

Industrial Ethernet active and passive

Product Information

Industrial Ethernet active

Unmanaged Switches Basic Line



Unmanaged Switches Value Line



Managed Switches Value Line



Managed Switches Premium Line



Power-over-Ethernet Switches



Media Converter



Serial / Ethernet converter



Industrial wireless



Accessories

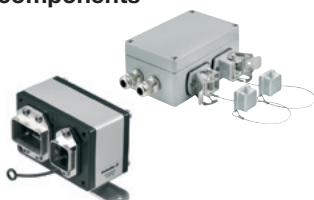


Industrial Ethernet passive

IP67 plug-in connector



IP65 connection components



Mounting rail outlets



FrontCom® Micro



RJ45 Connectors IP20



Accessories



Bulk – cables
AdvancedLine



System cables
AdvancedLine



Patch cables
CabinetLine



Industrial Ethernet

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Industrial Ethernet active

Basic Line



Weidmüller's Basic Line consists of unmanaged Plug & Play switches in a rugged IP30 rated aluminium housing. The devices are available with Fast Ethernet and Gigabit Ethernet and provide an economical solution for Industrial Ethernet ports 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 international applicable for different applications.

- Plug & Play switches in a rugged aluminium housing (IP30)
- 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: CE, FCC, cULus, Class I Div. 2 / Atex, DNV / GL

Value Line



Weidmüller's Value Line consists of unmanaged and managed switches in a high quality IP30 rated metal housing. The devices are available with Fast Ethernet and Gigabit Ethernet ports. Managed switches of the Value Line support a variety of useful management functions, such as fast ring redundancy, port-based 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 (IP30)
- Price-sensitive mid-range class
- Managed switches for entry into configurable network infrastructure
- Unmanaged 8 port Full-Gigabit switches
- Approvals: CE, FCC, cULus, Class I Div. 2 / Atex, DNV / GL

Premium Line

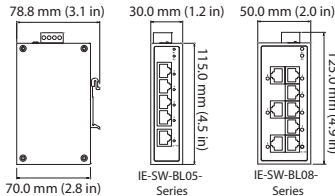


Weidmüller's Premium Line consists of high-end managed switches with advanced management and security features and is therefore suitable for most demanding network solutions. The devices are available with Fast Ethernet or Gigabit Ethernet ports. One model is equipped with Fast Ethernet and Power-over-Ethernet ports. With their advanced ring redundancy technology (recovery time ≤ 20 ms), these devices increase the reliability and availability of your industrial network. The optional to use SFP transceivers offer a high degree of flexibility and the Gigabit variants allows the use in networks with high traffic loads also.

- Managed Fast Ethernet variants in a high quality metal housing (IP30)
- 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: CE, FCC, cULus, Class I Div. 2 / Atex, DNV / GL

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
- IP30 aluminum housing
- Rugged hardware design well suited for hazardous locations (Class I Div. 2 /ATEX) and maritime environments (DNV/GL)
- -40 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		
Fiber 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 (fiber port)	
Optical Fiber		
	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	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 SC/ST/SCS: 0.11 A @ 24 V IE SW BL08 8TX: 0.13 A @ 24 V IE SW BL08 2SC/2ST: 0.22 A @ 24 V IE SW BL08 SCS: 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, IP30 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 (14 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)	
Storage Temperature	-40 to 85 °C (-40 to 185 °F)	

Environmental Limits	
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL508
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
EMS	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
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

MTBF (mean time between failures)	
Time	425,000 hrs
Database	Telcordia (Bellcore), GB

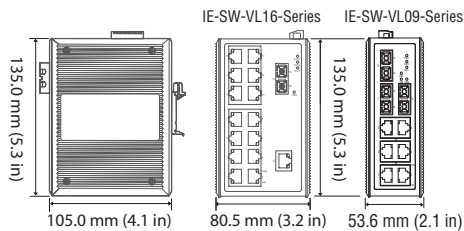
Warranty	
Warranty Period	5 years

Ordering Information			
Port Variants	Type	Operating Temperature	Order No.
5 * RJ45	IE-SW-BL05-5TX IE-SW-BL05T-5TX	-10 to +60 °C -40 to +75 °C	1240840000 1240850000
4 * RJ45, 1 * SC-Multimode	IE-SW-BL05-4TX-1SC IE-SW-BL05T-4TX-1SC	-10 to +60 °C -40 to +75 °C	1240890000 1286550000
4 * RJ45, 1 * ST-Multimode	IE-SW-BL05-4TX-1ST IE-SW-BL05T-4TX-1ST	-10 to +60 °C -40 to +75 °C	1240880000 1286540000
4 * RJ45, 1 * SC-Singlemode	IE-SW-BL05-4TX-1SCS IE-SW-BL05T-4TX-1SCS	-10 to +60 °C -40 to +75 °C	1240870000 1286530000
8 * RJ45	IE-SW-BL08-8TX IE-SW-BL08T-8TX	-10 to +60 °C -40 to +75 °C	1240900000 1286560000
6 * RJ45, 2 * SC-Multimode	IE-SW-BL08-6TX-2SC IE-SW-BL08T-6TX-2SC	-10 to +60 °C -40 to +75 °C	1240910000 1240920000
6 * RJ45, 2 * ST-Multimode	IE-SW-BL08-6TX-2ST IE-SW-BL08T-6TX-2ST	-10 to +60 °C -40 to +75 °C	1240930000 1286570000
7 * RJ45, 1 * SC-Singlemode	IE-SW-BL08-7TX-1SCS IE-SW-BL08T-7TX-1SCS	-10 to +60 °C -40 to +75 °C	1240950000 1286580000

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

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 to 75 °C operating temperature range (T models)



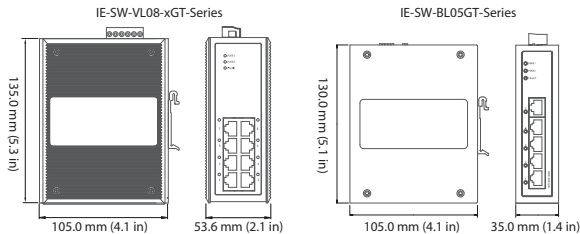
Technical data

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), 1.5 Mbit (IE-SW-VL16...Series)
Interface	
Fiber 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 break alarm mask
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (fiber port)
Alarm Contact	1 relay output with current carrying capacity of 1 A @ 24 V DC
Optical Fiber	
	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...16-Ports: 24 V DC (12 to 45 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	IE-SW-VL09/16...Series: 1.6 A
Connection	1 removable 6-pin terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions W x H x D	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: 630 g IE-SW-VL16: 1140 g

