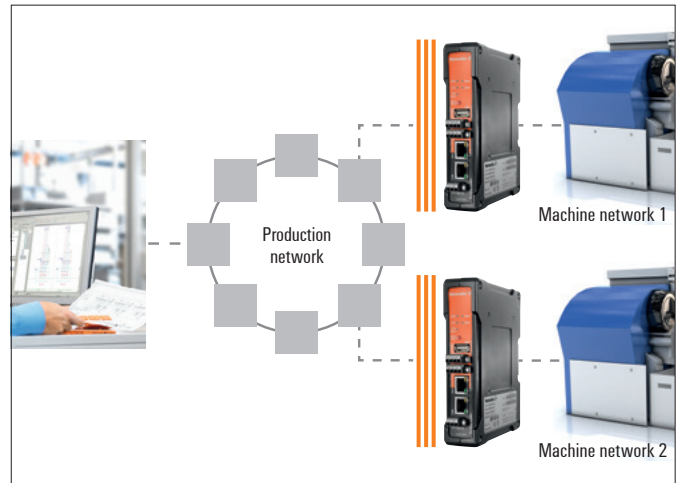
“Remote Capture” function for monitoring network traffic via Wireshark, (Network protocol analyser software)

IE-SR-2GT-UMTS/3G variant

Additional integrated UMTS/3G/HSPA + modem for Internet connection via mobile radio (max. downlink 21.2 Mbps, max. uplink 5.8 Mbps)

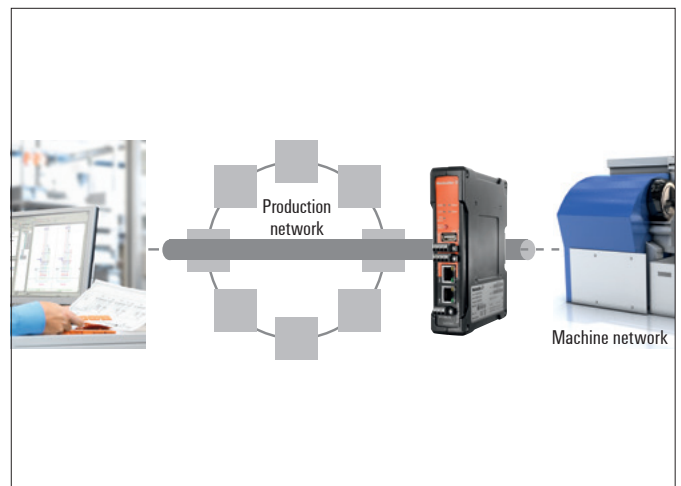
Securely integrate machines in a production network with Gigabit Ethernet

The router enables controlled and secure data exchange between “switched” Ethernet networks (IP routing). The various manifestations of the Network Address Translation function (1:1 NAT, masquerading, virtual mapping, port and IP forwarding) provide controlled access to both sub-networks as well as individual Ethernet devices. In addition, the 1:1 NAT function allows machine networks with the same IP address range to be easily integrated into a primary production network, as is typically the case in series machine manufacturing. The high-speed performance of the Gigabit interface means that the router will have no problems at all handling future increased data loads in the Ethernet network.



Remote access via secure VPN connections

Weidmüller Industrial Ethernet routers use encrypted VPN connections (OpenVPN and IPsec) to allow access to machines and systems. Diagnosis and error rectification are therefore possible from any location. This means that an onsite service technician can be dispensed with in many cases. The router supports the standard VPN technologies OpenVPN and IPsec, and can be operated either as a VPN client or a VPN server (with no limits on the number of simultaneously usable clients).



Control and monitoring via integrated digital inputs and outputs

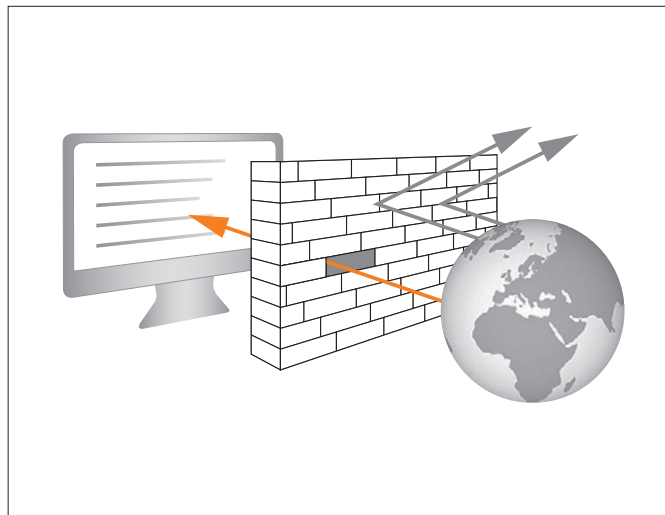
The router is equipped with 2 digital inputs ("Cut" and "VPN initiate") and 2 digital outputs ("Alarm" and "VPN active"). The 24 V input "Cut" allows the RJ45 WAN port to be temporarily disabled, e.g. to prevent unauthorised access by third parties to the WAN network during maintenance work on the LAN network. The 24 V input "VPN initiate" enables a pre-configured VPN instance to be started or stopped (client or server). Connections can be initiated, for example, by an external key switch or via the digital output of a controller (PLC). Once a VPN tunnel is successfully established and activated it is indicated by the digital output "VPN active". The 24 V output "Alarm" can be used to display the router's configurable alarm conditions externally. An alarm can be triggered by a firewall rule or when a network device is no longer accessible (client monitoring).



Intelligent Firewall: Stateful Packet Inspection

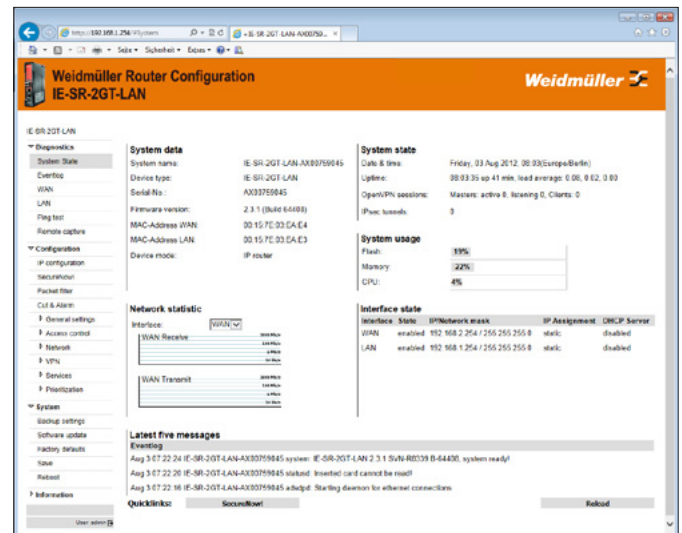
The integrated stateful inspection firewall is used to control incoming and outgoing traffic on all router interfaces (LAN, WAN, UMTS, VPN tunnels) on both Layer 2 (Ethernet frames) and Layer 3 (IP-based).

An "auto-learning" function ("SecureNow!") is also incorporated; this performs an automatic analysis of network traffic and generates a set of rules, which the user can then apply or modify as needed.



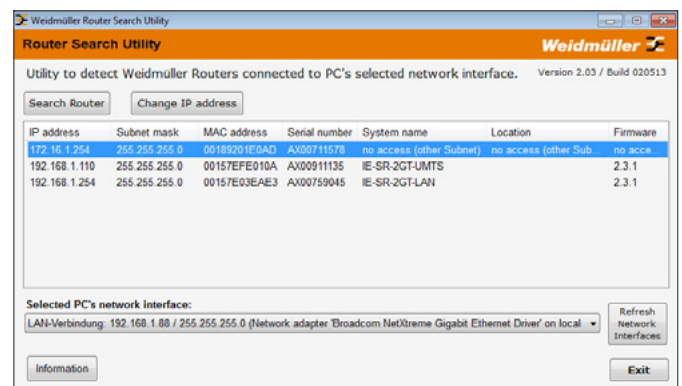
User-friendly configuration via web interface

The router can be configured using any standard browser. The clear menu structure provides easy-to-learn and intuitive user guidance. The user interface can be switched between German and English. Configuration support for users is provided by integrated online help (tool tips) with detailed instructions about the various settings. Profiles for different user groups (administrators, restricted users, etc.) can be created with detailed assignment of rights.



Router Search Utility – search for routers on the network

The freely available **Weidmüller Router Search Utility** software tool allows Weidmüller routers to be detected on the local network in the case of unrecognised IP addresses. For all devices found, the most important basic data such as network parameters, serial number, device name, etc. are displayed for device identification. In addition, the IP address of a router can be modified or the web interface of a selected router opened directly.



Industrial Security Router

Gigabit Industrial Security Router

- 2 Gigabit ports (LAN/WAN)
- Integrated firewall
- NAT masquerading, 1:1 network mapping and port forwarding
- Remote access via VPN (OpenVPN, IPsec, L2TP)
- Key switch function for activation/deactivation of WAN/VPN connection
- Variant with integrated 3G/UMTS modem for rapid, Internet-based wireless access
- Back-up and recovery of device configuration using SIM card



Technical data

Operation modes	
IP Router	Static or dynamic routing, supporting RIPv2 / OSPF
Transparent Bridge	2-port switch with additional layer-2 filter
Network Services	
	• DHCP server / DHCP relay • DNS relay • NTP client • 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	
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
Management	
	• Configuration via WEB interface (HTTP / HTTPS) • Web interface in German or English • 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

Interfaces	
RJ45 ports	2x10/100/1000BaseT(X)
USB port	Option for future expansion
SCM card reader	Save and restore of the configuration using a smart card (memory chip)
LED indicators	Signaling states for power, status, cut, alert, active VPN connection and an active UMTS connection
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
Power Requirements	
Input Voltage	1x 24 V DC (7 to 36 volts)
Current consumption	max. 600 mA @ 24 V DC
Technical data (housing)	
Housing	Metal, IP 20 protection
Dimensions (W x H x D)	35 x 159 x 134 mm (without antenna) 35 x 255 x 134 mm (with UMTS antenna)
Installation	TS 35
Environmental Limits	
Operating temperature	-20 °C to +70 °C
Storage Temperature	-20 °C to +85 °C
Ambient humidity	6 to 90 % not condensing
DSL and UMTS/HSPA	
DSL	Connection to the DSL modem via LAN or WAN port Free configuration of the PPPoE login
DynDNS	Support automatic registration
UMTS/3G	• Built-in quad-band UMTS / HSPA modem (only variant IE-SR-2GT-UMTS/3G) • Peak Downlink 21.1 Mbps, Peak Uplink 5.76 Mbps • GSM/GPRS/EDGE: 850 Mhz, 900 Mhz, 1800 Mhz, 1900 Mhz • UMTS/WCDMA/HSDPA/HSUPA: 850 Mhz, 900 Mhz, 1900 Mhz, 2100 Mhz • FCC, CE, IC, NCC, PTCRB, Bell, AT&T
Approvals	
Security	UL 508
EMC	EN301 489-1/-7/-24, FCC Part 15 Class A, EN 55022 Class A, EN61000-4-2 (ESD), EN61000-4-3 (RS) EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS)
Shock	DIN EN 60068-2-27
Vibration	DIN EN 60068-2-6
Warranty	
Warranty Period	3 years

Ordering data

Models	Type	Order No.
LAN/WAN router	IE-SR-2GT-LAN	1345270000
LAN/WAN router with integrated UMTS/3G modem	IE-SR-2GT-UMTS/3G	1345250000

Media converter

Overview

Media converter	Media converter	D.2
	Serial/Ethernet converter	D.4
	Serial/fibre-optic converter	D.6

Media converter

A smooth transition from copper to fibre-optic cables

If high interference immunity is needed or long transmission distances are involved, then fibre-optic cables are advisable.

Another advantage of using fibre-optic cabling is the insensitivity to lightning or voltage surges. The use of fibre-optic based systems is already established in areas such as the process industry, plant engineering, energy distribution and wind energy.

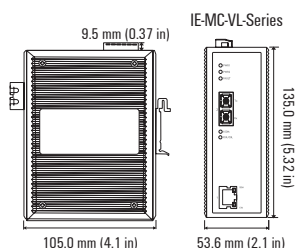
Multimode glass fibres allow distances of up to 5,000 m to be bridged without intermediate repeaters. Singlemode fibres can be used over distances of up to 40 km.

D One simple and inexpensive solution is offered by the media converter. This connects the Ethernet via an RJ45 port to an optical fibre-optic cable port with SC or ST glass fibre connections. This retains the collision domain between the two Ethernet participants and means that there is status transparency exchanged between the two Ethernet interfaces and the port status.



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 (Class 1 Div. 2/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 connectors)	
RJ45 ports	10/100BaseT(X)	
DIP Switches	100BaseFX Full/Half duplex selection, port break alarm mask	
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (Fibre port), FDX/COL (Fibre port)	
Alarm Contact	One relay output with current carrying capacity of 1 A @ 24 V DC	
Optical Fibre		
	100BaseFX	
	multimode	singlemode
Wavelength	1300 nm	1310 nm
Max. TX	-10 dBm	0 dBm
Min. TX	-20 dBm	-5 dBm
RX Sensitivity	-32 dBm	-34 dBm
Link-Budget	12 dB	29 dB
Typical Distance	5 km ^a 4 km ^b	40 km ^c
Saturation	-6 dBm	-3 dBm
^a 50/125 µm, 800 MHz*km fibre optic cable		
^b 62.5/125 µm, 500 MHz*km fibre optic cable		
^c 9/125 µm, 3.5 PS/(nm*km) fibre optic cable		
Power Requirements		
Input Voltage	24 V DC (12 to 48 V DC), redundant inputs	
Current consumption	0.16 A (@ 24 V)	
Connection	Removable terminal block	
Overload Current Protection	1.1 A	
Reverse Polarity Protection	Present	
Technical data		
Housing	Metal, IP 30 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	TS 35	
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 % RH	
Storage Temperature	-40 to 85 °C (-40 to 185 °F)	



Approvals	
Security	UL 508, UL 60950-1
EMI	FCC Part 15, CISPR (EN55022) class A
EMC	EN61000-4-2 (ESD), level 3 EN61000-4-3 (RS), level 3 EN61000-4-4 (EFT), level 3 EN61000-4-5 (Surge), level 2; EN61000-4-6 (CS), level 3 EN61000-4-8 EN61000-4-11
Hazardous Location	UL/cUL Class1, Division 2, Groups A, B, C, and D, ATEX Class1, Zone 2, Ex nC IIC
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

Port Variants	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

Serial/Ethernet converter

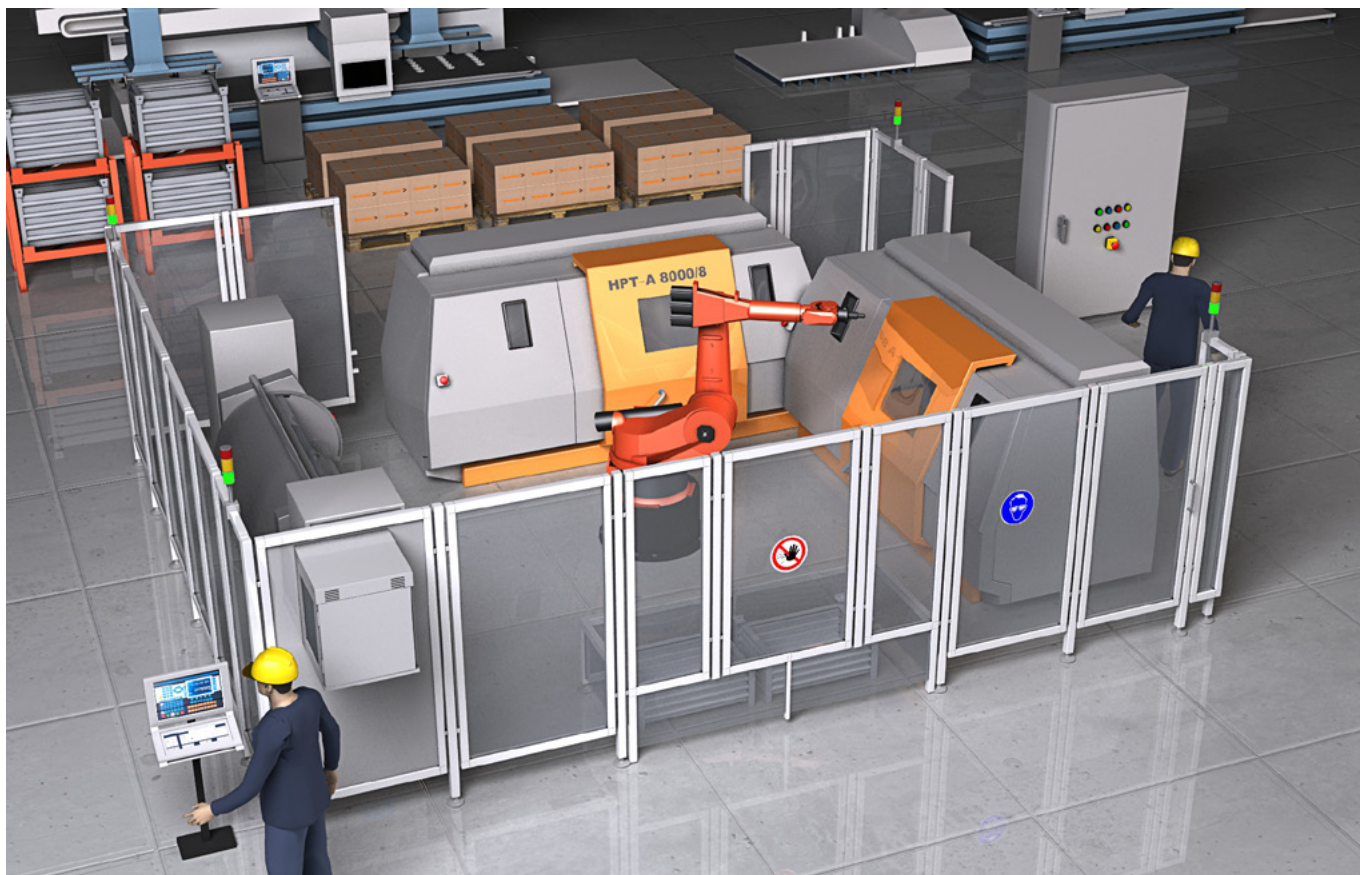
Simple integration of end devices into Ethernet networks

Serial interfaces such as RS232, RS422 or RS485 are widespread today in automation systems. To integrate these devices into modern Industrial Ethernets, Serial/Ethernet converters are used which offer investment protection for existing automation components. These devices include control systems, sensors, meters, drives, bar code readers and operator displays.

D Weidmüller's Serial/Ethernet converters connect these devices simply and easily to existing Ethernet network structures. The configuration of the serial port and Ethernet port parameters is done using an internet browser. On the Ethernet side, these devices support several operating modes: including TCP server, TCP client, UDP, Real COM, RFC 2217, Reverse Telnet, Pair Connection and

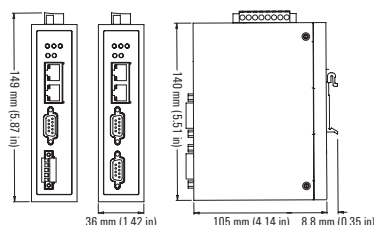
Ethernet modem. These modes ensure compatibility for the network software.

There are two Ethernet ports on the device which can be used as Ethernet switch ports. This helps to reduce your cabling costs since you no longer need to connect each device with a separate Ethernet switch.



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

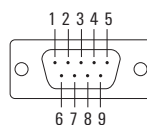
**Technical data**

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	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, SNTIP, 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, IP 30 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-2TX-1RS232/485: 12 to 48 V DC; 220 mA @ 12 V DC, 110 mA @ 24 V DC IE-CS-2TX-2RS232/485: 12 to 48 V DC; 250 mA @ 12 V DC, 125 mA @ 24 V DC



Approvals																																					
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A																																				
Security	UL 508																																				
Hazardous Location	UL/cUL Class 1 Division 2 Groups A, B, C and D ATEX Class I, Zone 2																																				
EMC	EN61000-4-2 (ESE), Level 3 EN61000-4-3 (RS), Level 3 EN61000-4-4 (EFT), Level 4 EN61000-4-5 (Surge), Level 3 EN61000-4-6 (CS), Level 3 EN61000-4-8 EN61000-4-11																																				
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 DB9 male port	<table><tr><th>PIN</th><th>RS 232</th><th>RS 422/RS 485-4w</th><th>RS 485-2W</th></tr><tr><td>1</td><td>DCD</td><td>TxD-(A)</td><td>-</td></tr><tr><td>2</td><td>RXD</td><td>TxD+(B)</td><td>-</td></tr><tr><td>3</td><td>TXD</td><td>RxD+(B)</td><td>Data+(B)</td></tr><tr><td>4</td><td>DTR</td><td>RxD-(A)</td><td>Data-(A)</td></tr><tr><td>5</td><td>GND</td><td>GND</td><td>GND</td></tr><tr><td>6</td><td>DSR</td><td>-</td><td>-</td></tr><tr><td>7</td><td>RTS</td><td>-</td><td>-</td></tr><tr><td>8</td><td>CTS</td><td>-</td><td>-</td></tr></table>	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	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	PIN	RS 422/RS 485-4w	RS 485-2w
Block Wiring	1	TxD+(B)	-
	2	TxD-(A)	-
	3	RxD+(B)	Data+(B)
	4	RxD-(A)	Data-(A)
	5	GND	GND

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

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

Serial/fibre-optic converter

Transmitting serial signals via fibre-optic cables

Serial/fibre-optic converter

If high interference immunity is needed or long transmission distances are involved, then fibre-optic transmission is advisable. Another benefit of using fibre-optic transmission is that it is not sensitive to electromagnetic influences.

One simple and inexpensive solution is media converters, which can convert serial signals from from a RS232/422/485 port on a fibre optic port with an SC or ST glass fibre connection. Fibre-optics with multimode technology make it possible to transmit over distances of up to 5000 m without additional power boosters.

Ring operation

The converter is able to connect several serial devices to form a glass fibre ring. This simply involves connecting the TX port of one converter with the Rx port of a neighbouring converter. Ring mode can then be activated using the DIP switch on the device. A signal which is transmitted by a node is then forwarded in the ring until it gets back to the sender, where it is blocked. In this way, glass fibre rings can be configured with an spread of up to 100 km.

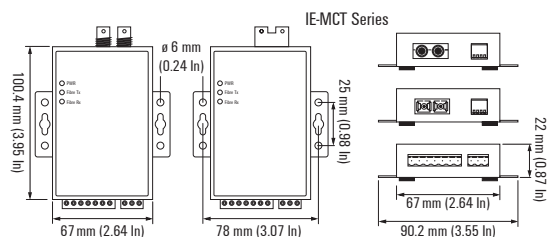
Automatic baud rate detection

The serial/fibre-optic converter can automatically detect the serial baud rate of connected devices. This ensures that signals can be forwarded by the media converter without any data loss even if the baud rate of a connected device changes.

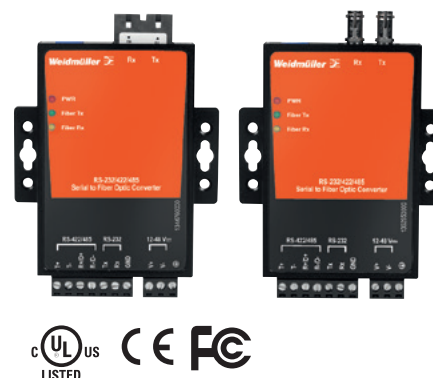


Serial/fibre-optic converters

- "Ring" and "point-to-point" modes of transmission
- Extension of RS232/422/485 transmission to up to 5 km
- Supports baud rates of 50 bps to 921.6 Kbps
- Extended temperature range of -40 to 75 °C
- Compact design

**Technical data**

LWL Interface	
Connection type	SC or ST connector, multimode
Wavelength	850 nm
Tx Transmit Power	> -5 dBm
Rx Sensitivity	-20 dBm
Typical Distance	5 km (50/125, 62.5/125, 100/140 µm multimode cable)
Transmission mode: "Point-to-point"	Full/Half duplex
Transmission mode: "Ring"	Half duplex
Serial Interface	
Serial Standards	RS232/422/485
Connector	terminal block
Serial Line Protection	15 kV ESD protection for all signals
Baud rate	50 bit/s to 921,6 kbit/s
RS 485 Data Direction Control	ADDC® (automatic data direction control)
Serial Signals	
RS 232	Tx, Rx, GND
RS 422	TxD+, TxD-, RxD+, RxD-, GND
RS 485 4w	TxD+, TxD-, RxD+, RxD-, GND
RS 485 2w	Data+, Data-, GND
Technical data	
Housing	Aluminum, IP 30 protection
LED Indicators	PWR, fibre Tx, fibre Rx
Weight	320 g
Dimensions W x H x D	with wall mounting: 67 x 100 x 22 mm (2.64 x 3.94 x 0.87 in) without wall mounting: 90 x 100 x 22 mm (3.54 x 3.94 x 0.87 in)
Environmental Limits	
Operating temperature	-40 to 75 °C (-40 to 167 °F)
Storage temperature	-40 to 75 °C (-40 to 167 °F)
Operating Humidity	5 to 95 % RH
Power Requirements	
Input voltage	12 to 48 V DC
Power consumption	140 mA @ 12 V
Serial Line Protection	2 KV Burst (EFT), EN61000-4-4 2 KV Surge, EN61000-4-5
Reverse Polarity Protection	Present
Overload Current Protection	1,1 A
Approvals	
Safety	UL 60950-1
EMC	FCC Part 15, EN55022 1998, Class B EN61000-4-2 (ESD), criterion A, level 3 EN61000-4-3 (RS), criterion A, level 2 EN61000-4-4 (EFT), criterion A, level 2 EN61000-4-5 (Surge), criterion A, level 3 EN61000-4-6 (CS), criterion A, level 2 EN61000-4-8 (SFMF), criterion A, level 1
MTBF (mean time between failures)	
Time	780.480 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

**Ordering data**

Models	Type	Operating temperature	Order No.
1 * Serial (RS232/422/485: terminal block), 1 * SC multimode	IE-MCT-1RS232/485-1SC	-40 to +75 °C	1344760000
1 * Serial (RS232/422/485: terminal block), 1 * ST multimode	IE-MCT-1RS232/485-1ST	-40 to +75 °C	1362950000

Industrial wireless

Overview

Industrial wireless	Industrial wireless introduction	E.2
	Industrial wireless	E.5

Industrial wireless

Wireless communication solutions

Wireless communications are preferred when working with mobile applications or difficult-to-reach areas. Currently, wireless LAN can be used for industrial manufacturing plants or facilities; it is ideal for use anywhere where traditional cabling is not suitable or where a mobile network connection is required. For example in logistics AGVs (automatic guide vehicles) are connected over a WLAN. Here it is important that roaming between different radio cells is possible, thereby creating individually configurable radio coverage.

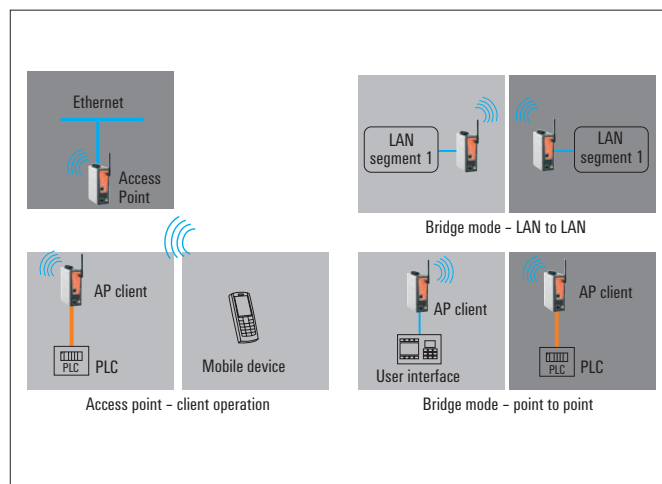
E Weidmüller's versatile WLAN module can be used as an access point, bridge or client. It is quite simple to integrate into existing infrastructures because it has an alternative Power over Ethernet supply (using the data cable for the power supply).

Support for RADIUS services and WPA2 secure encryption guarantees that your data is fully protected. Multiple wireless zones can be set up so that clients can move around as they wish, by roaming between the different radio/wireless cells. Multiple zones can be specified (multiple SSIDs) and different VLANs can be assigned for each wireless cell. This allows you to implement a one-to-one forwarding of the cable-based infrastructure to the wireless zone.



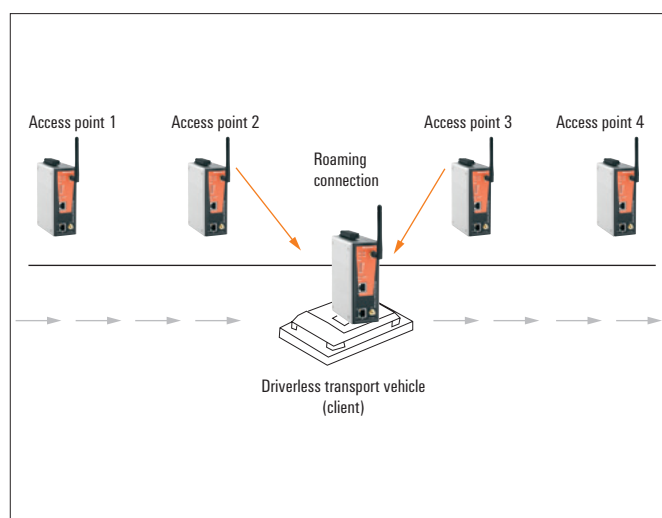
Wireless operating modes

The most common operating mode for wireless networks are AP client mode (Access Point) and bridge mode. In AP-client mode an Access Point is necessary to set up a Basic Service Set (BSS) for a wireless connection. The AP can be used to create a wireless LAN, or to connect an existing WLAN with a wired network. Bridge mode offers a simple way to connect two Ethernet devices over a point-to-point connection wirelessly with one another.



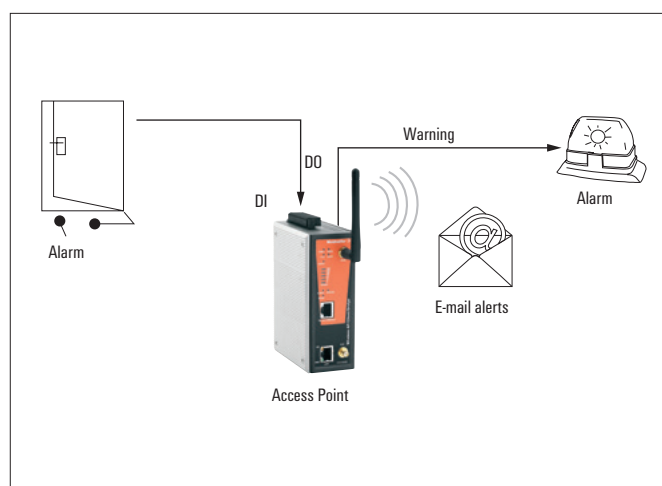
Turbo roaming for uninterrupted connections

A WLAN radio cell has a limited range depending on the antenna used. To maintain communications between devices which move over a long distance requires the connection to be passed from one access point to another. Performance can be affected where there are many moving devices and a large number of transfer points without powerful roaming technology. It is the roaming technology that offers a seamless wireless connection and permits a swift change between different wireless access points without the risk of interruption to the data communication.



Integrated digital inputs / outputs

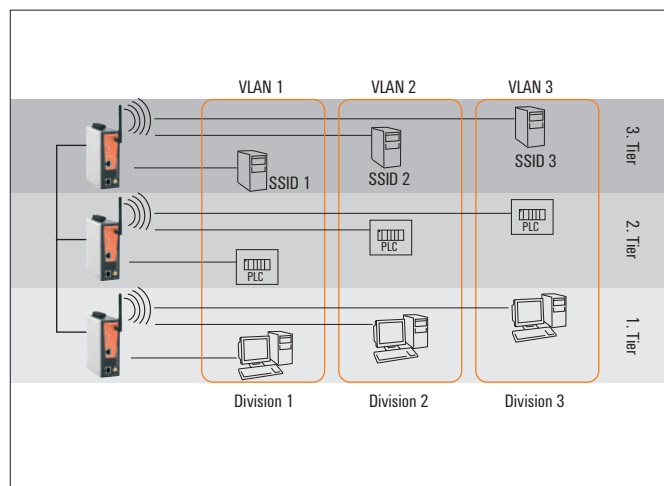
Wireless access points are often located in distant or inaccessible places in an industrial plant. This makes monitoring the status of a device, or its environment by the system administrators, a difficult task. Weidmüller's WLAN access points therefore have an integrated digital input/output which sends alarm messages over the network in real time to the responsible maintenance personnel when errors, like power supply failures, or link breaks, occur.



Wireless VLAN (Multi-SSID)

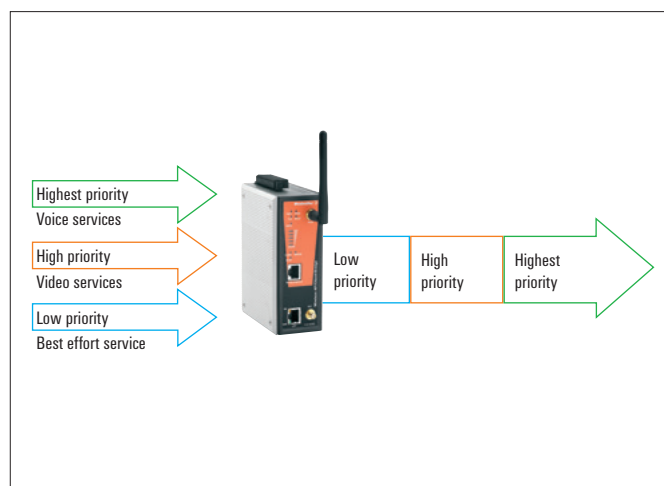
VLAN stands for virtual LAN. It is a network structure with all the characteristics of a normal LAN, but not geographically constrained.

Based on the SSID, two or more clients can be added into a VLAN and integrated into a LAN independently of their geographical location. Without the use of routers, a level 2 switch, in conjunction with Weidmüller WLAN access points, can distinguish broadcast domains from each other. In this way, VLANs offer administrators flexibility regarding network security, network management and scalability.



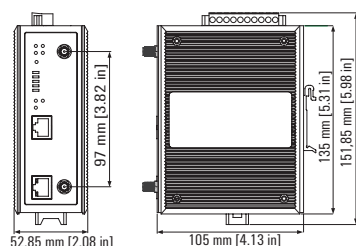
WMM for prioritising communications

Quality of Service (QoS) is a network term for controlling and measuring data transmission rates, throughput and error rates. It is an essential part of wireless communication when transmitting multimedia data like audio and video. Critical data, for example, requires a high priority with respect to the data throughput and low error rates. WMM (Wi-Fi multimedia) is based on the IEEE 802.11e protocol which was designed to integrate QoS functionality into a WLAN. The advantages lie in the prioritising of important data and the associated improvement of the communication quality.



Industrial Wireless - Access point/bridge/client

- IEEE 802.11a/b/g compatible single radio module (2.4 GHz or 5 GHz band)
- Power input by redundant 24 V DC power inputs or Power-over-Ethernet
- Multi-SSID and VLAN support
- Turbo Roaming for seamless wireless connections
- Integrated DI/DO for on-site monitoring and warning
- QoS (WMM) support

**Technical data**

WLAN Interface	
Standards	IEEE 802.11a/b/g for Wireless LAN IEEE 802.11i for Wireless Security IEEE 802.3u for 10/100BaseT(X) IEEE 802.3af for Power-over-Ethernet IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1Q VLAN
Spread Spectrum and Modulation (typical)	• DSSS with DBPSK, DQPSK, CCK • OFDM with BPSK, QPSK, 16QAM, 64QAM • 802.11b: CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBPSK @ 11 Mbps • 802.11a/g: 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps
Operating Channels (central frequency)	US: 2.412 to 2.462 GHz (11 channels) 5.18 to 5.24 GHz (4 channels) EU: 2.412 to 2.472 GHz (13 channels) 5.18 to 5.24 GHz (4 channels)
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
TX Transmit Power	802.11b: Typ. 23±1.5 dBm @ 1 to 11 Mbps 802.11g: Typ. 20±1.5 dBm @ 6 to 24 Mbps, Typ. 19±1.5 dBm @ 36 Mbps, Typ. 18±1.5 dBm @ 48 Mbps, Typ. 17±1.5 dBm @ 54 Mbps 802.11a: Typ. 18±1.5 dBm @ 6 to 24 Mbps, Typ. 16±1.5 dBm @ 36 to 48 Mbps, Typ. 15±1.5 dBm @ 54 Mbps
RX Sensitivity	802.11b: -97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps, -92 dBm @ 5.5 Mbps, -90 dBm @ 11 Mbps 802.11g: -93 dBm @ 6 Mbps, -91 dBm @ 9 Mbps, -90 dBm @ 12 Mbps, -88 dBm @ 18 Mbps, -84 dBm @ 24 Mbps, -80 dBm @ 36 Mbps, -76 dBm @ 48 Mbps, -74 dBm @ 54 Mbps 802.11a: -90 dBm @ 6 Mbps, -89 dBm @ 9 Mbps, -89 dBm @ 12 Mbps, -85 dBm @ 18 Mbps, -83 dBm @ 24 Mbps, -79 dBm @ 36 Mbps, -75 dBm @ 48 Mbps, -74 dBm @ 54 Mbps
Protocol Support	
General Protocols	Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, PPPoE, DHCP
AP-only Protocols	ARP, BOOTP, DHCP, dynamic VLAN-Tags for 802.1X-Clients, STP/RSTP (IEEE 802.1D/w)



Interfaces	
Default Antenna	2 dBi dual-band omni-directional antenna, RP-SMA (male)
Connector for External Antennas	RP-SMA (female)
LAN Port	10/100BaseT(X), auto negotiation speed (RJ45-type)
Console Port	RS 232 (RJ45-type)
LED Indicators	PWR1, PWR2, PoE, FAULT, STATE, signal strength, CLIENT MODE, BRIDGE MODE, WLAN, 10M, 100M
Alarm Contact	1 relay output with current carrying capacity of 1 A @ 24 V DC
Digital Inputs	2 electrically isolated inputs • +13 to +30 V for state "1" • +3 to -30 V for state "0" • Max. input current: 8 mA

Technical data	
Housing	Metal, IP 30 protection
Weight	850 g
Dimensions (W x H x D)	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Installation	DIN-Rail mounting

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	12 to 48 V DC, redundant dual DC power inputs or 48 V DC Power-over-Ethernet (IEEE 802.3af compliant)
Connection	10-pin removable terminal block
Power Consumption	• 0.121 to 0.494 A @ 12 to 48 V DC • 0.3 A @ 24 V DC
Reverse Polarity Protection	Present

Approvals	
Security	EN60950-1, UL 60950-1
Radio	EN300 328, EN301 893,
EMC	EN301 489-1/-17, FCC Part 15 Subpart B Class B, EN55022/55024
Hazardous Location	UL/cUL Class I, Div. 2; ATEX Class I, Zone 2
MTBF	392.209 hrs

Warranty	
Warranty Period	5 years

Ordering data			
Models	Type	Operating Temperature	Order No.
IEEE 802.11a/b/g Wireless AP/Bridge/Client (European version)	IE-WL-AP-BR-CL-ABG-EU	0 to +60 °C	1242100000
	IE-WLT-AP-BR-CL-ABG-EU	-40 to +75 °C	1286480000
IEEE 802.11a/b/g Wireless AP/Bridge/Client (US version)	IE-WL-AP-BR-CL-ABG-US	0 to +60 °C	1242110000
	IE-WLT-AP-BR-CL-ABG-US	-40 to +75 °C	1286490000

Accessories		
	Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	1241430000
19" Rack Mounting Kit	RM-KIT	1241440000
WLAN antennas and connection cable - page F.2 ff.		

