Industrial Ethernet active and passive

Product Information
Industrial Ethernet active

Unmanaged Switches
- Basic Line
- Value Line
- Managed Switches
- Value Line
- 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

### Industrial Ethernet active

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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

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
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 Switches – Basic Line

Unmanaged Fast Ethernet Switches
- 10/100BaseTX (RJ45 connector), 100BaseFX
- 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 100BaseTX 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

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 ST/SST/SCS: 0.1 A @ 24 V
  - IE SW-BL08-6TX: 0.15 A @ 24 V
  - IE SW-BL08-6TX 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
  - IE-SW-BL05-Series: 30 x 115 x 70 mm (1.18 x 4.52 x 2.76 in)
  - IE-SW-BL08-Series: 50 x 115 x 70 mm (1.96 x 4.52 x 2.76 in)
- Weight
  - IE-SW-BL05-5TX: 175 g
  - IE-SW-BL05-8TX: 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
  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
  EC 60068-2-27
- Freefall
  EC 60068-2-32
- Vibration
  EC 60068-2-6

MTBF (meantime between failures)
- Time
  425,000 h

Database
- Telcordia (Bellcore), QDB

Warranty
- Warranty Period
  5 years

Ordering Information

<table>
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<tr>
<th>Port Variants</th>
<th>Type</th>
<th>Operating Temperature</th>
<th>Order No.</th>
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<tr>
<td>5 * RJ45</td>
<td>IE-SW-BL05-5TX</td>
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<td>IE-SW-BL05-1TX</td>
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<td>4 * RJ45, 1 * SC-Multimode</td>
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<td>IE-SW-BL05-4TX-1ST</td>
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<td>IE-SW-BL05-4TX-1SCS</td>
<td>-10 to +60 °C</td>
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<td>8 * RJ45</td>
<td>IE-SW-BL08-8TX</td>
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<td>IE-SW-BL08-8TX</td>
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<td>6 * RJ45, 2 * Multimode</td>
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<td>IE-SW-BL08-6TX-2SC</td>
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<td>7 * RJ45, 1 * SC-Multimode</td>
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<td>IE-SW-BL08-7TX-1SCS</td>
<td>-10 to +60 °C</td>
<td>1240940000</td>
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Accessories

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<td>19&quot; Rack Mounting Kit</td>
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**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)

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**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**
  - 1.6 A

- **Connection**
  - 1 removable 6-pin terminal blocks

**Physical Characteristics**

- **Housing**
  - Metal, IP30 protection

- **Dimensions W x H x D**
  - IE-SW-VL09...Series: 53.6 x 135 x 105 mm
  - (2.1 x 5.3 x 4.1 in)
  - IE-SW-VL16...Series: 80.5 x 135 x 105 mm
  - (3.1 x 5.3 x 4.1 in)

- **Weight**
  - IE-SW-VL09: 630 g
  - IE-SW-VL16: 1140 g
Unmanaged Gigabit Switches – Basic/Value Line

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: 10/100/1000BaseSFP 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: 1241250000
- Power Consumption: 0.20 A @ 24 V
- Connection: 1 removable 6-contact terminal block
- Reverse Polarity Protection: Present

Physical Characteristics
- Housing: Metal, IP30 protection
- Dimensions: 105.2 mm (4.1 in)

Environmental Limits
- Operating Temperature: Standard Models: 0 to 60 °C (32 to 140 °F)
- Wide Temp. Models: -40 to 75 °C
- Storage Temperature: -40 to 85 °C (-40 to 185 °F)
- Ambient Relative Humidity: 5 to 95 % (non-condensing)

Regulatory Approvals
- EMI: FCC Part 15, CISPR (EN55022) class A

Ordering Information

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<tr>
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<td>IE-SW-VL08-8GT</td>
<td>0 to +60 °C</td>
<td>1241270000</td>
</tr>
<tr>
<td>6 RJ45 10/100/1000BaseT(X)</td>
<td>IE-SW-VL08-6GT-2GS</td>
<td>-40 to +75 °C</td>
<td>1241285000</td>
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<td>19&quot; Rack Mounting Kit</td>
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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
- SNTP
- SMTP
- RARP
- RMON
- HTTP
- Telnet
- Syslog
- DHCP Option 66/67/82
- BootP
- LLDP
- Modbus/TCP
- IPv6

MIBs

- MIB-I
- 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: 1300 nm
- singlemode: 1310 nm
- Max. TX: -10 dBm
- Min. TX: -20 dBm
- Max. Link Budget: 22 dB
- Typical Distance: 5 km
- Saturation: -6 dBm

Power Requirements

- Input Voltage: 24 V DC (12 to 45 V DC), redundant dual inputs
- Input Current: IE-SW-VL08M-6TX: 0.26 A @ 24 V
- Overload Current Protection: 1 removable 6-contact terminal block