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	IE-SW-VL09...Series: UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1 IE-SW-VL16...Series: UL508, UL60950-1, 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			
EMS	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		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				
			Type	Order No.
19" Rack Mounting Kit			RM-KIT	1241440000

Unmanaged Gigabit Ethernet Switches

- Full Gigabit Ethernet on all ports
- Variants with slots for GB 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)



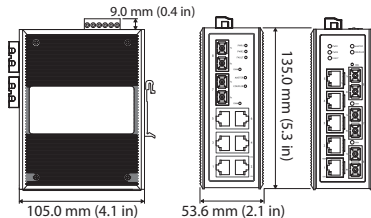
Technical data

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)
Interface	
Fiber Ports	100/1000BaseSFP slot (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	One for port break alarm, one for Enable/Disable broadcast storm protection
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, IP30 protection
Dimensions	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-xGT: 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)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL508
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				
EMS	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 (IE-SW-BL05-5GT series) 325,000 hrs (IE-SW-VL08-XGT series)			
Database	Telcordia (Bellcore), GB (IE-SW-VL08-xGT series)			
Warranty				
Warranty Period	5 years			
Ordering Information				
Port Variants		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				
		Type		Order No.
19" Rack Mounting Kit		RM-KIT		1241440000

Managed Entry-level Ethernet Switches

- Turbo Ring and Turbo Chain with fast recovery time (under 20 ms)
- 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)



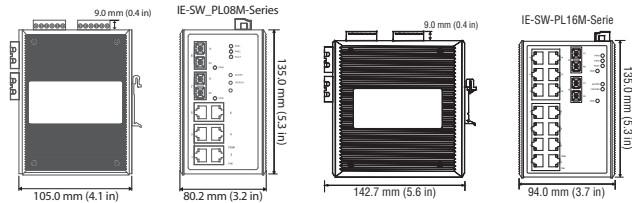
Technical data

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 ▪ RMON ▪ 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		
Fiber 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 Fiber		
	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 fiber optic cable		
^b 62.5/125 μm, 500 MHz*km fiber optic cable		
^c 9/125 μm singlemode fiber 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	

Physical Characteristics				
Housing	Metal, IP30 protection			
Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)			
Weight	IE-SW-VL08M-...8TX/6TX-2SC/6TX-2ST: 650 g IE-SW-VL08M-5TX-3SC: 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	UL508, UL60950-1, 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			
EMS	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	IE-SW-VL08M-...Series: 363,000 hrs			
Database	Telcordia (Bellcore), GB			
Warranty				
Warranty Period	5 years			
Ordering Information				
Port Variants		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
6 * RJ45, 2 * ST-Multimode		IE-SW-VL08MT-6TX-2ST	-40 to +75 °C	1240990000
6 * RJ45, 2 * SC-Singlemode		IE-SW-VL08MT-6TX-2SCS	-40 to +75 °C	1241020000
Accessories				
Type				Order No.
External Backup and Restore Module				1241430000
19" Rack Mounting Kit				1241440000

Managed Fast Ethernet Switches

- Plug-n-play Turbo Ring and Turbo Chain (recovery time < 20 ms), 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		
Fiber 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	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 Fiber		
	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	

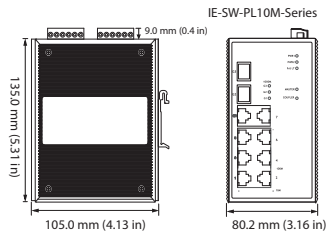


Power Requirements			
Overload Current Protection	Present		
Connection	2 removable 6-contact terminal blocks		
Reverse Polarity Protection	Present		
Physical Characteristics			
Housing	Metal, IP30 protection		
Dimensions	IE-SW-PL08M: 80.2 x 135 x 105 mm (3.16 x 5.31 x 4.13 in) IE-SW-PL16M: 94 x 135 x 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)		
Storage Temperature	-40 to 85 °C (-40 to 185 °F)		
Ambient Relative Humidity	5 to 95 % (non-condensing)		
Regulatory Approvals			
Safety	UL508, UL60950-1, 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		
EMS	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 2; 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 (meantime 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	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)



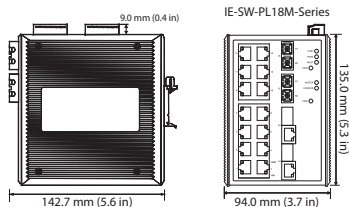
Technical data

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 ■ 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	1 Mbit
Interface	
Fiber Ports	1000BaseSFP slot
RJ45 Ports	10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed
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, IP30 protection
Dimensions	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		UL508, UL60950-1, 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		
EMS		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		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				
			Type	Order No.
External Backup and Restore Module			EBR-Modul RS232	1241430000
19" Rack Mounting Kit			RM-KIT	1241440000

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)



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 ■ SMTP ■ 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	
Fiber Ports	100BaseFX (SC/ST connector) and 1000BaseSFP slot
RJ45 Ports	10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed
Console Port	RS-232 (RJ45 connector)
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (fiber 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 Fiber		
	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)	40 km (9/125 µm singlemode cable)
	4 km (62.5/125 µm multimode 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, IP30 protection
Dimensions	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	UL508, UL60950-1, 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
EMS	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 (meantime between failures)	
Time	240,000 hrs
Database	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years

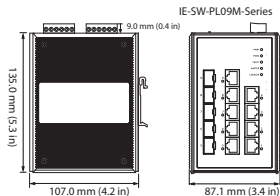
Ordering Information			
Port Variants	Type	Operating Temperature	Order No.
16 * RJ45 10/100BaseT(X),	IE-SW-PL18M-2GC-16TX	0 to +60 °C	1241320000 1286970000
2 * Combo-Ports ¹	IE-SW-PL18MT-2GC-16TX	-40 to +75 °C	
14 * RJ45 10/100BaseT(X),	IE-SW-PL18M-2GC14TX2SC	0 to +60 °C	1241330000 1286990000
2 * SC-Multimode 100FX,	IE-SW-PL18MT-2GC14TX2SC	-40 to +75 °C	
2 * Combo-Ports ¹			
14 * RJ45 10/100BaseT(X),	IE-SW-PL18M-2GC14TX2ST	0 to +60 °C	1241340000 1287000000
2 * ST-Multimode 100FX,	IE-SW-PL18MT-2GC14TX2ST	-40 to +75 °C	
2 * Combo-Ports ¹			
14 * RJ45 10/100BaseT(X),	IE-SW-PL18M-2GC14TX2SCS	0 to +60 °C	1241350000 1287010000
2 * SC-Singlemode 100FX,	IE-SW-PL18MT-2GC14TX2SCS	-40 to +75 °C	
2 * Combo-Ports ¹			