Active components

Overview of accessories

Accessories – Active components	WLAN antennas	F.2
	Antenna cable	F.4
	SFP modules (Fast Ethernet/Gigabit Ethernet)	F.6
	Module for creating configuration backup / Kit for 19" rack-mounting	F.7
	Cable fixing kit	F.8

WLAN antennas

WLAN antennas

IE-ANT-O-BG-360-6-NF

IE-ANT-O-AH-360-5-NF



Technical data

Electrical data	
Frequency range (Mhz)	2400 - 2500 (Mhz)
VSWR	1.8
Antenna gain	6 dBi
3dB beamwidth (horizontal)	360°
3dB beamwidth (vertical)	30°
Front-to-back ratio	-
Vertical electrical tilt	0°
General data	
Radiation	Omnidirectional
Impedance	50 ohm
Polarisation	Vertical
Connector type	1 x N-type female
Connector position	Bottom
Composite power max.	25 W
Mechanical specifications	
Dimensions	250 x 22 mm (height x diameter)
Weight	300 g
Wind load	Frontal: 3N @ 160 km/h, side 3N 160 km/h
Mast diameter min.	-
Mast diameter max.	-
Environmental Limits	
Area of application	outdoors
Operating temperature	- 40 to 80 °C
Storage Temperature	- 40 to 80 °C
IP protection class	IP 67
Enclosure material	
Radome colour	RAL 7035 (light grey)
Radome material	Fibre glass
Material for base plate	-

Ordering data

Models	
802.11 b/g wireless antenna; omnidirectional	
802.11 a/h wireless antenna; omnidirectional	
Note	

Type	Operating temperature	Order No.
IE-ANT-O-BG-360-6-NF	- 40 to 80 °C	1367090000
Assembly material included in scope of supply		

Type	Operating temperature	Order No.
IE-ANT-O-AH-360-5-NF	- 45 to 70 °C	1367120000
Assembly material included in scope of supply		

WLAN antennas

IE-ANT-P-ABG-75-9-NF

IE-ANT-O-ABG-360-7-NF



Technical data

Electrical data			
Frequency range (Mhz)	Band 1: 2400 - 2500 (Mhz) Band 2: 5150 - 5875 (Mhz)	Band 1: 2400 - 2500 (Mhz) Band 2: 5150 - 5875 (Mhz) Band 3: 3400 - 3700 (Mhz) Band 4: 4900 - 5470 (Mhz) Band 5: 5470 - 5935 (Mhz)	
VSWR	< 2	Band 1: < 1.8 Band 2: < 2 Band 3: < 2 Band 4: < 1.8 Band 5: < 1.8	
Antenna gain	9 dBi band 1/2	Band 1: 6 dBi Band 2: 6 dBi Band 3: 7 dBi Band 4: 8 dBi Band 5: 8 dBi	
3dB beamwidth (horizontal)	75° band 1 ; 55° band 2	-	
3dB beamwidth (vertical)	55° band 1/2	-	
Front-to-back ratio	15 dB band 1/2	-	
Vertical electrical tilt	0° band 1/2	-	
General data			
Radiation	Directional	Omnidirectional	
Impedance	50 ohm	50 ohm	
Polarisation	Vertical	Vertical	
Connector type	1 x N-type female	1 x N-type female	
Connector position	Bottom	Bottom	
Composite power max.	10 W	75 W	
Mechanical specifications			
Dimensions	101 x 80 x 35 mm (height x width x depth)	50.6 x 86 mm (height x diameter)	
Weight	110 g	300 g	
Wind load	Frontal: 7N @ 160 km/h, side 7N @ 160 km/h	Frontal: 10N @ 160 km/h	
Mast diameter min.	40 mm	-	
Mast diameter max.	60 mm	-	
Environmental Limits			
Area of application	outdoors	outdoors	
Operating temperature	- 40 to 80 °C	- 40 to 80 °C	
Storage Temperature	- 40 to 80 °C	- 40 to 80 °C	
IP protection class	IP 67	IP 68	
Enclosure material			
Radome colour	RAL 7044 (grey)	RAL 7043 (grey)	
Radome material	PC	ASA_SAN	
Material for base plate	-	Stainless steel	
Ordering data			
Models	802.11 a/b/g/h wireless antenna; directional 802.11 a/b/g/h wireless antenna; omnidirectional	Type Operating temperature Order No. IE-ANT-P-ABG-75-9-NF - 40 to 80 °C 1367140000	Type Operating temperature Order No. IE-ANT-O-ABG-360-7-NF - 40 to 80 °C 1367130000
Note	Assembly material included in scope of supply	Assembly material included in scope of supply	

Antenna cable

Antenna cable

IE-CC-NM-RPSMAM-2M

IE-CC-NM-RPSMAM-4M



Technical data

Electrical data	
Impedance	50 Ohm +/- 2
Max. operating frequency	6 GHz
Signal delay	4.08 ns/m
Attenuation @ 2.4 GHz	approx. 0.55 dB/m
Attenuation @ 5 GHz	approx. 0.87 dB/m
Mechanical specifications	
Length	2 m
Weight	6.3 kg/100 m
Min. bending radius (continuous)	28 mm
Connector type	Connection 1: N-type male Connection 2: RP-SMA male
Environmental Limits	
Operating temperature	-40 to 85 °C
Installation temperature	-20 to 60 °C
Flammability	IEC 60332-1, UL 1581 § 1080 (VW-1)
Halogen-free	IEC 60754
UV resistance	ISO 4892-2A
Material data	
Jacket	LSFH (modified polyethylene)
Outside diameter	5.7 mm

Ordering data

Models	
Antenna cable, 2m long, N-type (male) -> RP-SMA (male), impedance 50 ohm	
Antenna cable, 4m long, N-type (male) -> RP-SMA (male), impedance 50 ohm	
Note	

50 Ohm +/- 2
6 GHz
4.08 ns/m
approx. 0.55 dB/m
approx. 0.87 dB/m
2 m
6.3 kg/100 m
28 mm
Connection 1: N-type male Connection 2: RP-SMA male
-40 to 85 °C
-20 to 60 °C
IEC 60332-1, UL 1581 § 1080 (VW-1)
IEC 60754
ISO 4892-2A
LSFH (modified polyethylene)
5.7 mm

Type	Order No.
IE-CC-NM-RPSMAM-2M	1367110000

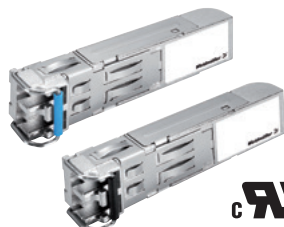
50 Ohm +/- 2
6 GHz
4.08 ns/m
approx. 0.55 dB/m
approx. 0.87 dB/m
4 m
6.3 kg/100 m
28 mm
Connection 1: N-type male Connection 2: RP-SMA male
-40 to 85 °C
-20 to 60 °C
IEC 60332-1, UL 1581 § 1080 (VW-1)
IEC 60754
ISO 4892-2A
LSFH (modified polyethylene)
5.7 mm

Type	Order No.
IE-CC-NM-RPSMAM-4M	1367100000

SFP modules (Fast Ethernet/Gigabit Ethernet)

Gigabit Ethernet SFP modules

- Compliant with IEEE 802.3z
- Differential LVPECL inputs and outputs
- TTL signal detect indicator
- Hot pluggable LC duplex connector
- Class 1 laser product; complies with EN60825-1



Technical data

Interfaces								
Ethernet Ports	1							
Connectors	Duplex LC Connector or Simplex LC							
Optical Fibre								
	Gigabit Ethernet							
	SFP-SX	SFP-LSX	SFP-LX	SFP-LHX	SFP-10A	SFP-10B	SFP-20A	SFP-20B
Wavelength	850 nm	1310 nm	1310 nm	1310 nm	TX 1310 nm, Empf. 1550 nm	TX 1550 nm, Empf. 1310 nm	TX 1 310 nm, Empf. 1550 nm	TX 2 1550 nm, Empf. 1310 nm
Max. TX	-4 dBm	-1 dBm	-3 dBm	1 dBm	-3 dBm		-2 dBm	
Min. TX	-9.5 dBm	-9 dBm	-9.5 dBm	-4 dBm	-9 dBm		-8 dBm	
RX Sensitivity	-18 dBm	-19 dBm	-20 dBm	-24 dBm	-21 dBm		-23 dBm	
Link Budget	8.5 dB	10 dB	10.5 dB	20 dB	12 dB		15 dB	
Typical Distance	550 m ^{a)}	2 km ^{b)}	10 km ^{c)}	40 km ^{c)}	10 km ^{c)}		20 km ^{c)}	
Saturation	0 dBm	-3 dBm	-3 dBm	-3 dBm	-1 dBm		-1 dBm	

^{a)} 50/125 µm, 400 MHz * km or 62.5/125 µm, 500 MHz * km @ 850 nm multimode fibre optic cable

^{b)} 62.5/125 µm, 750 MHz * km @ 1310 nm multimode fibre optic cable

^{c)} 9/125 µm singlemode fibre optic cable

Note: The actual communication distance depends on many factors, including connector loss, cable deployment, and the age of the cabling system. We recommend doing a link budget analysis and reserving a 3 dB margin for such factors.

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	UL, TÜV
Maritime	DNV, GL

Warranty

Warranty Period	3 years
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Ordering data

SFP Variants	Type	Operating Temperature	Order No.
Gigabit-Ethernet, Multimode, LC Connector, 500 m	IE-SFP-1GSXLC	0 to +60 °C	1241490000
	IE-SFP-1GSXLC-T	-20 to 75 °C	1286700000
Gigabit-Ethernet, Multimode, LC Connector, 2 km	IE-SFP-1GLSXL	0 to +60 °C	1241500000
	IE-SFP-1GLSXL-T	-40 to 85 °C	1286710000
Gigabit-Ethernet, Singlemode, LC Connector, 10 km	IE-SFP-1GLXLC	0 to +60 °C	1241510000
	IE-SFP-1GLXLC-T	-40 to 85 °C	1286720000
Gigabit-Ethernet, Singlemode, LC Connector, 40 km	IE-SFP-1GLHXL	0 to +60 °C	1241520000
	IE-SFP-1GLHXL-T	-40 to 85 °C	1286730000
WDM-Type, Gigabit Ethernet, LC Connector, 10 km, Tx 1310 nm, Rx 1550 nm, must be paired with IE-SFP-1G10BLC	IE-SFP-1G10ALC	0 to +60 °C	1241530000
	IE-SFP-1G10ALC-T	-40 to 85 °C	1286740000
WDM-Type, Gigabit Ethernet, LC Connector, 10 km, Tx 1550 nm, Rx 1310 nm, must be paired with IE-SFP-1G10ALC	IE-SFP-1G10BLC	0 to +60 °C	1241540000
	IE-SFP-1G10BLC-T	-40 to 85 °C	1286750000
WDM-Type, Gigabit Ethernet, LC Connector, 20 km, Tx 1310 nm, Rx 1550 nm, must be paired with IE-SFP-1G20BLC	IE-SFP-1G20ALC	0 to +60 °C	1241550000
	IE-SFP-1G20ALC-T	-40 to 85 °C	1286760000
WDM-Type, Gigabit Ethernet, LC Connector, 20 km, Tx 1550 nm, Rx 1310 nm, must be paired with IE-SFP-1G20ALC	IE-SFP-1G20BLC	0 to +60 °C	1241570000
	IE-SFP-1G20BLC-T	-40 to 85 °C	1286770000

Fast Ethernet SFP modules

- Compliant with IEEE 802.3u
- Differential PECL inputs and outputs
- TTL signal detect indicator
- Hot pluggable LC duplex connector
- Class 1 laser product; complies with EN60825-1



Technical data

Interfaces			
Ethernet Ports		1	
Connectors		Duplex LC Connector	
Optical Fibre			
	Fast Ethernet		
	SFP-M	SFP-S	SFP-L
Wavelength	1300 nm	1310 nm	1550 nm
Max. TX	-18 dBm	0 dBm	0 dBm
Min. TX	-8 dBm	-5 dBm	-5 dBm
RX Sensitivity	-34 dBm	-34 dBm	-34 dBm
Link Budget	26 dB	29 dB	29 dB
Typical Distance	4 km ^{a)}	40 km ^{b)}	80 km ^{b)}
Saturation	0 dBm	-3 dBm	-3 dBm

^{a)} 50/125 µm or 62.5/125 µm, 800 MHz * km @ 1300 nm multimode fibre optic cable

^{b)} 9/125 µm singlemode fibre optic cable

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	UL, TÜV
Maritime	DNV, GL

Warranty

Warranty Period	3 years
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Ordering data

Port Variants	Type	Operating Temperature	Order No.
Fast Ethernet, Multimode, LC Connector, 4 km	IE-SFP-1FEMLC-T	-40 to +85 °C	1241450000
Fast Ethernet, Singlemode, LC Connector, 40 km	IE-SFP-1FESLC-T	-40 to +85 °C	1241470000
Fast Ethernet, Singlemode, LC Connector, 80 km	IE-SFP-1FELLC-T	-40 to +85 °C	1241480000

External Backup and Restore Module for System Configuration

- Reduce system downtime by simple reconfiguration in case of replacing devices
- Plug-n-Play system backup and restoration
- Compact, rugged, reliable design
- Can be used for all Weidmüller managed switches and WLAN components

**Technical data**

Basic Operation		
Connection	RS 232-Interface with RJ45-Connector	
Configuration	Use the WEB-Console of managed Switches	
Power Requirements		
Input Voltage	3 to 5 V DC (through the RS 232 port's RTS signal)	
Technical data		
Housing	PVC molding, IP 40 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		
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	
Warranty		
Warranty Period	5 years	
Ordering data		
Models	Type	Order No.
External Backup and Restore Module	EBR-MODULE RS232	1241430000

Kit for 19" rack-mounting

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

**Technical data**

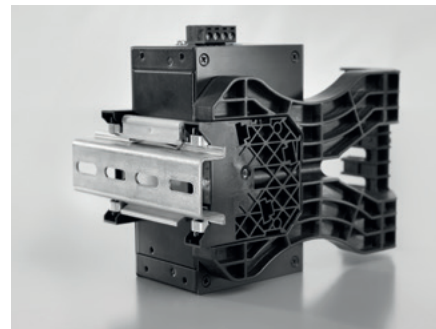
Technical data		
Dimensions (W x H x D)		481 x 177.8 x 202.4 mm
Ordering data		
Models	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Cable fixing kit

Cable fixing kit

- Quick and easy fixing of Ethernet cable to industrial switches by clamping cable insulation
- Decoupling of Ethernet cable from inharmonious vibrations in vibrating applications
- Reliable connection contact even in the event of vibration
- Up to 10 cables can be fixed at the same time (2 per fixing groove)
- Fixing on DIN-rail using Weidmüller standard end bracket (included in scope of delivery)

IE-CFK-05



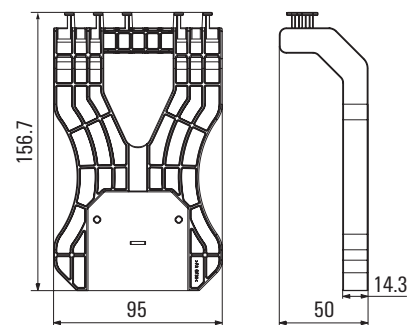
Technical data

General data	
Usage	Can be used with all Weidmüller BasicLine switches of the BL05/06/08 families
Max. build height of plug connector	40 mm (with 70 mm switch installation depth)
Max. no. of cables which can be connected	10 (2 per fixing groove)
Cable diameter which can be clamped	5 mm to max. 6.8 mm
Mechanical specifications	
Dimensions (W x H x D)	50 mm x 95 mm x 157 mm
Weight	92 g
Installation	TS 35 (retaining bracket for mounting included in scope of supply)
Environmental Limits	
Flammability	V-0 (UL94)
Vibration	IEC 600068-2-6
Shock	IEC 600068-2-27
Material	
Base material	PA GF30 (glass fibre-reinforced plastic)
Colour	black

Ordering data

Type	Qty.	Order No.
IE-CFK-05	1	1339610000
Scope of delivery: 1 x cable fixing kit / 1 x retaining bracket for mounting on DIN-rail / 5 x cable tie for additional fixing		

Note



Passive components

Introduction

Introduction – Passive components	IE-line connectors	G.2
	Cable configurator	G.4
	Differences between industrial and office Ethernet	G.6
	IE-LINE connectors: the modular principle	G.7
	IE-LINE connectors: selection chart	G.8
	PROFINET and Sercos cabling solutions	G.10
	EtherNet/IP cabling solutions	G.14

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.



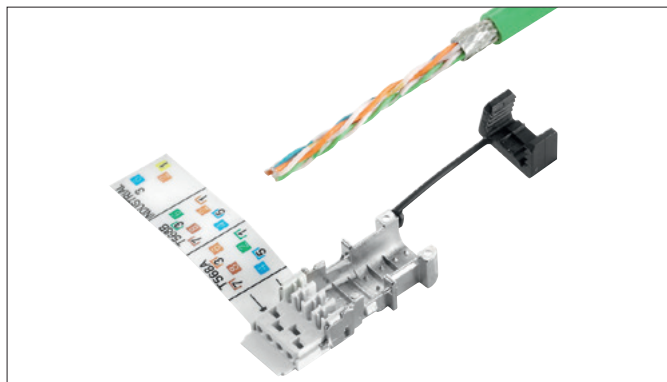


Tool-free assembly and powerful connections: the RJ45 gigabit connector!

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

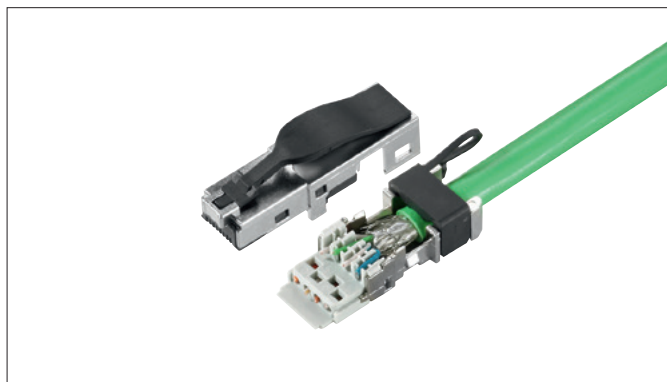
- **Cat. 6A 10 GBit System Class E_A**
- **Assembly without tools in the field**
- **Countless variations thanks to highly diverse combinations of inserts**
- **Unrestricted compatibility because standardised to IEC 61076-3-106**
- **Reliable and long-lasting thanks to use of diecast zinc**
- **Suitable for industry thanks to IP 67 class of protection**
- **Simple ordering procedure and low storage costs thanks to Weidmüller's modular system**



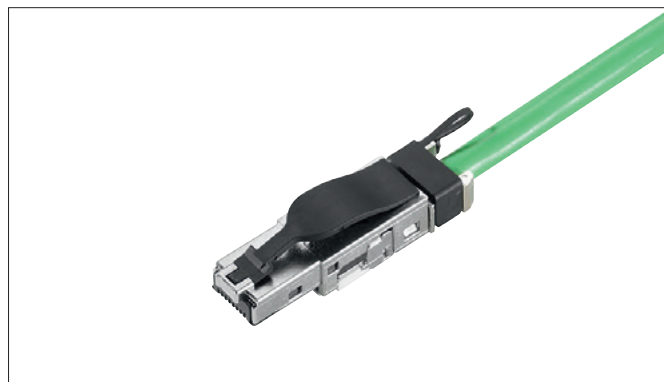
1. Strip sheath cladding and shorten shield to 5 mm



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.

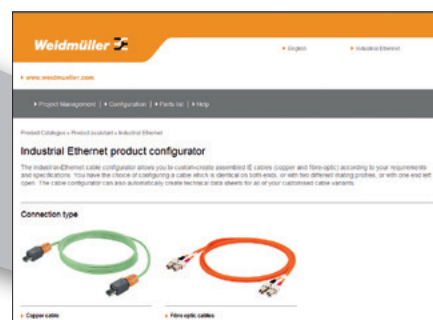


The Industrial Ethernet Configurator can be found in our online catalogue.

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

English Industrial Ethernet

www.weidmuller.com

Project management | Configuration | Home | Help

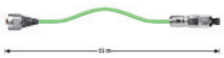
Product Catalogue | Product selection | Industrial Ethernet

Industrial Ethernet product configurator

The industrial Ethernet cable configurator allows you to custom create assembled or cable (cable and plug) and then apply 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-C68BU0050B1A2B-X
Order no.:



Plug 1	Plug 2
Active plug (RJ45) metal	Active plug (RJ45) metal
Type of cable	Cable
Cable color	Cable color
Cable length	Length (m)
Shield	Shield length

[Reset](#) [Save draft](#) [Search](#) [Show previous](#) [Cancel](#)

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

Unlimited combinations of IE-LINE plug-in connectors

The modular principle



	Plug insert	Plug housing	Flange-mounted housing	Flange insert
Copper	 RJ45 crimp	 HDC RockStar® / Variant 5		 RJ45 coupling
	 RJ45 can be assembled on-site	 Push-Pull / Variant 14		 RJ45 Modul A, B, P
		 Bayonet / Variant 1, plastic		 USB-A coupling
Fibre-optic		 Bayonet / Variant 1, metal		
	 2xSC	 Push-Pull / Variant 4		 2SC/SCRJ adapter
	 LC duplex	 Push-Pull / Variant 14		 LC duplex adapter

Take advantage of maximum flexibility! The range of products guarantees you significant advantages for your industrial applications - in planning, assembling and everyday operations. All variants are designed for IP 67 protection.

The Weidmüller products take account of the latest market conditions and most recent international standards. In doing so we offer you a limitless choice. What that means is that you get exactly the products you need for your application!

Features

- The only 8-core, on-site assembled, RJ45 connector for 10 Gigabit-Ethernet (Cat. 6_A / Class E_A).
- Larger cable sheath diameter range (up to 10 mm) for variants V4, V1, and V14. For V5 up to 12 mm.
- Suitable for connecting stranded conductors in sizes AWG 27/7 to AWG 22/7; solid conductors in sizes AWG 27/1 to 22/1.
- Modules and couplers have a robust diecast zinc housing.
- Design results in enhanced vibration and shock resistance for couplers and RJ45 modules.
- Variable bulkhead housing fixing options for variants V1 and V4.
- Additional marking surfaces on plug and bulkhead housing, subsequent colour coding of IP 20 and IP 67 plug-in connectors.
- Dirt-resistant housing design with enhanced resistance to oils, greases, acids and alkalis.

IE-LINE connectors: selection chart



Metal plug

Housings				Variant 1 Bayonet		Variant 14 PushPull RJ		Variant 14 PushPull fibre-optic		Var. 5 HDC
										
Inserts				With KS	Without KS	With KS	Without KS	With KS	Without KS	Without KS
				1962560000	1962550000	1011570000	1011560000	1058110000	1058100000	1962540000
	RJ45 AWG 24 crimp		1962720000	1963150000	1963140000	1012070000	1012160000			1963110000
	RJ45 AWG 22 tool-free	TIA-A/-B/-P TIA-A TIA-B PROFINET	1962730000 1132010000 1132020000 1132030000	1963130000	1963120000	1012090000	1012170000			1963200000 1271250000
	LWL SC	Multimode	1067380000	1963270000	1963260000			Please order separately		
		Singlemode	1067390000	1963310000	1963300000			Please order separately		
		PDF	1067410000	1963290000	1963280000				1191550000	
	LWL LC	Multimode	1962780000	1963230000	1963220000			Please order separately		
		Singlemode	1962790000	1963250000	1963240000			Please order separately		
	Protective cap			1965690000		1058280000		1058280000		1968920000

KS = anti-kink protection

Plastic plug

Housings				Variant 1 Bayonet		Variant 4 PushPull	
							
Inserts				With KS	Without KS	With KS	Without KS
				1012460000	1012440000	1962530000	1962520000
	RJ45 AWG 24 crimp		1962720000	1012560000	1012470000	1963190000	1963180000
	RJ45 AWG 22 tool-free	TIA-A/-B/-P TIA-A TIA-B PROFINET	1962730000 1132010000 1132020000 1132030000	1012570000	1012490000	1963170000	1963160000 1271240000
	LWL SC	Multimode	1067380000	Please order separately		1963370000	1963360000
		Singlemode	1067390000	Please order separately		1963410000	1963400000
		PDF	1067410000	Please order separately		1963390000	1963380000
	LWL LC	Multimode	1962780000	Please order separately		1963330000	1963320000
		Singlemode	1962790000	Please order separately		1963350000	1963340000
	Protective cap			1965690000		1963890000	

KS = anti-kink protection

 Individual components

 Sets

V1 with SC multimode
1963260000



V5 with RJ45 crimp
1963110000



V4 with LC multimode
1063320000



V14 with RJ45 tool-free
1012170000





Metal flange

Housings				Variant 1 Bayonet	Variant 14 PushPull RJ		Variant 14 PushPull fibre-optic		Variant 5 HDC
Inserts									
				1963540000	1011540000	1047950000			1963530000
	RJ45 coupling		1962840000	1963470000	1012310000	1058250000			1963510000
	RJ45 module	TIA-A	1962850000	1963480000	1012320000	1058270000			1963460000
		TIA-B	1963840000	Please order separately	Please order separately	Please order separately			Please order separately
		PROFINET	1963830000	Please order separately	1085260000	Please order separately			1963700000
	SC/SCRJ coupling	Multimode	1964430000	1964450000			1058120000	1062590000	
		Singlemode	1962870000	1963440000			1058140000	1062600000	
	LC Duplex coupling	Multimode	1964420000	1964440000			1058130000	1062610000	
		Singlemode	1962880000	1963430000			1058150000	1062620000	
	USB coupling		1019570000	Please order separately	Please order separately	Please order separately			Please order separately
	Protective cap			1965700000	1058310000	1058310000	1058310000	1058310000	1968930000

Plastic flange

Housings				Variant 1 Bayonet	Variant 4 PushPull
Inserts					
				1016960000	1963520000
	RJ45 coupling		1962840000	1012370000	1963490000
	RJ45 module	TIA-A	1962850000	1012380000	1963500000
		TIA-B	1963840000	Please order separately	1963730000
		PROFINET	1963830000	Please order separately	Please order separately
	SC/SCRJ coupling	Multimode	1964430000	Please order separately	1964470000
		Singlemode	1962870000	Please order separately	1963420000
	LC Duplex coupling	Multimode	1964420000	Please order separately	1964460000
		Singlemode	1962880000	Please order separately	1963450000
	USB coupling		1019570000	Please order separately	Please order separately
	Protective cap			1965700000	1963900000

 Individual components
 Sets

V5 with RJ45 coupling
1963510000



V1 with SC multimode
1964450000



V4 with LC multimode
1964460000



V14 with RJ45 module
1012320000



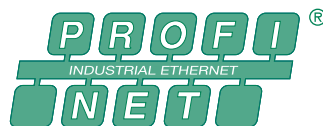
Customised cabling solutions for PROFINET and Sercos

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

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 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:

- IP 20 RJ45
- IP 20 SC-RJ
- IP 67 PushPull RJ45
- IP 67 PushPull Power
- IP 67 PushPull SC-RJ
- IP 67 M12 D-coding



Weidmüller offers you a wide range of cabling solutions for PROFINET and Sercos applications. IP 20 plug-in connectors for copper and fibre-optic cables are also included as well as IP 67 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.

IP 67
assembled RJ45 cables



IP 67
assembled M12 cables



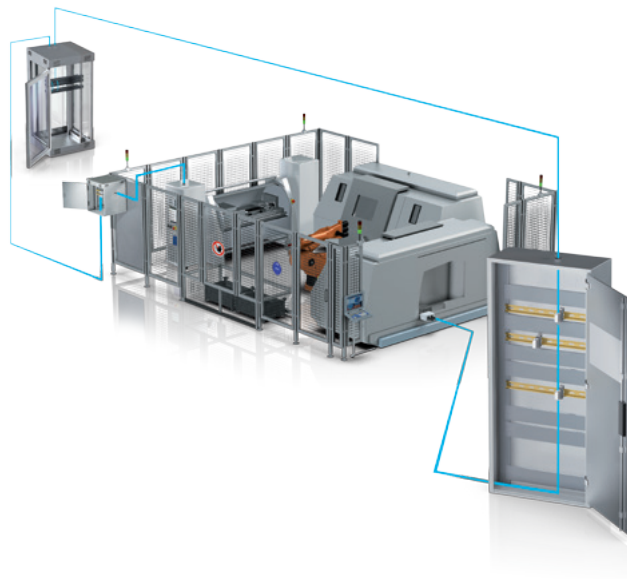
IP 67
plug-in M12 connectors



IP 67
connection components



Cable by the metre
copper and fibre-optic



IP 67
plug-in connectors data / power



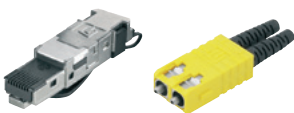
19" patch panel



IP 67
flanges data / power



IP 20
plug-in connector



IP 20
assembled cables



IP 20
mounting rail outlets

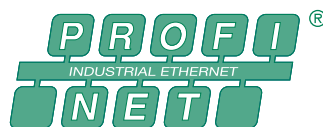


IP 65
service interfaces



Selection table

Ideal combinations



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IP 20 plug-in connector



Description	Type	Order No.	See page
RJ45 tool-free PROFINET printing	IE-PS-RJ45-FH-BK-P	1132060000	H.2
SC-RJ for POF fibres 1 mm	IE-PS-SCRJ1-POF	1206720000	H.4
SC-RJ for multimode fibres 50/62.5 µm	IE-PS-SCRJ1-MM	1206730000	H.4
SC-RJ for singlemode fibres 9 µm	IE-PS-SCRJ1-SM	1206740000	H.4

IP 20 assembled data cables



Description	Type	Order No.	See page
RJ45 PUR patch cable - type C - 1 m	IE-C5DD4UG0010A20A20-E	1173030010	L.25
RJ45 PUR patch cable - type C - 3 m	IE-C5DD4UG0030A20A20-E	1173030030	L.25
RJ45 PUR patch cable - type C - 5 m	IE-C5DD4UG0050A20A20-E	1173030050	L.25
RJ45 PUR patch cable - type C - 10 m	IE-C5DD4UG0100A20A20-E	1173030100	L.25
SC-RJ zipcord patch cable - POF - 1 m	IE-FPOZ2EE0001MSJ0SJ0-X	1273430010	M.12
SC-RJ zipcord patch cable - POF - 3 m	IE-FPOZ2EE0003MSJ0SJ0-X	1273430030	M.12
SC-RJ zipcord patch cable - POF - 5 m	IE-FPOZ2EE0005MSJ0SJ0-X	1273430050	M.12
SC-RJ zipcord patch cable - POF - 10 m	IE-FPOZ2EE0010MSJ0SJ0-X	1273430100	M.12

Further PROFINET cables are available on request - Sercos cables on request

IP 20 mounting rail outlets



Description	Type	Order No.	See page
RJ45 coupling	IE-T0-RJ45-C	8946920000	H.10
RJ45 module PROFINET printing	IE-T0-RJ45-FJ-P	8946950000	H.8
SC-RJ POF coupling / multimode	IE-T0-SCRJ-MM	8946990000	H.12
SC-RJ singlemode coupling	IE-T0-SCRJ-SM	8947000000	H.12

19" patch panel



Description	Type	Order No.	See page
With adaptor, without RJ45 inserts	IE-PPA19-24P	1049270000	H.14
RJ45 module PROFINET printing	IE-BI-RJ45-FJ-P	1963830000	H.14
fitted with 24 RJ45 couplings	IE-PPA19-24P-RJ45-C	1049930000	H.14

other inserts from page J.42

IP 65 service interface



Description	Type	Order No.	See page
FrontCom® Micro RJ45 coupling	IE-FCM-RJ45-C	1018790000	I.3
FrontCom® Micro RJ45 module PROFINET printing	IE-FCM-RJ45-FJ-P	1018830000	I.2

IP 67 flange data



Description	Type	Order No.	See page
PushPull standard flange RJ45 coupling	IE-BSS-V14M-RJ45-C	1012310000	J.4
PushPull central cable gland RJ45 coupling	IE-BSC-V14M-RJ45-C	1058250000	J.4
PushPull standardised flange RJ45 module PROFINET printing	IE-BSS-V14M-RJ45-FJ-P	1085260000	J.3
PushPull standardised flange hybrid (Q10) 10-pole module without contacts	IE-BSS-V14M-HYB-10P-FJ	1072900000	J.7
Contacts for Hybrid (Q10) module 0.5 mm² - 0.75 mm² VPE 300	IE-BIC-HYB-P-0,75-300	1068970000	J.7
Contacts for Hybrid (Q10) module 0.2 mm² - 0.5 mm² VPE 300	IE-BIC-HYB-P-0,5-300	1096150000	J.7
PushPull standardised flange SC-RJ coupling POF / multimode	IE-BSS-V14M-SCRJ-MM-C	1058120000	J.11
PushPull standardised flange SC-RJ coupling singlemode	IE-BSS-V14M-SCRJ-SM-C	1058140000	J.11
PushPull central cable gland SC-RJ coupling POF / multimode	IE-BSC-V14M-SCRJ-MM-C	1062590000	J.11
PushPull central cable gland SC-RJ coupling singlemode	IE-BSC-V14M-SCRJ-SM-C	1062600000	J.11
PushPull device flange	IE-BHD-V14M	1047940000	J.11
PushPull flange protective cap IP 67	IE-BP-V14P	1058310000	N.20

other inserts from page J.42

IP 67 flange power



Description	Type	Order No.	See page
PushPull Power standardised flange with 24 V / 16 A use	IE-BSS-VAPM-24V	1069030000	J.55
PushPull Power standardised flange with 400 V / 16 A use	IE-BSS-VAPM-400V	1323950000	J.55
PushPull Power device flange	IE-BHD-VAPM	1068920000	J.55
PushPull Power flange protective cap IP 67	IE-BP-VAPP	1068930000	N.20

IP 67 data connectors



Description	Type	Order No.	See page
PushPull RJ45 tool-free module PROFINET printing	IE-PS-V14M-RJ45-FH-P	1012170000	J.2
PushPull Hybrid (Q10) use, 10-pole module without contacts	IE-PS-V14M-HYB-10P	1072910000	J.6
Contacts for Hybrid (Q10) use 0.75 mm ² VPE 300	IE-PIC-HYB-S-0,75-300	1068950000	J.6
Contacts for Hybrid (Q10) use 0.2 mm ² - 0.5 mm ² VPE 300	IE-PIC-HYB-S-0,5-300	1096180000	J.6
PushPull SC-RJ use PDF 1 mm	IE-PS-V14M-2SC-PDF	1191550000	J.10
PushPull plug protective cap IP 67	IE-PP-V14P	1058280000	N.20

IP 67 assembled data cables



Description	Type	Order No.	See page
PushPull RJ45 patch cable PUR - Type C - 1 m	IE-C5DD4UG0010A2EA2E-X	1119730010	L.26
PushPull RJ45 patch cable PUR - Type C - 3 m	IE-C5DD4UG0030A2EA2E-X	1119730030	L.26
PushPull RJ45 patch cable PUR - Type C - 5 m	IE-C5DD4UG0050A2EA2E-X	1119730050	L.26
PushPull RJ45 patch cable PUR - Type C - 10 m	IE-C5DD4UG0100A2EA2E-X	1119730100	L.26

Further PROFINET cables are available on request - Sercos cables on request

IP 67 Power connectors



Description	Type	Order No.	See page
PushPull Power with 24 V / 16 A use	IE-PS-VAPM-24V	1068910000	J.54
PushPull Power with 400 V / 16 A use	IE-PS-VAPM-400V	1323940000	J.54

IP 67 plug connector M12 D-coded and X-Type

M 12 components can be found from page J.36

IP 65 connection components



Description	Type	Order No.	See page
FreeCon passive double junction box RJ45/Power	IE-CD-V14MRJ/VAPM24V-FJ	1068830000	K.2
FreeCon passive single junction box RJ45	IE-CD-V14MRJ-FJ	1068880000	K.2
FreeCon passive single junction box Hybrid (Q10) without contacts	IE-CD-V14MHYB-10P-FJ	1068850000	K.6
Contacts for Hybrid (Q10) module 0.75 mm ² VPE 300	IE-BIC-HYB-P-0,75-300	1068970000	K.6
Contacts for Hybrid (Q10) module 0.2 mm ² - 0.5 mm ² VPE 300	IE-BIC-HYB-P-0,5-300	1096150000	K.6
Mounting foot for junction boxes	IE-CD-MA	1099580000	K.2
FreeCon passive double coupling RJ45/Power	IE-CD-V14MRJ/VAPM24V-C-MA	1068820000	K.3
FreeCon passive single coupling RJ45	IE-CD-V14MRJ-C-MA	1068870000	K.3
FreeCon passive single coupling hybrid (Q10)	IE-CD-V14MHYB-10P-C-MA	1068840000	K.7
FreeCon PushPull Power Y-distributor	IE-CD-VAPM24V-Y-MA	1297010000	K.5
FreeCon PushPull Power single coupling	IE-CD-VAPM24V-C-MA	1397690000	K.5
FreeCon passive single coupling SCRJ	IE-CD-V14MSCRJ-MM-C-MA	1318150000	K.4
FreeCon active FO PROFINET repeater	IE-CDR-V14MSCP0F/VAPM-C	1253240000	K.8
FreeCon active PROFINET media converter	IE-CDM-V14MRJSCP/VAPM-C	1324440000	K.8
PushPull flange protective cap IP 67	IE-BP-V14P	1058310000	N.20

Bulk stock copper cable



Description	Type	Order No.	See page
100 m ring installation cable PVC type A	IE-C5AS4V1000	8899000000	L.14
Bulk stock installation cable PVC type A from 110 m	IE-C5AS4VG-MW	8955950000	L.14
100 m ring connection cable PVC type B	IE-C5DS4V1000	8898990000	L.14
Bulk stock connection cable PVC type B from 110 m	IE-C5DS4VG-MW	8955560000	L.14
100 m ring dragline cable PUR type C	IE-C5DD4U1000	8899010000	L.15
Bulk stock dragline cable PUR type C from 110 m	IE-C5DD4UG-MW	8947670000	L.15
Torsion cable PUR type C available by the metre from 110 m	IE-C5IT4UG-MW	1103010000	L.15
Bulk stock hybrid cable PVC from 110 m	IE-C5DHAG-MW	1172250000	L.16

Bulk stock fibre-optic cable



Description	Type	Order No.	See page
Multimode breakout cable 2x50 µm PUR from 50 m	IE-FM5B2UE-MW	8946000000	M.5
PDF zip-cord cable 2X980/1000 µm TPE, from 50 m	IE-FPOZ2EE-MW	1242820000	M.6
PDF breakout cable 2X980/1000 µm TPE, from 50 m	IE-FPOD2UE-MW	1172280000	M.6

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.