Physical Characteristics

- Housing: Metal, IP50 protection
- Dimensions: 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
- Weight: IE-SW-VL08M-8TX: 650 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

- UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1
- Hazardous Location: UL/ULC Class I, Division 2, Groups A, B, C, and D; ATEX Zone 2, Ex nC dC
- EMI: FCC Part 15, CISPR (EN55022) class A
- IMQ: 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 (meantime between failures)

- Time: IE-SW-VL08M...Series: 363,000 hrs

Database

- Telcordia (tellcore), GB

Warranty

- Warranty Period: 5 years

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<td>IE-SW-VL08M-8TX</td>
<td>8 * RJ45</td>
<td>-40 to 75 °C</td>
<td>1240940000</td>
</tr>
<tr>
<td>IE-SW-VL08M-6TX</td>
<td>6 * RJ45, 3 * SC-Multimode</td>
<td>-40 to 75 °C</td>
<td>1240970000</td>
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<tr>
<td>IE-SW-VL08M-6TX-2ST</td>
<td>6 * RJ45, 2 * STA-Multimode</td>
<td>-40 to 75 °C</td>
<td>1240990000</td>
</tr>
<tr>
<td>IE-SW-VL08M-6TX-2SCS</td>
<td>6 * RJ45, 2 * SC-Singlemode</td>
<td>-40 to 75 °C</td>
<td>1241020000</td>
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Accessories

<table>
<thead>
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<th>Type</th>
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<tbody>
<tr>
<td>External Backup and Restore Module</td>
<td>1241430000</td>
</tr>
<tr>
<td>TP Rack Mounting Kit</td>
<td>1241440000</td>
</tr>
</tbody>
</table>
Managed Fast Ethernet Switches

- Plug-n-play Turbo Ring and Turbo Chain (recovery time < 20 ms), RSTP/STP (IEEE 802.1/W/D) for Ethernet redundancy
- IEEE 1588 PTP, Modbus/TCP, LLDP, SNMP inform, QoS, ICMP 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 (supported by IE-SW-PL16M-Serie)
  - IEEE 802.3u for 100BaseT (X) and 100BaseFX
  - 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**
  - IPv6
  - Ethernet-Like MIB
  - RMON MIB Group 1, 2, 3, 9
  - P-BRIDGE MIB
  - Q-BRIDGE MIB
  - Bridge MIB
  - RSTP MIB
  - RSTP/STP (IEEE 802.1w/D) for Ethernet redundancy
  - IEEE 802.1D for Spanning Tree Protocol
  - IEEE 802.1X for Authentication
  - IEEE 802.1p for Class of Service
  - IEEE 802.1Q for Voice and Video Traffic

- **Power Requirements**
  - Input Voltage: 24 V DC (12 to 48 V DC), redundant dual inputs
  - Input Current: 950 mA

- **Physical Characteristics**
  - Overload Current Protection: Present
  - Connection: 2 removable 6-contact terminal blocks

- **Flow Control**
  - Ethernet-like flow control

- **Temperature Range**
  - Standard Models: 0 to 60 °C (32 to 140 °F)
  - IE-SW-PL16M: -40 to +75 °C (-40 to 167 °F)

- **Weight**
  - IE-SW-PL16M: 1040 g; IE-SW-PL16M: 1580 g

- **DIN-Rail mounting**

- **Mounting**
  - DIN-Rail mounting

- **Ordering Information**

- **Warranty**
  - 5 Years

- **Environment**
  - Storage Temperature: -40 to 85 °C (-40 to 185 °F)

- **Ambient Relative Humidity**
  - 5 to 95 % (non-condensing)

- **Rack Mounting**
  - 19" rack mountable

- **Regulatory Approvals**
  - CE Marking
  - FCC Class A
  - B禁品 (B-class) equipment

- **Certifications**
  - UL508, UL60950-1, CSA C22.2 No.

- **Dimensions**
  - IE-SW-PL08M: 94 x 135 x 142.7 mm (3.7 x 5.3 x 5.6 in)
  - IE-SW-PL16M: 9.0 mm (0.4 in)

- **Regulatory Approvals**
  - Safety
  - UL508, UL60950-1, CSA C22.2 No.