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)



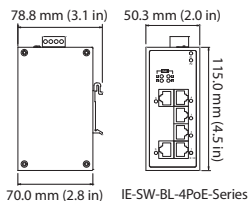
Technical data

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 ■ DHCP Option 66/67/82 ■ BootP ■ TFTP ■ SNMP ■ 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	ID 1 to 4094
IGMP Groups	256
MAC Table Size	8 K
Packet Buffer Size	1 Mbit
Interface	
Fiber Ports	100/1000Base SFP slot
RJ45 Ports	10/100/1000BaseT(X) auto negotiation speed
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, IP30 protection
Dimensions	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	UL508, 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			
EMS	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			
Ordering Information				
Port Variants		Type	Operating Temperature	Order No.
4 * RJ45 10/100/1000BaseT(X), 5 * Combo Ports 10/100/1000BaseT(X) or 100/1000BaseSFP		IE-SW-PL09M-5GC-4GT	0 to 60 °C	1241370000 1287020000
		IE-SW-PL09MT-5GC-4GT	-40 to +75 °C	
Accessories				
			Type	Order No.
External Backup and Restore Module			EBR-Modul RS232	1241430000
19" Rack Mounting Kit			RM-KIT	1241440000

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

- 4 IEEE 802.3af/at compliant PoE and Ethernet combo ports
- Up to 30 watts per PoE port
- 24/48 V DC redundant wide-range power supply
- Integrated DC/DC converter can supply 48V-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	IEEE 802.3at 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
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection
LED Indicators	PWR1, PWR2, 10/100M, PoE
Power Requirements	
Input Voltage	24/48 (20 to 60 V) V DC
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	Metal, IP30 protection
Dimensions	50 x 115 x 70 mm (1.96 x 4.52 x 2.76 in)
Weight	375 g
Installation	DIN-Rail mounting, wall mounting (with optional kit)
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL508
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 4; EN61000-4-5 (Surge), level 4; EN61000-4-6 (CS), level 3; EN61000-4-8
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Warranty	
Warranty Period	5 years

Ordering Information

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

Models with Fiber optic ports on request

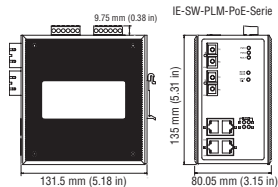
Accessories

Type	Order No.
19" Rack Mounting Kit	1241440000



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

- 4 IEEE 802.3af/at compliant PoE and Ethernet combo 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



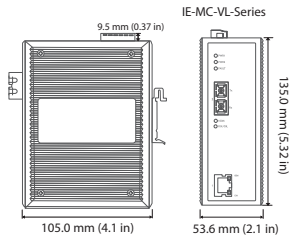
Technical data

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 ▪ 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
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
Digital Inputs	2 inputs with the same ground, electrically isolated • +13 to +30 V for state "1" • -30 to +3 V for state "0" • Max. input current: 8 mA
Power Requirements	
Input Voltage	24/48 (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
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions	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		UL508 (Pending)		
EMI		FCC Part 15, CISPR (EN55022) class A		
EMS		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		
Warranty				
Warranty Period		5 years		
Ordering Information				
Port Variants		Type	Operating Temperature	Order No.
2 * RJ45 10/100 BaseT(X), 4 *		IE-SW-PL06M-2TX-4PoE	0 to 60 °C	1241390000
RJ45 10/100 BaseT(X) PoE+		IE-SW-PL06MT-2TX-4PoE	-40 to +75 °C	1286910000
Models with Fiber optic ports on request				
Accessories				
			Type	Order No.
External Backup and Restore Module			EBR-Modul RS232	1241430000
19" Rack Mounting Kit			RM-KIT	1241440000

Industrial Fast Ethernet Media Converter

- 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

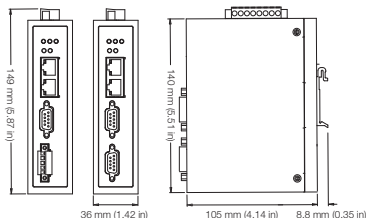
Technology		
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX	
Interface		
Fiber Ports	100BaseFX (SC/ST connectors)	
RJ45 Ports	10/100BaseT(X)	
DIP Switches	100BaseFX Full/Half duplex selection, port break alarm mask	
LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (Fiber port), FDX/COL (Fiber port)	
Alarm Contact	One relay output with current carrying capacity of 1 A @ 24 V DC	
Optical Fiber		
	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 fiber optic cable		
^b 62.5/125 μm, 500 MHz*km fiber optic cable		
^c 9/125 μm, 3.5 PS/(nm*km) fiber optic cable		
Power Requirements		
Input Voltage	24 V DC (12 to 48 V DC), redundant inputs	
Input Current	0.16 A (@ 24 V)	
Connection	Removable terminal block	
Overload Current Protection	1.1 A	
Reverse Polarity Protection	Present	
Physical Characteristics		
Housing	Metal, IP30 protection	
Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)	
Weight	630 g	
Installation	DIN-Rail mounting, wall mounting (with optional kit)	
Environmental Limits		
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)	
Operating Humidity	5 to 95 % RH	
Storage Temperature	-40 to 85 °C (-40 to 185 °F)	

Regulatory Approvals			
Safety	UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1		
EMI	FCC Part 15, CISPR (EN55022) class A		
EMS	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		
Freefall	IEC60068-2-32		
Shock	IEC60068-2-27		
Vibration	IEC60068-2-6		
Maritime	DNV, GL		
MTBF	401,000 hrs; Database: MIL-HDBK-217F: GB 25 °C		
Warranty			
Warranty Period	5 years		
Ordering Information			
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	



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

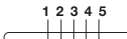


Technical data

Ethernet Interface	
Number of Ports	2
Speed	10/100 Mbps, auto MDI/MDIX
Connector	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
Connector	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 to 921.6 Kbps
Serial Signals	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
Software	
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, Rtelnet, DNS, SNMP, HTTP, SMTP, SNTP, IGMP
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64
Physical Characteristics	
Housing	Metal, IP30 protection
Weight	IE-CS-2TX-1RS232/485: 475 g IE-CS-2TX-2RS232/485: 485 g
Dimensions	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)
Operating Humidity	5 to 95% RH
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Power Requirements	
Input Voltage	12 to 48 V DC
Power 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