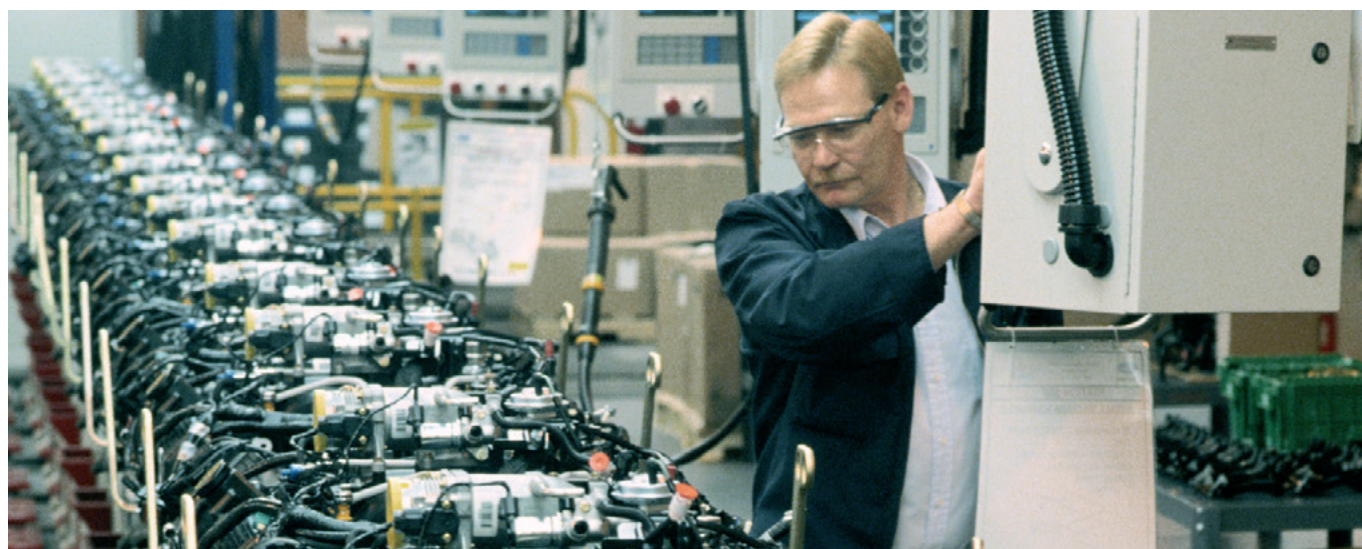
Profile specific guidelines for the connection components

Cable:

- 8-wire twisted-pair shielded cables

Connector:

- IP 20 RJ45
- IP 20 SC-RJ
- IP 67 bayonet RJ45
- IP 67 bayonet SC-RJ
- IP 67 M12 D-coding



Weidmüller offers you a wide range of cabling solutions for EtherNet/IP applications. IP 20 plug-in connectors for copper and fibre-optic cables are available, as well as IP 67 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.

IP 67
assembled RJ45 cables



IP 67
assembled M12 cables



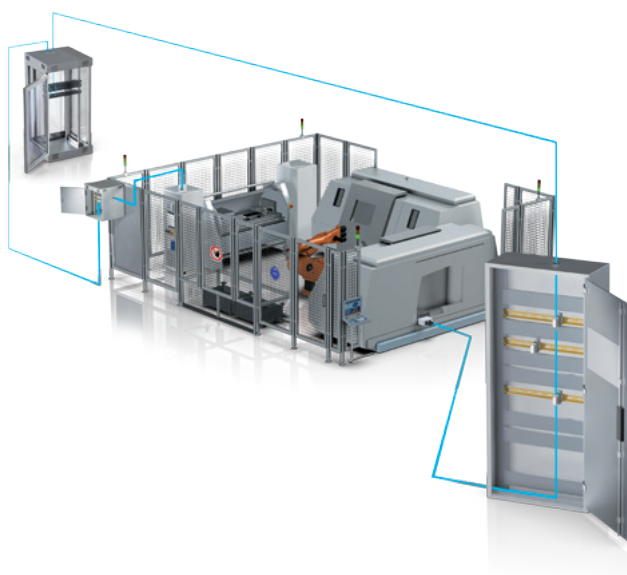
IP 67
plug-in M12 connectors



IP 67
connection components



Cable by the metre
copper and fibre-optic



IP 67
plug-in connectors data



19" patch panel



IP 67
flanges data / power



IP 20
plug-in connector



IP 20
assembled cables



IP 20
mounting rail outlets



IP 65
service interfaces



Selection table

Ideal combinations for a perfect fit



IP 20 plug-in connector



Description	Type	Order No.	See page
RJ45 crimp	IE-PS-RJ45-TH-BK	1963590000	H.3
RJ45 tool-free TIA-A printing	IE-PS-RJ45-FH-BK-A	1132040000	H.2
RJ45 tool-free TIA-B printing	IE-PS-RJ45-FH-BK-B	1132050000	H.2
SC-RJ for 1 mm POF fibres	IE-PS-SCRJ1-POF	1206720000	H.4
SC-RJ for multimode fibres 50/62.5 µm	IE-PS-SCRJ1-MM	1206730000	H.4
SC-RJ for singlemode fibres 9 µm	IE-PS-SCRJ1-SM	1206740000	H.4

IP 20 assembled data cables



Description	Type	Order No.	See page
RJ45 patch cables - see CabinetLine			
SC-RJ zipcord patch cable - POF - 1 m	IE-FPOZ2EE0001MSJOSJO-X	1273430010	M.12
SC-RJ zipcord patch cable - POF - 3 m	IE-FPOZ2EE0003MSJOSJO-X	1273430030	M.12
SC-RJ zipcord patch cable - POF - 5 m	IE-FPOZ2EE0005MSJOSJO-X	1273430050	M.12
SC-RJ zipcord patch cable - POF - 10 m	IE-FPOZ2EE0010MSJOSJO-X	1273430100	M.12
Other EtherNet/IP cables available on request			

IP 20 mounting rail outlets



Description	Type	Order No.	See page
RJ45 coupling	IE-T0-RJ45-C	8946920000	H.10
RJ45 Module TIA-A printing	IE-T0-RJ45-FJ-A	8946930000	H.8
RJ45 Module TIA-B printing	IE-T0-RJ45-FJ-B	8946940000	H.8
SC-RJ POF coupling / multimode	IE-T0-SCRJ-MM	8946990000	H.12
SC-RJ singlemode coupling	IE-T0-SCRJ-SM	8947000000	H.12

19" patch panel



Description	Type	Order No.	See page
fitted with 24 RJ45 modules TIA-A printing	IE-PPA19-24P-RJ45-FJ-A	1049910000	H.14
fitted with 24 RJ45 modules TIA-B printing	IE-PPA19-24P-RJ45-FJ-B	1049920000	H.14
fitted with 24 RJ45 couplings	IE-PPA19-24P-RJ45-C	1049930000	H.14

Other inserts from page J.42

IP 65 service interface



Description	Type	Order No.	See page
FrontCom® Micro RJ45 coupling	IE-FCM-RJ45-C	1018790000	I.3
FrontCom® Micro RJ45 module TIA-A printing	IE-FCM-RJ45-FJ-A	1018810000	I.2
FrontCom® Micro RJ45 module TIA-B printing	IE-FCM-RJ45-FJ-B	1018820000	I.2

IP 67 flange data



Description	Type	Order No.	See page
Bayonet flange metal RJ45 coupling	IE-BS-V01M-RJ45-C	1963470000	J.13
Bayonet flange metal RJ45 module TIA-A printing	IE-BS-V01M-RJ45-FJ-A	1963480000	J.13
Bayonet flange plastic RJ45 coupling	IE-BS-V01P-RJ45-C	1012370000	J.19
Bayonet flange metal RJ45 module TIA-A printing	IE-BS-V01P-RJ45-FJ-A	1012380000	J.19
Bayonet flange metal SC-RJ POF / multimode	IE-BS-V01M-SCRJ-MM	1221010000	J.15
Bayonet flange metal SC-RJ singlemode	IE-BS-V01M-SCRJ-SM	1221020000	J.15
Bayonet flange protective cap IP 67	IE-BP-V01P	1965700000	N.20

Other inserts from page J.42

IP 67 data connectors



Description	Type	Order No.	See page
Bayonet plug metal RJ45 crimped	IE-PS-V01M-RJ45-TH	1963140000	J.12
Bayonet plug metal RJ45 tool-free	IE-PS-V01M-RJ45-FH	1963120000	J.12
Bayonet plug plastic RJ45 crimped	IE-PS-V01P-RJ45-TH	1012470000	J.18
Bayonet plug plastic RJ45 tool-free	IE-PS-V01P-RJ45-FH	1012490000	J.18
Bayonet plug metal SC-RJ use POF	IE-PS-V01M-2SC-POF	1963280000	J.14
Bayonet plug metal SC-RJ use multimode	IE-PS-V01M-2SC-MM	1963260000	J.14
Bayonet plug metal SC-RJ use singlemode	IE-PS-V01M-2SC-SM	1963300000	J.14
Bayonet plug protective cap IP 67	IE-PP-V01P	1965690000	N.20

IP 67 assembled data cables



Description	Type	Order No.	See page
Bayonet metal RJ45 patch cable PUR 1 m	IE-C5ES8UG0010B41B41-E	1066850000	L.37
Bayonet metal RJ45 patch cable PUR 2 m	IE-C5ES8UG0020B41B41-E	1066860000	L.37
Bayonet metal RJ45 patch cable PUR 5 m	IE-C5ES8UG0050B41B41-E	1066870000	L.37
Bayonet metal RJ45 patch cable PUR 10 m	IE-C5ES8UG0100B41B41-E	1066880000	L.37
Bayonet plastic RJ45 patch cable PUR 1 m	IE-C5ES8UG0010P41P41-E	1106010000	L.37
Bayonet plastic RJ45 patch cable PUR 2 m	IE-C5ES8UG0020P41P41-E	1106020000	L.37
Bayonet plastic RJ45 patch cable PUR 5 m	IE-C5ES8UG0050P41P41-E	1106030000	L.37
Bayonet plastic RJ45 patch cable PUR 10 m	IE-C5ES8UG0100P41P41-E	1106040000	L.37
Other EtherNet/IP cables available on request			

IP 67 plug-in M12 connectors

M 12 components can be found from page J.36

IP 65 connection components



Description	Type	Order No.	See page
Single junction box, plastic	IE-OP-V01P-1S	1061830000	K.9
Plastic cable coupling	IE-CC-V01P	1061820000	J.20
RJ45 module TIA-A printing	IE-BI-RJ45-FJ-A	1962850000	J.44
RJ45 module TIA-B printing	IE-BI-RJ45-FJ-B	1963840000	J.44

Bulk stock copper cable



Description	Type	Order No.	See page
100 m ring installation cable PVC Cat. 5 SF/UTP	IE-5IC4x2xAWG24/1-PVC	8813150000	L.6
Bulk stock installation cable PVC Cat. 5 SF/UTP from 110 m	IE-C5CS8VG-MW	8953160000	L.6
100 m ring installation cable PUR Cat. 5 SF/UTP	IE-5IC4x2xAWG24/1-PUR	8813160000	L.6
Bulk stock installation cable PUR Cat. 5 SF/UTP from 110 m	IE-C5CS8UG-MW	8944310000	L.6
100 m ring connection cable PVC Cat. 5 SF/UTP	IE-5CC4x2xAWG26/7-PVC	8813190000	L.8
Bulk stock connection cable PVC Cat. 5 SF/UTP from 110 m	IE-C5ES8VG-MW	8955490000	L.8
100 m ring connection cable PUR Cat. 5 SF/UTP	IE-5CC4x2xAWG26/7-PUR	8813200000	L.8
Bulk stock connection cable PUR Cat. 5 SF/UTP from 110 m	IE-C5ES8UG-MW	8938880000	L.8
Other EtherNet/IP cables available on request			

Bulk stock fibre-optic cable



Description	Type	Order No.	See page
Multimode breakout cable 2x50 µm PUR from 50 m	IE-FM5B2UE-MW	8946000000	M.5
POF zip-cord cable 2X980/1000 µm TPE, from 50 m	IE-FPOZ2EE-MW	1242820000	M.6
POF breakout cable 2X980/1000 µm TPE, from 50 m	IE-FPOD2UE-MW	1172280000	M.6

IP 20 plug-in connectors and mounting rail outlets

Overview

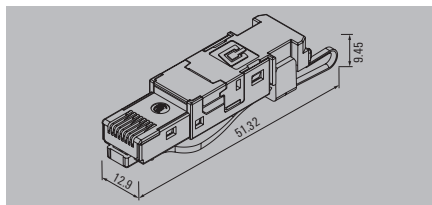
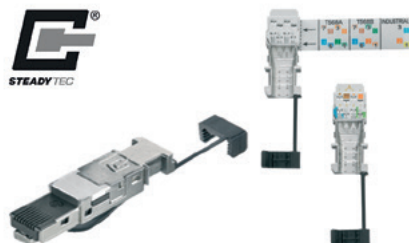
IP 20 plug-in connectors and mounting rail outlets	IP 20 plug-in connectors	RJ45 Plug	H.2
		FO Connector	H.4
		Coupling BNC	H.6
	IP 20 mounting rail outlets	RJ45	H.8
		USB	H.11
		FO	H.12
	IP 20 patch panel 19"	RJ45	H.14

IP 20 plug-in connectors

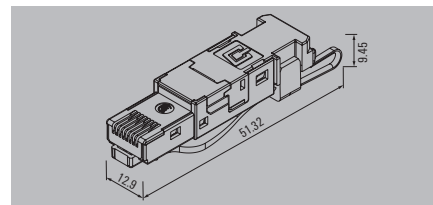
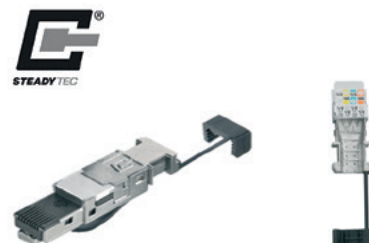
RJ45 plug, tool-free

- Cat. 6_A (8-wire) / Cat. 5 (4-wire) for PROFINET
- Multi-port-compatible
- IP 20

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.
Insulation diameter, min. / max.
Sheath diameter, min. / max.
Contact surface
Shielding
Plugging cycles
Ambient temperature (operational)
Contact resistance
Insulation resistance
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)
IP 20
Zinc diecast
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
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
conforming to IEEE 802.3at

Approvals available on request

Cat.5 (ISO/IEC 11801)
IP 20
Zinc diecast
0.48 mm / 0.76 mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
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
100 MBit
conforming to IEEE 802.3at
GOSTME25

Ordering data

Plug	
	with tear-off flags: EIA / TIA 568-A/B/PROFINET
	with printing: PROFINET
	with printing: EIA / TIA 568-A
	with printing: EIA/TIA 568-B

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-PS-RJ45-FH-BK-P	10	1132060000

Accessories

Strain relief	
	blue
	orange
	green
	grey
	white
	yellow



Tools	
	Optional pressing tool



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

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

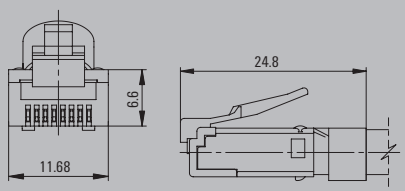
PWZ RJ45	1	1118040000
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Note

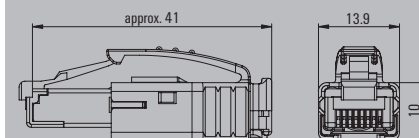
RJ45 crimp plug

- Cat. 6
- With kink prevention
- With protective mechanism for locking lever

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 resistance
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)

IP 20

0.46 mm / 0.61 mm

AWG 27 / AWG 24

0.36 mm / 0.51 mm

AWG 27 / AWG 24

1.02 mm

360° all-round enclosure

750

-40 °C...+70 °C

IEC 60603-7-51

Polyamide PA6, 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

GOSTME25

Cat.6_A / Class E_A (ISO/IEC 11801 2010)

IP 20

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; GOSTME25

Ordering data

Plug	
	with kink prevention; sheath diameter 5.5 - 6.2 mm
	with kink prevention; sheath diameter 6.2 - 7.1 mm
	with kink prevention sleeve, black
	without kink prevention sleeve

Note

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

Type	Qty.	Order No.

IE-PS-RJ45-TH-BK	10	1963590000
IE-PM-RJ45-TH	100	1963580000

Accessories

Kink prevention sleeve	
	blue
	orange
	black
	green
	grey
	white
	yellow



Tools



Crimping tool

Note

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

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

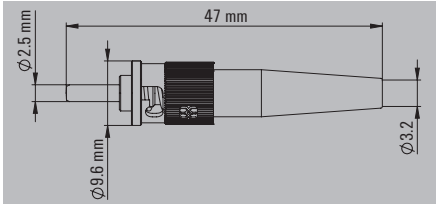
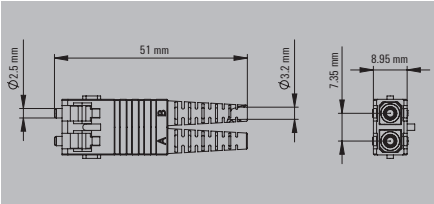
IP 20 plug-in connectors

FO connector

- IP 20

SC-RJ

ST



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
Sheath diameter, min. / max.
Approvals

Note

IP 20
1000
-20 °C...+80 °C
IEC 61754-24
0.6 mm...1.4 mm
Copper, nickel-plated
Rustless steel
Zirconia, Hole 125.5 µm
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast
0...93 % rel. humidity
2.8 mm / 3 mm

IP 20
1000
-20 °C...+80 °C
IEC 61754-2
Copper, nickel-plated
TPE
TPE
100 N
Zinc diecast
2.8 mm / 3 mm

Ordering data

	Singlemode
	Multimode
	POF

Note

Type	Qty.	Order No.
IE-PS-SCRJ1-SM	10	1206740000
IE-PS-SCRJ1-MM	10	1206730000
IE-PS-SCRJ1-POF	10	1206720000

Type	Qty.	Order No.
IE-PS-ST-MM	1	1968150000

Accessories

Tools	Fibre-optic tool case
	Crimping tool POF
	Replacement ferrule

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
IE-SCRJ1-IP20-POF-100	100	1278420000

Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000

Note

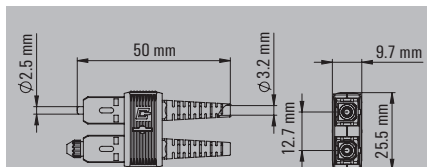
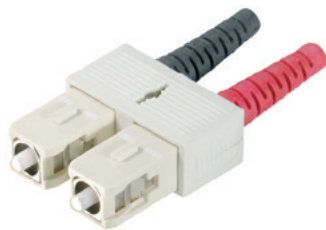
Note

Note

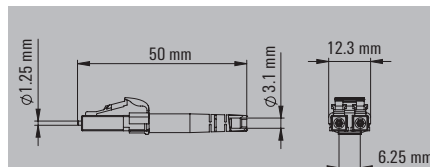
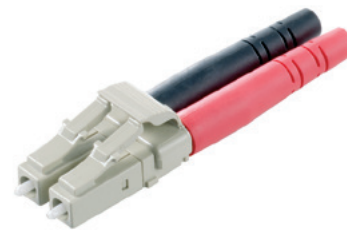
FO connector

- IP 20

SC Duplex



LC duplex



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
Sheath diameter, min. / max.
Approvals

IP 20
1000
-40 °C...+70 °C
IEC 61754-4
0.6 mm...1.4 mm
Copper, nickel-plated
Rustless steel
Zirconia, Hole 127 µm
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast
0...93 % rel. humidity
2.8 mm / 3 mm

IP 20
1000
-40 °C...+70 °C
IEC 61754-20
0.6 mm...1.4 mm
Copper, nickel-plated
Rustless steel
Zirconia, Hole 127 µm
TPE
TPE
100 N
PC UL 94 V0
Zinc diecast
0...93 % rel. humidity
2.8 mm / 3 mm

Note

Ordering data

Singlemode
Multimode

Note

Type	Qty.	Order No.
IE-PS-SCD-SM	10	1964410000
IE-PS-SCD-MM	10	1964480000

Type	Qty.	Order No.
IE-PS-LCD-SM	10	1962980000
IE-PS-LCD-MM	10	1962970000

Accessories

Tools



Fibre-optic tool case
Accessory set for LC plugs

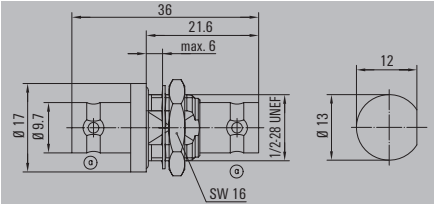
Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000

Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CTC-AS-LC-GOF	1	1033350000

Note

Coupling BNC

BNC



Technical data

Housing main material	Brass, nickel-plated
Insulation	PTFE
Return loss (attenuation)	23 dB at 4 GHz, 27 dB at 1 GHz
Characteristic impedance	50 Ω
O-Ring	NBR
Connector standard	IEC 61169-8
Approvals	
Note	

Ordering data

Type	Qty.	Order No.
IE-BI-BNC-C	1	1345020000
Note		

Accessories

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Note

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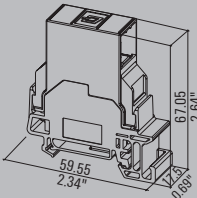
IP 20 mounting rail outlets

Module RJ45

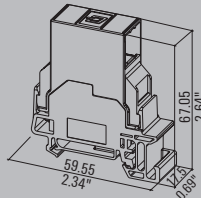
Outlet direction straight

- Cat. 6_A
- IP 20
- 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, installation, 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 resistance
Approvals

Note

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 20
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
GOSTME25
Weidmüller Cat. 7 AWG 27/7 LSZH cable can be connected

Cat.5 (ISO/IEC 11801)
IP 20
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
GOSTME25

Ordering data

Outlet RJ45 A-coded
Outlet RJ45 B-coded
Outlet RJ45 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

Markers
9*11 mm. 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

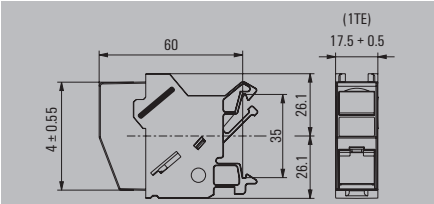
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Module RJ45
Outlet direction diagonal

- Cat. 6
- IP 20
- 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, installation, 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 resistance
Approvals
Note

Cat.6 (ISO/IEC 11801)
IP 20
PA 66, UL 94: V-0
Light Grey
TS 35
750
Inspection window for labelling
1 TE pitch dimension acc. to DIN 43880. insta-compatible
-25 °C...+70 °C
IEC 60603-7-5
0.48 mm / 0.48 mm
AWG 26 / AWG 26
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
GERMLLOYD; GOSTME25

Ordering data

Outlet RJ45 A-coded
Outlet RJ45 B-coded
Note

Type	Qty.	Order No.
IE-XM-RJ45/IDC	1	8808360000
IE-XM-RJ45/IDC-B	1	8891980000

Accessories

Markers
Marking tag

Type	Qty.	Order No.
IE-DM	50	8813500000

Note

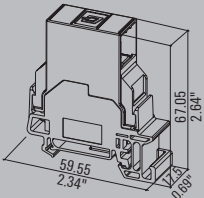
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IP 20 mounting rail outlets

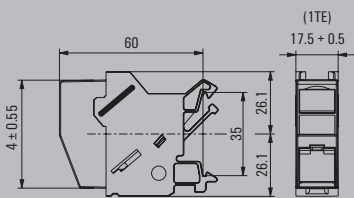
Coupling RJ45, 8-wire

- Cat. 6_A
- IP 20
- 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, installation, 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 resistance
Approvals

Note

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP 20
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
GOSTME25

Cat.6 (ISO/IEC 11801)
IP 20
PA 66, UL 94: V-0
Light Grey
TS 35
750
Inspection window for labelling
1 TE pitch dimension acc. to DIN 43880. insta-compatible
-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
GERMLLOYD; GOSTME25

Ordering data

Note

Accessories

Markers

Marking tag
9*11 mm. white

Type	Qty.	Order No.
IE-T0-RJ45-C	10	8946920000
ESG 9/11 K MC NE WS	200	1857440000

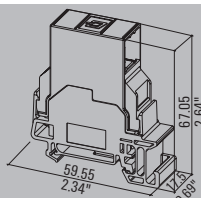
Type	Qty.	Order No.
IE-XM-RJ45/RJ45	1	8879050000
IE-DM	50	8813500000

Note

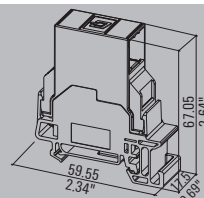
USB connection

- IP 20
- TS 35

USB A



USB AB



Technical data

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

Note

IP 20
PA UL 94 V0
Light Grey
TS 35
-40 °C...+70 °C
-25 °C...70 °C
IEC 61076-3-107
USB A / USB A
GOSTME25

IP 20
PA UL 94 V0
Light Grey
TS 35
-40 °C...+70 °C
-25 °C...70 °C
IEC 61076-3-107
USB A / USB B

Ordering data

USB

Note

Type	Qty.	Order No.
IE-T0-USB	10	8946960000

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

Accessories

Markers

9*11 mm. 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

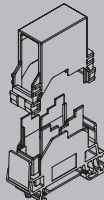
Note

IP 20 mounting rail outlets

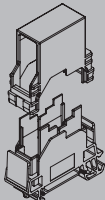
Coupling fibre-optic

- IP 20
- TS 35

SC duplex



SC-RJ



Technical data

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

IP 20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...+70 °C
-25 °C...70 °C
IEC 61754-4
GOSTME25

IP 20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...+70 °C
-25 °C...70 °C
IEC 61754-24
GOSTME25

Note

Ordering data

Fibre-optic	
Singlemode	
Multimode/POF	

Note

Accessories

Markers	
9*11 mm. white	

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

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

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

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

Note

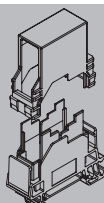
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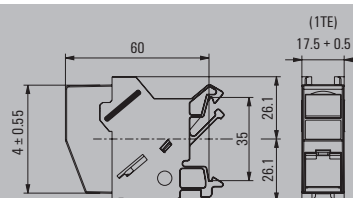
Coupling fibre-optic

- IP 20
- TS 35

LC Duplex



ST



Technical data

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

IP 20
PA UL 94 V0
Light Grey
TS 35
1000
-40 °C...+70 °C
-25 °C...70 °C
IEC 61754-20
GOSTME25

IP 20
PA 66, UL 94: V-0
Light Grey
TS 35
750
-25 °C...+70 °C
IEC 61754-2

Note

Ordering data

Singlemode
Multimode

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

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

Note

Accessories

Markers

Marking tag
9*11 mm. white

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

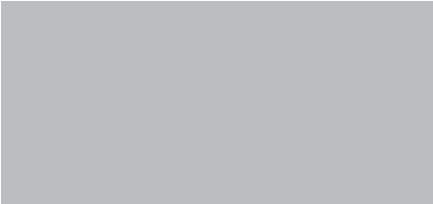
Type	Qty.	Order No.
IE-DM	50	8813500000

Note

IP 20 patch panel 19"

RJ45

- Cat. 6_A
- IP 20



Technical data

Category
Protection degree
Housing main material
Colour
Plugging cycles
Ambient temperature (operational)
Approvals

Note

Ordering data

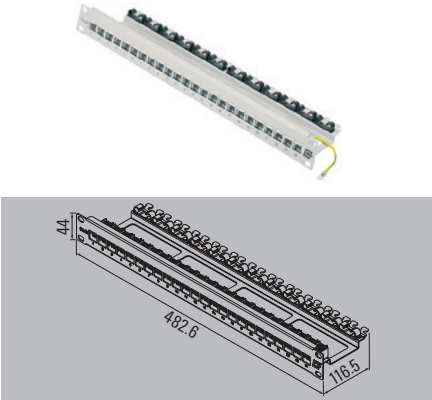
19" Patch Panel	
	with 24 RJ45 couplings
	with 24 RJ45 modules A
	with 24 RJ45 modules B
	with 24 RJ45 adapters. without inserts
Note	

Accessories

Flange insert	
	RJ45 EIA/TIA T568 A
	RJ45 EIA/TIA T568 B
	RJ45 PROFINET
	USB coupling, type A

Note

RJ45



Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 20
Powder-coated steel sheet
Light Grey
750
-40 °C...+70 °C
Note

Type	Qty.	Order No.
IE-PPA19-24P-RJ45-C	1	1049930000
IE-PPA19-24P-RJ45-FJ-A	1	1049910000
IE-PPA19-24P-RJ45-FJ-B	1	1049920000
IE-PPA19-24P	1	1049270000
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
IE-BI-USB-A	10	1019570000

Note

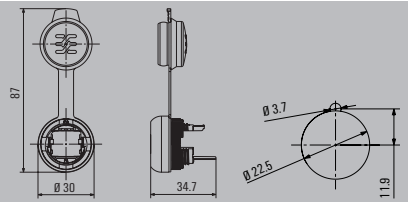
IP 65 service interface

Overview

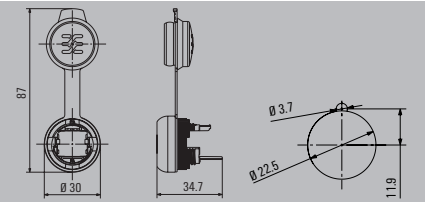
IP 65 service interface	IP 65 FrontCom® Micro service interface	
	RJ45	I.2
	USB	I.4

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)
IP 65 according to DIN EN 60529
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)
IP 65 according to DIN EN 60529
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



Markers



SwitchMark markers white
SwitchMark holder

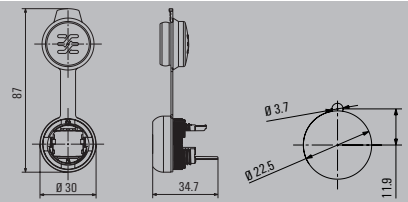
Type	Qty.	Order No.
IE-FISP-V4	2	9204370000
SM 27/18 MC NE WS	80	1699860000
SM-H 27/18 SW	25	1716630000

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 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)
IP 65 according to DIN EN 60529
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

Accessories

Fixing tool



Markers



SwitchMark markers white
SwitchMark holder

Type	Qty.	Order No.
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IE-FCM-RJ45-C	10	1018790000
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Type	Qty.	Order No.
------	------	-----------

IE-FISP-V4	2	9204370000
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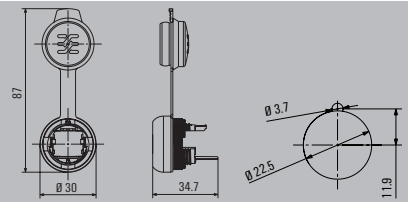
SM 27/18 MC NE WS	80	1699860000
SM-H 27/18 SW	25	1716630000

Note

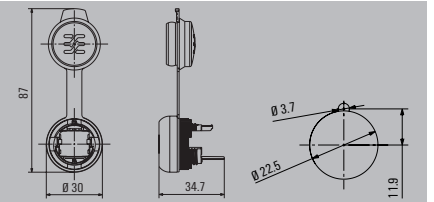
IP 65 FrontCom® Micro service interface

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
IP 65 according to DIN EN 60529
PA UL 94 V0
Black
360° shield contact
Cabinet, Distribution box
IEC 61076-3-107
USB A / USB A
EPDM
1 mm / 3 mm

Approvals available on request

-40 °C...+70 °C
IP 65 according to DIN EN 60529
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

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



Markers



SwitchMark markers white
SwitchMark 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

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

IP 67 plug-in connectors

Overview

IP 67 plug-in connectors	PushPull V14 – RJ45	J.2
	PushPull V14 – Hybrid	J.6
	PushPull V14 – FO	J.10
	Bayonet V1 Metal-RJ45	J.12
	Bayonet V1 Metal-FO	J.14
	Bayonet V1 Plastic-RJ45	J.18
	PushPull V4 – RJ45	J.22
	PushPull V4 – FO	J.26
	RockStar® V5 – RJ45	J.30
	SnapIn V6 – RJ45	J.32
	M12 D-coded	J.36
	M12 X-Type	J.40
	Inserts	J.42
	PushPull Power	J.54

PushPull V14 - RJ45

Plug PushPull V14 - RJ45

- 4- and 8-wire, RJ45 plugs that can be assembled on-site with colour coding on the plug

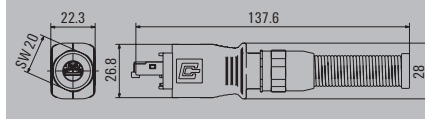
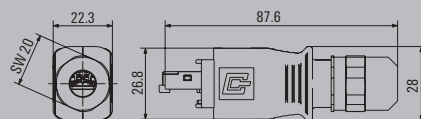
without anti-kink prevention, 4-wire

PROFINET printing

PROFI
NET

with anti-kink protection, 8-wire

Tear-off flags with TIA-A/-B/PROFINET

PROFI
NET

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)
IP 67
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
GOSTME25

Other approvals for individual parts of the set available

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
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
GOSTME25

Other approvals for individual parts of the set available

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-FH-BP	10	1012090000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-RJ	10	1011560000

Type	Qty.	Order No.
IE-PH-V14M-RJ-BP	10	1011570000

Accessories

Dust protection cap



Type	Qty.	Order No.
IE-PP-V14P	10	1058280000

Type	Qty.	Order No.
IE-PP-V14P	10	1058280000

Note

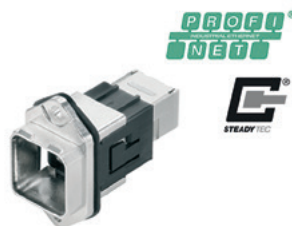
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

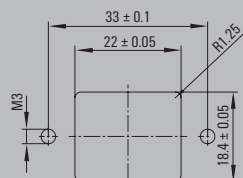
PushPull V14 - RJ45 flange Module

4-wire

PROFINET printing

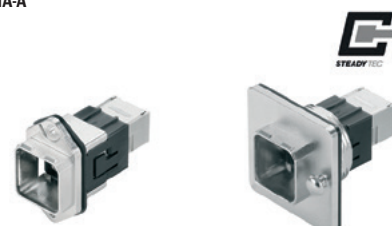


Standardised flange



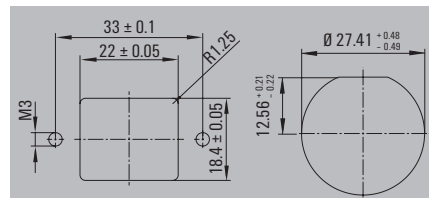
8-wire

TIA-A



Standardised flange

Central 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

Cat.5 (ISO/IEC 11801)
IP 67
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
GOSTME25

Other approvals for individual parts of the set available

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
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 / mm
AWG 26 / AWG 22
0.4 mm / 0.64 mm
AWG 24 / AWG 22
GOSTME25

Other approvals for individual parts of the set available

Ordering data - Sets

Standardised flange

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-FJ-P	10	1085260000

Note

Type	Qty.	Order No.
IE-BSS-V14M-RJ45-FJ-A	10	1012320000
IE-BSC-V14M-RJ45-FJ-A	10	1058270000

Ordering data - Empty housings

Central flange
Standardised flange
Device flange

Type	Qty.	Order No.
IE-BHC-V14M-RJA	10	1047950000
IE-BHS-V14M-RJA	10	1011540000
IE-BHD-V14M	10	1047940000

Note

Type	Qty.	Order No.
IE-BHC-V14M-RJA	10	1047950000
IE-BHS-V14M-RJA	10	1011540000
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap



Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

Note

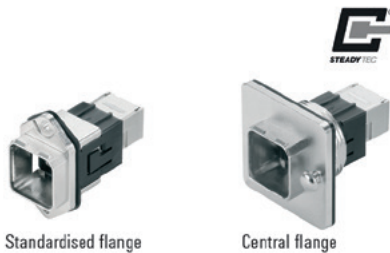
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately, see Inserts

PushPull V14 - RJ45

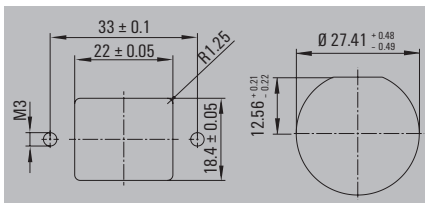
PushPull V14 - RJ45 flange
Coupling

8-wire



Standardised flange

Central 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

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...+70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-51

GOSTME25

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

Central flange
Standardised flange
Device flange

Note

Type	Qty.	Order No.
IE-BHC-V14M-RJA	10	1047950000
IE-BHS-V14M-RJA	10	1011540000
IE-BHD-V14M	10	1047940000

Accessories

Dust protection cap



Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

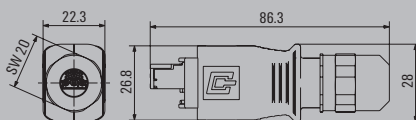
Note

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V14 - Hybrid

Plug PushPull V14 - Hybrid

Without kink prevention



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

Cat.5 (ISO/IEC 11801)

IP 67

Zinc diecast

Gold over nickel

5 mm / 10 mm

500

-40 °C...+70 °C

Hybrid (Q10) / Crimp

IEC 61076-3-117 Var. 14

AWG 27 / AWG 20

0.08 mm² / 0.75 mm²

3 A per contact

< 10 mΩ

GOSTME25

Other approvals for individual parts of the set available

Note

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

Crimp contacts	
	0.33...0.5 mm ²
	0.75 mm ²
	0.08...0.2 mm ²

Crimping tool



Cable



Hybrid cable

Dust protection cap



Note

Type	Qty.	Order No.
IE-PIC-HYB-S-0,5-300	300	1096180000
IE-PIC-HYB-S-0,75-300	300	1068950000
IE-PIC-HYB-S-0,2-300	300	1135150000

HTF HYB 1 1119580000

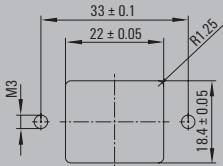
IE-C5DHAG-MW 1 1172250000

IE-PP-V14P 10 1058280000

Plug inserts can also be ordered separately. Refer to Inserts.

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)
IP 67
Zinc diecast
EPDM
Gold over nickel
5 mm / 10 mm
500
-40 °C...+70 °C
Hybrid (Q10) / Crimp
IEC 61076-3-117 Var. 14
AWG 27 / AWG 20
0.08 mm² / 0.75 mm²
3 A per contact
< 10 mΩ
GOSTME25

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

Standardised flange

Note

Type	Qty.	Order No.
IE-BHS-V14M-RJA	10	1011540000

Accessories

Crimp contacts	
	0.33...0.5 mm²
	0.75 mm²
	0.08...0.2 mm²

Crimping tool



Cable



Hybrid cable

Dust protection cap



Note

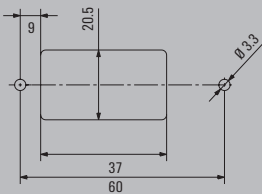
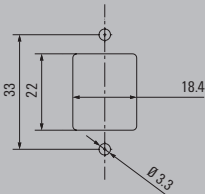
Type	Qty.	Order No.
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
IE-BIC-HYB-P-0,2-300	300	1135160000
HTF HYB	1	1119580000
IE-C5DHAG-MW	1	1172250000
IE-BP-V14P	10	1058310000

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

IP 67
Zinc diecast
EPDM
2 screws, M3
-40...+70 °C

IP 67
Zinc diecast
EPDM
2 screws, M3
-40...+70 °C

Ordering data

Note

Type	Qty.	Order No.
IE-AD-BHS-V14M-RJA	1	1302000000

Bulkhead inserts must be ordered separately, see Inserts

Type	Qty.	Order No.
IE-BHS-V14M-RJA-45	10	1296710000

Bulkhead inserts must be ordered separately, see Inserts

Accessories

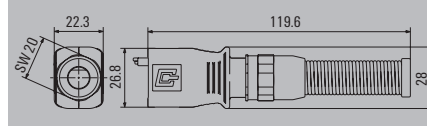
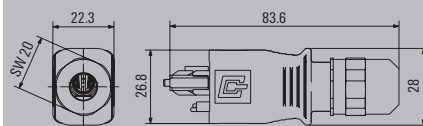
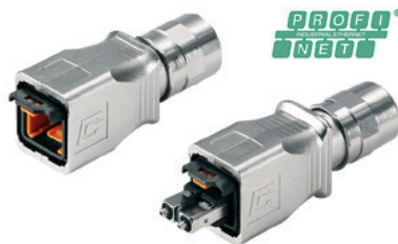
Note

PushPull V14 - F0

PushPull V14 plug - fibre-optic

Without kink prevention

With kink prevention



Technical data

Protection degree
Housing main material
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

Note

IP 67
Zinc diecast
5 mm / 10 mm
750
-40...+70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24

IP 67
Zinc diecast
5 mm / 10 mm
750
-40...+70 °C
IEC 61076-3-117 Var. 14
CULUS; GOSTME25

Ordering data - Sets

POF

Note

Type	Qty.	Order No.
IE-PS-V14M-2SC-POF	10	1191550000

Type	Qty.	Order No.