- **Power Requirements**
  - Overload Current Protection: Present
  - Connection: 2 removable 6-contact terminal blocks
  - Reverse Polarity Protection: Present

- **Temperature Range**
  - Standard Models: 0 to 60 °C (32 to 140 °F)
  - IE-SW-PL16M: -40 to +75 °C (-40 to 167 °F)

- **Weight**
  - IE-SW-PL16M: 1040 g; IE-SW-PL16M: 1580 g

- **DIN-Rail mounting**

- **Mounting**
  - DIN-Rail mounting

- **Ordering Information**

- **Warranty**
  - 5 Years
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
- EEE 1588 PTP, Modbus/TCP, 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

IGMPV1/2 • GVRP • SNMPv1/2c/3 • DHCP Server/Client • BootP • TFTP • TRAP • SMTP • HTTP • HTTPS • Telnet • syslog • DHCP Option 66/67/82 • RMON • HTTP
Switch Properties

Priority Queues 4
Max. Number of Available VLANs 64
VLAN ID Range VID 1 to 4094
MAC Table Size 8 K
Packet Buffer Size 1 Mbit
Interface

Fiber Ports 1000BaseSFP Slot
RJ45 Ports 10/100/1000BaseT(X) (TP ports), 10/100M (Gigabit port), MSTR/HEAD, CPU/TAIL

Console Port RS-232 (RJ45 connection)
DIP Switches Turbo Ring, Master, Coupler, Reserve
LED Indicators PWRT, PWRF, FAULT, 10/100M (TP ports), 10/100M (Gigabit port), MSTR/HEAD, CPU/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-1GT-2GS-7TX: 0.44 A @ 24 V
IE-SW-PL10M-3GT-7TX: 0.65 A @ 24 V

Overload Current Protection Present
Connection 2 removable 6-contact terminal blocks
Reverse Polarity Protection Present

Housing Metal, IP50 protection
Dimensions 80.2 x 135 x 105 mm [3.16 x 5.31 x 4.13 in]
Weight 1.17 kg
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/IEC, Class 1, 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 60664-2-27
Fretfai IEC 60664-2-32
Vibration IEC 60664-2-6

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

3 * RJ45 10/100/1000BaseT(X), 7 * RJ45 10/100BaseT(X)
Order No. IE-SW-PL10M-3GT-7TX 1241290000
IE-SW-PL10MT-3GT-7TX 1286930000
1 * RJ45 10/100/1000BaseT(X), 2 * Slots 1000BaseSFP, 7 * RJ45 10/100BaseT(X)
Order No. IE-SW-PL10M-1GT-2GS-7TX 1241300000
IE-SW-PL10MT-1GT-2GS-7TX 1286940000

Accessories

Type External Backup and Restore Module
Order No. 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
- EEE 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 | EEE 802.3 for 10BaseT  
| EEE 802.3u for 100BaseTX  
| EEE 802.3ab for 1000BaseT(X)  
| EEE 802.3z for 1000BaseX  
| IEEE 802.3u for 100BaseT(X) and 100BaseFX  
| IEEE 802.3ad for Port Trunk  
| IEEE 802.3x for Flow Control  

| Protocols | IGMPv1/2  
| GMIPv6, GVRP  
| SNMPv1/2c/3  
| DHCP Server/Client  
| BootP  
| TFTP  
| SSH  
| Telnet  
| IGMPv3  
| RARP  
| ARP  
| ICMPv4  
| FTP  
| SMTP  
| IGMPv1/v2  
| SNMP  
| HTTP  
| HTTPS  
| Telnet  
| syslog  
| SNMP  
| RMON  
| Bridge MIB  
| P-BRIDGE MIB  
| Q-BRIDGE MIB  
| RSTP MIB  
| STP MIB  
| MIB Info  
| Modbus/TCP  
| LLDP  
| EEE 1588 PTP  
| IPv6  

| 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 1-4094  
| IGMP Groups 256  
| MAC Table Size 8 K  
| Packet Buffer Size 2 Mbit  

| Interface | Fiber Ports 1000BaseFX (SC/ST connector) and 1000BaseSFP slot  
| Rj45 Ports 10/100BaseT(X) or 100/1000BaseSFP  

| Console Port | RS-232 (RJ45 connector)  
| LED Indicators | PWR1, PWR2, FAULT, 10/100 (TP port), 100M (fiber port), MSTR-HEAD, CBL/SYS  
| Alarm Contact | 2 relay outputs with current carrying capacity of 1 A @ 24 V DC  

| Optical Fiber | Wavelength 1300 nm  
| Max. TX -10 dBm  
| Min. TX -20 dBm  
| RX Sensitivity -32 dBm  
| Link Budget 12 dB  
| Typical Distance 5 km (10/125 μm multimode cable)  
| Saturation -6 dBm  

| Port Variants | EIE-SW-PL18M-2GC14TX2SCS  
| EIE-SW-PL18M-2GC14TX2ST  
| EIE-SW-PL18M-2GC14TX2SC  
| EIE-SW-PL18M-2GC-16TX  

| Power Requirements | Input Voltage 24 V DC (12 to 45 V DC), redundant dual inputs  
| Current Input 0.5 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 142.7 x 135.0 mm (3.7 x 5.6 x 5.3 in)  
| Weight 1630 g  