Regulatory Approvals	
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A
Safety	UL508
Hazardous Location	UL/cUL Class 1 Division 2 Groups A, B, C and D
ATEX	Class I, Zone 2 (Pending)
EMS	EN61000-4-2 (ESD), 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)
Warranty	
Warranty Period	5 years
Pin Assignment	

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

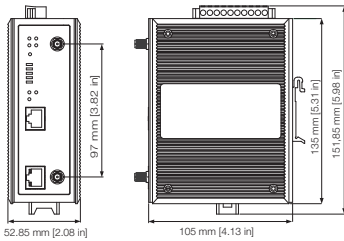
Pin Assignment	
RS-422/485 Terminal Block Wiring	
1	TxD+(B)
2	TxD-(A)
3	RxD+(B)
4	RxD-(A)
5	GND

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

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

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)



Interface			
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		
Physical Characteristics			
Housing	Metal, IP30 protection		
Weight	850 g		
Dimensions	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)		
Connector	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		
Regulatory Approvals			
Safety	EN60950-1, UL60950-1		
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 Information			
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

1-port 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



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Technical data

Interface								
Ethernet Ports				1				
Connectors				Duplex LC Connector or Simplex LC				
Optical Fiber								
	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, RX 1550 nm	TX 1550 nm, RX 1310 nm	TX 1 310 nm, RX 1550 nm	TX 1550 nm, RX 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 fiber optic cable

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

^{c)} 9/125 µm singlemode fiber 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)
Regulatory Approvals	
Safety	UL, TÜV
Warranty	
Warranty Period	3 years

Ordering Information			
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

Note: WDM-type SFP modules must be used in pairs (e.g. SFP-1GXXALC and SFP-1GXXBLC)

1-port 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



n

Technical data

Interface			
Ethernet Ports	1		
Connectors	Duplex LC Connector		
Optical Fiber			
	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 fiber optic cable

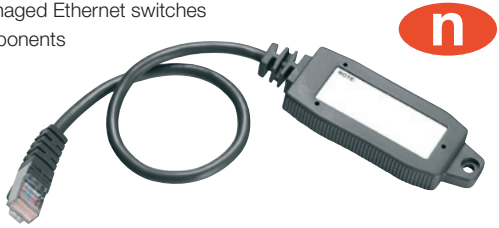
^{b)} 9/125 µm singlemode fiber optic cable

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)
Regulatory Approvals	
Safety	UL, TÜV
Warranty	
Warranty Period	3 years

Ordering Information			
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
- Supports all managed Ethernet switches and WLAN components



Technical data

Basic Operation		
Connector	RS232-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)	
Physical Characteristics		
Housing	PVC molding, IP40 protection	
Dimensions	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)	
Regulatory Approvals		
EMI	FCC Part 15, CISPR (EN55022) Class A	
EMS	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 Information		
Models	Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	1241430000

Kit for 19"-rack mounting

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

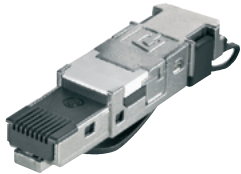


Technical data

Physical Characteristics		
Dimensions	481 x 177.8 x 202.4 mm	
Ordering Information		
Models	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

Industrial Ethernet passive

Connectors for copper cable



RJ45 (IP20) acc. to IEC 60603-7

For use in office environments, in floor and building distributors, or in the electrical cabinet

The benefits:

- For high-speed transmissions, up to 10-gigabit Ethernet
- Standardized internationally
- Can be used overall
- Sturdy version suitable for industrial applications



RJ45 (IP67) acc. to IEC 61076-3-106

For connections between electrical cabinets and for use in the field for gigabit applications

The benefits:

- For high-speed transmissions, up to 10-gigabit Ethernet
- IP67 protection
- Can be assembled in the field



M12, D-coded acc. to IEC 61076-2-101

For use near machinery or where a high degree of vibration resistance is required

The benefits:

- Compact design
- IP67 protection
- Can be used with extrusion mould or assembled in the field
- particularly resistant to vibrations

Connector for fibre-optic cable



SC duplex acc. to IEC 61754-4

For use in building distributors, electrical cabinets, together with protective housing it can also be used in the field or for connecting our active components

The benefits:

- For multi-mode, single-mode or POF

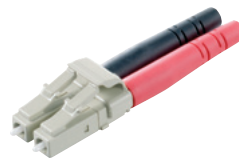


SC-RJ acc. to IEC 61754-24

For use in building distributors, electrical cabinets, or together with protective housing it can also be used in the field in compliance with PROFINET directive

The benefits:

- For multi-mode, single-mode and POF



LC-Duplex acc. to IEC 61754-20

For use in building distributors, electrical cabinets, or together with protective housing it can also be used in the field in compliance with EtherNet/IP directive

The benefits:

- For multi-mode and single-mode
- In protective housing, also in IP67



ST acc. to IEC 61754-2

For use in building distributors, electrical cabinets, or for connecting our active components

The benefits:

- For multi-mode, single-mode and POF

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 IP20 to IP67 applications
- Suitable for temperatures from -40 to +70 °C
- High-quality shielding

CabinetLine



The new Cabinet Line range of patch cables from Weidmüller is available in a variety of colours for visually differentiating between various networks.

Additional advantage:

all Cabinet Line cables are fitted with Weidmüller TM marking sleeves for clearly labelling cables and ports. Cabinet Line is available in the colours grey, blue, red and violet in combination with LSZH sheathing material and transmission power Cat.6_A. Furthermore, Cabinet Line 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

Metal plug

Housings				Variant 1 Bayonet		Variant 14 PushPull RJ		Variant 14 PushPull fibre-optic		Variant 5 HDC
										
				With KS	Without KS	With KS	Without KS	With KS	Without KS	Without KS
Inserts				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		
		POF	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		1968930002

KS = anti-kink protection

Plastic plug

Housings				Variant 1 Bayonet		Variant 4 PushPull	
							
				With KS	Without KS	With KS	Without KS
Inserts				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
		POF	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

Outlet boxes IP67



Ordering data

Type	Order No.
Bayonet V 01, 1 port, straight	1966300000
Bayonet V 01, 2 ports, left	1966320000
Bayonet V 01, 2 ports, right	1966310000
Bayonet V 01, 2 ports, straight	1966330000

Ordering data

Type	Order No.
Push Pull V 04, 1 port, straight	1966220000
Push Pull V 04, 2 ports, left	1966240000
Push Pull V 04, 2 ports, right	1966230000
Push Pull V 04, 2 ports, straight	1966250000