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-PH-V14M-F0	10	1058100000

Type	Qty.	Order No.
IE-PH-V14M-F0-BP	10	1058110000

Only empty housings; order inserts separately

Accessories

Inserts

Multimode
POF
Singlemode



Dust protection cap



Tools

Fibre-optic tool case
POF tool set



Replacement ferrule



Type	Qty.	Order No.
IE-PI-SCRJ-MM	10	1067380000
IE-PI-SCRJ-POF	10	1067410000
IE-PI-SCRJ-SM	10	1067390000

IE-PP-V14P	10	1058280000
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IE-CTC-SCST-GOF	1	1032030000
TOOL SET IE-POF	1	1208930000

IE-SCRJ-IP67-POF-100	100	1278430000
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Type	Qty.	Order No.
IE-PI-SCRJ-MM	10	1067380000
IE-PI-SCRJ-POF	10	1067410000
IE-PI-SCRJ-SM	10	1067390000

IE-PP-V14P	10	1058280000
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IE-CTC-SCST-GOF	1	1032030000
TOOL SET IE-POF	1	1208930000

IE-SCRJ-IP67-POF-100	100	1278430000
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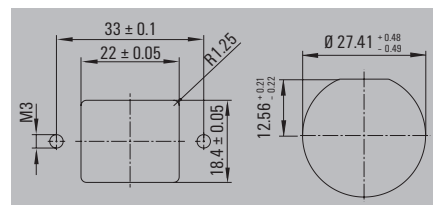
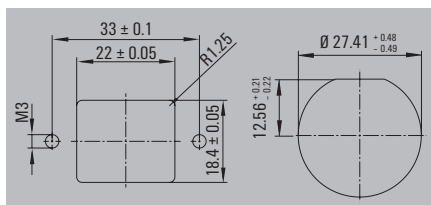
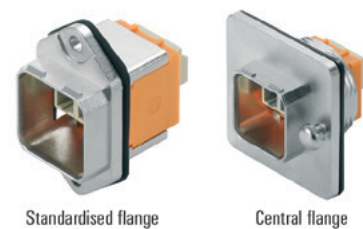
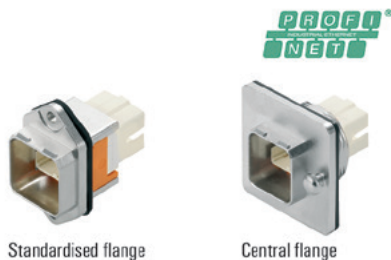
Note

Plug inserts can also be ordered separately, see Inserts

Flange PushPull V14 - fibre-optic

SC-RJ

LC Duplex



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Insertion loss
Connector standard
Approvals

Note

IP 67
Zinc diecast
500
-40 °C...+70 °C
≤ 0.5 dB
IEC 61076-3-117 Var. 14, IEC 61754-24
GOSTME25

IP 67
Zinc diecast
500
-40 °C...+70 °C
≤ 0.5 dB
IEC 61076-3-117 Var. 14, IEC 61754-20
GOSTME25

Ordering data - Sets

Central flange Singlemode
Standardised flange Singlemode
Central flange Multimode
Standardised flange Multimode

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

Multimode also suitable for POF

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



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)
IP 67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...+70 °C
AWG 27 / AWG 24
0.46 mm / 0.61 mm
AWG 24 / AWG 22
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS; GOSTME25

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
Zinc diecast
Gold over nickel
5 mm / 10 mm
750
-40 °C...+70 °C
AWG 27 / AWG 24
0.46 mm / 0.61 mm
AWG 24 / AWG 22
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 1, IEC 60603-7-51
CULUS; GOSTME25

Ordering data - Sets

RJ45 tool-free, 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

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

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



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)
IP 67
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; GOSTME25

Cat.6_A / Class E_A (ISO/IEC 11801 2010)
IP 67
Zinc diecast
Gold over nickel
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 60603-7-51

CULUS; GOSTME25

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.

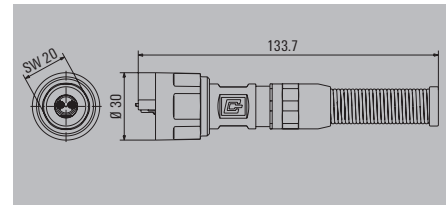
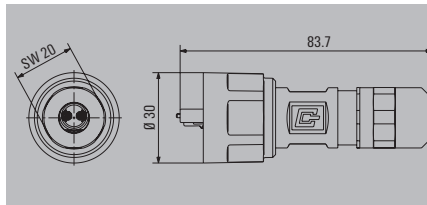
Plug inserts can also be ordered separately. Refer to Inserts.

Bayonet V1 Metal-F0

Plug bayonet V1 metal - fibre-optic-SC

Without kink prevention

With kink prevention



Technical data

Protection degree
Housing main material
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Insertion loss
Return loss (attenuation)
Approvals

Note

IP 67
Zinc diecast
5 mm / 10 mm
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 61754-24
0.5 dB singlemode; 0.4 dB multimode; 1.5 dB POF
40 dB singlemode; 30 dB multimode
GOSTME25

IP 67
Zinc diecast
5 mm / 10 mm
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 61754-24
0.5 dB singlemode; 0.4 dB multimode; 1.5 dB POF
40 dB singlemode; 30 dB multimode
GOSTME25

Ordering data - Sets

Singlemode
Multimode
POF

Note

Type	Qty.	Order No.
IE-PS-V01M-2SC-SM	10	1963300000
IE-PS-V01M-2SC-MM	10	1963260000
IE-PS-V01M-2SC-POF	10	1963280000

Type	Qty.	Order No.
IE-PS-V01M-2SC-SM-BP	10	1963310000
IE-PS-V01M-2SC-MM-BP	10	1963270000
IE-PS-V01M-2SC-POF-BP	10	1963290000

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

Tools



POF tool set
Fibre-optic tool case

Dust protection cap



Plug housing protective cap

Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000
IE-CTC-SCST-GOF	1	1032030000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000
IE-CTC-SCST-GOF	1	1032030000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

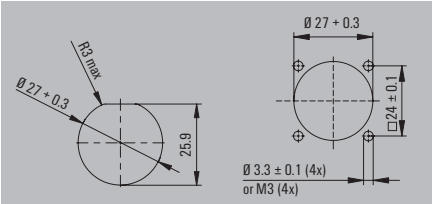
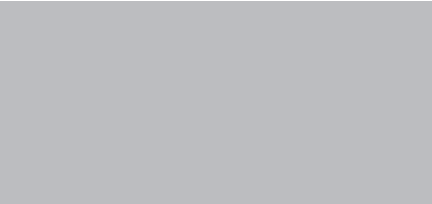
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 metal - fibre-optic-SC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP 67
Zinc diecast
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 61754-24
GOSTME25

Note

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

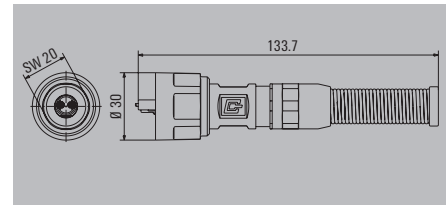
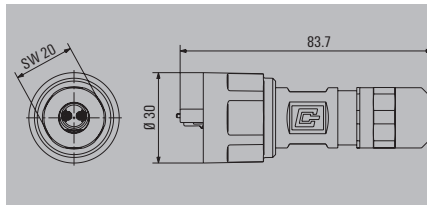
Plug inserts can also be ordered separately. Refer to Inserts.

Bayonet V1 Metal-F0

Plug bayonet V1 metal - fibre-optic-LC

Without kink prevention

With kink prevention



Technical data

Protection degree
Housing main material
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Insertion loss
Return loss (attenuation)
Approvals

Note

IP 67
Zinc diecast
5 mm / 10 mm
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 61754-20
0.5 dB singlemode, 0.4 dB multimode
40 dB singlemode; 30 dB multimode
GOSTME25

IP 67
Zinc diecast
5 mm / 10 mm
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 61754-20
0.5 dB singlemode, 0.4 dB multimode
40 dB singlemode; 30 dB multimode
GOSTME25

Ordering data - Sets

Singlemode
Multimode

Note

Type	Qty.	Order No.
IE-PS-V01M-2LC-SM	10	1963240000
IE-PS-V01M-2LC-MM	10	1963220000

Type	Qty.	Order No.
IE-PS-V01M-2LC-SM-BP	10	1963250000
IE-PS-V01M-2LC-MM-BP	10	1963230000

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

Tools



Fibre-optic tool case
Accessory set for LC plugs

Dust protection cap



Plug housing protective cap

Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CTC-AS-LC-GOF	1	1033350000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CTC-AS-LC-GOF	1	1033350000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

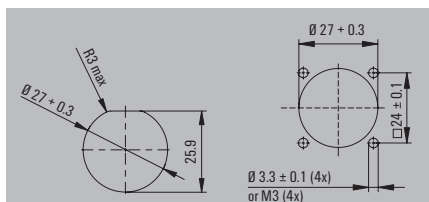
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Flange bayonet V1 metal - fibre-optic-LC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP 67
Zinc diecast
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 1, IEC 61754-20
GOSTME25

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)
IP 67
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; GOSTME25

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
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; GOSTME25

Ordering data - Sets

RJ45 tool-free. 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

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

Type	Qty.	Order No.
IE-PP-V01P	10	1965690000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

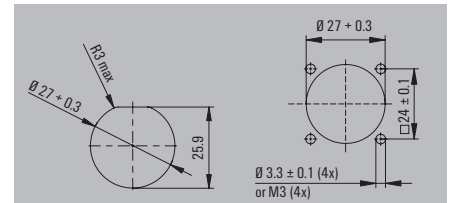
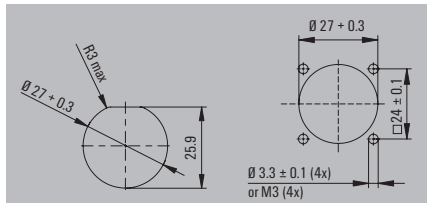
Flange bayonet V1 Plastic - RJ45

Module

TIA-A



Coupling



Technical data

Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Protection degree	IP 67	IP 67
Housing main material	PA UL 94 V0	PA UL 94 V0
Contact surface	Gold over nickel	Gold over nickel
Plugging cycles	750	750
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Connector standard	IEC 61076-3-106 Var. 1, IEC 60603-7-51	IEC 61076-3-106 Var. 1, IEC 60603-7-51
Connection cross-section, flexible, min. / max.	AWG 26 / AWG 22	
Connection diameter, flexible, min. / max.	0.48 mm / 0.76 mm	
Connection cross-section, solid, min. / max.	AWG 24 / AWG 22	
Connection diameter, solid, min. / max.	0.4 mm / 0.64 mm	
Approvals	CULUS; GOSTME25	CULUS; GOSTME25
Note		

Ordering data - Sets

Type	Qty.	Order No.
IE-BS-V01P-RJ45-FJ-A	10	1012380000
IE-BS-V01P-RJ45-C	10	1012370000
Note		

Ordering data - Empty housings

Type	Qty.	Order No.
IE-BH-V01P	10	1016960000
IE-BH-V01P	10	1016960000
Note		

Accessories

Type	Qty.	Order No.
IE-BP-V01P	10	1965700000
IE-BP-V01P	10	1965700000
Note		

Dust protection cap



Flange-mounted housing protective cap

Plug inserts can also be ordered separately. Refer to Inserts.

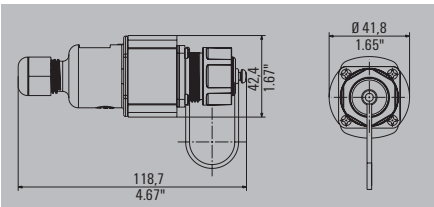
Plug inserts can also be ordered separately. Refer to Inserts.

Note

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

IP 67
PA UL 94 V0
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 1
6 mm / 9.5 mm
GOSTME25

Note

Ordering data

Variant 1
Cable coupling

Note

Type	Qty.	Order No.
IE-CC-V01P	10	1061820000

RJ45 modules can be ordered separately

Accessories

Flange insert
RJ45 EIA/TIA T568 A
RJ45 EIA/TIA T568 B
RJ45 PROFINET



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

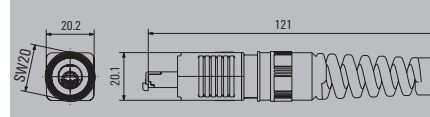
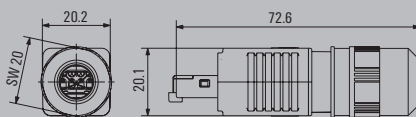
Note

PushPull V4 - RJ45

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)
IP 67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...+70 °C
AWG 27 / AWG 24
0.46 mm / 0.61 mm
AWG 24 / AWG 22
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS; GOSTME25

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
PA UL 94 V0
Gold over nickel
5 mm / 10 mm
750
-40 °C...+70 °C
AWG 27 / AWG 24
0.46 mm / 0.61 mm
AWG 24 / AWG 22
0.36 mm / 0.51 mm
IEC 61076-3-106 Var. 4, IEC 60603-7-51
CULUS; GOSTME25

Ordering data - Sets

RJ45 tool-free. AWG 26-22. TIA-A/-B/-PROFINET
RJ45 tool-free. 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

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000

Note

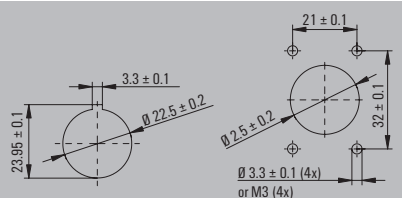
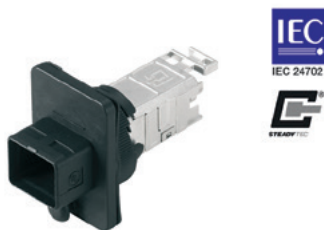
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

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)
IP 67
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 / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
GOSTME25

Other approvals for individual parts of the set available

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
PA UL 94 V0
Gold over nickel
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 4, IEC 60603-7-51

CULUS; GOSTME25

Ordering data - Sets

RJ45 module TIA-B
RJ45 module TIA-A
Coupling

Note

Type	Qty.	Order No.
IE-BS-V04P-RJ45-FJ-B	10	1963730000
IE-BS-V04P-RJ45-FJ-A	10	1963500000

Type	Qty.	Order No.
IE-BS-V04P-RJ45-C	10	1963490000

Ordering data - Empty housings

Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Accessories

Dust protection cap

Flange-mounted housing protective cap



Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Note

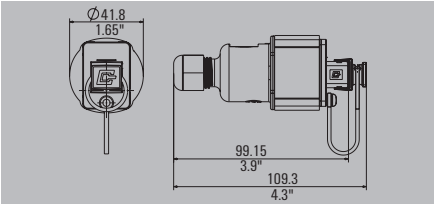
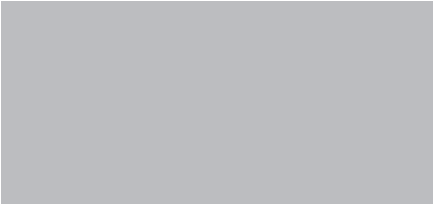
Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V4 - RJ45

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

IP 67
PA UL 94 V0
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 4
6 mm / 9.5 mm
GOSTME25

Note

Ordering data

Cable coupling

Note

Type	Qty.	Order No.
IE-CC-V04P	10	1045960000
RJ45 modules can be ordered separately		

Accessories

Flange insert	
	RJ45 EIA/TIA T568 A
	RJ45 EIA/TIA T568 B
	RJ45 PROFINET

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

Note

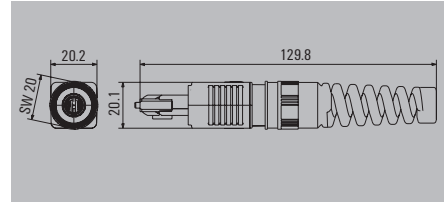
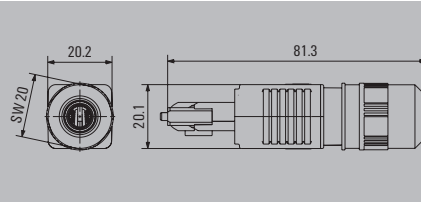
Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V4 - F0

Plug PushPull V4 - fibre-optic-SC

Without kink prevention

With kink prevention



Technical data

Protection degree	IP 67	IP 67
Housing main material	PA UL 94 V0	PA UL 94 V0
Sheath diameter, min. / max.	5 mm / 10 mm	5 mm / 10 mm
Plugging cycles	500	500
Ambient temperature (operational)	-40 °C...+70 °C	-40 °C...+70 °C
Connector standard	IEC 61076-3-106 Var. 4, IEC 61754-24	IEC 61076-3-106 Var. 4, IEC 61754-24
Insertion loss	0.5 dB singlemode; 0.4 dB multimode; 1.5 dB POF	0.5 dB singlemode; 0.4 dB multimode; 1.5 dB POF
Return loss (attenuation)	40 dB singlemode; 30 dB multimode	40 dB singlemode; 30 dB multimode
Approvals	GOSTME25	GOSTME25
Note		

Ordering data - Sets

	Type	Qty.	Order No.	
Singlemode	IE-PS-V04P-2SC-SM	10	1963400000	
Multimode	IE-PS-V04P-2SC-MM	10	1963360000	
POF	IE-PS-V04P-2SC-POF	10	1963380000	
Note				

Ordering data - Empty housings

	Type	Qty.	Order No.	
	IE-PH-V04P	10	1962520000	
Note				

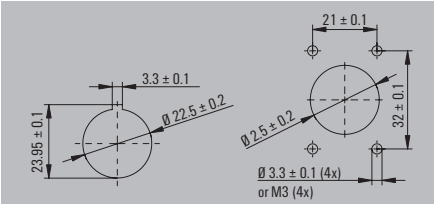
Accessories

	Type	Qty.	Order No.	
Tools	TOOL SET IE-POF	1	1208930000	
	IE-CTC-SCST-GOF	1	1032030000	
Dust protection cap	IE-PP-V04P	10	1963890000	

Note	Plug inserts can also be ordered separately. Refer to Inserts.	Plug inserts can also be ordered separately. Refer to Inserts.
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Flange PushPull V4 - fibre-optic-SC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP 67
PA UL 94 V0
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 4, IEC 61754-4, IEC 61754-24
GOSTME25

Note

Ordering data - Sets

Singlemode
Multimode/PoF

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

Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Accessories

Dust protection cap



Flange-mounted housing protective cap

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Note

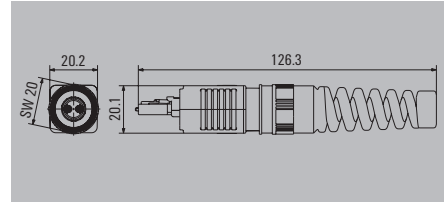
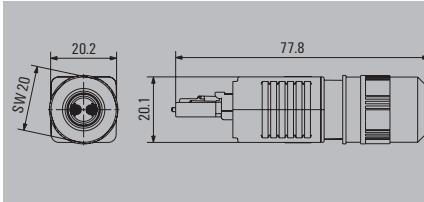
Plug inserts can also be ordered separately. Refer to Inserts.

PushPull V4 - F0

Plug PushPull V4 - fibre-optic-LC

Without kink prevention

With kink prevention



Technical data

Protection degree
Housing main material
Sheath diameter, min. / max.
Plugging cycles
Ambient temperature (operational)
Connector standard
Insertion loss
Return loss (attenuation)
Approvals

Note

IP 67
PA UL 94 V0
5 mm / 10 mm
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 4, IEC 61754-20
0.5 dB singlemode, 0.4 dB multimode
40 dB singlemode; 30 dB multimode
GOSTME25

IP 67
PA UL 94 V0
5 mm / 10 mm
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 4, IEC 61754-20
0.5 dB singlemode, 0.4 dB multimode
40 dB singlemode; 30 dB multimode
GOSTME25

Ordering data - Sets

Singlemode
Multimode

Note

Type	Qty.	Order No.
IE-PS-V04P-2LC-SM	10	1963340000
IE-PS-V04P-2LC-MM	10	1963320000

Type	Qty.	Order No.
IE-PS-V04P-2LC-SM-BP	10	1963350000
IE-PS-V04P-2LC-MM-BP	10	1963330000

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

Tools



Fibre-optic tool case
Accessory set for LC plugs

Dust protection cap



Plug housing protective cap

Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CTC-AS-LC-GOF	1	1033350000

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000

Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CTC-AS-LC-GOF	1	1033350000

Type	Qty.	Order No.
IE-PP-V04P	10	1963890000

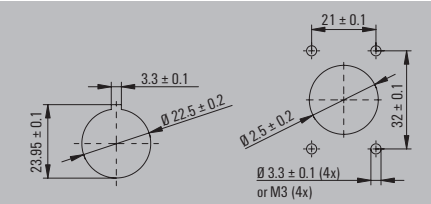
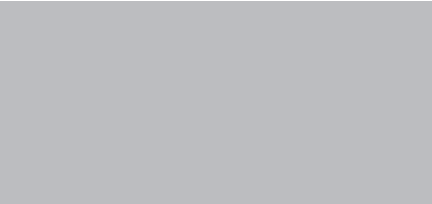
Note

Plug inserts can also be ordered separately. Refer to Inserts.

Plug inserts can also be ordered separately. Refer to Inserts.

Flange PushPull V4 - fibre-optic-LC

Standardised flange



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP 67
PA UL 94 V0
500
-40 °C...+70 °C
IEC 61076-3-106 Var. 4, IEC 61754-20
GOSTME25

Note

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

Note

Type	Qty.	Order No.
IE-BH-V04P	10	1963520000

Accessories

Dust protection cap



Flange-mounted housing protective cap

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Note

Plug inserts can also be ordered separately. Refer to Inserts.

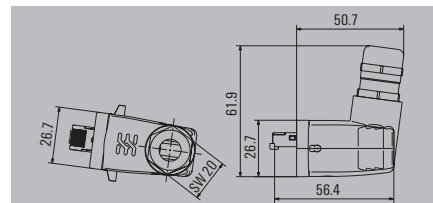
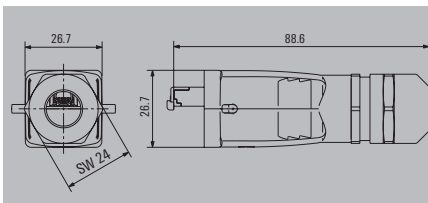
RockStar® V5 - RJ45

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)
IP 67
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; GOSTME25

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
diecast aluminium
Gold over nickel
5 mm / 10 mm
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51
GOSTME25
Other approvals for individual parts of the set available

Ordering data - Sets

RJ45 tool-free. AWG 26-22. TIA-A/-B/-PROFINET
RJ45 tool-free. 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

Type	Qty.	Order No.
IE-PP-V05M	10	1968920000

Type	Qty.	Order No.
IE-PP-V05M	10	1968920000

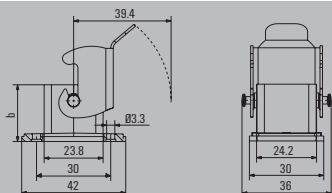
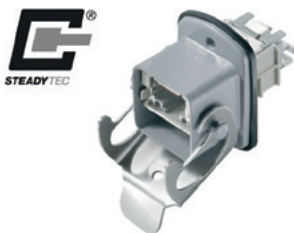
Note

Plug inserts can also be ordered separately. Refer to Inserts.
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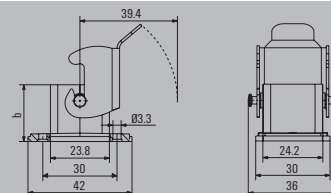
Plug inserts can also be ordered separately. Refer to Inserts.
--

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

IP 67
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; GOSTME25

IP 67
diecast aluminium
Gold over nickel
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 5, IEC 60603-7-51

CULUS; GOSTME25

Ordering data - Sets

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

Note

Type	Qty.	Order No.
IE-BS-V05M-RJ45-FJ-P	10	1963700000
IE-BS-V05M-RJ45-FJ-A	10	1963460000

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.

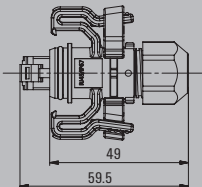
Plug inserts can also be ordered separately. Refer to Inserts.

SnapIn V6 - RJ45

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 (ISO/IEC 11801)
- IP 67
- 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
- GERMLLOYD

Note

Ordering data

Note

Accessories

Type	Qty.	Order No.
IE-P-IP67	1	8808380000

Note

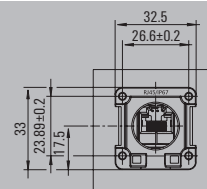
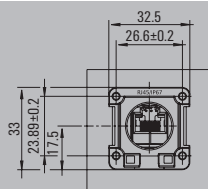
See also the "Accessories" chapter.

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)
IP 67
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.
-40 °C...+70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
GERMLLOYD; GOSTME25

Cat.6 (ISO/IEC 11801)
IP 67
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
GERMLLOYD; GOSTME25

Ordering data

Straight
Angled, downwards
Angled, upwards

Note

Type	Qty.	Order No.
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IE-XM-RJ45/IDC-IP67	1	8808440000
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Type	Qty.	Order No.
------	------	-----------

IE-XM-RJ45/RJ45-IP67	1	8808450000
IE-XM-6D-RJ45/RJ45-IP67	1	8829450000
IE-XM-6U-RJ45/RJ45-IP67	1	8829440000

Accessories

Flange insert

RJ45 coupling, straight
RJ45 module A, straight

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

IE-XR-RJ45/IDC	1	8808330000
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Type	Qty.	Order No.
------	------	-----------

IE-XR-RJ45/RJ45-2	24	8952950000
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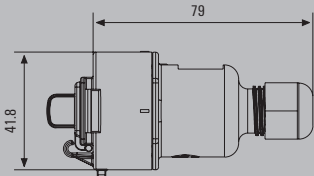
Note

SnapIn V6 - RJ45

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 (ISO/IEC 11801)
IP 67
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 .
-40 °C...+70 °C
IEC 61076-3-106 Var. 6, IEC 60603-7-5
6 mm / 9.5 mm
GERMLOYD; GOSTME25

Note

Ordering data

Cable coupling

Note

Type	Qty.	Order No.
IE-C-IP67	1	8813090000

Accessories

Note

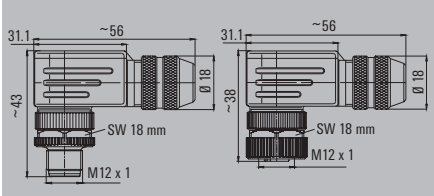
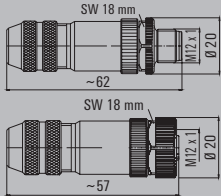
See also the "Accessories" chapter.

M12 D-coded

M12 plug,
Tension-clamp connection,
D-coded

SAISM / SAIBM

SAISW / SAIBW



Technical data

Type of connection
Housing main material
Ambient temperature (operational)
Connector standard
Contact tube diameter
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface

Tension clamp connection
CuZn
-25 °C...+85 °C
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm² / 0.5 mm²
4
250
-25...+85 °C
IP 67
Gold-plated

Tension clamp connection
PA
-25 °C...+85 °C
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm² / 0.5 mm²
4
250
-25...+85 °C
IP 67
Gold-plated

Note

Ordering data

Male	4-pole. PG 9
Socket	4-pole. PG 9
Note	

Type	Qty.	Order No.
SAISM-4/8S-M12 4P D-ZF	1	1892120001
SAIBM-4/8S-M12 4P D-ZF	1	1892130001

Type	Qty.	Order No.
SAISW-4/8S-M12 4P D-ZF	1	1803930001
SAIBW-4/8S-M12 4P D-ZF	1	1139330000

Accessories

Note

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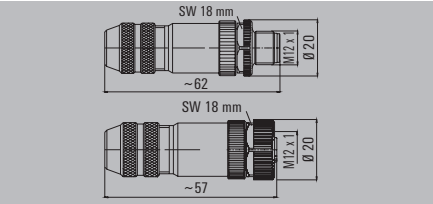
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M12 plug,
Screw connection,
D-coded

SAISM / SAIBM



Industrial Ethernet



Technical data

Type of connection
Housing main material
Ambient temperature (operational)
Connector standard
Contact tube diameter
Cable diameter
Conductor cross-section min. / max.
Rated current
Rated voltage
Temperature range of housing
Protection degree
Contact surface

Screw connection
CuZn
-25 °C...+85 °C
IEC 61076-2-101
M12
6...8 mm (PG9)
0.25 mm² / 0.75 mm²
4
250
-25...+85 °C
IP 67
Gold-plated

Note

Ordering data

Male	4-pole, PG 9
Socket	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

Accessories

Note

M12 D-coded

Adapter / coupling M12

- Cat. 5
- IP 67
- D-coded

Adapter M12-RJ45



Coupling M12-M12



Technical data

Category
Protection degree
Housing main material
Shielding
Ambient temperature (operational)
Connector standard
Approvals

Note

Cat.5 (ISO/IEC 11801)
IP 67
Polyamide, fully shielded metal housing
360° shield contact
-5 °C...+60 °C
IEC 60603-7-5, IEC 61076-2-101
GOSTME25

Cat.5 (ISO/IEC 11801)
IP 67
Polyamide, Brass, nickel-plated
360° shield contact
-5 °C...+60 °C
IEC 61076-2-101
GOSTME25

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-M12-COUP	1	8901640000
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Accessories

Note

Note

Note

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)
IP 65 according to DIN EN 60529
Reflow compatible
CuZn, Polyamide, nickel-plated
360° shield contact
-25...+85 °C
IEC 61076-2-101
GOSTME25

Cat.5 (ISO/IEC 11801)
IP 65 according to DIN EN 60529
Reflow compatible
CuZn, Polyamide, nickel-plated
360° shield contact
-25...+85 °C
IEC 61076-2-101
GOSTME25

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

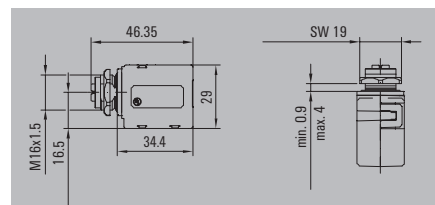
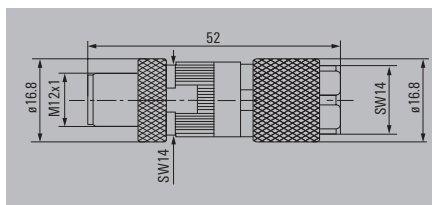
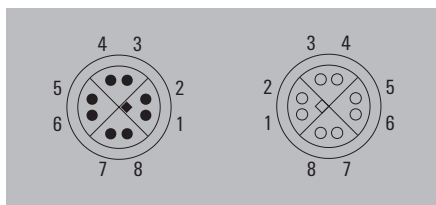
Note

M12 Plug / Adapter
M12 X-Type Cat. 6A

Plug



Adapter M12 X-Type-RJ45



Technical data

Category

Protection degree

Connection 1 / 2

Housing main material

Contact tube diameter

Contact material / Contact surface

Ambient temperature (operational)

Connector standard

Current-carrying capacity at 50 °C

Rated voltage

Insulation resistance

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
	90° adapter
	180° adapter
Note	

Accessories

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Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
M12 / Insulation displacement technology
Zinc diecast
M12
CuZn / Gold-plated
-25 °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

Type	Qty.	Order No.
IE-PS-M12X-P-FH	10	1324020000

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Cat. 6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67
RJ45 90° / M12
Zinc diecast
M12
CuZn / Gold over nickel
-25 °C...+85 °C
IEC 61076-2-109, IEC 60603-7-51
0.5 A @ 40 °C
60 V
100 MΩ
≥ 100 (M12), 750 (RJ45)
M12 socket to RJ45 socket
0.9 mm / 4 mm
360° shield contact

Type	Qty.	Order No.
IE-AD-M12XRJ45-90	1	1400610000
IE-AD-M12XRJ45-180	1	1400620000

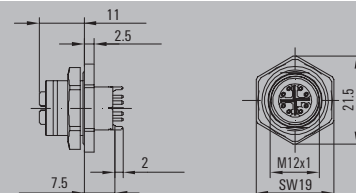
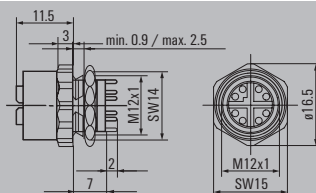
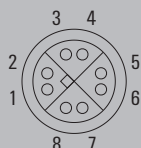
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M12 PCB socket

M12 X-Type Cat. 6_A

PCB socket

PCB socket, back panel mounting



Technical data

Category
Protection degree
Connection 1 / 2
Housing main material
Contact tube diameter
Contact material / Contact surface
Ambient temperature (operational)
Connector standard
Current-carrying capacity at 50 °C
Rated voltage
Insulation resistance
Plugging cycles
Configuration
Wall thickness, min. / max.
Shielding
Approvals

Note

Ordering data

pre-assembled
2-piece design

Note

Accessories

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67 (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

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67 (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

Type	Qty.	Order No.
IE-PCB-M12X-S-180	10	1324010000
IE-PCB2-M12X-S-180	10	1393080000

Type	Qty.	Order No.
IE-PCBR-M12X-S-180	10	1427670000
IE-PCBR2-M12X-S-180	10	1444650000

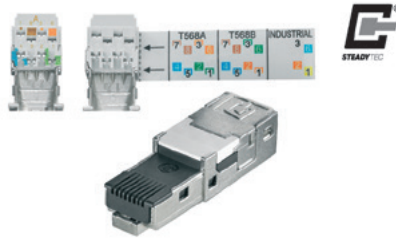
Note

Inserts

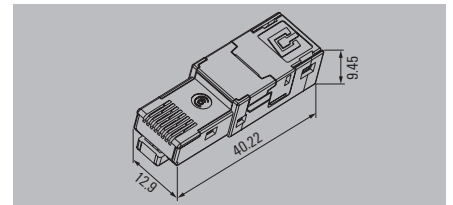
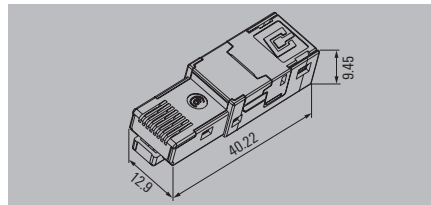
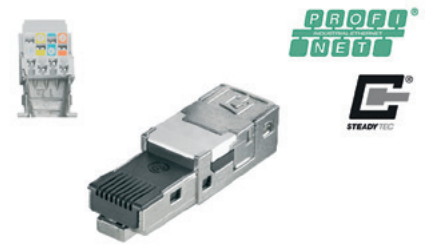
RJ45 plug inserts, without tools

- Cat. 6_A
- IP 20
- For variant 1, 4, 5 and 14 housings

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.
Insulation diameter, min. / max.
Humidity
Ambient temperature (operational)
Insulation resistance
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)
IP 67 with housing
750
360° all-round enclosure
Zinc diecast

Gold over nickel
AWG 26 / AWG 22
0.48 mm / 0.76 mm
AWG 24 / AWG 22
0.4 mm / 0.64 mm
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
IEC 60603-7-51

Approvals available on request

Cat.5 (ISO/IEC 11801)
IP 67 with housing
750
360° all-round enclosure
Zinc diecast

Gold over nickel
AWG 26 / AWG 22
AWG 24 / AWG 22
0.4 mm / 0.64 mm
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
IEC 60603-7-51

Ordering data

tool-free	TIA-A/B/PROFINET
	TIA-A
	TIA-B
	PROFINET

Note

Accessories

Tools	Optional pressing tool
-------	------------------------



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

Type	Qty.	Order No.
IE-PI-RJ45-FH-P	10	1132030000

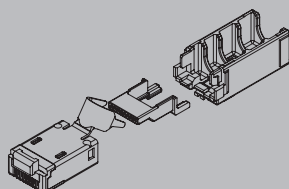
Type	Qty.	Order No.
PWZ RJ45	1	1118040000

Note

RJ45 plug inserts, crimp

- Cat. 6_A
- IP 20
- For variant 1, 4, 5 and 14 housings

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

Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
IP 67 with housing
750
360° all-round enclosure
Brass, PC UL 94 V0
Phosphorus bronze
Au ≥ 0.8 µm, Ni 2.54 µm
AWG 27 / AWG 24
0.46 mm / 0.61 mm
AWG 24 / AWG 24
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
10 GBit
IEC 60603-7-51
CURUS

Note

Ordering data

Crimp

Note

Type	Qty.	Order No.
IE-PI-RJ45-TH	10	1962720000

Accessories

Tools



Crimping tool

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

Note

Inserts

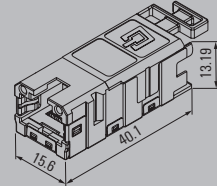
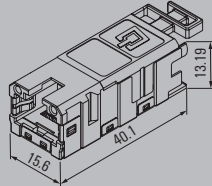
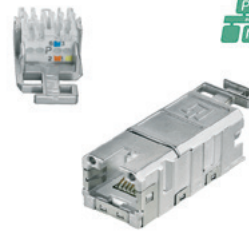
RJ45 flange inserts, module

- Cat. 6_A
- IP 20
- For variant 1, 4, 5 and 14 housings

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)
IP 67 with housing
750
360° all-round enclosure
Zinc diecast
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; GOSTME25

Cat.5 (ISO/IEC 11801)
IP 67 with housing
750
360° all-round enclosure
Zinc diecast
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; GOSTME25

Ordering data

tool-free

TIA-A
TIA-B
PROFINET

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

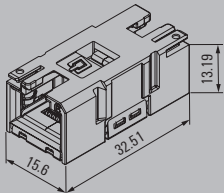
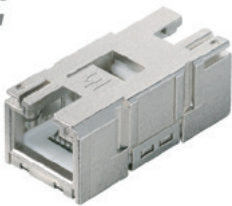
Type	Qty.	Order No.
PWZ RJ45	1	1118040000

Note

RJ45 flange inserts, coupling

- Cat. 6_A
- IP 20
- For variant 1, 4, 5 and 14 housings

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)
- IP 67 with housing
- 750
- 360° all-round enclosure
- Zinc diecast
- Gold over nickel