Ordering data

Type	Order No.
RockStar® V 05, 1 port, straight	1966260000
RockStar® V 05, 2 ports, left	1966280000
RockStar® V 05, 2 ports, right	1966270000
RockStar® V 05, 2 ports, straight	1966290000

Metal flange

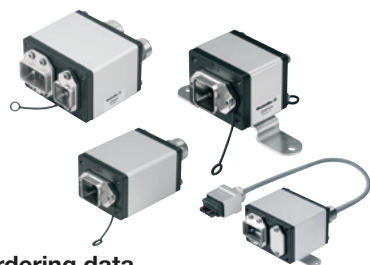
Housings				Variant 1 Bayonet	Variant 14 PushPull RJ		Variant 14 PushPull fibre-optic		Var. 5 HDC
Inserts					 Standardised flange	 Central flange	 Standardised flange	 Central flange	
	RJ45 coupling		1962840000	1963540000	1011540000	1047950000			1963530000
				1963470000	1012310000	1058250000			1963510000
	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					
	RJ45 coupling		1962840000	1016960000	1963520000
				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

FreeCon junction boxes V14



Ordering data

Description	Order No.
Double junction box V14 RJ45 / PushPull Power	1068830000
Single junction box V14 RJ45	1068880000
Double junction box V14 RJ45 / PushPull	1068820000
Single junction box V14 RJ45	1068870000
Single junction box V14 Hybrid	1068850000
Single junction box V14 Hybrid	1068840000
Y-Verteiler PushPull Power	1297010000

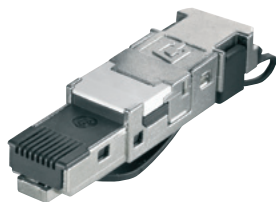
FrontCom® Micro service interface



Ordering data

Description	Type	Order No.
RJ45 Coupling	IE-FCM-RJ45-C	1018790000
RJ45 TIA-A Module	IE-FCM-RJ45-FJ-A	1018810000
RJ45 TIA-B Module	IE-FCM-RJ45-FJ-B	1018820000
RJ45 Ind. Ethernet Module	IE-FCM-RJ45-FJ-P	1018830000
USB Coupling	IE-FCM-USB-A	1018840000
USB Coupling	IE-FCM-USB-AB	1222550000
Accessories: SwitchMark SM27/18		

RJ45 plug field installation



Ordering data

Description	Type	Order No.
Plug A/B/Ind. Ethernet	IE-PS-RJ45-FH-BK	1963600000
Plug TIA - A	IE-PS-RJ45-BK-A	1132040000
Plug TIA - B	IE-PS-RKJ45-BK-B	1132050000
Plug TIA - P	IE-PS-RKJ45-BK-P	1132060000

RJ45 crimp plug



Ordering data

Description	Type	Order No.
Plug with cable bushing in black	IE-PS-RJ45-TH-BK	1963590000
Plug without cable bushing	IE-PM-RJ45-TH	1963580000

SC duplex connectors



Ordering data

Description	Type	Order No.
Plug SC duplex, singlemode	IE-PS-SCD-SM	1964410000
Plug SC duplex, multimode	IE-PS-SCD-MM	1964480000
Plug SC duplex, POF	IE-PS-SCD-MM	1962930000

SCRJ connectorsv



Ordering data

Description	Type	Order No.
Plug SCRJ, singlemode	IE-PS-SCRJ1-SM	1206740000
Plug SCRJ, multimode	IE-PS-SCRJ1-MM	1206730000
Plug SCRJ, POF	IE-PS-SCRJ1-POF	1206720000

LC duplex connectors



Ordering data

Description	Type	Order No.
Plug LC duplex, singlemode	IE-PS-LCD-SM	1962980000
Plug LC duplex, multimode	IE-PS-LCD-MM	1962970000

Terminal rail outlets



Ordering data

Description	Type	Order No.
RJ45 module EIA/TIA 568 A	IE-XM-RJ45/IDC	8808360000
RJ45 module EIA/TIA 568 B	IE-XM-RJ45/IDC-B	8891980000
RJ45-RJ45 coupler	IE-XM-RJ45/RJ45	8879050000
ST-ST coupler	IE-XM-ST/ST	8808340000

Ordering data

Description	Type	Order No.
RJ45-RJ45 coupler	IE-TO-RJ45-C	8946920000
RJ45 module EIA/TIA 568 A	IE-TO-RJ45-FJ-A	8946930000
RJ45 module EIA/TIA 568 B	IE-TO-RJ45-FJ-B	8946940000
RJ45 module Ind. Ethernet	IE-TO-RJ45-FJ-P	8946950000
USB-A coupler	IE-TO-USB	8946960000

Ordering data

Description	Type	Order No.
Adaptor LC Duplex MM	IE-TO-LCD-MM	8947010000
Adaptor LC Duplex SM	IE-TO-LCD-SM	8947020000
Adaptor SC Duplex MM	IE-TO-SCD-MM	8946970000
Adaptor SC Duplex SM	IE-TO-SCD-SM	8946980000
Adaptor SC-RJ MM	IE-TO-SCRJ-MM	8946990000
Adaptor SC-RJ SM	IE-TO-SCRJ-SM	8947000000

Cable tester



Ordering data

Description	Type	Order No.
Tester	LAN USB TESTER	9205400000

Cable markers



Ordering data

Description	Type	Order No.
SlimFix, 4.7 – 5.8 mm	SF 5/21 NEUTRAL WS V0	1696130001
SlimFix, 5.8 – 7.0 mm	SF 6/21 NEUTRAL WS V0	1740870001
TM-I for M12, 18 mm	TM-I 18 NEUTRAL WS	1718431044

Dismantling tool



Ordering data

Description	Type	Order No.
for Ethernet cables	IE-CST	9204350000
for UTP / STP data cables	AM12	9030060000

Hole punch



Ordering data

Description	Type	Order No.
Hand Tool	IE-KO-HAT	1966810000
Insert for Variant 1	IE-KOK-V1	1966780000
Insert for Variant 4	IE-KOK-V4	1966790000
Insert for Variant 5	IE-KOK-V5	9204790000

Crimping pliers RJ45



Ordering data

Description	Type	Order No.
TT 8 RS MP 8		9202800000

Crimping pliers FO



Ordering data

Description	Type	Order No.
SC GOF	IE-CT-SC-GOF	9205320000
SC GOF Profinet	IE-CT-SC-GOF-P	9205350000
SC POF	E-CT-SC-POF	9205340000
LC GOF	IE-CT-LC-GOF	9205330000

Copper cables

Connecting cable



Ordering data

Type	100 m	per meter
Cat.5; 4x2xAWG26/7; PUR	8813200000	8938880000
Cat.5; 4x2xAWG26/7; PVC	8813190000	8955490000
Cat.7; 4x2xAWG26/7; PUR	8813180000	8954300000
Cat.7; 4x2xAWG26/7; PVC	8813170000	8955480000
Cat.5; 4xAWG22/7+6x0.5mm ² ; PVC*		1172250000
Cat.5; 4xAWG22/7; PVC*	8898990000	8955560000
* PROFINET		

Installation cable



Ordering data

Type	100 m	per meter
Cat.5; 4x2xAWG24/1; PUR	8813160000	8944310000
Cat.5; 4x2xAWG24/1; PVC	8813150000	8953160000
Cat.7; 4x2xAWG23/1; PUR	8813140000	8955350000
Cat.7; 4x2xAWG23/1; PVC	8813130000	8955360000
Cat.5; 4xAWG22/1; PVC*	8899000000	8955950000
* PROFINET		

Dragline cable



Ordering data

Type	100 m	per meter
Cat.5; 4x2xAWG26/7; PUR	8813210000	8936390000
Cat.5; 4xAWG22/7; PUR*	8899010000	8947670000
Cat.5; 4xAWG22/19; PUR; Torsion*		1103010000
Cat.5; 4x2xAWG26/7; PUR; blue	8960670000	8949760000
* PROFINET		

Fibre optic cables

FO connecting cable, zipcord, POF



Ordering data

Type	Order No.
2 x POF 980/1000 µm, Bulk stock starting at 50 m	1242820000

LWL-Dragline cable, Breakout, POF



Ordering data

Type	Order No.
2 x POF 980/1000 µm, Bulk stock starting at 50 m	1172280000

LWL-Dragline cable, Breakout, MM, Fibre-optic



Ordering data

Type	Order No.
2x Core 50 µm, Bulk stock starting at 50 m	8946000000
2x Core 62.5 µm, Bulk stock starting at 50 m	8956060000

Copper cables

Dragline cable Cat.6 RJ45 IP20



Ordering data

Description	Type	Order No.
0.5 m	IE-C5DD4UG0005A20A20-E	1173030005
1 m	IE-C5DD4UG0010A20A20-E	1173030010
2 m	IE-C5DD4UG0020A20A20-E	1173030020
3 m	IE-C5DD4UG0030A20A20-E	1173030030
5 m	IE-C5DD4UG0050A20A20-E	1173030050
10 m	IE-C5DD4UG0100A20A20-E	1173030100
15 m	IE-C5DD4UG0150A20A20-E	1173030150
20 m	IE-C5DD4UG0200A20A20-E	1173030200

Dragline cable Cat.5 M12 IP67

plug / plug



plug / socket



Ordering data

Description	Type	Order No.
plug / plug 0.5 m	IE-C5DD4UG0005MCSMCS-E	1025950005
plug / plug 1.5 m	IE-C5DD4UG0015MCSMCS-E	1025950015
plug / plug 3 m	IE-C5DD4UG0030MCSMCS-E	1025950030
plug / plug 5 m	IE-C5DD4UG0050MCSMCS-E	1025950050
plug / plug 10 m	IE-C5DD4UG0100MCSMCS-E	1025950100
plug / socket 1.5 m	IE-C5DD4UG0015MSSMCS-E	1059330015
plug / socket 3 m	IE-C5DD4UG0030MSSMCS-E	1059330030
plug / socket 5 m	IE-C5DD4UG0050MSSMCS-E	1059330050
plug / socket 10 m	IE-C5DD4UG0100MSSMCS-E	1059330100

Dragline cable Cat.5 RJ45 IP67 V14



Ordering data

Description	Type	Order No.
1 m	IE-C5DD4UG0010A2EA2E-X	1119730010
2 m	IE-C5DD4UG0020A2EA2E-X	1119730020
3 m	IE-C5DD4UG0030A2EA2E-X	1119730030
5 m	IE-C5DD4UG0050A2EA2E-X	1119730050
10 m	IE-C5DD4UG0100A2EA2E-X	1119730100
15 m	IE-C5DD4UG0150A2EA2E-X	1119730150
20 m	IE-C5DD4UG0200A2EA2E-X	1119730200

Dragline cable Cat.5 M12/open



Ordering data

Description	Type	Order No.
1.5 m	IE-C5DD4UG0015MCSXXX-X	1025940015
3 m	IE-C5DD4UG0030MCSXXX-X	1025940030
5 m	IE-C5DD4UG0050MCSXXX-X	1025940050
10 m	IE-C5DD4UG0100MCSXXX-X	1025940100

System cable Cat.5 RJ45 IP67 V1



Ordering data

Description	Type	Order No.
1 m	IE-C5ES8UG0010B41B41-E	1066850000
2 m	IE-C5ES8UG0020B41B41-E	1066860000
5 m	IE-C5ES8UG0050B41B41-E	1066870000
10 m	IE-C5ES8UG0100B41B41-E	1066880000

Dragline cable RJ45 - M12



Ordering data

Description	Type	Order No.
1 m	IE-C5DD4UG0010MCSA20-E	1044470010
1.5 m	IE-C5DD4UG0015MCSA20-E	1044470015
3 m	IE-C5DD4UG0030MCSA20-E	1044470030
5 m	IE-C5DD4UG0050MCSA20-E	1044470050
10 m	IE-C5DD4UG0100MCSA20-E	1044470100

LWL-Patch cable IP20, Zipcord

SC duplex



Ordering data

Description	Type	Order No.
Core 62.5 µm, 1 m	IE-FM6Z2VO0001MSD0SD0X	8813330000
Core 62.5 µm, 2 m	IE-FM6Z2VO0002MSD0SD0X	8813340000
Core 62.5 µm, 3 m	IE-FM6Z2VO0003MSD0SD0X	8813350000
Core 62.5 µm, 5 m	IE-FM6Z2VO0005MSD0SD0X	8876360050
Core 62.5 µm, 10 m	IE-FM6Z2VO0010MSD0SD0X	8876360100
Core 50 µm, 1 m	IE-FM5Z2VO0001MSD0SD0X	8813300000
Core 50 µm, 2 m	IE-FM5Z2VO0002MSD0SD0X	8813310000
Core 50 µm, 3 m	IE-FM5Z2VO0003MSD0SD0X	8813320000
Core 50 µm, 5 m	IE-FM5Z2VO0005MSD0SD0X	8876350050
Core 50 µm, 10 m	IE-FM5Z2VO0010MSD0SD0X	8876350100