- IEC 60603-7-51
- 40 °C...+70 °C
- conforming to IEEE 802.3af
- CULUS; GOSTME25

Ordering data

tool-free

Coupling

Note

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

Accessories

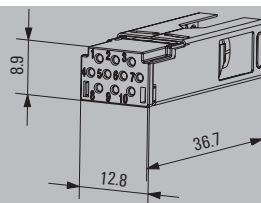
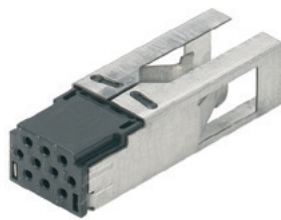
Note

Inserts

Plug inserts Hybrid

- Cat. 5
- IP 20
- For variant 1 (Metal) and 14 housings

Crimp



Technical data

Category
Protection degree
Plugging cycles
Shielding
Housing main material
Contact surface
No. of poles
Connection cross-section, flexible, min. / max.
Connection diameter, flexible, min. / max.
Insulation diameter, min. / max.
Ambient temperature (operational)
Volume resistance
Rated current
Rated voltage
Contact resistance
Approvals

Cat.5 (ISO/IEC 11801)
IP 67 with housing
500
360° all-round enclosure
Nickel silver, PA 66
Gold over nickel
10
AWG 27 / AWG 20
0.08 mm ² / 0.75 mm ²
1 mm...2.2 mm
-40 °C...+70 °C
< 10 mΩ
3 A per contact
24 V
≤ 5 mΩ
CULUS; GOSTME25

Note

Ordering data

Note

Accessories

Crimp contacts	
	0.33...0.5 mm ²
	0.75 mm ²
	0.08...0.2 mm ²

Crimping tool



Type	Qty.	Order No.
IE-PI-HYB-10P	10	1068990000

Type	Qty.	Order No.
IE-PI-HYB-S-0,5-300	300	1096180000
IE-PI-HYB-S-0,75-300	300	1068950000
IE-PI-HYB-S-0,2-300	300	1135150000

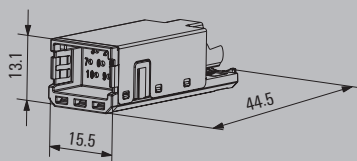
HTF HYB	1	1119580000

Note

Flange inserts Hybrid

- Cat. 5
- IP 20
- For variant 1 (Metal) 14 housings

Module



Technical data

Category	Cat.5 (ISO/IEC 11801)
Protection degree	IP 67 with housing
Plugging cycles	500
Shielding	360° all-round enclosure
Housing main material	Zinc diecast, Nickel silver, PA 66
Contact surface	Gold over nickel
No. of poles	10
Connection cross-section, flexible, min. / max.	AWG 27 / AWG 20
Connection diameter, flexible, min. / max.	0.08 mm ² / 0.75 mm ²
Insulation diameter, min. / max.	1 mm...2.2 mm
Rated current	3 A per contact
Rated voltage	24 V
Contact resistance	≤ 10 mΩ
Volume resistance	< 10 mΩ
Ambient temperature (operational)	-40 °C...+70 °C
Approvals	CULUS; GOSTME25

Note

Ordering data

Note

Accessories

	0.33...0.5 mm ²
	0.75 mm ²
	0.08...0.2 mm ²

Crimping tool



Type	Qty.	Order No.
IE-BI-HYB-10P	10	1069010000

Type	Qty.	Order No.
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
IE-BIC-HYB-P-0,2-300	300	1135160000

HTF HYB	1	1119580000
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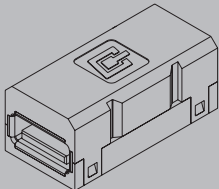
Note

Inserts

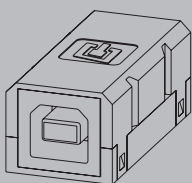
Flange inserts USB

- IP 20
- For variant 1, 4, 5 and 14 housings

Coupling USB A/A



Coupling USB A/B



Technical data

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

Note

IP 67 with housing
360° all-round enclosure
-40 °C...+70 °C
USB A / USB A
IEC 61076-3-107
GOSTME25

IP 67 with housing
360° all-round enclosure
-40 °C...+70 °C
USB A / USB B
IEC 61076-3-107
GOSTME25

Ordering data

USB 2.0

Note

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

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

Accessories

Note

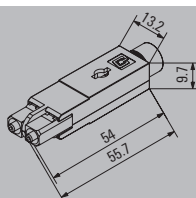
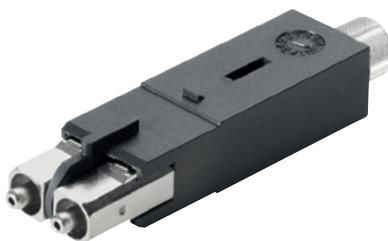
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Plug inserts SC

- IP 20
- For variant 1, 4 and 14 housings

Plug inserts SC



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP 67 with housing
Zinc diecast
1000
-40 °C...+70 °C
IEC 61754-24

Note

Ordering data

Singlemode
Multimode
POF

Type	Qty.	Order No.
IE-PI-SCRJ-SM	10	1067390000
IE-PI-SCRJ-MM	10	1067380000
IE-PI-SCRJ-POF	10	1067410000

Note

Accessories

Tools	
	POF tool set
	Fibre-optic tool case
	Crimping tool POF

Replacement ferrule



Type	Qty.	Order No.
TOOL SET IE-POF	1	1208930000
IE-CTC-SCST-GOF	1	1032030000
HTX-IE-POF	1	1208870000

IE-SCRJ-IP67-POF-100	100	1278430000

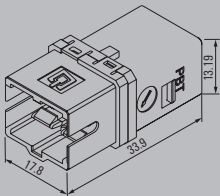
Note

Inserts

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

IP 67 with housing
PA
1000
-40 °C...+70 °C
GOSTME25

Note

Ordering data

Flange insert
Singlemode
Multimode/POF

Type	Qty.	Order No.
IE-BI-SCRJ2SC-SM-C	10	1962870000
IE-BI-SCRJ2SC-MM-C	10	1964430000

Note

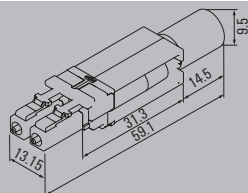
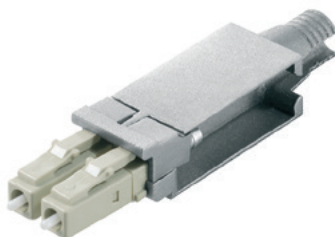
Accessories

Note

Plug inserts LC

- IP 20
- For variant 1, 4 and 14 housings

Plug inserts LC



Technical data

Protection degree
Housing main material
Plugging cycles
Ambient temperature (operational)
Connector standard
Approvals

IP 67 with housing
PBT diecast zinc
1000
-40 °C...+70 °C
IEC 61754-20
GOSTME25

Note

Ordering data

Plug insert	
Singlemode	
Multimode	

Note

Type	Qty.	Order No.
IE-PI-2LC-SM	10	1962790000
IE-PI-2LC-MM	10	1962780000

Accessories

Tools	
Fibre-optic tool case	
Crimping pliers GOF LC	



Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CT-LC-GOF	1	9205330000

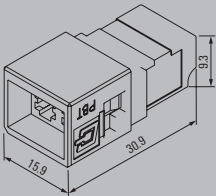
Note

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

IP 67 with housing
PBT diecast zinc
1000
-40 °C...+70 °C
IEC 61754-20
GOSTME25

Note

Ordering data

Flange insert	
	Singlemode
	Multimode

Type	Qty.	Order No.
IE-BH-LCD-SM-C	10	1962880000
IE-BH-LCD-MM-C	10	1964420000

Note

Accessories

Tools	
	Fibre-optic tool case
	Crimping pliers GOF LC



Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000
IE-CT-LC-GOF	1	9205330000

Note

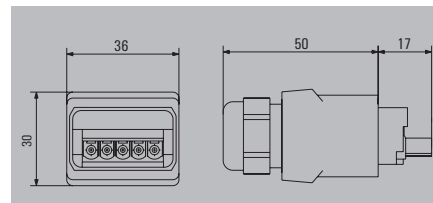
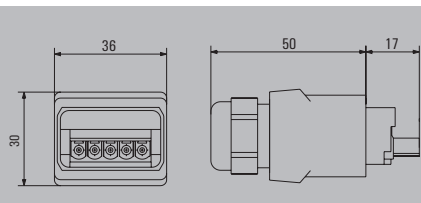
PushPull Power

Plug PushPull Power

Power 24 V plug



Power 400 V plug



Technical data

General data

Protection degree
Connector standard
Ambient temperature (operational)
No. of poles
Wire cross-section, flexible, min. / max.
Sheath diameter, min. / max.
Connection
Approvals

IP 67
in accordance with PROFINET specification
-40 °C...+70 °C
5
0.75 mm² / 2.5 mm²
9 mm / 13 mm
Tension clamp
GOSTME25

IP 67
in accordance with PROFINET specification
-40 °C...+70 °C
5
0.75 mm² / 2.5 mm²
9 mm / 13 mm
Tension clamp

Material properties

Housing base material
Sealing material
Cable sealing material
Contact material / Contact surface
UL 94 flammability rating
Pollution severity level
Plugging cycles

Zinc diecast, nickel-plated
NBR
TPE
Copper alloy / Gold over nickel
V-2
2
≤ 100

Zinc diecast, nickel-plated
NBR
TPE
Copper alloy / Gold over nickel
V-2
2
≤ 100

Electrical properties

Current-carrying capacity at 50 °C
Rated voltage

16 A
24 V

16 A
400 V

Note

We recommend using 10-mm-long wire-end ferrules

We recommend using 10-mm-long wire-end ferrules

Ordering data - Sets

Type	Qty.	Order No.
IE-PS-VAPM-24V	10	1068910000

Type	Qty.	Order No.
IE-PS-VAPM-24V	10	1068910000

Type	Qty.	Order No.
IE-PS-VAPM-400V	10	1323940000

Ordering data - Empty housings

Type	Qty.	Order No.

Type	Qty.	Order No.

Type	Qty.	Order No.

Accessories

Type	Qty.	Order No.

Type	Qty.	Order No.

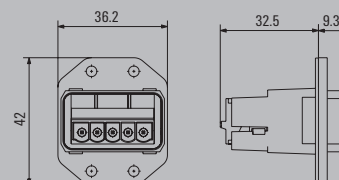
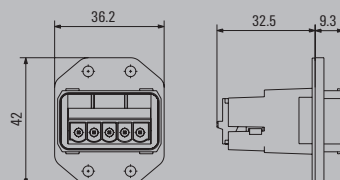
Type	Qty.	Order No.

Note

Flange PushPull Power

Power 24 V flange

Power 400 V flange



Technical data

General data

Protection degree
Connector standard
Ambient temperature (operational)
No. 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

IP 67
in accordance with PROFINET specification
-40 °C...+70 °C
5
0.75 mm² / 2.5 mm²
Tension clamp
GOSTME25
4 screws

Zinc diecast, nickel-plated
NBR
TPE
PA
Copper alloy / Gold over nickel
V-2
2
≤ 100

16 A
24 V

We recommend using 10-mm-long wire-end ferrules

IP 67
in accordance with PROFINET specification
-40 °C...+70 °C
5
0.75 mm² / 2.5 mm²
Tension clamp
4 screws

Zinc diecast, nickel-plated
NBR
TPE
PA
Copper alloy / Gold over nickel
V-2
2
≤ 100

16 A
400 V

We recommend using 10-mm-long wire-end ferrules

Ordering data - Sets

Note

Type	Qty.	Order No.
IE-BSS-VAPM-24V	10	1068930000

Type	Qty.	Order No.
IE-BSS-VAPM-400V	10	1323950000

Ordering data - Empty housings

Note

Device flange

Type	Qty.	Order No.
IE-BHD-VAPM	10	1068920000

Type	Qty.	Order No.
IE-BHD-VAPM	10	1068920000

Accessories

Dust protection cap



Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Note

IP 65 connection components

Overview

IP 65 connection components	FreeCon V14	K.2
	FreeCon Active PROFINET	K.8
	V1 junction boxes	K.9
	FreeCon V4	K.10
	V6 junction boxes	K.11

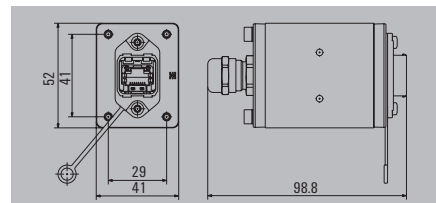
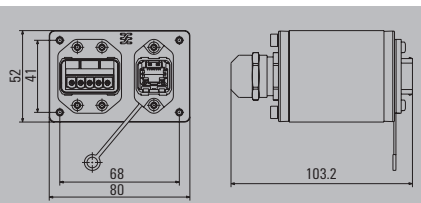


FreeCon V14

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, painted
Protection degree	IP 65
Ambient temperature (operational)	-40 °C...+70 °C
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-5
Approvals	CULUS; GOSTME25
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
No. of poles	5
Sheath diameter, min. / max.	6 mm / 12 mm
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
Connection 1	IDC
Sheath diameter, min. / max.	5 mm / 10 mm
Electrical properties for RJ45 module	
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
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	
Dust protection cap	
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

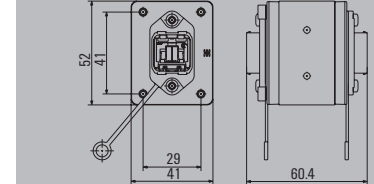
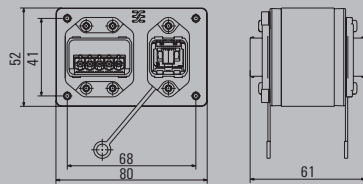
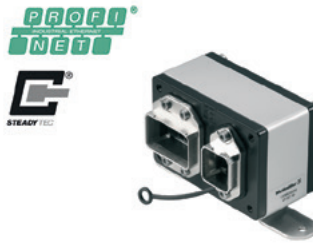
Type	Qty.	Order No.
IE-CD-V14MRJ-FJ	1	1068880000

Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BP-V14P	10	1058310000

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
No. of poles
Sheath diameter, min. / max.
Connection

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

Note

Accessories

Dust protection cap



Note

Aluminium profile, Cover: die-cast zinc, painted
IP 65
-40 °C...+70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-5
CULUS; GOSTME25

Zinc diecast, nickel-plated
NBR
Copper alloy
PA
Gold over nickel
≥ 100
5
6 mm / 12 mm
Tension clamp

16 A
24 V

Zinc diecast, PA 66
Cat.6A / 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

Aluminium profile, Cover: die-cast zinc, painted
IP 65
-40 °C...+70 °C
IEC 61076-3-117 Var. 14, IEC 60603-7-5
CULUS; GOSTME25

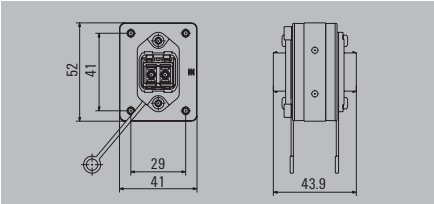
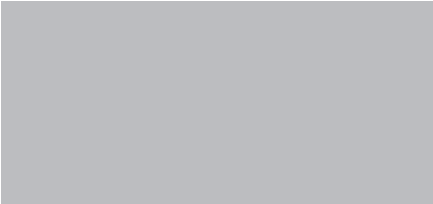
Zinc diecast, PA 66
Cat.6A / Class E_A (ISO/IEC 11801 2010)
≤ 20 mΩ
Gold over nickel
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
1 A

Type	Qty.	Order No.
IE-CD-V14MRJ-C-MA	1	1068870000
Including mounting foot		

Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

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, painted
IP 65
-40...+70 °C
IEC 61076-3-117 Var. 14, IEC 61754-24
PA
≥ 500
NBR
SCRJ / SCRJ
< 0.2 dB
Multimode, POF

Ordering data

Type	Qty.	Order No.
IE-CD-V14MSCRJ-MM-C-MA	1	1318150000

Type	Qty.	Order No.
IE-CD-V14MSCRJ-MM-C-MA	1	1318150000

Accessories

Dust protection cap
IE-BP-V14P



Type	Qty.	Order No.
IE-BP-V14P	10	1058310000

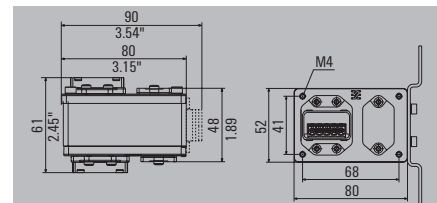
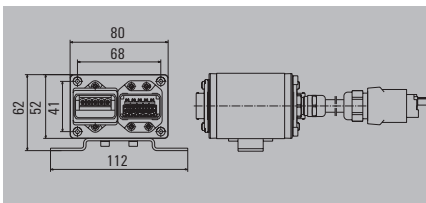
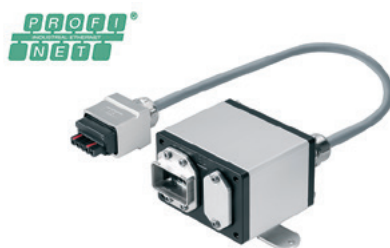
Note

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
No. of poles

Note

Aluminium profile, Cover: die-cast zinc, painted
IP 65
-40...+70 °C
in accordance with PROFINET specification

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, painted
IP 65, If thread-locking fluid is used
-40...+70 °C
in accordance with PROFINET specification

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

Note

Accessories

Dust protection cap



Type	Qty.	Order No.
IE-CD-VAPM24V-Y-MA	1	1297010000

Type	Qty.	Order No.
IE-CD-VAPM24V-C-MA	1	1397690000

Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

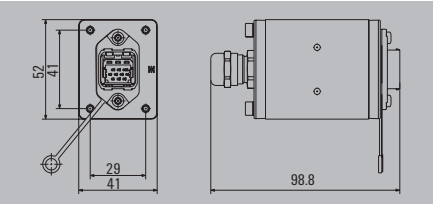
Type	Qty.	Order No.
IE-BP-VAPP	10	1068930000

Note

FreeCon V14

FreeCon V14 - junction box

Single junction box, Hybrid



Technical data

General data	
Housing main material	
Protection degree	
Ambient temperature (operational)	
Approvals	
Technical specifications	
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	
Rated current	
Rated voltage (DIN EN 61984)	
Contact resistance	
Note	

Aluminium profile, Cover: die-cast zinc, painted
IP 65
-40 °C...+70 °C
CULUS; GOSTME25
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

Type	Qty.	Order No.
IE-CD-V14MHYB-10P-FJ	1	1068850000
Order contacts separately		

Type	Qty.	Order No.
IE-CD-V14MHYB-10P-FJ	1	1068850000
Order contacts separately		

Accessories

Mounting foot	
	
Crimp contacts	
	0.33...0.5 mm²
	0.75 mm²
	0.08...0.2 mm²
Crimping tool	
	
Dust protection cap	
	

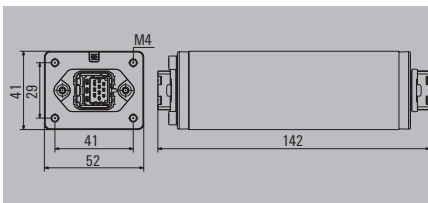
Type	Qty.	Order No.
IE-CD-MA	10	1099580000
IE-BIC-HYB-P-0,5-300	300	1096150000
IE-BIC-HYB-P-0,75-300	300	1068970000
IE-BIC-HYB-P-0,2-300	300	1135160000
HTF HYB	1	1119580000
IE-BP-V14P	10	1058310000

Note	
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Note	
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FreeCon V14 single coupling

Single coupling, Hybrid



Technical data

General data

Housing main material

Protection degree

Ambient temperature (operational)

Technical specifications power connector

Housing base material

Sealing material

Contact material

Contact surface

Plugging cycles

Electrical properties power connector

Rated current (hybrid connector)

Rated voltage (DIN EN 61984)

Contact resistance

Pole count, Hybrid

Approvals

Note

Aluminium profile, Cover: die-cast zinc, painted

IP 65

-40...+70 °C

Zinc diecast (flange), PA 66

NBR

Copper alloy

Gold over nickel

500

3 A per contact

24 V

≤ 10 mΩ

10

Ordering data

Note

Accessories

Dust protection cap



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

IE-CD-V14MHYB-10P-C-MA	1	1068840000
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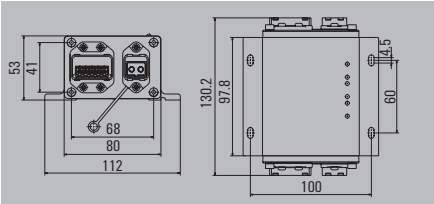
Type	Qty.	Order No.
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IE-BP-V14P	10	1058310000
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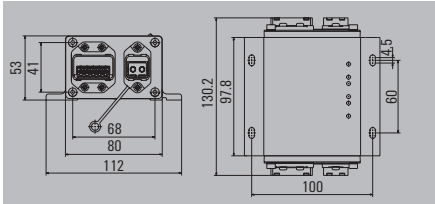
Note

FreeCon Active PROFINET
with diagnostics functionality

POF repeater



POF media converter



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, painted
780 g
PROFINET PushPull SCRJ POF (V14)
PROFINET PushPull Power
IP 65
-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
CULUS; GOSTME25

Aluminium profile, Cover: die-cast zinc, painted
780 g
PROFINET PushPull SCRJ POF (V14), PROFINET PushPull RJ45 (V14)
PROFINET PushPull Power
IP 65
-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
CULUS

Ordering data

Type	Qty.	Order No.
IE-CDR-V14MSCPOF/VAPM-C	1	1253240000
Delivery incl. IP 67 protective caps		

Type	Qty.	Order No.
IE-CDR-V14MSCPOF/VAPM-C	1	1253240000
Delivery incl. IP 67 protective caps		

Type	Qty.	Order No.
IE-CDM-V14MRJSCP/VAPM-C	1	1324440000
Delivery incl. IP 67 protective caps		

Accessories

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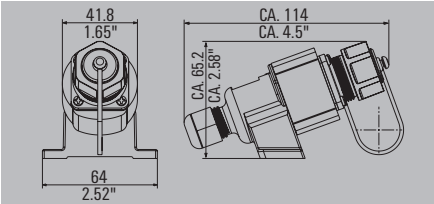
Note

Note

Note

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

IP 67
PA UL 94 V0
750
-40 °C...+70 °C
IEC 61076-3-106 Var. 1
6 mm / 9.5 mm
GOSTME25

Note

Ordering data

Variant 1
Junction box
Note

Type	Qty.	Order No.
IE-OP-V01P-1S	10	1061830000
Order RJ45 modules separately		

Accessories

Flange insert
RJ45 EIA/TIA T568 A
RJ45 EIA/TIA T568 B
RJ45 PROFINET

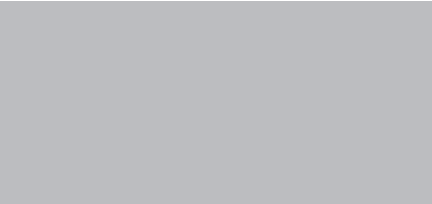


Type	Qty.	Order No.
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000

Note

FreeCon V4

FreeCon V4 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

Ordering data

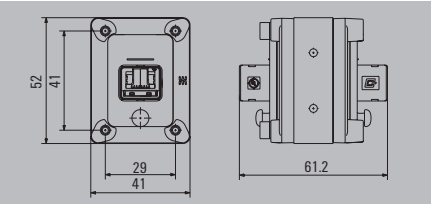
	Junction box
	Coupling
Note	

Accessories

Dust protection cap	
	Flange-mounted housing protective cap
Flange insert	
	RJ45 EIA/TIA T568 A RJ45 EIA/TIA T568 B RJ45 PROFINET

Note

Single coupling, RJ45



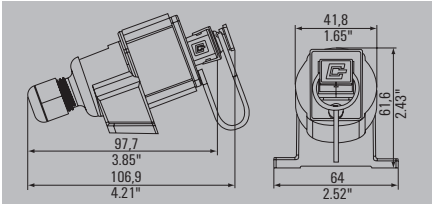
750
Aluminium profile, Cover: die-cast zinc, painted
Gold over nickel
IEC 61076-3-106 Var. 4, IEC 60603-7-5
IP 65
-40 °C...+70 °C
CULUS; GOSTME25
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
≤ 20 mΩ
> 500 MΩ
≥ 1000 V DC
≥ 1500 V DC
1 A
Zinc diecast, PA 66

Type	Qty.	Order No.
IE-CD-V04PRJ-C-MA	1	1122710000
Including mounting foot		

Type	Qty.	Order No.
IE-BP-V04P	10	1963900000

Note

Single junction box



750
PA
Gold over nickel
V-0
IEC 61076-3-106 Var. 4
IP 67
-40 °C...+70 °C
6 mm / 9.5 mm
GOSTME25

Type	Qty.	Order No.
IE-OP-V04P-1S	10	1045780000
Order RJ45 modules separately, IP 67 protective cap included in delivery		

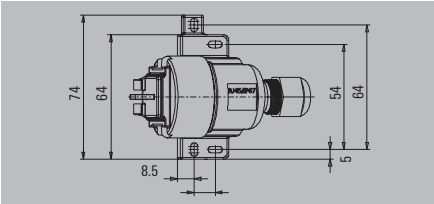
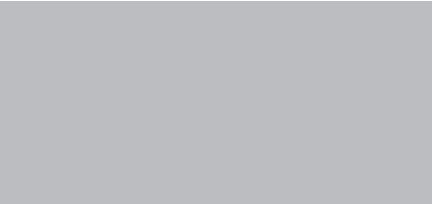
Type	Qty.	Order No.
IE-BP-V04P	10	1963900000
IE-BI-RJ45-FJ-A	10	1962850000
IE-BI-RJ45-FJ-B	10	1963840000
IE-BI-RJ45-FJ-P	10	1963830000

Note

V6 junction box

- 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

IP 67
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
-40 °C...+70 °C
750
IEC 61076-3-106 Var. 6
6 mm / 9.5 mm
GERMLOYD

Note

Ordering data

Note

Accessories

Tools	
	Crimping tool

Type	Qty.	Order No.
IE-S-IP67	1	8808370000

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

Note

Copper cabling solutions

Overview

Copper cabling solutions	Introduction AdvancedLine and CabinetLine	L.2
	Product configurator – Copper cables	L.3
	Overview – Copper cables	L.4
	Raw cables – Installation cable	L.6
	Raw cables – Connection cable	L.8
	Raw cables – Dragline cable	L.13
	Raw cables – PROFINET cable	L.14
	Raw cables – Hybrid cable	L.16
	Assembled cables – Patch cable	L.17
	Assembled cables – PROFINET cable	L.25
	Assembled cables – PROFINET cable PushPull power	L.28
	Assembled cables – PROFINET cable M12	L.29
	Assembled cables – EtherNet/IP	L.36
	Assembled cables – Railway cable M12	L.38
	Assembled cables – Railway cable RJ45	L.43

The ideal solution, whatever your needs

Our AdvancedLine and CabinetLine product ranges

AdvancedLine



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 IP 20 to IP 67 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 the colours grey, blue, red and violet 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 0 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 IP 20 protection is available. The following variants are also available with IP 67 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.weidmuller.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-C6ES8UG0550B41A2E-X
Order no.:

55 m

Plug 1: RJ45 IP67 Baymo V11 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 / Metre goods

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

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



...for applications subjected to constant movement

- Cat. 5
- Available for PROFINET as well
- With PUR 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 trailing cables



...pre-assembled cable for constant motion, e.g., with draglines

- 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

Ordering data for copper cables, metre goods

Type	Cat./Class	Colour	Plug-in connector left	right	Length				
Industrial installation cables					100 m	Metre goods	305 m		
IE-5IC4x2xAWG24/1-PUR	Cat. 5	green	-	-	8813160000	8944310000			
IE-5IC4x2xAWG24/1-PVC	Cat. 5	green	-	-	8813150000	8953160000			
IE-7IC4x2xAWG23/1-PUR	Cat. 7	green	-	-	8813140000	8955350000			
IE-7IC4x2xAWG23/1-PVC	Cat. 7	green	-	-	8813130000	8955360000			
IE-C5AS4Vxx	Cat. 5 PROFINET	green	-	-	8899000000	8955950000			
Industrial connecting cables									
IE-5CC4x2xAWG26/7-PUR	Cat. 5	green	-	-	8813200000	8938880000			
IE-5CC4x2xAWG26/7-PVC	Cat. 5	green	-	-	8813190000	8955490000			
IE-7CC4x2xAWG26/7-PUR	Cat. 7	green	-	-	8813180000	8954300000			
IE-7CC4x2xAWG26/7-PVC	Cat. 7	green	-	-	8813170000	8955480000			
IE-C5DS4Vxx	Cat. 5 PROFINET	green	-	-	8898990000	8955560000			
IE-C5DHAGxx	Cat. 5 PROFINET	green	-	-		1172250000			
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-C7FS8LM-305M	Cat. 7	magenta	-	-			1333160000		
IE-C7FS8LY-305M	Cat. 7	yellow	-	-			1344670000		
Industrial trailing cables									
IE-5TC4x2xAWG26/7-PUR	Cat. 5	green	-	-	8813210000	8936390000			
IE-C5ED8UBxx	Cat. 5	blue	-	-	8960670000	8949760000			
IE-C5DD4UGx	Cat. 5 PROFINET	green	-	-	8899010000	8947670000			
IE-C5IT4UGx	Cat. 5 PROFINET	green	-	-		1103010000			

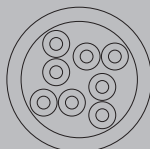
Raw cables – Installation cable

Raw cables

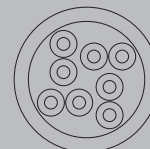
Installation cable Cat. 5

- In lengths from 100 to 1,000 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
good
in accordance with IEC 60332-1

Ordering data

100.0 m
Cut to metre starting at 110.0 m

Note

Type	Qty.	Order No.
IE-5IC4x2xAWG24/1-PUR	1	8813160000
IE-C5CS8UG-MW		8944310000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Type	Qty.	Order No.
IE-5IC4x2xAWG24/1-PVC	1	8813150000
IE-C5CS8VG-MW		8953160000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Accessories

Sheathing stripper

For UTP and STP data cables
For coaxial and round data cables

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, 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 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

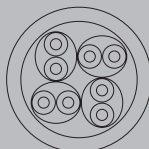
Note

Raw cables

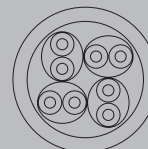
Installation cable Cat. 7

- In lengths from 100 to 1,000 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
good
in accordance with IEC 60332-1

Ordering data

100.0 m
Cut to metre starting at 110.0 m

Note

Type	Qty.	Order No.
IE-7IC4x2xAWG23/1-PUR	1	8813140000
IE-C7BS8UG-MW		8955350000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Type	Qty.	Order No.
IE-7IC4x2xAWG23/1-PVC	1	8813130000
IE-C7BS8VG-MW		8955360000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, 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 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Note

Raw cables – Connection cable

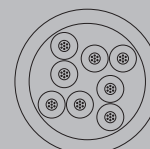
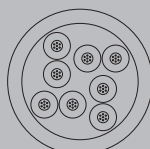
Raw cables

Connecting cable Cat. 5

- In lengths from 100 to 1,000 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 *diameter
5 *diameter
-40 °C...+80 °C
-10 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
good
in accordance with IEC 60332-1

Ordering data

100.0 m
Cut to metre starting at 110.0 m
Note

Type	Qty.	Order No.
IE-5CC4x2xAWG26/7-PUR	1	8813200000
IE-C5ES8UG-MW		8938880000
Order example, for cut cable: 150 x "article number" = 150 m on drum		

Type	Qty.	Order No.
IE-5CC4x2xAWG26/7-PVC	1	8813190000
IE-C5ES8VG-MW		8955490000
Order example, for cut cable: 150 x "article number" = 150 m on drum		

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, ø 5.8 - 7.8 mm
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
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

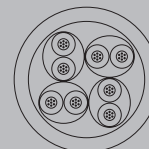
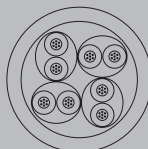
Raw cables

Connecting cable Cat. 7

In lengths from 100 to 1,000 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance 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 *diameter
5 *diameter
-40 °C...+80 °C
-15 °C...+60 °C
-40 °C...+80 °C
good
in accordance with IEC 60332-1
UL-Style 2879 (80°C/30V)

Ordering data

100.0 m
Cut to metre starting at 110.0 m
Note

Type	Qty.	Order No.
IE-7CC4x2xAWG26/7-PUR	1	8813180000
IE-C7ES8UG-MW		8954300000
Order example, for cut cable: 150 x "article number" = 150 m on drum		

Type	Qty.	Order No.
IE-7CC4x2xAWG26/7-PVC	1	8813170000
IE-C7ES8VG-MW		8955480000
Order example, for cut cable: 150 x "article number" = 150 m on drum		

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, ø 5.8 - 7.8 mm
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
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

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
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

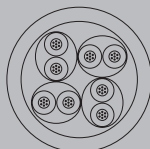
Raw cables – Connection cable

Raw cables

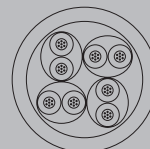
Connecting cable Cat. 7

- 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 accordance 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 accordance 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

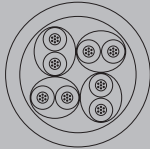
Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, ø 5.8 - 7.8 mm

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 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Note

LSZH black



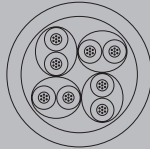
System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
Black
1.04 mm
50 mm
25 mm
-20 °C...+60 °C
0 °C...+50 °C
No
in accordance with IEC 60332-1

CULUS

Type	Qty.	Order No.
IE-C7FS8LE-305M	1	1344690000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
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
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

LSZH green



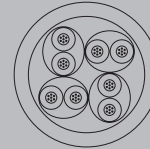
System cable
Cat.7 (ISO/IEC 11801)
S/FTP
4*2*AWG 27/7 - 4*2*0.1 mm ²
5.9 mm
LSZH
Green
1.04 mm
50 mm
25 mm
-20 °C...+60 °C
0 °C...+50 °C
No
in accordance with IEC 60332-1

CULUS

Type	Qty.	Order No.
IE-C7FS8LG-305M	1	1344680000

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
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
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

LSZH red



System cable
Cat.7 (ISO/IEC 11801)
S/FTP
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
No
in accordance 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
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
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Raw cables – Connection cable

Raw cables

Connecting cable Cat. 7

- 305 m / 1,000 ft

LSZH magenta



LSZH yellow



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 accordance 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
Yellow
1.04 mm
50 mm
25 mm
-20 °C...+60 °C
0 °C...+50 °C
No
in accordance 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-C7FS8LY-305M	1	1344670000

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, 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 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

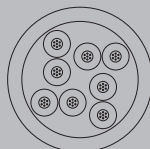
Note

Raw cables

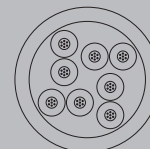
Dragline cable Cat. 5

- In lengths from 100 to 1,000 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

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.8 mm
PUR
green (RAL 6018)
0.95 mm
7.5 *diameter
4 *diameter
5 Mio
-40 °C...+80 °C
-20 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance 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 mm ²
6.8 mm
PUR
blue (RAL 5015)
0.95 mm
7.5 *diameter
4 *diameter
5 Mio
-40 °C...+80 °C
-20 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
UL-Style 20963 (80°C/30V)

Note

Ordering data

100.0 m
Cut to metre starting at 110.0 m

Note

Type	Qty.	Order No.
IE-5TC4x2xAWG26/7-PUR	1	8813210000
IE-C5ED8UG-MW		8936390000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Type	Qty.	Order No.
IE-C5ED8UB-100M	1	8960670000
IE-C5ED8UB-MW		8949760000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, ø 5.8 - 7.8 mm

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000

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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Note

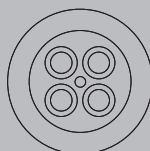
Raw cables – PROFINET cable

Raw cables

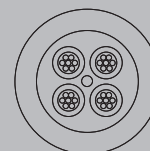
PROFINET cable

- In lengths from 100 to 1,000 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 *diameter
3.5 *diameter
-40 °C...+75 °C
-20 °C...+60 °C
-40 °C...+75 °C
good
in accordance 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 *diameter
3.5 *diameter
-40 °C...+70 °C
-20 °C...+60 °C
-40 °C...+70 °C
good
in accordance with IEC 60332-1 / UL 1685
UL Style 20201

Ordering data

100.0 m
Cut to metre starting at 110.0 m

Note

Type	Qty.	Order No.
IE-C5AS4V1000	1	8899000000
IE-C5AS4VG-MW		8955950000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Type	Qty.	Order No.
IE-C5DS4V1000	1	8898990000
IE-C5DS4VG-MW		8955560000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables

Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, 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 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

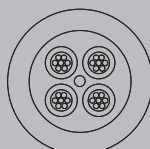
Note

Raw cables

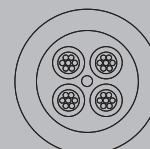
PROFINET cable

- In lengths from 100 to 1,000 metres

Dragline cable type C, PUR



Torsion cable type C, PUR



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

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 *diameter
5 *diameter
3 Mio
°/m
-40 °C...+70 °C
-20 °C...+60 °C
-50 °C...+70 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1

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 *diameter
5 *diameter
1 mill.
180 °/m
-40 °C...+80 °C
-40 °C...+80 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
UL Style 21161

Ordering data

Cat. 5 PROFINET. PUR	
	100.0 m
	Cut to metre starting at 110.0 m

Note

Type	Qty.	Order No.
IE-C5DD4U1000	1	8899010000
IE-C5DD4UG-MW		8947670000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Type	Qty.	Order No.
IE-C5IT4UG-MW		1103010000

Order example, for cut cable: 150 x "article number" = 150 m on drum

Accessories

Sheathing stripper	
	For UTP and STP data cables
	For coaxial and round data cables

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, 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 NE WS VO	160	1689470001
VT SF 6/21 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 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Note

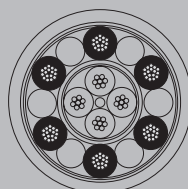
Raw cables – Hybrid cable

Raw cables

Hybrid cable

- In lengths from 100 to 1,000 metres

PVC



Technical data

Product type	Connecting cables
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Cross-section	4*AWG 22/7 - 0.36 mm ² , 6*0.5 mm ²
Sheath diameter, max.	9.5 mm
Material sheath	PVC
Sheathing colour	green (RAL 6018)
Insulation diameter	1.5 mm / 1.75 mm
Min. bending radius, repetitive	7.5 *diameter
Min. bending radius, once only	3.5 *diameter
Ambient temperature (operational)	-40 °C...+70 °C
Installation temperature	-20 °C...+60 °C
Storage temperature	-40 °C...+70 °C
Abrasion resistance	good
Halogen	Yes
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1685
Resistance to oils	limited
Standard, assembly	
Approvals	
Note	

Ordering data

	Type	Qty.	Order No.
	IE-C5DHAG-MW		1172250000
Note	Order example, for cut cable: 150 x "article number" = 150 m on drum		

Accessories

	Type	Qty.	Order No.
Sheathing stripper	AM 12	1	9030060000
	IE-CST	1	9204350000
Markers	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 NE WS VO	160	1689470001
	VT SF 6/21 NE WS VO	160	1730560001

Note

Assembled cables

CabinetLine Cat. 6 straight patch cable

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

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
in accordance with IEC 60754-2
in accordance with IEC 60332-1 / UL 1581 FT2
CULUS; GOSTME25