ST / ST



Ordering data

Description	Type	Order No.
Core 62.5 µm, 1 m	IE-FM6Z2VO0001MST0ST0X	8813270000
Core 62.5 µm, 2 m	IE-FM6Z2VO0002MST0ST0X	8813280000
Core 62.5 µm, 3 m	IE-FM6Z2VO0003MST0ST0X	8813290000
Core 62.5 µm, 5 m	IE-FM6Z2VO0005MST0ST0X	8876380050
Core 62.5 µm, 10 m	IE-FM6Z2VO0010MST0ST0X	8876380100
Core 50 µm, 1 m	IE-FM5Z2VO0001MST0ST0X	8813240000
Core 50 µm, 2 m	IE-FM5Z2VO0002MST0ST0X	8813250000
Core 50 µm, 3 m	IE-FM5Z2VO0003MST0ST0X	8813260000
Core 50 µm, 5 m	IE-FM5Z2VO0005MST0ST0X	8876370050
Core 50 µm, 10 m	IE-FM5Z2VO0010MST0ST0X	8876370100

LC duplex / LC duplex



Ordering data

Description	Type	Order No.
Core 62.5 µm, 2 m	IE-FM6Z2VO0002MLD0LD0X	1062450000
Core 62.5 µm, 100 m	IE-FM6Z2VO0100MLD0LD0X	8992990000
Core 50 µm, 1 m	IE-FM5Z2VO0001MLD0LD0X	1276880000
Core 50 µm, 2 m	IE-FM5Z2VO0002MLD0LD0X	1062570000
Core 50 µm, 5 m	IE-FM5Z2VO0005MLD0LD0X	1062550000
Core 50 µm, 10 m	IE-FM5Z2VO0010MLD0LD0X	1062580000

ST / SC duplex



Ordering data

Description	Type	Order No.
Core 62.5 µm 2 m	IE-FM6Z2VO0002MST0SD0X	8813400000
Core 50 µm, 2 m	IE-FM5Z2VO0002MST0SD0X	8813390000

SCRJ / SCRJ



Ordering data

Description	Type	Order No.
POF 980/1000 µm, 1 m	IE-FPOZ2EE0001MSJ0SJ0-X	1273430010
POF 980/1000 µm, 3 m	IE-FPOZ2EE0003MSJ0SJ0-X	1273430030
POF 980/1000 µm, 5 m	IE-FPOZ2EE0005MSJ0SJ0-X	1273430050
POF 980/1000 µm, 10 m	IE-FPOZ2EE0010MSJ0SJ0-X	1273430100

LWL-System cable, Breakout

Dragline cable SC duplex



Ordering data

Description	Type	Order No.
Core 62.5 µm, 1 m	IE-FM6D2UE0001MSD0SD0X	8876440010
Core 62.5 µm, 3 m	IE-FM6D2UE0003MSD0SD0X	8876440030
Core 62.5 µm, 5 m	IE-FM6D2UE0005MSD0SD0X	8876440050
Core 62.5 µm, 10 m	IE-FM6D2UE0010MSD0SD0X	8876440100
Core 50 µm, 1 m	IE-FM5D2UE0001MSD0SD0X	8876430010
Core 50 µm, 3 m	IE-FM5D2UE0003MSD0SD0X	8876430030
Core 50 µm, 5 m	IE-FM5D2UE0005MSD0SD0X	8876430050
Core 50 µm, 10 m	IE-FM5D2UE0010MSD0SD0X	8876430100

Dragline cable LC duplex



Ordering data

Description	Type	Order No.
Core 62.5 µm, 5 m	IE-FM6B2UE0005MLD0LD0X	1220930000
Core 62.5 µm, 10 m	IE-FM6B2UE0010MLD0LD0X	1276680000
Core 50 µm, 10 m	IE-FM5B2UE0010MLD0LD0X	8979020000
Core 50 µm, 100 m	IE-FM5B2UE0100MLD0LD0X	8979030000

Dragline cable ST / ST



Ordering data

Description	Type	Order No.
Core 62.5 µm, 1 m	IE-FM6D2UE0001MST0ST0X	8876460010
Core 62.5 µm, 3 m	IE-FM6D2UE0003MST0ST0X	8876460030
Core 62.5 µm, 5 m	IE-FM6D2UE0005MST0ST0X	8876460050
Core 62.5 µm, 10 m	IE-FM6D2UE0010MST0ST0X	8876460100
Core 50 µm, 1 m	IE-FM5D2UE0001MST0ST0X	8876450010
Core 50 µm, 3 m	IE-FM5D2UE0003MST0ST0X	8876450030
Core 50 µm, 5 m	IE-FM5D2UE0005MST0ST0X	8876450050
Core 50 µm, 10 m	IE-FM5D2UE0010MST0ST0X	8876450100

CabinetLine Cat.6_A/LSZH

Patch cable grey



Ordering data

Cable length	Type	Order No.
0.5 m	IE-C6FP8LD0005M40M40-D	1165940005
1 m	IE-C6FP8LD0010M40M40-D	1165940010
1.5 m	IE-C6FP8LD0015M40M40-D	1165940015
2 m	IE-C6FP8LD0020M40M40-D	1165940020
3 m	IE-C6FP8LD0030M40M40-D	1165940030
5 m	IE-C6FP8LD0050M40M40-D	1165940050
7.5 m	IE-C6FP8LD0075M40M40-D	1165940075
10 m	IE-C6FP8LD0100M40M40-D	1165940100
15 m	IE-C6FP8LD0150M40M40-D	1165940150
20 m	IE-C6FP8LD0200M40M40-D	1165940200
25 m	IE-C6FP8LD0250M40M40-D	1165940250

Note

CabinetLine Cat.6_A/LSZH

Patch cable blue



Ordering data

Cable length	Type	Order No.
0.5 m	IE-C6FP8LB0005M40M40-B	1165900005
1 m	IE-C6FP8LB0010M40M40-B	1165900010
1.5 m	IE-C6FP8LB0015M40M40-B	1165900015
2 m	IE-C6FP8LB0020M40M40-B	1165900020
3 m	IE-C6FP8LB0030M40M40-B	1165900030
5 m	IE-C6FP8LB0050M40M40-B	1165900050
10 m	IE-C6FP8LB0100M40M40-B	1165900100
15 m	IE-C6FP8LB0150M40M40-B	1165900150
20 m	IE-C6FP8LB0200M40M40-B	1165900200
25 m	IE-C6FP8LB0250M40M40-B	1165900250