Note

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

Sheathing stripper

For UTP and STP data cables
For coaxial and round data cables

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

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

Assembled cables - Patch cable

Assembled cables

CabinetLine Cat. 6 straight patch cable

LSZH blue



LSZH black



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	Patch cable
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Version connector left / Version connector right	RJ45 IP 20 / RJ45 IP 20
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath	LSZH
Colour	Blue
Insulation diameter	1.04 mm
Min. bending radius, repetitive	50 mm
Min. bending radius, once only	25 mm
Ambient temperature (operational)	-20 °C...+60 °C
Installation temperature	0 °C...+50 °C
Storage temperature	-20 °C...+60 °C
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1581 FT2
Approvals	CULUS; GOSTME25
Note	

Product type	Patch cable
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Version connector left / Version connector right	RJ45 IP 20 / RJ45 IP 20
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath	LSZH
Colour	Black
Insulation diameter	1.04 mm
Min. bending radius, repetitive	50 mm
Min. bending radius, once only	25 mm
Ambient temperature (operational)	-20 °C...+60 °C
Installation temperature	0 °C...+50 °C
Storage temperature	-20 °C...+60 °C
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1581 FT2
Approvals	CULUS; GOSTME25
Note	

Product type	Patch cable
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Version connector left / Version connector right	RJ45 IP 20 / RJ45 IP 20
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath	LSZH
Colour	Black
Insulation diameter	1.04 mm
Min. bending radius, repetitive	50 mm
Min. bending radius, once only	25 mm
Ambient temperature (operational)	-20 °C...+60 °C
Installation temperature	0 °C...+50 °C
Storage temperature	-20 °C...+60 °C
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1581 FT2
Approvals	CULUS; GOSTME25
Note	

Ordering data

Type	Qty.	Order No.
IE-C6FP8LB0005M40M40-B	1	1165900005
IE-C6FP8LB0010M40M40-B	1	1165900010
IE-C6FP8LB0015M40M40-B	1	1165900015
IE-C6FP8LB0020M40M40-B	1	1165900020
IE-C6FP8LB0030M40M40-B	1	1165900030
IE-C6FP8LB0050M40M40-B	1	1165900050
IE-C6FP8LB0100M40M40-B	1	1165900100
IE-C6FP8LB0150M40M40-B	1	1165900150
IE-C6FP8LB0200M40M40-B	1	1165900200
IE-C6FP8LB0250M40M40-B	1	1165900250
Note		

Type	Qty.	Order No.
IE-C6FP8LE0005M40M40-E	1	1251610005
IE-C6FP8LE0010M40M40-E	1	1251610010
IE-C6FP8LE0015M40M40-E	1	1251610015
IE-C6FP8LE0020M40M40-E	1	1251610020
IE-C6FP8LE0030M40M40-E	1	1251610030
IE-C6FP8LE0050M40M40-E	1	1251610050
IE-C6FP8LE0100M40M40-E	1	1251610100
IE-C6FP8LE0150M40M40-E	1	1251610150
IE-C6FP8LE0200M40M40-E	1	1251610200
IE-C6FP8LE0250M40M40-E	1	1251610250
Note		

Type	Qty.	Order No.
IE-C6FP8LE0005M40M40-E	1	1251610005
IE-C6FP8LE0010M40M40-E	1	1251610010
IE-C6FP8LE0015M40M40-E	1	1251610015
IE-C6FP8LE0020M40M40-E	1	1251610020
IE-C6FP8LE0030M40M40-E	1	1251610030
IE-C6FP8LE0050M40M40-E	1	1251610050
IE-C6FP8LE0100M40M40-E	1	1251610100
IE-C6FP8LE0150M40M40-E	1	1251610150
IE-C6FP8LE0200M40M40-E	1	1251610200
IE-C6FP8LE0250M40M40-E	1	1251610250
Note		

Accessories

Sheathing stripper	For UTP and STP data cables For coaxial and round data cables
Markers	Insertion label, yellow, 12 mm Insertion label, yellow, 18 mm
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

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

CabinetLine Cat. 6 straight patch cable

LSZH green



LSZH red



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
Patch cable
Category
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding
S/FTP
Version connector left / Version connector right
RJ45 IP 20 / RJ45 IP 20
Connector standard
IEC 60603-7-51
PoE / PoE+
conforming to IEEE 802.3at
Cross-section
4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.
5.9 mm
Material sheath
LSZH
Colour
Green
Insulation diameter
1.04 mm
Min. bending radius, repetitive
50 mm
Min. bending radius, once only
25 mm
Ambient temperature (operational)
-20 °C...+60 °C
Installation temperature
0 °C...+50 °C
Storage temperature
-20 °C...+60 °C
Halogen
in accordance with IEC 60754-2
Resistance to spread of flame
in accordance with IEC 60332-1 / UL 1581 FT2
Approvals
CULUS; GOSTME25
Note

Product type
Patch cable
Category
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding
S/FTP
Version connector left / Version connector right
RJ45 IP 20 / RJ45 IP 20
Connector standard
IEC 60603-7-51
PoE / PoE+
conforming to IEEE 802.3at
Cross-section
4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.
5.9 mm
Material sheath
LSZH
Colour
Red
Insulation diameter
1.04 mm
Min. bending radius, repetitive
50 mm
Min. bending radius, once only
25 mm
Ambient temperature (operational)
-20 °C...+60 °C
Installation temperature
0 °C...+50 °C
Storage temperature
-20 °C...+60 °C
Halogen
in accordance with IEC 60754-2
Resistance to spread of flame
in accordance with IEC 60332-1 / UL 1581 FT2
Approvals
CULUS; GOSTME25
Note

Product type
Patch cable
Category
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding
S/FTP
Version connector left / Version connector right
RJ45 IP 20 / RJ45 IP 20
Connector standard
IEC 60603-7-51
PoE / PoE+
conforming to IEEE 802.3at
Cross-section
4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.
5.9 mm
Material sheath
LSZH
Colour
Red
Insulation diameter
1.04 mm
Min. bending radius, repetitive
50 mm
Min. bending radius, once only
25 mm
Ambient temperature (operational)
-20 °C...+60 °C
Installation temperature
0 °C...+50 °C
Storage temperature
-20 °C...+60 °C
Halogen
in accordance with IEC 60754-2
Resistance to spread of flame
in accordance with IEC 60332-1 / UL 1581 FT2
Approvals
CULUS; GOSTME25
Note

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
	25.0 m
Note	

Type	Qty.	Order No.
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-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

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
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

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

Assembled cables

CabinetLine Cat. 6 straight patch cable

LSZH magenta



LSZH yellow



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	Patch cable
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Version connector left / Version connector right	RJ45 IP 20 / RJ45 IP 20
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath	LSZH
Colour	Magenta
Insulation diameter	1.04 mm
Min. bending radius, repetitive	50 mm
Min. bending radius, once only	25 mm
Ambient temperature (operational)	-20 °C...+60 °C
Installation temperature	0 °C...+50 °C
Storage temperature	-20 °C...+60 °C
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1581 FT2
Approvals	CULUS; GOSTME25
Note	

Product type	Patch cable
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Version connector left / Version connector right	RJ45 IP 20 / RJ45 IP 20
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath	LSZH
Colour	Yellow
Insulation diameter	1.04 mm
Min. bending radius, repetitive	50 mm
Min. bending radius, once only	25 mm
Ambient temperature (operational)	-20 °C...+60 °C
Installation temperature	0 °C...+50 °C
Storage temperature	-20 °C...+60 °C
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1581 FT2
Approvals	CULUS; GOSTME25
Note	

Product type	Patch cable
Category	Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
Shielding	S/FTP
Version connector left / Version connector right	RJ45 IP 20 / RJ45 IP 20
Connector standard	IEC 60603-7-51
PoE / PoE+	conforming to IEEE 802.3at
Cross-section	4*2*AWG 27/7 - 4*2*0.1 mm ²
Sheath diameter, max.	5.9 mm
Material sheath	LSZH
Colour	Yellow
Insulation diameter	1.04 mm
Min. bending radius, repetitive	50 mm
Min. bending radius, once only	25 mm
Ambient temperature (operational)	-20 °C...+60 °C
Installation temperature	0 °C...+50 °C
Storage temperature	-20 °C...+60 °C
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1 / UL 1581 FT2
Approvals	CULUS; GOSTME25
Note	

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	
25.0 m	
Note	

Type	Qty.	Order No.
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
Note		

Type	Qty.	Order No.
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
Note		

Accessories

Sheathing stripper	
	For UTP and STP data cables
	For coaxial and round data cables
Markers	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm
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
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
Note		

Assembled cables

CabinetLine Cat. 6 patch cable

Angled

LSZH grey 270°



LSZH grey 90°



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

Technical data
Connector standard
PoE / PoE+
Product type
Category
Shielding
Version connector left / Version connector right
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

Technical data
IEC 60603-7-51
conforming to IEEE 802.3at
Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20, Angled 270° / RJ45 IP 20
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
in accordance with IEC 60754-2
in accordance with IEC 60332-1 / UL 1581 FT2
CULUS; GOSTME25

Technical data
IEC 60603-7-51
conforming to IEEE 802.3at
Patch cable
Cat.6 _A / Class E _A (ISO/IEC 11801 2010)
S/FTP
RJ45 IP 20, Angled 90° / RJ45 IP 20
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
in accordance with IEC 60754-2
in accordance with IEC 60332-1 / UL 1581 FT2
CULUS; GOSTME25

Ordering data

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

Accessories
Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Note

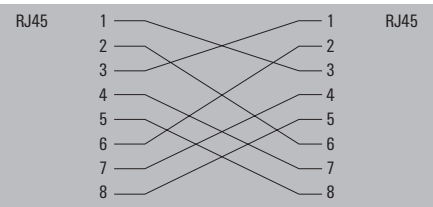
Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

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

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
in accordance with IEC 60754-2
in accordance with IEC 60332-1 / UL 1581 FT2
CULUS; GOSTME25

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

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables

Markers

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

CabinetLine Cat. 5 straight patch cable

PVC green



PUR green



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
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)
S/FTP
RJ45 IP 20 / RJ45 IP 20
IEC 60603-7-51
conforming to IEEE 802.3at
4*2*AWG 26/7 - 4*2*0.128 mm ²
6.4 mm
PVC
green (RAL 6018)
0.98 mm
10 *diameter
5 *diameter
-40 °C...+75 °C
good
in accordance with IEC 60332-1

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 mm ²
6 mm
PUR
green (RAL 6018)
0.98 mm
10 *diameter
5 *diameter
-40 °C...+75 °C
very good
in accordance with IEC 60754-2
in accordance 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

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
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

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

Assembled cables
Patch cable CabinetLine Cat. 6 straight

PUR green



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

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	

System cable
Cat.6 (ISO/IEC 11801)
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 mm²
6.4 mm
PUR
green (RAL 6018)
1.02 mm
10 *diameter
5 *diameter
-40 °C...+85 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1 / UL 1581 FT2
in accordance 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

Sheathing stripper

For UTP and STP data cables
For coaxial and round data cables

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length
Wire and cable marker, ø 4.7 - 7.4 mm
Wire and cable marker, ø 5.8 - 7.8 mm

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
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000
VT SF 5/21 NE WS VO	160	1689470001
VT SF 6/21 NE WS VO	160	1730560001

Assembled cable**Patch cable PROFINET dragline cable (Type C)****Cat. 5****IP 20****RJ45 IP 20****RJ45 IP 20 incl. protective cap****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

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

Ordering data

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**Accessories**

Sheathing stripper	
	For UTP and STP data cables
	For coaxial and round data cables
Markers	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Note

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

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
Markers		
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Type	Qty.	Order No.
IE-C5DD4UG0005A2DA2D-E	1	1376510005
IE-C5DD4UG0010A2DA2D-E	1	1376510010
IE-C5DD4UG0020A2DA2D-E	1	1376510020
IE-C5DD4UG0030A2DA2D-E	1	1376510030
IE-C5DD4UG0050A2DA2D-E	1	1376510050
IE-C5DD4UG0100A2DA2D-E	1	1376510100
IE-C5DD4UG0150A2DA2D-E	1	1376510150
IE-C5DD4UG0200A2DA2D-E	1	1376510200

Type	Qty.	Order No.
AM 12	1	9030060000
IE-CST	1	9204350000
Markers		
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Note

Assembled cables - PROFINET cable

Assembled cable

Patch cable PROFINET dragline cable (Type C)

Cat. 5

IP 67

V14 RJ45 IP 67



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Connector standard	IEC 61076-3-117 Var. 14, IEC 60603-7-51
Shielding	SF/UTP
Version connector left / Version connector right	RJ45 IP 67 PushPull V14 metal / RJ45 IP 67 PushPull V14 metal
Cross-section	4*AWG 22/7 - 0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Insulation diameter	1.5 mm
Min. bending radius, repetitive / Min. bending radius, once only	7.5 *diameter / 5 *diameter
Bending cycles	3 Mio
Speed	180 m/min
Acceleration	4 m/s ²
Pulling force	≤ 150 N
Ambient temperature (operational)	-40 °C...+70 °C
Installation temperature	-20 °C...+60 °C
Storage temperature	-50 °C...+70 °C
Abrasion resistance	very good
Halogen	in accordance with IEC 60754-2
Resistance to spread of flame	in accordance with IEC 60332-1
Resistance to oils	in accordance with IEC 60811-2-1
Approvals	GOSTME25
Note	

Ordering data

		Type	Qty.	Order No.
	1.0 m	IE-C5DD4UG0010A2EA2E-X	1	1119730010
	2.0 m	IE-C5DD4UG0020A2EA2E-X	1	1119730020
	3.0 m	IE-C5DD4UG0030A2EA2E-X	1	1119730030
	5.0 m	IE-C5DD4UG0050A2EA2E-X	1	1119730050
	10.0 m	IE-C5DD4UG0100A2EA2E-X	1	1119730100
	15.0 m	IE-C5DD4UG0150A2EA2E-X	1	1119730150
	20.0 m	IE-C5DD4UG0200A2EA2E-X	1	1119730200
Note				

Accessories

		Type	Qty.	Order No.
Sheathing stripper	For UTP and STP data cables	AM 12	1	9030060000
	For coaxial and round data cables	IE-CST	1	9204350000
Markers				
	Insertion label, yellow, 12 mm	TM-I 12 MC NE GE	320	1718411687
	Insertion label, yellow, 18 mm	TM-I 18 MC NE GE	320	1718431687
Note				

Assembled cable

Patch cable PROFINET (Type C) Cat. 5 moulded IP 67

V14 RJ45 IP 67

Dragline cable



RJ45		RJ45
1	yellow	1
2	orange	2
3	white	3
6	blue	6

V14 RJ45 IP 67

Torsion cable



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 61076-3-107
SF/UTP
RJ45 IP 67 PushPull moulded V14 metal / RJ45 IP 67 PushPull moulded V14 metal
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
1.5 mm
7.5 *diameter / 5 *diameter
3 Mio / ≤ 150 N
180 m/min / 4 m/s ²
-40 °C...+70 °C
-20 °C...+60 °C
-50 °C...+70 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
GOSTME25

Torsion cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
IEC 61076-3-107
S/UTP
RJ45 IP 67 PushPull moulded V14 metal / RJ45 IP 67 PushPull moulded V14 metal
4* AWG 22/19 - 0.38 mm ²
6.7 mm
PUR
1.5 mm
10 *diameter / 5 *diameter
1 mill. / 180 °/m
-40 °C...+80 °C
-40 °C...+80 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance 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

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
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

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 – PROFINET cable PushPull Power

Assembled cables

Patch cable PushPull Power

Power IP 67, PVC



Power IP 67, PUR



Technical data

Connector standard
Version connector left / Version connector right
Ambient temperature (operational)
Wire connection cross section AWG, max.
Sheath diameter, max.
Material sheath
Sheathing colour
Insulation
No. of wires
Min. bending radius, once only
Rated voltage
Current-carrying capacity at 50 °C
Approvals
Note

in accordance with PROFINET specification
PushPull Power / PushPull Power
-40 °C...+70 °C
AWG 16
8.1 mm
PVC
grey (similar to RAL 7001)
PVC
5
4 *diameter
24 V
16 A

in accordance with PROFINET specification
PushPull Power / PushPull Power
-40 °C...+80 °C
AWG 16
9 mm
PUR
grey (similar to RAL 7001)
TPE
5
5 *diameter
24 V
16 A

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

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
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

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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 IP 67 straight male / M12 IP 67 straight male
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 *diameter
5 *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
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
CULUS; GOSTME25

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 straight male / M12 IP 67 straight socket
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 *diameter
5 *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
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
CULUS; GOSTME25

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

Markers	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Mounting tool

Screwty Set
Screwty Set-DM
Screwty-M12
Screwty-M12-DM

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	1	1900000000
Screwty-M12-DM	1	1900001000

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	1	1900000000
Screwty-M12-DM	1	1900001000

Note

Assembled cables – PROFINET cable M12

Assembled cable

Dragline cable M12

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 - open

Plug / -



M12 - RJ45

Plug / plug



	M12
yellow	1
white	2
orange	3
blue	4

RJ45		M12
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
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 IP 67 straight male / Open
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 *diameter
5 *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
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
CULUS; GOSTME25

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 straight male / RJ45 IP 20
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 *diameter
5 *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
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
GOSTME25

Ordering data

	1.0 m
	1.5 m
	3.0 m
	5.0 m
	10.0 m
Note	

Type	Qty.	Order No.
IE-C5DD4UG0015MCSXXX-X	1	1025940015
IE-C5DD4UG0030MCSXXX-X	1	1025940030
IE-C5DD4UG0050MCSXXX-X	1	1025940050
IE-C5DD4UG0100MCSXXX-X	1	1025940100

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

Accessories

Sheathing stripper
For UTP and STP data cables
For coaxial and round data cables
Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Mounting tool
Screwty Set
Screwty Set-DM
Screwty-M12
Screwty-M12-DM
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
Screwty Set	1	1910000000
Screwty Set-DM	1	1920000000
Screwty- M12	1	1900000000
Screwty-M12-DM	1	1900001000

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	1	1900000000
Screwty-M12-DM	1	1900001000

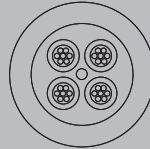
Assembled cables

M12 dragline cable, angled

- Cat. 5
- PUR
- D-coded
- PROFINET type C

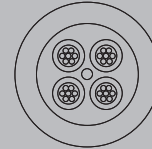
M12 / M12

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 IP 67 straight male / M12 IP 67 angled male
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 *diameter
-40 °C...+70 °C
-20 °C...+60 °C
-50 °C...+70 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60811-2-1

Dragline cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 angled male / M12 IP 67 angled male
4*AWG 22/7 - 0.36 mm ²
6.7 mm
PUR
green (RAL 6018)
1.5 mm
7.5 *diameter
-40 °C...+70 °C
-20 °C...+60 °C
-50 °C...+70 °C
very good
in accordance with IEC 60754-2
in accordance 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.
IE-C5DD4UG0015MCAMCA-E	1	1059890015
IE-C5DD4UG0030MCAMCA-E	1	1059890030
IE-C5DD4UG0050MCAMCA-E	1	1059890050
IE-C5DD4UG0100MCAMCA-E	1	1059890100

Accessories

Markers	
Insertion label, yellow, 12 mm	
Insertion label, yellow, 18 mm	
Transparent sleeves, 12-mm length	
Transparent sleeves, 18-mm length	

Type	Qty.	Order No.
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.
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

Assembled cables – PROFINET cable M12

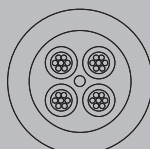
Assembled cables

M12 dragline cable, angled

- Cat. 5
- PUR
- D-coded
- PROFINET type C

M12 / open

Plug / -



Technical data

Product type	Dragline cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Version connector left / Version connector right	M12 IP 67 angled male / Open
Cross-section	4*AWG 22/7 - 0.36 mm ²
Sheath diameter, max.	6.7 mm
Material sheath	PUR
Sheathing colour	green (RAL 6018)
Insulation diameter, min. / max.	1.5 mm
Min. bending radius, repetitive	7.5 *diameter
Ambient temperature (operational)	-40 °C...+70 °C
Installation temperature	-20 °C...+60 °C
Storage temperature	-50 °C...+70 °C
Abrasion resistance	very good
Halogen	in accordance with IEC 60754-2
Resistance to oils	in accordance with IEC 60811-2-1
Fire safety for railway vehicles	
Note	

Ordering data

Cat. 5 PROFINET. PUR. M12 straight-M12 angled	Type	Qty.	Order No.
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	IE-C5DD4UG0015MCAXXX-X	1	1059750015
3.0 m	IE-C5DD4UG0030MCAXXX-X	1	1059750030
5.0 m	IE-C5DD4UG0050MCAXXX-X	1	1059750050
10.0 m	IE-C5DD4UG0100MCAXXX-X	1	1059750100
Note			

Accessories

Markers	Type	Qty.	Order No.
Insertion label, yellow, 12 mm	TM-I 12 MC NE GE	320	1718411687
Insertion label, yellow, 18 mm	TM-I 18 MC NE GE	320	1718431687
Transparent sleeves, 12-mm length	TM 4/12 HF/HB	500	1719840000
Transparent sleeves, 18-mm length	TM 4/18 HF/HB	500	1719850000

Note

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 flange / M12 - male / 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 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
	5.0 m
	10.0 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

Markers

Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm

Mounting tool

Screwty Set
Screwty Set-DM
Screwty-M12
Screwty-M12-DM

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	1	1900000000
Screwty-M12-DM	1	1900001000

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	1	1900000000
Screwty-M12-DM	1	1900001000

Note

Assembled cables – PROFINET cable M12

Assembled cables

System cable M12 flange

- Cat. 5
- PUR
- D-coded
- PROFINET type B

M12 flange - open

Socket / -



	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
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 flange / Open
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
	5.0 m
	10.0 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

Accessories

Markers	
	Insertion label, yellow, 12 mm
	Insertion label, yellow, 18 mm

Mounting tool

Screwty Set
Screwty Set-DM
Screwty-M12
Screwty-M12-DM

Type	Qty.	Order No.
TM-I 12 MC NE GE	320	1718411687
TM-I 18 MC NE GE	320	1718431687

Type	Qty.	Order No.
Screwty Set	1	1910000000
Screwty Set-DM	1	1920000000
Screwty-M12	1	1900000000
Screwty-M12-DM	1	1900001000

Note

Assembled cable

Connecting cable M12

- Cat. 6
- PVC
- X-Type
- PROFINET type B

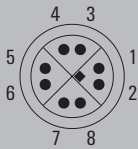
M12 - M12

Plug / plug
PROFI
NET



M12 - open

Plug / -
PROFI
NET



M12								M12
1	white, green							1
2	green							2
3	white, orange							3
4	orange							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, Blue							5
	Blue							6
	White, Brown							7
	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
Pulling force
Ambient temperature (operational)
Installation temperature
Storage temperature
Halogen
Resistance to spread of flame
Standard, assembly
Approvals

Note

Connecting cables
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 *diameter
4 *diameter
≤ 150 N
-40 °C...+80 °C
-40 °C...+80 °C
-40 °C...+80 °C
in accordance with IEC 60332-1-2
UL-Style 2461

Connecting cables
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 *diameter
4 *diameter
≤ 150 N
-40 °C...+80 °C
-40 °C...+80 °C
-40 °C...+80 °C
in accordance 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-C6KS8VG0050XCSXXX-E	1	1449470050
IE-C6KS8VG0100XCSXXX-E	1	1449470100

Accessories

Markers	
	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 – EtherNet/IP

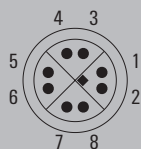
Assembled cables

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	Green	8
5	White, Blue	7
6	Blue	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 *diameter
5 *diameter
-40 °C...+80 °C
-20 °C...+60 °C
-40 °C...+80 °C
according to IEC 60754-1
in accordance 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-C6ES8UG0010A40XCS-E	1	1457580010
IE-C6ES8UG0020A40XCS-E	1	1457580020
IE-C6ES8UG0030A40XCS-E	1	1457580030
IE-C6ES8UG0050A40XCS-E	1	1457580050
IE-C6ES8UG0100A40XCS-E	1	1457580100
IE-C6ES8UG0120A40XCS-E	1	1457580120

Accessories

Markers	
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

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 *diameter
5 *diameter
-40 °C...+80 °C
-10 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
CULUS; GOSTME25

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 *diameter
5 *diameter
-40 °C...+80 °C
-10 °C...+60 °C
-40 °C...+80 °C
very good
in accordance with IEC 60754-2
in accordance with IEC 60332-1
in accordance with IEC 60811-2-1
CULUS; GOSTME25

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

Markers	
	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 - 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

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

Technical data
System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 straight male / M12 IP 67 straight male
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
in accordance with IEC 60754-2
in accordance 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
CULUS

Technical data
System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 straight male / M12 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
in accordance with IEC 60754-2
in accordance 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
CULUS

Ordering data

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

Accessories
Markers
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

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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

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 straight male / 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
in accordance with IEC 60754-2
in accordance 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
CULUS

Approvals

Note

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

Sheathing stripper

For UTP and STP data cables
For coaxial and round data cables

Markers

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



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 m
5 m
10 m

Note

Accessories

Markers
Insertion label, yellow, 12 mm
Insertion label, yellow, 18 mm
Transparent sleeves, 12-mm length
Transparent sleeves, 18-mm length

Note

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 straight male / M12 IP 67 angled male
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
in accordance with IEC 60754-2
in accordance 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

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.
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

M12		M12
1	yellow	1
2	white	2
3	orange	3
4	blue	4

System cable
Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
SF/UTP
M12 IP 67 angled male / M12 IP 67 angled male
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
in accordance with IEC 60754-2
in accordance 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

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

Note

Assembled cables

Railway cable M12

- Cat. 5
- Radox
- D-coded

M12 / open

Plug / -



	M12
yellow	1
white	2
orange	3
blue	4

Technical data

Product type	System cable
Category	Cat.5 (ISO/IEC 11801) / Cat.5e (TIA T568-B)
Shielding	SF/UTP
Version connector left / Version connector right	M12 IP 67 angled male / Open
Cross-section	2*2*AWG 22/7 - 2*2*0.36 mm ²
Sheath diameter, max.	7.55 mm
Material sheath	Radox GKW S
Sheathing colour	Black
Insulation diameter, min. / max.	1.95 mm
Min. bending radius, repetitive	6 *diameter
Ambient temperature (operational)	-40 °C...+90 °C
Installation temperature	-25 °C...+90 °C
Storage temperature	-40 °C...+90 °C
Abrasion resistance	very good
Halogen	in accordance with IEC 60754-2
Resistance to oils	in accordance with EN 50306-3
Fire safety for railway vehicles	According to DIN 5510-2 fire safety levels 1,2,3,4, According to BS 6853, According to EN50288-2-2

Note

Ordering data

	Type	Qty.	Order No.
1.5 m	IE-C5DB4RE0015MCAXXX-X	1	1059900015
3 m	IE-C5DB4RE0030MCAXXX-X	1	1059900030
5 m	IE-C5DB4RE0050MCAXXX-X	1	1059900050
10 m	IE-C5DB4RE0100MCAXXX-X	1	1059900100

Note

Accessories

Markers	Type	Qty.	Order No.
Insertion label, yellow, 12 mm	TM-I 12 MC NE GE	320	1718411687
Insertion label, yellow, 18 mm	TM-I 18 MC NE GE	320	1718431687
Transparent sleeves, 12-mm length	TM 4/12 HF/HB	500	1719840000
Transparent sleeves, 18-mm length	TM 4/18 HF/HB	500	1719850000

Note

Assembled cables - Railway cable M12

Assembled cables

Railway cable RW M12

- Cat. 5
- Radox
- D-coded
- RW (reduced wire): suitable for RJ45 plug-in 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

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
M12 IP 67 straight male / Open
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
in accordance with IEC 60754-2
in accordance 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

System cable
Cat.5 (ISO/IEC 11801)
SF/UTP
M12 IP 67 straight male / 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
in accordance with IEC 60754-2
in accordance 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

Ordering data

4.0 m
5.0 m
10.0 m

Note

Type	Qty.	Order No.
IE-C5DB4WE0050MCSXXX-E	1	1269740050
IE-C5DB4WE0100MCSXXX-E	1	1269740100

Type	Qty.	Order No.
IE-C5DB4WE0040MCSA20-E	1	1220310040

Accessories

Sheathing stripper

For UTP and STP data cables
For coaxial and round data cables

Markers

Transparent sleeves. 12-mm length
Transparent sleeves. 18-mm length

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

Type	Qty.	Order No.
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Assembled cables

Railway cable RW RJ45 - RJ45

- Cat. 5
- Radox
- RW (reduced wire)

RJ45 - RJ45

Plug / plug



RJ45		RJ45
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)
Storage temperature
Abrasion resistance
Halogen
Resistance to oils
Fire safety for railway vehicles

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 mm ²
7 mm
Radox GKW S
Black
1.58 mm
6 *diameter
-40 °C...+90 °C
-40 °C...+90 °C
very good
in accordance with IEC 60754-2
in accordance 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

Approvals

Note

Ordering data

1.0 m
2.0 m
3.0 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-C5DB4WE0050A20A20-E	1	1421710050
IE-C5DB4WE0100A20A20-E	1	1421710100
IE-C5DB4WE0200A20A20-E	1	1421710200

Accessories

Markers	
Transparent sleeves. 12-mm length	
Transparent sleeves. 18-mm length	

Type	Qty.	Order No.
TM 4/12 HF/HB	500	1719840000
TM 4/18 HF/HB	500	1719850000

Note

Fibre-optic cabling solutions

Overview

Fibre-optic cabling solutions	Overview – Fibre-optic cables	M.2
	Product configurator – Fibre-optic cables	M.4
	Raw cables – FO connection cable / dragline cable	M.5
	Assembled cables – FO patch cable	M.7
	Assembled cables – FO PROFINET cable	M.12
	Assembled cables – FO dragline cable	M.13

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)
- Multimode glass fibre
- Breakout cable
- Zipcord cable
- Cable by the metre 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

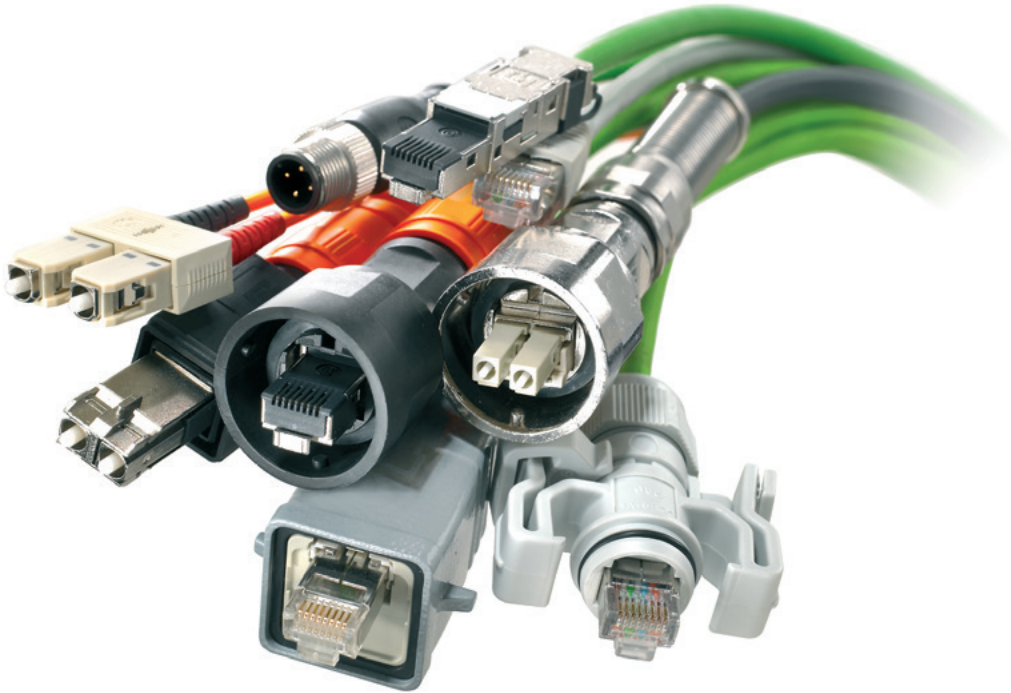


...for flexible installations in and around machinery and plants – for harsh, industrial surroundings, dragline cable compatible

- Multimode fibre-optic
- Breakout cable
- Pre-assembled cable

Ordering data for Fibre-optic cables (FO), sold by the metre

Type	Breakout/ Zipcord	Plug-in connector		Length						
		left	right							
GOF dragline, standard temperature range				Metre goods						
IE-FM5D2UE-MW	Breakout	-	-	8946000000						
IE-FM6D2UE-MW	Breakout	-	-	8956060000						
GOF dragline, extended temperature range										
IE-FM5C2UE-MW	Breakout	-	-	8956070000						
IE-FM6C2UE-MW	Breakout	-	-	8956050000						
POF										
IE-FPOZ2EE-MW	Zipcord	-	-	1242820000						
IE-FPOD2UE-MW	Breakout, black	-	-	1172280000						
IE-FPOD2UG-MW	Breakout, green	-	-	1398770000						



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:

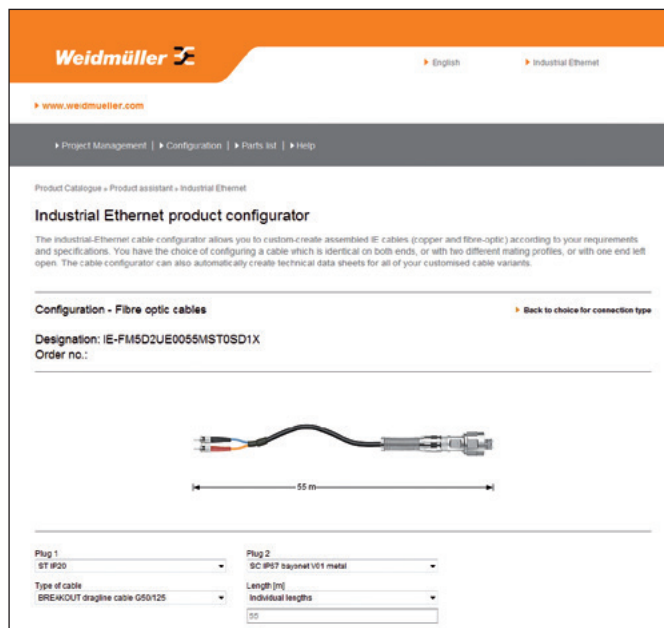
IP 20

- SCRJ
- ST
- LC Duplex
- SC duplex

IP 67

- 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.

Passive components

Overview of accessories

Accessories – Passive components	Introduction	N.2
	Copper cabling tools	N.3
	Fibre-optic cabling tools	N.9
	General tools	N.15
	Cabtite cable entry system	N.17
	Protective caps	N.20
	Inkjet printer	N.22
	Markers for cables and STEADYTEC®	N.24
	Surge protection for data interfaces	N.25

Overview of accessories

Everything from a single source

Copper cabling tools

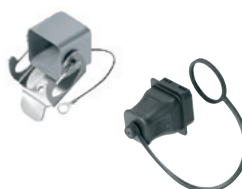


For assembling

- RJ45 crimp
- Hybrid insert

for stripping
to test the wiring

Protective caps



to protect all IE-LINE connectors
with **STEADYTEC®** technology

Fibre-optic cabling tools



For assembling

- SC-GOF
- ST-GOF

Marker



... for identifying conductors, plugs
and devices

- Line markers
- Housing and plug marker

General tools



... for pressing conductors into
IDC terminals and pressing RJ45
contacts

- Indentation tool
- Pressing tool

Surge protection for data interfaces



For the protection of Cat. 5 and
Cat. 6 data lines - also in PoE and
PoE + applications

Cabtite



System-based cable entry

- Cable entry strips
- Cable grommets

Stripping tools

IE-CST

1- and 2-step stripping in one operation



Stripping tool for round (shielded) data cables of Ø 2.5...8 mm

- Specially designed for Ethernet cables
- Strips sheathing and cuts shield in one operation
- Blue blade cartridge included in delivery

AM 12

For UTP and STP data cables



- Cutting of UTP and STP data cables and other flexible copper cables with a diameter of up to 4 mm² (~AWG11)
- Stripping of the outer insulations of UTP and STP data cables and other round cables with Ø 0.5 ... 12.5 mm
- No damage to the shielding or conductor due to adjustable stripping blade
- Length gauge for repeated stripping lengths

Technical data

Max. cutting performance copper cable	
Cable model	
Conductor cross-section	AWG
Conductor diameter	mm
Adjustable depth of cut	mm
Cutting performance	
Non-shielded & shielded data cables	mm
Flexible copper cable	mm ²
Tool data	
Length	mm
Weight	g
Note	

IE-CST		
coaxial & round data cables		
2.5 ... 8		
100		
85		
Note		

AM 12		
UTP and STP data cables		
0.5...12.5		
adjustable		
8		
4		
97		
36		
Note		

Ordering data

Note

Type	Qty.	Order No.
IE-CST	1	9204350000
Note		

Type	Qty.	Order No.
AM 12	1	9030060000
Note		

Accessories

Note

Type	Qty.	Order No.
Spare cutter cassette	1	9032020000
Note		

Type	Qty.	Order No.
Note		

Copper cabling tools

Pressing tools

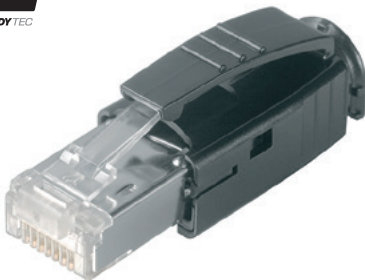
- Press (punch-down) tool for Ethernet connectors
- Ratchet for precise crimping
- Release option in the event of incorrect operationg

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

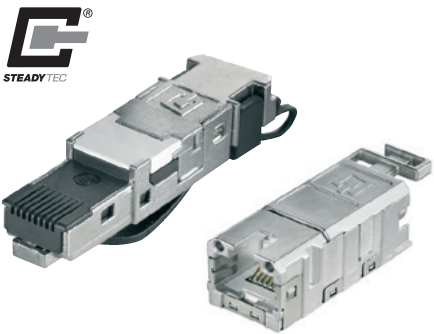
Version	
Note	

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

Pressing tools

- Optional crimping tool for Ethernet connectors to facilitate the joining of the upper and lower parts of the RJ45 plug/module

PWZ RJ45



Technical data

Tool data
Weight

PWZ RJ45
367

Note

|--|

Ordering data

Version

Type	Qty.	Order No.
PWZ RJ45	1	1118040000

Note

|--|

Copper cabling tools

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. Further test boxes on request		

Cutting tools

- Cutting formation 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

KT 8



-  max. 8 mm
-  max. 16 mm²
-  max. 16 mm²
-  max. 16 mm²

Technical data

Max. cutting performance, copper cable	
Copper cable - single-core, max.	mm ² /-
Copper cable - stranded, max.	mm ² /-
Copper cable - flexible, max.	mm ² /-
Copper cable, max. diameter	mm
Max. cutting performance, aluminium cable	
Stranded aluminium cable, max (mm ²)	mm ² /-
Stranded aluminium cable, max. diameter	mm
Single-core aluminium cable, max.(mm ²)	mm ²
Data / telephone / control cable	
Data / telephone / control cable, max. diameter	mm
Tool data	
Length / Width / Height	mm
Weight	g
Note	

Ordering data

Version
Note

KT8
16 / 6
16 / 6
16 / 6
8
16 / 6
8
16
8
165 / 65 / 25
180
Tool closed

Type	Qty.	Order No.
KT 8	1	9002650000

Copper cabling tools

SEE ESD 120

Electronic ESD diagonal-cutting pliers with pointed head

- Hard wire (spring wire or steel nails):
0.4 mm/AWG 26
- 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):
0.8 mm/AWG 20
- 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
--------	-------



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)

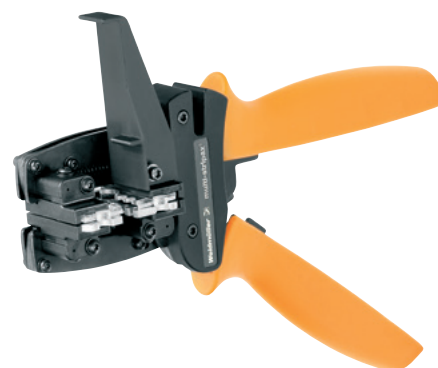
Tool-Set IE-POF



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

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

Fibre-optic cabling tools

Crimping tools

- Ratchet for precise crimping
- 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

Three steps to produce IP 67 connectors:

- 1) Strip the Duplex polymer optical fibres
- 2) Crimp and separate
- 3) Crimp the strain relief

SCISSOR Kevlar



- Cable shears specially designed for aramid fibres
- 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

Technical data

Material data
Length
Weight
Note

HTX-IE-POF
220
450

SCISSORS KEVLAR
147
100

Ordering data

Version
Note

Type	Qty.	Order No.
HTX-IE-POF	1	1208870000
Note		

Type	Qty.	Order No.
SCISSORS KEVLAR	1	1208910000
Note		

Assembly case for fibre-optic connectors

Our fibre-optic assembly case is an indispensable set for helping you to assemble fibre-optic cables on-site.