Note

CabinetLine Cat.6_A/LSZH

Patch cable red



Ordering data

Cable length	Type	Order No.
0.5 m	IE-C6FP8LR0005M40M40-R	1166030005
1 m	IE-C6FP8LR0010M40M40-R	1166030010
1.5 m	IE-C6FP8LR0015M40M40-R	1166030015
2 m	IE-C6FP8LR0020M40M40-R	1166030020
3 m	IE-C6FP8LR0030M40M40-R	1166030030
5 m	IE-C6FP8LR0050M40M40-R	1166030050
10 m	IE-C6FP8LR0100M40M40-R	1166030100
15 m	IE-C6FP8LR0150M40M40-R	1166030150
20 m	IE-C6FP8LR0200M40M40-R	1166030200
25 m	IE-C6FP8LR0250M40M40-R	1166030250

Note

CabinetLine Cat.6_A/LSZH

Patch cable black



Ordering data

Cable length	Type	Order No.
0.5 m	IE-C6FP8LE0005M40M40-E	1251610005
1 m	IE-C6FP8LE0010M40M40-E	1251610010
1.5 m	IE-C6FP8LE0015M40M40-E	1251610015
2 m	IE-C6FP8LE0020M40M40-E	1251610020
3 m	IE-C6FP8LE0030M40M40-E	1251610030
5 m	IE-C6FP8LE0050M40M40-E	1251610050
10 m	IE-C6FP8LE0100M40M40-E	1251610100
15 m	IE-C6FP8LE0150M40M40-E	1251610150
20 m	IE-C6FP8LE0200M40M40-E	1251610200
25 m	IE-C6FP8LE0250M40M40-E	1251610250

Note

CabinetLine Cat.6 /LSZH

Patch cable yellow

**Ordering data**

Cable length	Type	Order No.
0.5 m	IE-C6FP8LY0005M40M40-Y	1251580005
1 m	IE-C6FP8LY0010M40M40-Y	1251580010
1.5 m	IE-C6FP8LY0015M40M40-Y	1251580015
2 m	IE-C6FP8LY0020M40M40-Y	1251580020
3 m	IE-C6FP8LY0030M40M40-Y	1251580030
5 m	IE-C6FP8LY0050M40M40-Y	1251580050
10 m	IE-C6FP8LY0100M40M40-Y	1251580100
15 m	IE-C6FP8LY0150M40M40-Y	1251580150
20 m	IE-C6FP8LY0200M40M40-Y	1251580200
25 m	IE-C6FP8LY0250M40M40-Y	1251580250

Note

CabinetLine Cat.6 /LSZH

Patch cable magenta

**Ordering data**

Cable length	Type	Order No.
0.2 m	IE-C6FP8LM0002M40M40-M	1201270002
0.35 m	IE-C6FP8LM0035M40M40-M	1201380000
0.5 m	IE-C6FP8LM0005M40M40-M	1201270005
1 m	IE-C6FP8LM0010M40M40-M	1201270010
1.5 m	IE-C6FP8LM0015M40M40-M	1201270015
2 m	IE-C6FP8LM0020M40M40-M	1201270020
3 m	IE-C6FP8LM0030M40M40-M	1201270030
5 m	IE-C6FP8LM0050M40M40-M	1201270050
10 m	IE-C6FP8LM0100M40M40-M	1201270100
15 m	IE-C6FP8LM0150M40M40-M	1201270150
20 m	IE-C6FP8LM0200M40M40-M	1201270200

Note

CabinetLine Cat.6 /LSZH

Patch cable grey 270° angled

**Ordering data**

Cable length	Type	Order No.
0.5 m	IE-C6FP8LD0005M40W40-D	1233160005
1 m	IE-C6FP8LD0010M40W40-D	1233160010
1.2 m	IE-C6FP8LD0012M40W40-D	1233160012
1.5 m	IE-C6FP8LD0015M40W40-D	1233160015
2 m	IE-C6FP8LD0020M40W40-D	1233160020
3 m	IE-C6FP8LD0030M40W40-D	1233160030
5 m	IE-C6FP8LD0050M40W40-D	1233160050
10 m	IE-C6FP8LD0100M40W40-D	1233160100

Note

CabinetLine Cat.6 /LSZH

Patch cable grey 90° angled

**Ordering data**

Cable length	Type	Order No.
0.5 m	IE-C6FP8LD0005M40V40-D	1248280005
1 m	IE-C6FP8LD0010M40V40-D	1248280010
1.2 m	IE-C6FP8LD0012M40V40-D	1248280012
1.5 m	IE-C6FP8LD0015M40V40-D	1248280015
2 m	IE-C6FP8LD0020M40V40-D	1248280020
3 m	IE-C6FP8LD0030M40V40-D	1248280030
5 m	IE-C6FP8LD0050M40V40-D	1248280050
10 m	IE-C6FP8LD0100M40V40-D	1248280100

Note

CabinetLine Cat.5/PVC

Patch cable green



Ordering data

Cable length	Type	Order No.
0.5 m	IE-C5ES8VG0005M40M40-G	1166020005
1 m	IE-C5ES8VG0010M40M40-G	1166020010
1.5 m	IE-C5ES8VG0015M40M40-G	1166020015
2 m	IE-C5ES8VG0020M40M40-G	1166020020
3 m	IE-C5ES8VG0030M40M40-G	1166020030
5 m	IE-C5ES8VG0050M40M40-G	1166020050
10 m	IE-C5ES8VG0100M40M40-G	1166020100
15 m	IE-C5ES8VG0150M40M40-G	1166020150
20 m	IE-C5ES8VG0200M40M40-G	1166020200

Note

CabinetLine Cat.5/PUR

Patch cable green



Ordering data

Cable length	Type	Order No.
0.5 m	IE-C5ES8UG0005M40M40-G	1166000005
1 m	IE-C5ES8UG0010M40M40-G	1166000010
1.5 m	IE-C5ES8UG0015M40M40-G	1166000015
2 m	IE-C5ES8UG0020M40M40-G	1166000020
3 m	IE-C5ES8UG0030M40M40-G	1166000030
5 m	IE-C5ES8UG0050M40M40-G	1166000050
10 m	IE-C5ES8UG0100M40M40-G	1166000100
15 m	IE-C5ES8UG0150M40M40-G	1166000150
20 m	IE-C5ES8UG0200M40M40-G	1166000200

Note

Accessories, can be used with all cables:
Inlay tag, white: TM-I 18 neutral WS: order no. 1718431044
(also available in the colours yellow, blue, red and green)

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