IE-CTC-SCST-GOF



- Contents:**
- Crimping pliers for ST and SC plugs
 - Kevlar shears
 - Stripping tool for cable sheath and primary coating
 - Stripping tool for secondary coating
 - Fluorescent light with pluggable adapter
 - Polishing and cleaning fluid
 - Cleaning cloths
 - Cleaning rod
 - Polishing base support for pre-polishing and surface finishing
 - Polishing foils
 - Sapphire stylus
 - Microscope, 100X magnification

Ordering data

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Type	Qty.	Order No.
IE-CTC-SCST-GOF	1	1032030000

Note

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Accessories

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Accessory set for LC plugs

Type	Qty.	Order No.
IE-CTC-AS-LC-GOF	1	1033350000

Note

--

Fibre-optic cabling tools

Crimping tools for other contacts

- Ratchet for precise crimping
- Release option in the event of incorrect operation

IE-CT-SC-GOF / IE-CT-LC-GOF

Crimping tools for IP 20 + 67 connectors



- For fibre-optic SC/ST, IP 20 and IP 67 connectors
- For fibre-optic LC and IP 67 connectors



Technical data

Tool data
Length
Weight
Note

IE-CT-SC-GOF	IE-CT-LC-GOF
250	250
730	730

Ordering data

Version

Type	Qty.	Order No.
IE-CT-SC-GOF	1	9205320000
IE-CT-LC-GOF	1	9205330000

Note

Accessories

|--|

Type	Qty.	Order No.
IE-CT-LC-GOF	1	9205290000
IE-CT-SC-GOF	1	9205280000

Note

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	
	0.08...1
	0.08...0.2
	0.2...0.5
	0.75...1
	200
	438

Ordering data

Version
Note

Type	Qty.	Order No.
HTF HYB	1	1119580000

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

Technical data

Max. stripping performance	
Cable type	
Conductor diameter	-
Stripping length, max.	-
Tool data	
Length	mm
Weight	g
Note	

M-D-STRIPAX LWL	
POF conductor with an inner conductor of 1 mm Ø	
...1	
7.5	
135	
110	
POF: polymer optical fibre	

Ordering data

Version
Note

Type	Qty.	Order No.
M-D-STRIPAX LWL	1	9003750000

Accessories

Note

Type	Qty.	Order No.
Spare stripping blades	1	9003760000

Incision tool for twisted-pair cable

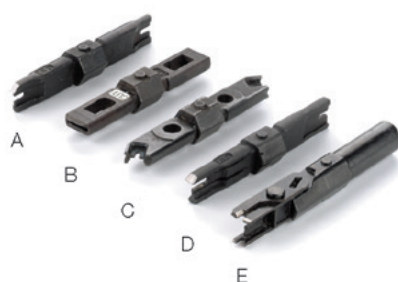
For connecting twisted-pair cable to terminal rails with IDC contacts e.g. in main and floor distributors, and in modular wall junction boxes for structured building cabling.

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)

IE-FISP-V4



Fastening tool for the hexagon cap nut from **STEADYTEC®** V4 flange and FrontCom® Micro.

Technical data

Length / Width / Height	mm
Weight	g
Note	

Ordering data

Version

Note

Accessories

Note

PUNCH DOWN TOOL PDT

160 / 37 / 29
142

Type	Qty.	Order No.
PUNCH DOWN TOOL PDT	1	9013970000

(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

Fixing tool

115 / 28 / 28
21

Type	Qty.	Order No.
IE-FISP-V4	2	9204370000

Type	Qty.	Order No.

General tools

Hydraulic sheet holes

Incl. accessories:

- 1 hydraulic screw Ø 19 mm
- 1 hydraulic screw Ø 19 x 9.5 mm
- 1 HSS pre-drill Ø 10 mm
- 1 spacer nut set (3-part)
- 1 bridge

IE-KO-HAT



- Overpressure valve protects against overloading
- Cylinder head angled 90°
- Angled head can be rotated through 360°
- Ergonomic handle springs back automatically
- The piece of waste no longer becomes jammed thanks to 3-fold cleaving
- Hydraulic punch manufactured from high-strength aluminium (approx. 40 % less weight)

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		
Length x width x height	mm	
Weight	kg	
Punching force	kN	
Max. operating pressure	bar	
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		
290 / 120 / 70		
1.9		
75		
650		

Ordering data

Version
Note

Type	Qty.	Order No.
IE-KO-HAT	1	1966810000

Accessories

Note

Type	Qty.	Order No.
KDHS 19	1	9205010000
KDHS 9.5+19	1	9205000000
KOPD 10.0	1	9205020000

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
IE-KOK-V14	Custom shape for V14 flange	22.0 x 18.5 mm	1	1135240000

HDC KT – Cable grommets, small

Cable grommets, small, grey

HDC KT – Cable grommets, small

Cable grommets, small, black

**Technical data**

Material
Colour
Temperature range
Ingress protection class
UL 94 flammability rating

Note

free from elastomers, halogens and silicone
grey
-40 °C to +90 °C (static)

V0

elastomers with very high chemical resistance
black
-30 °C to +90 °C (static)

HB

Ordering data

Type	Clamping range [mm]	Qty.	Order No.
HDC KT 5	5-6	10	1826480000
HDC KT 6	6-7	10	1826490000
HDC KT 7	7-8	10	1826500000
HDC KT 8	8-9	10	1826510000
Blanking plugs, small			
HDC BTK		10	1828170000

Type	Clamping range [mm]	Qty.	Order No.
HDC KT 5	5-6	10	1827810000
HDC KT 6	6-7	10	1827830000
HDC KT 7	7-8	10	1827840000
HDC KT 8	8-9	10	1827850000
Blanking plugs, small			
HDC BTK		10	1828200000

Note

HDC KEL 16

Cable entry strip



KEL 16/8 with 8 small grommets



KEL 16/4 with closed half-shell for 4 small grommets



Snap frame KEL 16 SNAP

Technical data

Material
Colour
Temperature range
Ingress protection class
UL 94 flammability rating
Note

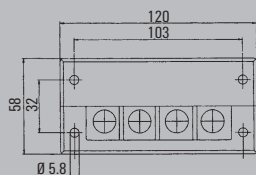
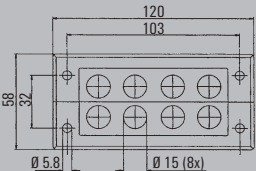
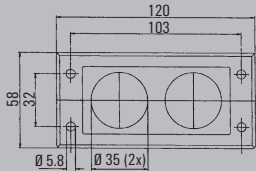
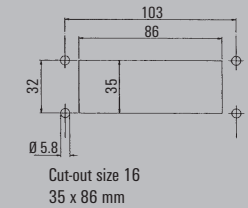
Polyamide, halogenfree, siliconfree
black
-40 °C to +140 °C (static)
IP 54, when correct cable grommet is used
V0

Ordering data

Note

Type	No. of grommet positions		Qty.	Order No.
	small	large		
HDC KEL 16/8	8	-	10	1825910000
HDC KEL 16/4	4	-*)	10	1825900000
Blanking plugs, small				
HDC KEL 16 SNAP			10	1827770000
*) with closed half-shell				

Dimensioned drawings

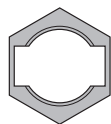


KVT 32

KVT 32 and locknut for D-Sub 9



KVT 32



Locknut for D-Sub 9
KGM-SUB-D9

Technical data

Material
Colour
Temperature range
Ingress protection class
UL 94 flammability rating

Polycarbonate, free from halogens and silicone
grey, similar to RAL 7035
-30 °C to +100 °C (static)
IP 54, when the correct cable grommet is selected
V0

Note

Ordering data

Type	Thread	For grommet		Qty.	Order No.
		small	large		
HDC KVT 32	M 32 x 1.5	1	-	10	1826670000

Locknut for D-Sub 9

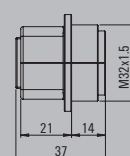
KGM-SUB-D9	M 32 x 1.5	10	1828250000
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Please refer to catalogue 5 for the complete range.

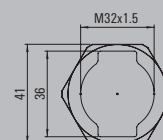
Note

Dimensioned drawings

HDC KVT 32



KGM-SUB-D9



Protective caps

Dust-protection plugs for protecting empty ports

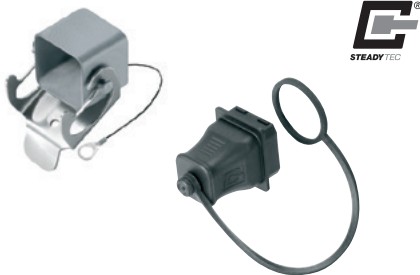
- RJ45
- **STEADYTEC®** variants
- M12

Dust Cap RJ45



- Dust Cap RJ45 with finger grip

Protective caps IP 67



- 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

The advanced inkjet printer

Our PrintJet ADVANCED for exacting standards

Flexible printing of plastic and metal markers

The PrintJet ADVANCED is an inkjet printer which prints plastic markers in MultiCard format and metal markers from the MetalliCard family. Thanks to its high magazine capacity, it is ideal for printing large volumes in continuous operation. The precise colour printing and thermal fixing guarantee optimum print results for durable equipment identification. With these properties, the PrintJet ADVANCED brings efficiency to the operating process – whether operated with our M-Print® PRO software or as a stand-alone solution with pre-installed print templates.



The advantages for you at a glance:

- Precise colour printing
- Printing of metal markers as standard
- High level of automation thanks to magazine capacity of 30 MultiCards
- Durable and robust markers thanks to thermal fixing
- User-friendly thanks to intuitive touch display
- Can be used as stand-alone solution

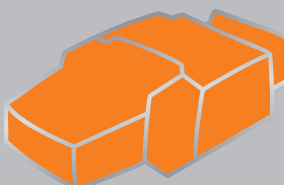
Technical data

	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	
Fuses	Right fuse:	10 ATH 240/120 V
	Left fuse:	2.5 ATH 240/120 V
Application site	Office conditions	
Ambient temperature	10 °C – 35 °C 0 °F – 95 °F	
Dimensions	Length including output rail:	approx. 1.138 mm (44.80")
	Length not including output rail:	approx. 945 mm (37.20")
	Width:	554 mm (21.81")
	Height with touch panel folded down:	328 mm (12.91")
	Height with touch panel folded up:	422 mm (16.61")
Weight	57.8 kg (127.43 lb) with packaging	
	37.2 kg (82.01 lb) without packaging	
Ink system	Colour system – black, cyan, magenta, yellow	
Included in delivery	• PrintJet ADVANCED • Mains cable • USB cable • One MultiCard DEK 5/5 • Ten MetalliCards CC-M 85/54 AL • Ten primer cloths • One inlay • One output rail • DVD with M-Print® PRO software • Quick start guide • Operating manual	

The ink cartridges and ink collector tray are installed in the printer.

Ink-jet printer

PrintJet Advanced



Technical data

EAN	4032248140121
Length	950 mm
Width	555 mm
Height	310 mm
Weight	58 kg
Net weight	37.2 kg
Printing method	Ink jet technology
Printer driver	Windows XP, Windows Vista, Windows 7
Printing speed	Depends on printing quality
Print quality	1200 dpi
Marker type	Multicard
Interface	LAN, USB
System requirements	Windows XP, Windows Vista, Windows 7
Fueling system	Ink cartridge, CMYK
Supply voltage	230 V AC / 16 A, 115 V AC / 20 A
Operating system	Windows XP, Windows Vista, Windows 7
Software	M-Print® PRO
Note	

Ordering data

Type	Qty.	Order No.
PRINTJET ADVANCED 230V	1	1324380000
PRINTJET ADVANCED 115V	1	1338700000
Note		

Accessories

PrintJet Advanced		Type	Qty.	Order No.
	Software	M-PRINT PRO	1	1905490000
	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
PrintJet		Type	Qty.	Order No.
	Ink collecting tray	PJ PRO TNAW	1	1024140000
	Cyan ink	PJ PRO TNTK INK C	1	1027050000
	Magenta ink	PJ PRO TNTK INK M	1	1027060000
	Yellow ink	PJ PRO TNTK INK Y	1	1027070000
	Black ink	PJ PRO TNTK INK K	1	1027040000
	Ink set	PJ PRO TINTENSET FARBE	1	1027110000
		Tintentank PrintJet II	1	1858920000
		CleanUnit PrintJet II	1	1858950000
Note				

Markers for cables and **STEADYTEC®**

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

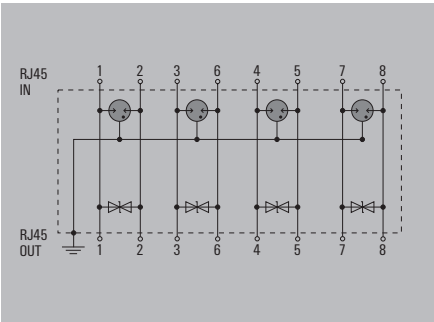
Type	Qty.	Order No.
TM 4/12 HF/HB Length 12 mm	500	1719840000
TM 4/18 HF/HB Length 18 mm	500	1719850000

Note: Can be printed with PrintJet PRO.

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 @ 250 MHz
Protection level U_p typical

Approvals

Standards

Dimensions of complete module (arrester + base element)

Height x width x depth

Note

C2, D1
5 kA
1 kA
150 A / 1.25 kA
10 kA / 5 kA
1 kA / 1 kA
RJ45-Port
-40 ... +85 °C
-40 ... +80 °C
IP 20
60 V
1 A
< 1 dB
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.
VDATA CAT6	1 ST	1348590000

Technical appendix

Added value for your application

Technical appendix	Online services	W.2
	Cable configurator	W.3
	Service and certificates	W.4
	Glossary	W.6



Online product catalogue

Your digital information source

If you have questions about the specifications and details of our products, even when outside normal working hours,

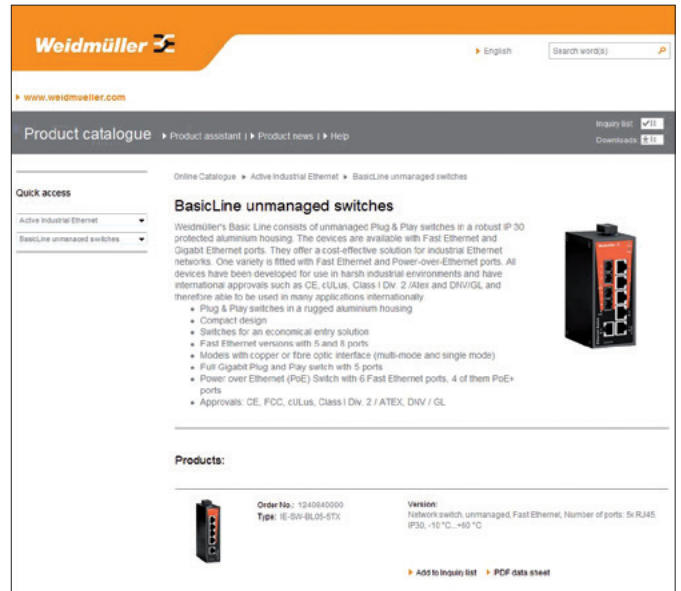
then our online catalogue at:

<http://catalog.weidmueller.com>

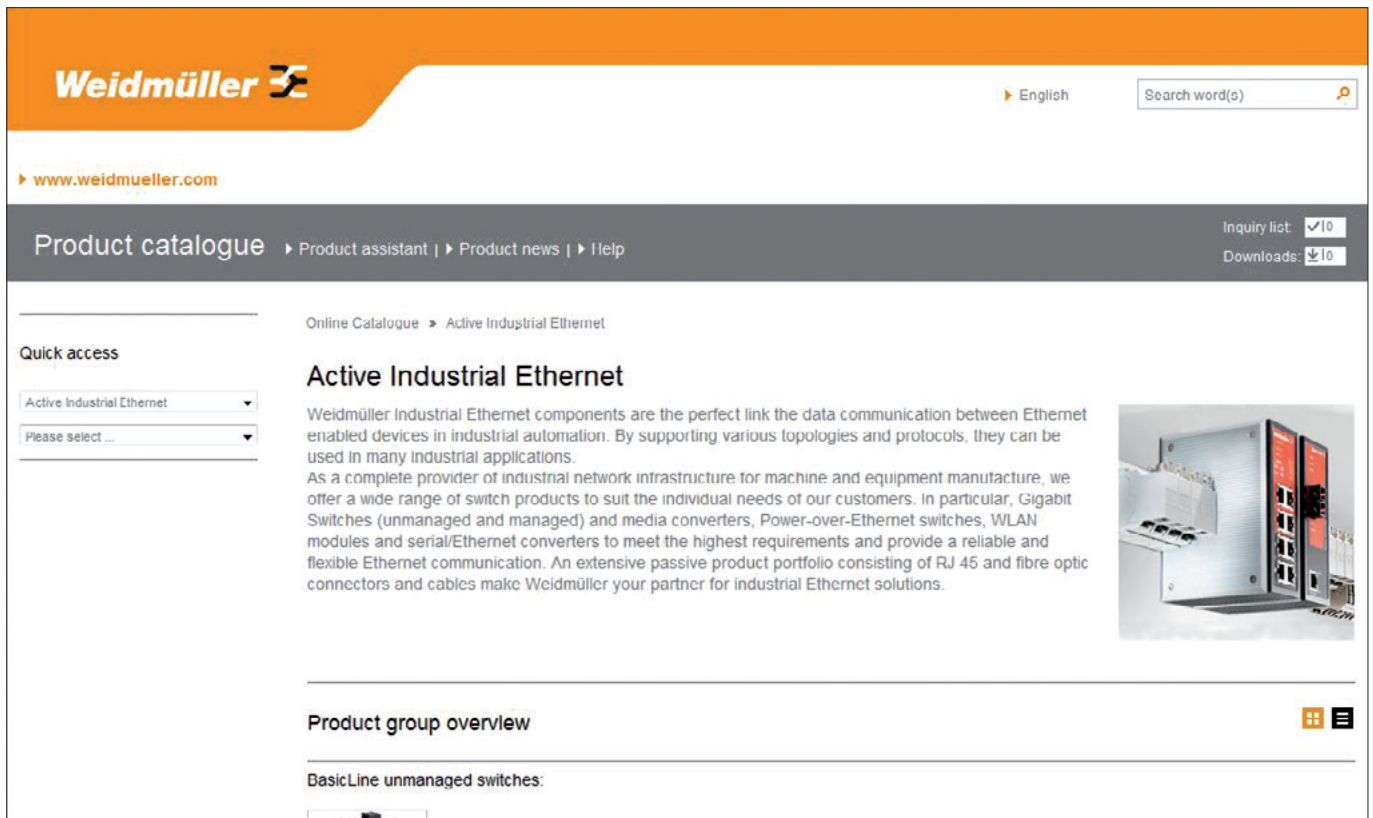
is open 24 hours a day, 365 days a year. As well as product features and part numbers, it contains extensive information on all our product groups.

For further information, simply visit our Weidmüller website at:

www.weidmueller.com



With one-click selection for the product data sheet of your choice.



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.

A variety of cables and connectors are available from our Industrial Ethernet product line. These selections include category 5 or 7 cable, with PVC sheathing, in PUR, and of course PROFINET-specific cable. A number of versions are available on the plug side of the RJ45, including: IP 20, an extra-strong IP 67 PushPull (V4) versions, bayonet (V1) and RockStar® HDC (V5). The fibre-optic cable is configured similarly: simply choose the fibre-optic cable (MM/SM) and the desired connector in order to build your customised cable. IP 67 versions are also available.

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

The screenshot shows the 'Industrial Ethernet product configurator' interface. It displays a configuration for a copper cable with the designation 'IE-C6ES8UG0550B41A2E-X' and order number. A visual representation of the cable is shown with a length of 55 m. Below the visual, there are dropdown menus for 'Plug 1' (RJ45 IP67 Bayonet V01 metal), 'Plug 2' (RJ45 IP67 PushPull V14 metal), 'Type of cable' (System cable), 'Category' (Cat 7 / PUR), 'Cable colour' (Green), and 'Length [m]' (55). At the bottom, there are buttons for 'Reset', 'Data sheet', 'Search', 'Show parts list', and 'Accept'.

The cable configurator is your quickest path to finding the specific industrial Ethernet cable which you need.

The screenshot shows the 'Connection type' selection screen. It features two options: 'Copper cable' and 'Fibre optic cables', each with a corresponding image of a cable. The 'Copper cable' option is highlighted with a green border, and the 'Fibre optic cables' option is highlighted with an orange border.

Whether you are looking for a fibre-optic or copper cable, the configurator will find it for you.

Practical service

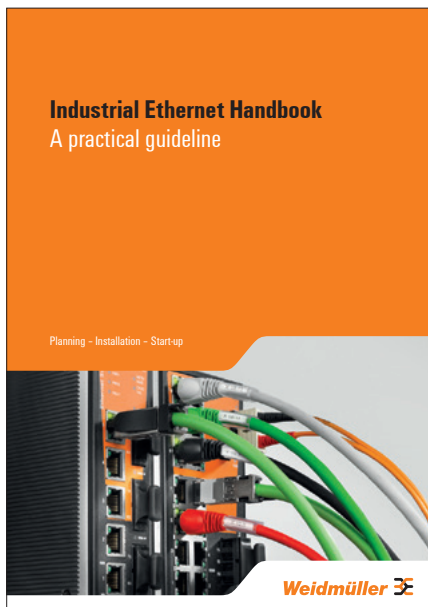
In-depth planning support

Practical Guidelines for Industrial Ethernet

Are you an electrical engineer, installer or contractor working on Industrial Ethernet installations and in search of assistance, tips or checklists? Our practical guidelines provide detailed descriptions for the implementation of industrial networks.

- You'll find helpful tips and recommendations for selecting the proper components and for documenting your network
- Practical advice for assembling copper and fibre-optic cables
- Pointers to the current standards and regulations in the industrial networking sector
- Simple network implementation, including tips for operation and security
- Maintenance tips for preventing crashes
- ...and much more!

Please ask your personal sales representative about these practical guidelines.



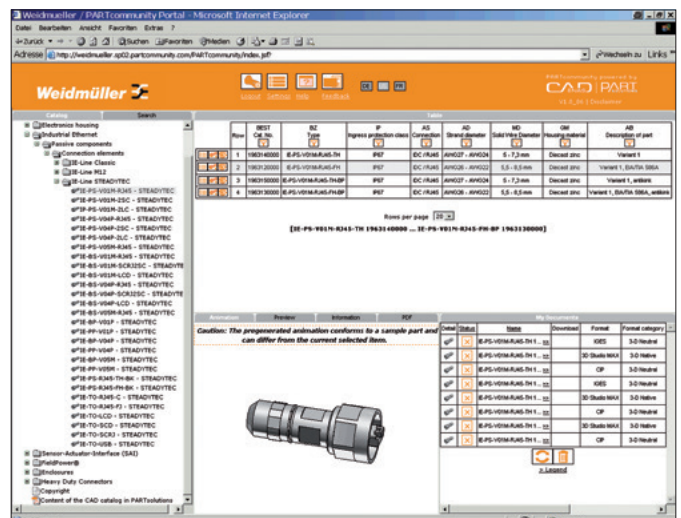
3-D data

Do you require 3-D models of your components so you can design them into your application? And accurately portrayed in your own CAD format?

Each component part is located in our Online Catalogue with a direct link to the Partserver (www.partserver.com). You simply input your product specification, CAD format and e-mail address and you will then receive a rapid e-mail response from us with your 3-D model attached.



You can also login at the web site <http://weidmueller.partcommunity.com/portal/> portal/weidmueller to view and download 3-D files.

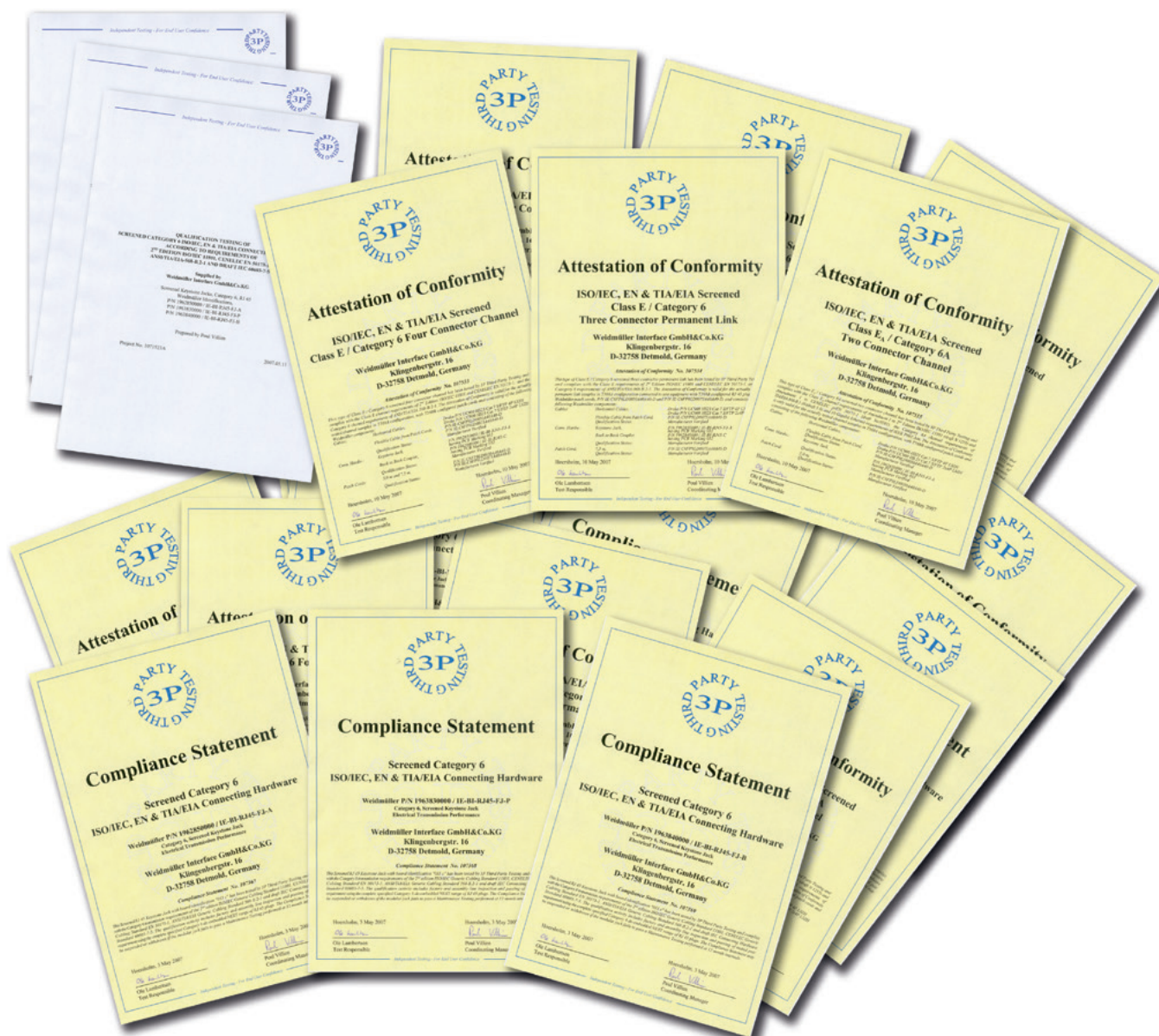


Quality through certification

Certified reliability of our solutions

Do you want to prove to your customer that you have installed only the highest quality components? The GHMT (Society for High-frequency Measuring Technology) and the 3P (Third Party Testing) are independent testing institutes and recognised specialists for industrial cabling. These institutes support the industry by means of test certifications for communication cables, connection hardware, patch cords and permanent links and channels.

Their other primary functions are brand testing, safety testing, quality analyses, and error analyses. These certificates are solid proof of the superior quality and performance expectations from our products. Please ask your personal sales partner if you would like to see a copy of our certifications. You can also download the individual certificates from our online catalogue.



Glossary

Specialist vocabulary for Industrial Ethernet

Interest in Industrial Ethernet has produced an entirely new dictionary with specialist terms. Some of the most important terms are briefly explained here.

4B/5B

A block encoding system for FDDI and ATM. In 4B/5B encoding, all data is divided into 4-bit units (a nibble) and converted to 5-bit units (symbols) by reference to a matrix.

100BaseFX

100 Mbps Fast Ethernet, based on 4B/5B encoding with fibre optics.

100BaseSX

100 Mbps Fast Ethernet system, identical to operations in the 100BaseFx, but 850 nm fibre-optic technology is used.

100BaseTX

100 Mbps Fast Ethernet system based on 4B/5B encoding and transmission via two copper cables.

100BaseX

This term is used to describe Fast Ethernet technologies based on the 4B/5B encoding. Includes 100BaseTX and 100BaseFX systems.

802.3.IEEE

The CSMA/CD group is the oldest working group in the 802 project. It defines the norms according to the CSMA/CD access procedures proposed by the DIX-group. The focus of this working group is on high-speed protocols.

AUI

Stands for "Attachment Unit Interface". Interface between the transceiver and the network board.

Auto-negotiation

Auto-negotiation means automatic recognition of the opposite end's functions. By using RJ45 plugs for the different protocols, from 10Base-T to 100Base-T, a compatibility problem occurs which is solved due to automatic recognition of the opposite end. Using the auto-negotiation procedure, repeaters or terminal equipment can determine what functions the other end has, so that different devices can be configured automatically.

Bandwidth

Bandwidth states how much information can flow within a set period from one location to the other. Units: Bps, Kbps, Mbps, Gbps.

Baud

Baud is the unit of step speed. A step always lasts for a pre-set time e. g. 1 bit, 1_character. If you multiply the number of bits per state with the baud rate you obtain the transmission speed. Only if the number of states is exactly two (i.e. encoding was carried out at a state of exactly 1 bit), is the baud rate exactly the same as the bit rate.

Bit

Bit is an artificial word made up of binary and digit and constitutes the smallest unit of digital information, either a 0 or a 1.

Bitrate

Bitrate is also referred to as transmission speed, transmission rate or data rate. It is the number of bits that are transmitted per unit of time (typically one second). The bitrate is stated in Bps (bits per second) or in the appropriate powers of 10 as Kbps, Mbps and Gbps. In American English the abbreviation Bps is used.

Blowfish

In the digital information age, the handling of sensitive data is becoming ever more important. Therefore, we have incorporated Blowfish, a symmetrical encryption algorithm, into the software of our routers in order to guarantee a secure link between a pair of Weidmüller routers.

Bridge

According to their OSI definition, bridges connect sub-network protocols on layer 2 of the OSI reference model.

Broadcast

A broadcast transmission is a simultaneous transmission from one point to all network stations.

Bus

Buses are connection systems for electronic and electrical components. The topology of a bus is always a physical medium which the individual components are connected to and which is terminated at both ends. Transmission on a bus can be done bit or byte parallel, as in the PC-bus, or serially, as for networks in bus topology.

Cable material / properties• **LSZH**

LSZH is the abbreviation for Low Smoke Zero Halogen. This material is used in the wire and cable industry for cable sheathing. It consists of a thermoplastic or duroplastic compound. In the event of fire, the LSZH cable only releases very small quantities of toxic and corrosive gases and no halogens. It is mainly used in offices and the IP 20 part of the electrical cabinet. The cable is light and environmentally friendly.

• **FRNC**

FRNC is the abbreviation for Flame Retardant Non Corrosive. FRNC cables are specified, fire-retardant, special cables with low waste gas levels according to IEC standards 60332, 60754 and VDE0472/804. The FRNC cable contains no halogen and so only produces very little waste gas and a low fire load. One disadvantage of the cables is that they are not resistant to oil or chemicals and absorb a lot of water.

• **PUR (polyurethane)**

PUR is one of the so-called thermoplastic elastomers and possesses properties similar to rubber. PUR contains no halogen, is self-extinguishing and has very good resistance to UV light, chemicals and oil. It is suited to outdoor use and for heavily polluted, industrial environments. Compared with PVC, PUR offers major advantages in terms of its high tensile strength, wear resistance and increased resistance to chemical substances. Examples include mineral oils, alcohol-free benzene and many solvents.

• **PVC (polyvinyl chloride)**

PVC is an amorphous, thermoplastic synthetic material. It burns with a yellow, sooty flame and goes out quickly without further external sources of flame. Given its high chlorine content, unlike other technical synthetic materials such as polyethylene or polypropylene, PVC is flame-resistant. PVC is not halogen-free and releases toxic and corrosive gases in the event of fire. PVC is an easily processed material, is cheap and has good insulating properties.

Category 5

Signifies compliance to features specified in EIA/TIA-T568-5. With category 5 (Cat. 5) components, networks can be set up that are suitable for all twisted-pair cable Ethernet transmission systems up to 100 Mbps, including 10Base-T and 100Base-TX.

Category 5e

The Cat. 5e-cable is an extended version of Cat. 5 for use in 1000-Base-T networks or for long-distance 100-Base-T network connections (350 m, compared with 100 m for Cat. 5). It must fulfil the EIA/TIA-T568A-5 specification.

Category 6

A Cat. 6 twisted-pair cable is sufficient for Gigabit Ethernet, with a 250-MHz performance. This is an extension of the Cat. 5e cable.

Category 7

Cat. 7 cable is suitable for operating frequencies up to 600 MHz. It is made with four individually-shielded core pairs, all within another shielding.

Collision

Collision is when two or more stations transmit at the same time in a joint data channel – e.g. a semi-duplex Ethernet or a shared Ethernet. This means that the data transmitted is worthless because they overlay. By overlaying both signals, the signal level increases to what is known as the collision level. This aborts the transmission to both stations.

Collision domain

A collision domain is a segment of a CSMA/CD network. In 802.3 Ethernet networks all terminal equipment is on a physical Ethernet segment, including equipment that is interconnected via a repeater, on the same collision domain. In contrast to repeaters that do not affect the collision domain, bridges and routers separate the collision domains.

CRC

CRC is an error correction method that creates checksums based on binary numbers by calculating the sums of data groups prior to transmission. CRC is based on the division of polynomials. The principal is that during cyclical block checking, the bits to be monitored are successively fed into a feedback shift register. The length number and position of the feedback from the register are stated according to each procedure. The checksum procedure detects individual errors reliably and multiple errors with a high degree of probability.

Crossover-cable

A crossover-cable is a special patch cable where the transmitter and receiver lines at one end have been swapped. Crossover-cables are used to connect two pieces of terminal equipment (computers) or two infrastructure components (switches). Modern switches, because of their auto-crossing function, make connecting normal patch cables with one another possible.

CSMA/CD

An access procedure where several network stations have access to the transmission medium. In the CSMA-system the transmitting station listens to the channel (carrier sensing) before it transmits. A station can then only transmit if the transmission medium has not yet been occupied by another station. If the transmission medium is occupied, the station waits till it is free and can transmit. Because of the signalling times it is still possible for two devices to transmit at the same time. To avoid data loss in this type of collision, both transmitters have to detect the collision (collision detect) and after a randomly-selected waiting time send each of their data packets again. CSMA/CD is a widespread standard process in 10-MBit-networks with hubs.

In Industrial Ethernet networks the CSMA/CD system is only used rarely nowadays, because of high demands on network performance.

DCE

(Data Communication Equipment)

Any facility that can relay data between data terminal equipment. DCEs are part of the infrastructure and not terminal equipment.

DHCP

DHCP (Dynamic Host Configuration Protocol) enables a specially configured server to allocate dynamic IP addresses and other network parameters to the computers in a network.

DNS-Server

On the Internet, computers are addressed using their numeric IP address (e.g., 211.163.5.38). The DNS server maintains the structure of the domain name system (DNS). It administers and updates the logical names which are associated with the IP addresses. The name server converts less-accessible dotted-decimal-notation numbers into domain addresses. It then makes this information available to DNS clients on request. A network may include an unlimited number of name servers. Since DNS servers must have built-in redundancy, a server implementation consists of two servers: the primary (PNS) and secondary (SNS) name server. If the primary name server is down, the secondary name server, running in parallel, takes over.

DTE

(Data Terminal Equipment) data terminal unit: Every device in the network where a communications route starts or finishes. A station (computer or host) in the network that can transmit or receive data.

DynDNS

DynDNS stands for dynamic domain name system. DNS is responsible for resolving host names to IP addresses. Services such as DynDNS were developed for users using a DSL connection with dynamic IP addresses. DynDNS enables the registration of a dynamic (changeable) IP address to a host name. For this to work, a DSL router must support it or a DynDNS client must be installed on a PC.

Error Detection

The error detection code is a detection code (CRC or checksum) used where errors are identified but not corrected as in ECC.

Ethernet

Ethernet is computer networking technology for local networks (LANs). It refers to cable types and signalling for the bit transfer layer (physical layer), packet formats and protocols for checking media access (media access control, MAC) / link layer of the OSI model. Ethernet is standardised to a large extent in the IEEE norm 802.3.

Fast-Ethernet

Nowadays a very widespread version of Ethernet with 100 Mbps over a twisted pair cable according to category 5 or higher. The maximum range is 100 m.

Fibre-optic cables

A type of cable with fibre-optics or plastic core that transmits digital signals in the form of light pulses. (Wave lengths 850 nm in 10BaseFL and 100BaseSX or 1300 nm in 100BaseFX).

Flow Control

This is a function to modify transmission to the capacity of the receiver. Flow control regulates transmission between the transmitter and receiver by causing the transmitter only to send as much data as the receiver can deal with. The different types of Ethernet have different flow control systems. In credit systems (FO cable) the receiver relays to the transmitter the number of data packets that can be transmitted without confirmation. Duplex connections use the PAUSE signal for flow control and back pressure is used in semi-duplex systems to control the data rate.

FO (Fibre-optic cables)

Fibre-optic cables provide an alternative transmission medium to copper. A distinction is made between pure glass fibres (GOF: multimode/singlemode), combined fibres (PCF/HCS) and plastic fibres (POF). They are primarily used because of their insensitivity to electromagnetic interference, but also, in the case GOF, on account of the significantly longer cable lengths compared to copper.

The fibres are usually defined according to the core/sheathing diameter in microns (μm):

GOF/MM: 50/125 or 62.5/125

GOF/SM: 9/125

PCF: 200/230

POF: 980/1000

Conventional fibre-optic connector standards include SC Duplex, SC-RJ, LC Duplex and ST (also BFOC).

Forwarding

The process whereby frames are relayed from one port to another in the switch.

Frame

A frame is a data transmission frame on the link layer (layer 2 in the OSI model), which includes the header and trailer information that the bits transmission layer requires for transmission. All frame formats together form the start delimiter of a frame, the destination and source address (destination and source address), the data itself and an errorchecking device (a frame check sequence). A maximum of 1500 bytes, with VPN-information of 1524 bytes of payload data per packet are possible in the Ethernet.

Full Duplex Operation

In full duplex operation or duplex operation both communications partners can communicate bi-directionally at the same time.

Gigabit Ethernet

A version of Ethernet operating at a data transmission rate of 1000 Mbps.

Hub

A hub is a data communications facility (DCE) that makes it possible to connect three or more devices in a star topology. Modern Ethernet installations hardly use hubs any more but use switches for this purpose because of the higher network output that occurs as a result and the predictable transmission times.

IEEE

Association of American Engineers dealing with norm issues.

IGMP snooping

A switch equipped with IGMP (Internet Group Multicast Protocol) snooping can check whether join requests for a multicast group occur behind the ports. If this is the case, the port concerned is accepted in the forward table for this group. This reduces the load on the network because the switch does not flood all ports with multicast traffic.

Jabber

The jabber messaging protocol is a method in Ethernet networks that prevents a station from occupying the transmission medium for longer than permitted. The jabber function is an element of the IEEE 802.3 standard and provides an interrupt mechanism with which a MAU (Medium Attachment Unit) is interrupted during the transmission process when this transmits data on the cable for longer than 30 ms, or the standard defined packet length of 1518 bytes is exceeded. SQE (Signal Quality Error) signals are sent to the terminal equipment at the same time as the interruption and these cause the terminal equipment to terminate the data transfer. An error function in which a network component continuously sends meaningless signals to the network is also known as a jabber.

LAN

(Local Area Network) local network e.g. within a building.

Link Integrity Test

This test ensures that the Ethernet link is connected properly and that the signals are transmitted correctly. This can be helpful but does not guarantee that the link is fully functional.

Link Layer

The link layer in the OSI reference model.

Link Pulse

The NLP pulse is a recognition pulse that is transmitted from 10Base-T-stations to 100Base-T stations for auto-negotiation. The NLP is a periodic pulse with an interval of 16 +/- 8ms.

LLDP – Link Layer Discovery Protocol

LLDP is a layer-2 protocol in compliance with the IEEE-802.1AB standard. It defines the possibilities for exchanging information with neighbouring devices. Information is periodically sent from supported devices to all devices on the network. Neighbouring devices which support LLDP are then able to receive this data independently.

M12 D-coded

M12, D-coded is a 4-pole plug-in connector variation for Industrial Ethernet according to ISO IEC 61076-2-101. It carries out data transmissions according to Cat. 5 and guarantees IP 67 protection.

MAC Address

The MAC address is the six byte long hardware address that uniquely identifies a node in the network. The MAC address is hard-coded onto a chip and cannot be manipulated. MAC addresses are assigned according to a particular key that includes unique adapter recognition, identification of the manufacturer and an ID for operating and managing.

Manchester Encoding

Signal encoding where the binary information is shown by the sign of a change in voltage within the bit time. This means that transmitters and receivers are very easy to synchronise, as the transfer in the middle of the bit time produces a reliable frequency. The first half of the bit time includes representing the complementary bit value to be transmitted, the second half represents the bit value (specified for IEEE 802.3 Ethernet and used in 10 Mbit networks).

MDI

The Physical Medium Attachment (PMA) and the Medium Dependent Interface (MDI) both form the actual transceiver (MAU) for the 802.3 standard. The MDI is the physical (electrical, optical) and mechanical interface up to the medium. In the different 802.3-types the interface has a different structure.

MDI-X

MDI stands for Medium Dependent Interface and refers to an Ethernet connection. Auto MDI/MDIX (autocrossing) makes the automatic modification of the transmitting and receiving line of a port possible, i.e. the connected Ethernet cable (crossed/uncrossed) and the configuration of the opposite station (MDI/MDIX) are recognised automatically and its own port is configured appropriately. So all auto MDI/MDIX ports can be used as uplink port.

Media converters

Media converters connect different types of cable and maintain the structure and the functions of the network. In its simplest form a media converter is a quadrupole in the form of a box or network adapter card with a power supply. It modifies different cables – coaxial cables, TP-cables and FO cables – and different plugs to fit one another. In this way media converters can for example be used to modify 100Base-TX to 100Base-FX or to convert monomode fibres to multimode fibres. By using media converters the boundaries of network extension can be increased by using fibre-optic routes. In addition, existing networks can be inexpensively integrated into new network concepts. The Weidmüller range includes media converters on copper-based 10Base-T or 100Base-TX on fibre-optic transmission and vice versa.

Multicast

Multicast is a type of transmission from a single point to several subscribers at the same time (group).

Multimode

Refer to FO

NIC

A network adapter board is a circuit board or another hardware component that connects the network directly with the terminal equipment. It can be a plug-in board for the bus system in the terminal equipment. The network adapter board is the physical interface to the communications network. It includes the appropriate jacks for connection to the physical medium.

OLE

Object Linking and Embedding (OLE) is an interface developed by Microsoft to link and embed data across different applications. In this way external, but OLE-compatible, texts, graphics or tables can be embedded in other OLE applications. Linking OLE-compatible data is carried out via a link to the appropriate file. The original file remains untouched. During embedding, a copy of the file is inserted into the document.

OSI

OSI are internationally-agreed standards which open systems should work with and define the rules for implementing these norms. Communications systems are a combination of network hardware and network and systems software in a group of networked devices that permit free exchange of information between these devices on the basis of joint protocol agreements and interfaces, independently of the type of these devices or how they are equipped. Systems that implement OSI protocols are an example of this. The OSI standards are freely available and not protected by licences.

Packet

A data packet is a defined arrangement of characters as part of the data network, that are treated as a unit in transmission services with data packet transmission. As well as the payload data, data packets also include control information for addressing, sequence of transmission, flow control and error adjustment at all protocol levels. A data packet can be of a predetermined or variable length, but a maximum length is specified. If the whole destination address is included in each data packet, it is called a datagramme. On the other hand in a virtual connection only the first data packet has the whole address, whereas in the following data packets an assignment is made to the appropriate connection.

Patch cable

In the floor distribution point the patch cable creates a flexible connection between floor distribution point and the horizontal wiring. Patch cables are FO cables or copper cables and are also called jumper cords. Patch cables should be very flexible, have a tight bending radius and if possible should max the fixed cable. Patch cables are taken into account in the ISO/IEC 11801 and EN 50173 standards, but are not included in the transmission features specified for the link classes. This should be changed when ie. the channel standards are revised. The patch cable should then, at a length of up to 5 m, be part of a new definition, the channel specification and included in all the transmission features. The jumper cord and a connection cable, also 5 m long, will then be taken into account in this specification.

PAUSE

A single frame is sent via the full-duplex mode to the available stations, to signify that transmissions are to be reduced.

PCF

Refer to FO

PHY

Physical Layer device. This term is mostly used for a transceiver in Fast and Gigabit Ethernet.

Physical Layer

The Physical Layer (PHY) is the top sublayer or physical layer consisting of the PMD-sublayer and the PHY-sublayer. The PHY-sublayer is underneath the MAC layer and encodes, decodes and synchronises the station with the transmission frequency and the regeneration of the transmission frequency.

PoE (Power over Ethernet)

Power over Ethernet (PoE) is a procedure which allows power to be supplied to a network compatible device over the 8-wire Ethernet cable. The first version of the procedure is defined under IEEE802.3af and includes performance classes up to max. 15.4 W. There has since been a further development called PoE +. The respective standard is IEEE802.3at and it primarily involves an increase in max. power to 30 W.

Overview of PoE/PoE Plus

	PoE	PoE Plus
Minimum cable type	Cat. 5e	Cat. 5e
IEEE standard definition	802.3af	802.3at
Maximum power per PSE port	15.4 W	30 W
Maximum power to PD	12.95 W	25.5 W
Twisted pair used	2-pair	2-pair

POF

Refer to FO

Point-to-Point Technology

A type of connection where a connection is generated between two pieces of terminal equipment. Point-to-Point connections occur in the networked environment, in radio broadcasting, in beam radio and in the service area. In networks, where point-to-point connections are concerned, instead of a user network interface, an interface to a central facility in the network can also be operated. The connection can be permanent or on demand.

Port

Connector on a hardware unit. Usually an input/output channel on the computer or other hardware unit such as modem, router, hub or multiplexer.

Port Mirroring

Port mirroring means that the data traffic of a switch port can be mirrored, in order to detect errors or to measure throughput, onto another port to which a management station can be connected.

PPPoE

The PPoE (Point to Point Protocol over Ethernet) was developed in order to connect components and LANs to the Internet. It takes advantage of the divided Ethernet environment together with the trusted and secure dial-up access user model from PPP. It allows individual PCs to establish PPP sessions to various target networks simultaneously. A LAN and multiple components can also establish multiple simultaneous PPP sessions for connection to various target networks.

Promiscuous Mode

The Promiscuous Mode is a particular receiver mode for network equipment. In this mode the device reads all the incoming data traffic sent to the network interface that has been switched to this mode and transmits the data to be processed to the operating system. Normally this device would only process packets directed to itself, which is done for example in Ethernet networks by evaluating the MAC address.

Propagation Delay

The delay is the time that the signal requires to go from one point in a transmission channel to another. Depending on the transmission medium, the delay is the speed of light, as in satellite transmission, or less when transmitting in data cables and FO cables. It does not depend on the speed of light, but depends mostly on the dielectric constant of the medium or in FO cables on the refraction.

Protocol

A data transmission protocol establishes the rules for the exchange of information in the form of a directory. This includes all formats, parameters and specifications for a complete, perfect and effective transmission of data. Protocols include conventions on data formats, times and how errors are treated when exchanging data between computers. A protocol is a convention on setting up connections, monitoring connections and terminating connections. Different protocols are necessary in a data connection. Protocols can be assigned to each layer of the reference model. There are communication protocols for the bottom four layers of the reference model and higher protocols for control and data provisioning and its application.

Quality of Service (QoS)

QoS are all procedures that influence the flow of data in LANs and WANs so that the service which arrives at the receiver is of a particular quality. The ITU has developed a hierarchical QoS model, which takes both the technical aspects of the service into account and the availability and handling of the terminal equipment. The ITU defined three QoS classes on this basis.

Rapid Spanning Tree

The IEEE Standard Rapid Spanning Tree protocol (RSTP, IEEE 802.3w) is – apart from RapidRing™ – another option to provide redundancy in a network. The RSTP makes a structure similar to the network possible. In this way multi-redundancy can be achieved. Using RSTP in a network is not as simple as using RapidRing™, but RSTP does have a lot of interesting options.

Remote Management

Remote Management of a switch from every network station equipped with Telnet or web browsers. Remote Management assumes that each switch has its own IP address.

RJ45

The advantages of the RJ45 slot system are its compactness and simplicity. It is used for horizontal wiring and wiring work places. The RJ45 slot system is an eight pole miniature slot system for use in connections with SDP and UTP cables. The plug's eight contacts have serial numbers and are protected from corrosion and mechanical stress with a thin gold layer. The contact points are situated between guide rails and the cable is connected with insulation piercing. On the side opposite to the contact side, the RJ45 plug has a fluke that locks the slot when sticking it into a RJ45 jack.

SC-plug-in connection

The SC-plug is a small polarised push/pull plug with high packing density. This LWL-plug is square and can be used for multimode fibres and monomode fibres. Typical insertion loss is at 0.2 dB to 0.4 dB, operating loss in monomode fibres at 50 dB and multimode fibres at least 40 dB. If monomode fibres with a skew angle coupler are used instead of an oval coupler, the operating loss increases to at least 70 dB. In the duplex type, as a SC-Duplex plug, the plug must be used where there is fibre-optic wiring to the terminal equipment. It is also increasingly used in new installations and in FCS and ATM applications.

Segment

The term segment has many meanings. In networks a segment is a network section delimited by bridges, routers or switches. Where LANs are concerned, a LAN segment or a collision domain is referred to. In token ring networks, it means the transmission section between two neighbouring data stations. In the TCP specifications, a segment describes a single information unit on the communication network.

Semi-duplex operation

The semi-duplex procedure allows bidirectional use of a single transmission line. The interfaces, however, can only either transmit or receive at any given time.

Singlemode

Refer to FO

Slot time

This is an important Ethernet value. The slot time is twice the speed of the signal propagation time between the two networks that are farthest away from one another and the minimum packet length of 64 bytes or 512 bits. At a frequency clock speed of 10 Mbps, or a frequency clock cycle of a 100 ns, this produces a slot time of 51.2 µs. At 100 Mbps the frequency is 10 ns, so therefore the slot time for the same packet length is 51.2 µs. The greater the slot time, the poorer the Ethernet performance.

SNMP

The SNMP protocol means that central network management for many network components is possible. SNMP's main objectives are to decrease the complexity of the management functions, to extend the protocol and to be independent of any network components. The SNMP protocol supports monitoring, controlling and administration of networks. According to the SNMP architecture model a network is divided into network management stations (NMS) and network components. The network management stations carry out applications to monitor and control the network components. The network components have management agents, which carry out management functions.

Spanning Tree Protocol

-> see Rapid Spanning Tree.

ST connector

This LWL-plug (IEC-SC 86B) specified by AT&T is suitable for both monomode fibres and multimode fibres. The ST-plug is a commonly-available plug, used in LANs. It uses a bayonet lock as its locking system. In this LWL-plug the FO cable is guided through a ceramic or metal ferrule with a pin diameter of 2.5 mm and is prevented from twisting by a metal pin. The ceramic ferrule has been grounded to make its contact area convex. A spring means that there is constant contact to the front of the fibres to be connected.

Star topology

In star topology the transmission stations are connected in a star shape to a central node. Star topologies can only exchange data indirectly via the central node. There is a difference between active and passive star systems. In the former, the middle node is a computer that takes over relaying the messages. Its capacity determines the performance of the network. For example: private exchanges. Passive systems only have one node in the middle that combines the routes. This node does not have any exchange role, its purpose is signal regeneration. Passive star systems can for example be operated with TDMA, CSMA/CD or token access procedures.

Straight-through

A type of cable where the cable connections at both ends are the same. This type of cable is mostly used to connect devices such as switches with the station. Straight-through is the normal way of wiring cables – in contrast to crossover cables.

Station

Each hardware component in a network and the terminal equipment connected to the network. Server, router, telephone, fax machine etc and all communication devices connected with a network adapter (NIC).

Switching Hub

Switches are network components that have switching functions. These switching functions can also take place as exchange functions in long-distance networks and in local networks. In long-distance networks the local exchanges have local switches and the remote exchanges have central switches.

Topology

The configuration of the network nodes and connections is called the physical topology. The logical connections of network nodes possible are referred to as the logical topology. This states which node pairs can communicate with one another and whether they have a direct physical connection. The physical and logical topology does not have to be identical in networks. As a rule network topologies can be divided into two classes, where in the first class connections from one node to the next one are set up and in the second class all network nodes are directly connected to the transmission medium. The most well-known network topologies are ring topology, bus topology, tree topology and star topology. There is also meshed topology in long-distance networks

Transceiver

Transceiver is a compound word made up of transmitter and receiver and signifying a transmitting/receiving device. The transceiver implements network access of a station to the Ethernet and is sometimes called a MAU.

Trunking

The term trunking occurs in Ethernet networks but also in private exchanges and in mobile communication. In large Ethernet networks trunking is the parallel switching of several Ethernet links. The transmission via the parallel links is used to scale the bandwidth and is activated by the spanning tree algorithm. As the spanning tree protocol is unsuitable for granular bandwidth scaling, this technology has been standardised in the IEEE 802.3ad working group and called "Aggregation of multiple link segments".

Twisted-Pair Cable

A twisted-pair cable is a symmetrical copper cable consisting of two wires that are twisted together. The conductors consist of insulated copper conductors. In contrast to asymmetrical cables, such as coaxial cables, symmetrical cables do not have reference potential. The advantage is that wires can be arranged to prevent interference between the lines.

VLAN

Virtual networks or virtual LANs (VLAN) are a technological concept for implementing logical work groups within a network. This type of network is implemented using LAN-switching or virtual routing on the link layer or on the network layer.

Web server

A web server is a server programme that provides files via HTTP protocol. These files are usually websites, pictures and style sheets. It makes no difference to the web server what type of files it supplies. Each time a website is requested (for example by clicking a link), the browser sends an HTTP query to a web server. This web server can then send the site requested back. The standard ports for the web server are 80 HTTP protocol and 443 for HTTPS, the encrypted HTTP (for example with SSL). Usually all page requests are saved in a log file, from where – by using log file analysis – different statistics on access can be generated. However these do not give the full picture, as HTTP is a connectionless protocol.

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IE-C5D04UG0100A2EA2E-X	1119730100	L.26
IE-C5D04UG0100B2EB2E-X	1307610100	L.27
IE-C5D04UG0100MCAMCA-E	1059890100	L.31
IE-C5D04UG0100MCAXXX-X	1059750100	L.32
IE-C5D04UG0100MCSA20-E	1044470100	L.30
IE-C5D04UG0100MCSMCA-E	1059770100	L.31
IE-C5D04UG0100MCSMCS-E	1025950100	L.29
IE-C5D04UG0100MCSXXX-X	1025940100	L.30
IE-C5D04UG0100MSSMCS-E	1059330100	L.29
IE-C5D04UG0150A20A20-E	1173030150	L.25
IE-C5D04UG0150A2DA20-E	1376510150	L.25
IE-C5D04UG0150A2EA2E-X	1119730150	L.26
IE-C5D04UG0200A20A20-E	1173030200	L.25
IE-C5D04UG0200A2DA20-E	1376510200	L.25
IE-C5D04UG0200A2EA2E-X	1119730200	L.26
IE-C5D04UG0200MBSMCS-E	1172250000	J.6
IE-C5D04UG0005MBSA20-E	1234750005	L.33
IE-C5D04UG0005MBSMCS-E	1244130005	L.33
IE-C5D04UG0005MBSXXX-E	1234770005	L.34
IE-C5D04UG0010MBSA20-E	1234750010	L.33
IE-C5D04UG0010MBSMCS-E	1244130010	L.33
IE-C5D04UG0010MBSXXX-E	1234770010	L.34
IE-C5D04UG0015MBSA20-E	1234750015	L.33
IE-C5D04UG0015MBSMCS-E	1244130015	L.33
IE-C5D04UG0015MBSXXX-E	1234770015	L.34
IE-C5D04UG0020MBSA20-E	1234750020	L.33
IE-C5D04UG0020MBSMCS-E	1244130020	L.33
IE-C5D04UG0020MBSXXX-E	1234770020	L.34
IE-C5D04UG0050MBSA20-E	1234750050	L.33
IE-C5D04UG0050MBSMCS-E	1244130050	L.33
IE-C5D04UG0050MBSXXX-E	1234770050	L.34
IE-C5D04UG01000	8989990000	L.14
IE-C5D04UG-MW	8955560000	L.14
IE-C5ED8UB-100M	8906870000	L.13
IE-C5ED8UB-MW	8949760000	L.13
IE-C5ED8UG-MW	8939390000	L.13
IE-C5ES8UG-MW	8936880000	L.8
IE-C5ES8UG0005M040M40-G	1166000005	L.23
IE-C5ES8UG0010B41B41-E	1066850000	L.37
IE-C5ES8UG0010M40M40-G	1166000010	L.23
IE-C5ES8UG0010P41P41-E	1166010000	L.23
IE-C5ES8UG0015M40M40-G	1166000015	L.23
IE-C5ES8UG0020B41B41-E	1066860000	L.37
IE-C5ES8UG0020M40M40-G	1166000020	L.23
IE-C5ES8UG0020P41P41-E	1166020000	L.37
IE-C5ES8UG0030M40M40-G	1166000030	L.23
IE-C5ES8UG0050B41B41-E	1066870000	L.37
IE-C5ES8UG0050M40M40-G	1166000050	L.23
IE-C5ES8UG0050P41P41-E	1106030000	L.37
IE-C5ES8UG0100A45A40-X	1063230000	G.8
IE-C5ES8UG0100B41B41-E	1066880000	L.37
IE-C5ES8UG0100M40M40-G	1166000010	L.23
IE-C5ES8UG0100P41P41-E	1106040000	L.37
IE-C5ES8UG0150M40M40-G	1166000015	L.23
IE-C5ES8UG0200M40M40-G	1166000020	L.23
IE-C5ES8VG-MW	8954940000	L.8
IE-C5ES8VG0005M40M40-G	1166020005	L.23
IE-C5ES8VG0010M40M40-G	1166020010	L.23
IE-C5ES8VG0015M40M40-G	1166020015	L.23
IE-C5ES8VG0020M40M40-G	1166020020	L.23
IE-C5ES8VG0030M40M40-G	1166020030	L.23
IE-C5ES8VG0050M40M40-G	1166020050	L.23
IE-C5ES8VG0100M40M40-G	1166020100	L.23
IE-C5ES8VG0150M40M40-G	1166020150	L.23
IE-C5ES8VG0200M40M40-G	1166020200	L.23
IE-C5I74UG-MW	1103010000	L.5
IE-C5I74UG0010B2EB2E-X	1312690010	L.27
IE-C5I74UG0020B2EB2E-X	1312690020	L.27
IE-C5I74UG0030B2EB2E-X	1312690030	L.27
IE-C5I74UG0050B2EB2E-X	1312690050	L.27
IE-C5I74UG0100B2EB2E-X	1312690100	L.27
IE-C6ES8UG0010A40XC5-E	1457580010	L.36
IE-C6ES8UG0020A40XC5-E	1457580020	L.36
IE-C6ES8UG0030A40XC5-E	1457580030	L.36
IE-C6ES8UG0050A40XC5-E	1457580050	L.36
IE-C6ES8UG0100A40XC5-E	1457580100	L.36
IE-C6ES8UG0120A40XC5-E	1457580120	L.36
IE-C6F8P1B005M40M40-B	1165900005	L.18
IE-C6F8P1B0010M40M40-B	1165900010	L.18
IE-C6F8P1B0015M40M40-B	1165900015	L.18
IE-C6F8P1B0030M40M40-B	1165900030	L.18
IE-C6F8P1B0050M40M40-B	1165900050	L.18
IE-C6F8P1B0100M40M40-B	1165900100	L.18
IE-C6F8P1B0150M40M40-B	1165900150	L.18

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IE-C6KS8V8G0005XCSXCS-E	1398070005	L.35	IE-FM5Z2L00003MSTOSTO-X	1433990030	M.7	IE-KOK-V5	9204790000	N.16	IE-PS-V04P-2LC-SM	1963340000	J.28
IE-C6KS8V8G0005XCSXXX-E	1449470005	L.35	IE-FM5Z2L00005DLDDLO-X	1433940005	M.8	IE-M12-ADAP A	8901630000	J.38	IE-PS-V04P-2LC-SM-BP	1963350000	J.28
IE-C6KS8V8G0015XCSXCS-E	1398070015	L.35	IE-FM5Z2L00005DSODSDO-X	1433970005	M.7	IE-M12-ADAP S	8901620000	J.38	IE-PS-V04P-2SC-MM	1963360000	J.26
IE-C6KS8V8G0015XCSXXX-E	1449470015	L.35	IE-FM5Z2L00005DSTOSTO-X	1433990005	M.7	IE-M12-COUP	8901640000	J.38	IE-PS-V04P-2SC-MM-BP	1963370000	J.26
IE-C6KS8V8G0030XCSXCS-E	1398070030	L.35	IE-FM5Z2L00005MLDDLO-X	1433940050	M.8	IE-M12-PCBCE	8902810000	J.39	IE-PS-V04P-2SC-POF	1963380000	J.26
IE-C6KS8V8G0050XCSXCS-E	1398070050	L.35	IE-FM5Z2L00005MSDOSDO-X	1433970050	M.7	IE-M12-PCBCE-PANEL	8902820000	J.39	IE-PS-V04P-2SC-POF-BP	1963390000	J.26
IE-C6KS8V8G0050XCSXXX-E	1449470050	L.35	IE-FM5Z2L00005MSTOSTO-X	1433990050	M.7	IE-M12-PCBCE-PANEL-A	1393470000	J.39	IE-PS-V04P-2SC-SM	1963400000	J.26
IE-C6KS8V8G0100XCSXCS-E	1398070100	L.35	IE-FM5Z2L00010MLDDLO-X	1433940100	M.8	IE-MC-VL-1TX-1SC	1241400000	D.3	IE-PS-V04P-2SC-SM-BP	1963410000	J.26
IE-C6KS8V8G0100XCSXXX-E	1449470100	L.35	IE-FM5Z2L00010MSDOSDO-X	1433970100	M.7	IE-MC-VL-1TX-1SCS	1241420000	D.3	IE-PS-V04P-RJ45-FH	1963160000	J.22
IE-C7S8UG-MW	8955350000	L.7	IE-FM5Z2L00010MSTOSTO-X	1433990100	M.7	IE-MC-VL-1TX-1ST	1241410000	D.3	IE-PS-V04P-RJ45-FH-B	1271240000	J.22
IE-C7S8V8-MW	8955360000	L.7	IE-FM5Z2V00001MLDDLO-X	1276880000	M.11	IE-MC-VLT-1TX-1SC	1286880000	D.3	IE-PS-V04P-RJ45-FH-BP	1963170000	J.22
IE-C7ES8UG-MW	8954300000	L.9	IE-FM5Z2V00001MSDOSDO-X	8813300000	M.10	IE-MC-VLT-1TX-1SCS	1286900000	D.3	IE-PS-V04P-RJ45-TH	1963180000	J.22
IE-C7ES8V8-MW	8954800000	L.9	IE-FM5Z2V00001MSTOSTO-X	8813240000	M.10	IE-MC-VLT-1TX-1ST	1286890000	D.3	IE-PS-V04P-RJ45-TH-BP	1963190000	J.22
IE-C7FS8LB-305M	1326540000	L.10	IE-FM5Z2V00002MLDDLO-X	1062570000	M.11	IE-MCT-1RS232/485-1SC	1344760000	D.7	IE-PS-V05M-A-RJ45-FH	1077300000	J.30
IE-C7FS8LD-305M	1273090000	L.10	IE-FM5Z2V00002MSDOSDO-X	8813310000	M.10	IE-MCT-1RS232/485-1ST	1362950000	D.7	IE-PS-V05M-RJ45-FH	1963200000	J.30
IE-C7FS8LE-305M	1344690000	L.11	IE-FM5Z2V00002MSTOSDO-X	8813390000	M.11	IE-OP-V01P-1S	1061830000	K.9	IE-PS-V05M-RJ45-FH-B	1271250000	J.30
IE-C7FS8LG-305M	1344680000	L.11	IE-FM5Z2V00002MSTOSTO-X	8813250000	M.10	IE-OP-V04P-1S	1045780000	K.10	IE-PS-V05M-RJ45-TH	1963110000	J.30
IE-C7FS8LM-305M	1333160000	L.12	IE-FM5Z2V00003MSDOSDO-X	8813320000	M.10	IE-IP67	8808380000	J.32	IE-PS-V14M-2SC-POF	1191550000	J.10
IE-C7FS8LR-305M	1287910000	L.11	IE-FM5Z2V00003MSTOSTO-X	8813260000	M.10	IE-IP63	8811310000	H.3	IE-PS-V14M-HYB-10P	1072910000	J.6
IE-C7FS8LY-305M	1344670000	L.12	IE-FM5Z2V00005MLDDLO-X	1062550000	M.11	IE-P70	8811320000	H.3	IE-PS-V14M-RJ45-FH-BP	1012090000	J.2
IE-CC-NM-RPSMAM-2M	1367110000	F.4	IE-FM5Z2V00005MSDOSDO-X	8876350050	M.10	IE-PCB-M12X-S-180	1324010000	J.41	IE-PS-V14M-RJ45-FH-P	1012170000	J.2
IE-CC-NM-RPSMAM-4M	1367100000	F.4	IE-FM5Z2V00005MSTOSTO-X	8876370050	M.10	IE-PCB2-M12X-S-180	1393080000	J.41	IE-PS-V14M-RJ45-TH	1012160000	G.8
IE-CC-V01P	1061820020	J.20	IE-FM5Z2V00010MLDDLO-X	1062580000	M.11	IE-PCBR-M12X-S-180	1427670000	J.41	IE-PS-V14M-RJ45-TH-BP	1012070000	G.8
IE-CC-V04P	1045960000	J.24	IE-FM5Z2V00010MSDOSDO-X	8876350100	M.10	IE-PCBR2-M12X-S-180	1444650000	J.41	IE-PS-VAPM-24V	1068910000	J.54
IE-CD-MA	1099580000	K.2	IE-FM5Z2V00010MSTOSTO-X	8876370100	M.10	IE-PHR-RJ45-TH-BK	1962500000	H.3	IE-PS-VAPM-400V	1323940000	J.54
IE-CD-V04PRJ-C-MA	1122710000	K.10	IE-FM6C2U-MW	8956050000	M.5	IE-PHR-RJ45-TH-HB	1962470000	H.3	IE-S-IP67	8808370000	K.11
IE-CD-V14MRJ-10P-C-MA	1068840000	K.7	IE-FM6C2UE0100MSD1SD1X	1318011000	M.15	IE-PHR-RJ45-TH-GN	1962490000	H.3	IE-SCRJ-IP67-POF-100	1278430000	J.10
IE-CD-V14MHYB-10P-FJ	1068850000	K.6	IE-FM6C2UE0180MSD1SD1X	1318011800	M.15	IE-PHR-RJ45-TH-GY	1962440000	H.3	IE-SCRJ-IP20-POF-100	1278420000	H.4
IE-CD-V14MRJ-C-MA	1068870000	K.3	IE-FM6C2UE0200MSD1SD1X	1318012000	M.15	IE-PHR-RJ45-TH-OG	1962450000	H.3	IE-SFP-1FELLC-T	1241480000	F.6
IE-CD-V14MRJ-FJ	1068880000	K.3	IE-FM6C2UE0250MSD1SD1X	1318012500	M.15	IE-PHR-RJ45-TH-WH	1962430000	H.3	IE-SFP-1FEMLC-T	1241450000	F.6
IE-CD-V14MRJ/VAPM24V-C-MA	1068820000	K.2	IE-FM6C2UE0300MSD1SD1X	1318013000	M.15	IE-PHR-RJ45-TH-YE	1962480000	H.3	IE-SFP-1FESLC-T	1241470000	F.6
IE-CD-V14MRJ/VAPM24V-FJ	1068830000	K.2	IE-FM6C2UE0350MSD1SD1X	1318013500	M.15	IE-PHV01M	1962550000	J.12	IE-SFP-1G10ALC	1241530000	F.6
IE-CD-V14MSCRJ-MM-C-MA	1318150000	K.4	IE-FM6C2UE0500MSD1SD1X	1318015000	M.15	IE-PHV01M-BP	1962560000	J.12	IE-SFP-1G10ALC-T	1286740000	F.6
IE-CD-VAPM24V-C-MA	1397690000	K.5	IE-FM6D2U-MW	8956060000	M.5	IE-PHV01P	1012440000	J.18	IE-SFP-1G10BLC	1241540000	F.6
IE-CD-VAPM24V-Y-MA	1297010000	K.5	IE-FM6D2UE0001MSDOSDO-X	8876440010	M.14	IE-PHV01P-BP	1012460000	J.18	IE-SFP-1G10BLC-T	1286750000	F.6
IE-CDM-V14MRJSCP/VAPM-C	1324440000	K.8	IE-FM6D2UE0001MSTOSTO-X	8876460010	M.14	IE-PHV04P	1962520000	J.22	IE-SFP-1G20ALC	1241550000	F.6
IE-CDR-V14MSCPOF/VAPM-C	1253240000	K.8	IE-FM6D2UE0003MSDOSDO-X	8876440030	M.14	IE-PHV04P-BP	1962530000	J.22	IE-SFP-1G20ALC-T	1286760000	F.6
IE-CFK-05	1339610000	F.48	IE-FM6D2UE0003MSTOSTO-X	8876460030	M.14	IE-PHV05M	1962540000	J.30	IE-SFP-1G20BLC	1241570000	F.6
IE-CR-IP20-RJ45-FH-BU	1963080000	H.2	IE-FM6D2UE0005MLDDLO-X	1220930000	M.13	IE-PHV14M-F0	1058100000	J.10	IE-SFP-1G20BLC-T	1286770000	F.6
IE-CR-IP20-RJ45-FH-GN	1963100000	H.2	IE-FM6D2UE0005MSDOSDO-X	8876440050	M.14	IE-PHV14M-F0-BP	1058110000	J.10	IE-SFP-1GLHXL	1241520000	F.6
IE-CR-IP20-RJ45-FH-GY	1963060000	H.2	IE-FM6D2UE0005MSTOSTO-X	8876460050	M.14	IE-PHV14M-RJ	1011560000	J.2	IE-SFP-1GLHXL-T	1286730000	F.6
IE-CR-IP20-RJ45-FH-OG	1963070000	H.2	IE-FM6D2UE0010MSDOSDO-X	8876440100	M.14	IE-PHV14M-RJ-BP	1011570000	J.2	IE-SFP-1GLSXL	1241500000	F.6
IE-CR-IP20-RJ45-FH-WH	1963050000	H.2	IE-FM6D2UE0010MSTOSTO-X	8876460100	M.14	IE-PI-2LC-MM	1962780000	J.51	IE-SFP-1GLSXL-T	1286710000	F.6
IE-CR-IP20-RJ45-FH-YE	1963090000	H.2	IE-FM6D2UE0020MLDDLO-X	1174830000	M.13	IE-PI-2LC-SM	1962790000	J.51	IE-SFP-1GLXL	1241510000	F.6
IE-CS-2TX-1RS232/485	1242080000	D.5	IE-FM6D2UE0050MLDDLO-X	8993220000	M.13	IE-PHYB-10P	1068990000	J.46	IE-SFP-1GLXL-T	1286720000	F.6
IE-CS-2TX-2RS232/485	1242090000	D.5	IE-FM6Z2L00001MLDDLO-X	1433930010	M.8	IE-PI-RJ45-FH	1962730000	J.42	IE-SFP-1GSXL	1241490000	F.6
IE-CSPDSUS0050VAPVAP-X	1403680050	L.28	IE-FM6Z2L00001MSDOSDO-X	1433960010	M.7	IE-PI-RJ45-FHA	1132010000	J.42	IE-SFP-1GSXL-T	1286700000	F.6
IE-CSPDSUS0100VAPVAP-X	1403680100	L.28	IE-FM6Z2L00001MSTOSTO-X	1433980010	M.7	IE-PI-RJ45-FH-B	1132020000	J.42	IE-SR-2GT-LAN	1345270000	C.6
IE-CSPDSUS0150VAPVAP-X	1403680150	L.28	IE-FM6Z2L00002MLDDLO-X	1433930020	M.8	IE-PI-RJ45-FHP	1132030000	J.42	IE-SR-2GT-UMTS/3G	1345250000	C.6
IE-CSPSSVS0010VAPVAP-X	1350120010	L.28	IE-FM6Z2L00002MSDOSDO-X	1433960020	M.7	IE-PI-RJ45-TH	1962720000	J.43	IE-SW-BL05-4TX-1SC	1240890000	B.3
IE-CSPSSVS0030VAPVAP-X	1350120030	L.28	IE-FM6Z2L00002MSTOSTO-X	1433980020	M.7	IE-PI-SCRJ-MM	1067380000	J.10	IE-SW-BL05-4TX-1SCS	1240870000	B.3
IE-CSPSSVS0050VAPVAP-X	1350120050	L.28	IE-FM6Z2L00003MLDDLO-X	1433930030	M.8	IE-PI-SCRJ-POF	1067410000	J.10	IE-SW-BL05-4TX-1ST	1240880000	B.3
IE-CSPSSVS0100VAPVAP-X	1350120100	L.28	IE-FM6Z2L00003MSDOSDO-X	1433960030	M.7	IE-PI-SCRJ-SM	1067390000	J.10	IE-SW-BL05-5GT	1241250000	B.5
IE-CSPSSVS0150VAPVAP-X	1350120150	L.28	IE-FM6Z2L00003MSTOSTO-X	1433980030	M.7	IE-PIC-HYB-S-0,2-300	1135150000	J.6	IE-SW-BL05-5TX	1240840000	B.3
IE-CSPSSVS0200VAPVAP-X	1350120200	L.28	IE-FM6Z2L00005DLDDLO-X	1433930005	M.8	IE-PIC-HYB-S-0,5-300	1096180000	J.6	IE-SW-BL05T-4TX-1SC	1286550000	B.3
IE-CTST	9204350000	N.3	IE-FM6Z2L00005DSODSDO-X	1433960005	M.7	IE-PIC-HYB-S-0,75-300	1068950000	J.6	IE-SW-BL05T-4TX-1SCS	1286530000	B.3
IE-CTST-2TX-1RS232/485	1285830000	D.5	IE-FM6Z2L00005DSTOSTO-X	1433980005	M.7	IE-PMR-RJ45-TH	1963580000	H.3	IE-SW-BL05T-4TX-1ST	1286540000	B.3
IE-CTST-2TX-2RS232/485	1285840000	D.5	IE-FM6Z2L00005MLDDLO-X	1433930050	M.8	IE-PP-V01P	1965690000	N.20	IE-SW-BL05T-5GT	1286560000	B.5
IE-CT	8808420000	N.6	IE-FM6Z2L00005MSDOSDO-X	1433960050	M.7	IE-PPV04P	1963890000	N.20	IE-SW-BL05T-5TX	1240850000	B.3
IE-CT-LC-GOF	9205330000	N.12	IE-FM6Z2L00005MSTOSTO-X	1433980050	M.7	IE-PPV05M	1968920000	N.20	IE-SW-BL06-2TX-4POE	1241380000	B.17
IE-CT-SC-GOF	9205320000	N.12	IE-FM6Z2L00010MLDDLO-X	1433930100	M.8	IE-PPV14P	1058280000	N.20	IE-SW-BL06T-2TX-4POE	1286920000	B.17
IE-CT3-AS-LC-GOF	1032350000	N.11	IE-FM6Z2L00010MSDOSDO-X	1433960100	M.7	IE-PPA19-24P	1049270000	H.14	IE-SW-BL06-6TX-2SC	1240910000	B.3
IE-CTC-SCST-GOF	1032030000	N.11	IE-FM6Z2L00010MSTOSTO-X	1433980100	M.7	IE-PPA19-24P-RJ45-C	1049930000	H.14	IE-SW-BL06-6TX-2SCS	1412110000	B.3
IE-CTH-LC-GOF	9205290000	N.12	IE-FM6Z2V00001MLDDLO-X	1296450000	M.11	IE-PPA19-24P-RJ45-FJ-A	1049910000	H.14	IE-SW-BL06-6TX-2ST	1240930000	B.3
IE-CTI-SC-GOF	9205280000	N.12	IE-FM6Z2V00001MSDOSDO-X	8813330000	M.10	IE-PPA19-24P-RJ45-FJ-B	1049920000	H.14	IE-SW-BL06-7TX-1SC	1412070000	B.3
IE-DM	8813500000	H.9	IE-FM6Z2V00001MSTOSDO-X	1272000000	M.11	IE-PS-LCD-MM	1962970000	H.5	IE-SW-BL06-7TX-1SCS	1240950000	B.3
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