| 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, B, C  
| EME 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  
| Vibration IEC 60068-2-6  

| MTBF (meantime between failures) | Time 240,000 hrs  
| Database telecom/datacom, SIT  

| Warranty | Warranty Period 5 years  

| Ordering Information | Type of Port 16 * RJ45 10/100BaseT(X), IE-SW-PL18M-2GC14TX2SCS  
| 2 * Combo-Ports  
| 14 * RJ45 10/100BaseT(X), IE-SW-PL18M-2GC14TX2SC  
| 2 * Combo-Ports  
| City IE-60068-2-32  
| 14 * RJ45 10/100BaseT(X), IE-SW-PL18M-2GC14TX2SC  
| 2 * Combo-Ports  
| 14 * RJ45 10/100BaseT(X), IE-SW-PL18M-2GC14TX2SC  
| 2 * Combo-Ports  

| Order No. | 1241320000  
| 1288970000  
| 1241340000  
| 1288990000  
| 1241330000  
| 1287010000  

* [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)
- 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
- IGMP v1/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 802.3k: Non-Interrupting Automatic
- IEEE 802.3x: Credit-based

Switch Properties
- Priority Queues: 4
- Max. Number of Available VLANs: 64
- VLAN ID Range: 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, Couple, Reserve

LED Indicators
- PWRT, PWRA, FAULT, 10/100/1000M, MSTR/HEAD, CPUL/TAUL
- 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.
  - +12 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: 8.8 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 x 135 x 107 mm (3.43 x 5.31 x 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: 80 % (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
- Vibration: IEC 60068-2-6

MTBF (meantime between failures)
- Time: 330,000 hrs

Warranty
- Warranty Period: 5 years

Ordering Information

<table>
<thead>
<tr>
<th>Port Variants</th>
<th>Type</th>
<th>Operating Temperature</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 * RJ45 10/100/1000BaseT(X)</td>
<td>IE-SW-PL09M-4GT</td>
<td>40 to +75 °C</td>
<td>1287020000</td>
</tr>
<tr>
<td>5 * Combo Ports 10/100/1000BaseT(X) or 100/1000BaseSFP</td>
<td>IE-SW-PL09MT-5GC-4GT</td>
<td>0 to +60 °C</td>
<td>1241370000</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Backup and Restore Module</td>
<td>ESR-Modul RS232</td>
</tr>
<tr>
<td>19&quot; Rack Mounting Kit</td>
<td>RM-KIT</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Standards</th>
<th>IEEE 802.3at for Power-over-Ethernet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IEEE 802.3 for 10BaseT</td>
</tr>
<tr>
<td></td>
<td>IEEE 802.3u for 100BaseTX</td>
</tr>
<tr>
<td></td>
<td>IEEE 802.3x for Flow Control</td>
</tr>
</tbody>
</table>

### 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 MDIX connection

### LED Indicators

- PWR1, PWR2, 10/100M, PoE

### Power Requirements

- Input Voltage: 24/48 V (20 to 60 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: 315 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 (RF), level 3;
  - EN61000-4-4 (EFT), level 4;
  - EN61000-4-5 (Surge), level 4;
  - EN61000-4-6 (EOS), 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

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**Ordering Information**

<table>
<thead>
<tr>
<th>Port Variants</th>
<th>Type Operating Temperature</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 * RJ45 10/100 BaseT(X), 4 * RJ45 10/100 BaseT(X) PoE+</td>
<td>-40 to +75 °C</td>
<td>1286920000</td>
</tr>
<tr>
<td>Models with Fiber optic ports on request</td>
<td>-1241380000</td>
<td></td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Type</th>
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<tbody>
<tr>
<td>19” Rack Mounting Kit</td>
<td>1241440000</td>
</tr>
</tbody>
</table>
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 802.3af for Power-over-Ethernet
- IEEE 802.1D for Spanning Tree Protocol
- IEEE 802.1Q for VLAN Tagging
- IEEE 802.1X for Authentication
- IEEE 802.3ad for Port Trunk with LACP
- IEEE 802.1w for Rapid STP
- IEEE 802.1p for Class of Service
- IEEE 802.1Q for VLAN Tagging
- IEEE 802.3u for 100BaseT
- IEEE 802.3 for 10BaseT
- IEEE 802.3x for Flow Control
- IGMPv1/v2
- GMRP
- GVRP
- SNMPv1/v2c/v3
- DHCP Server/Client
- DHCP Option 66/67/82
- Bootstrap Protocol
- TFTP
- SMTP
- RARP
- Telnet
- HTTP
- HTTPS
- SSH
- Telnet
- IGMPv1/v2
- GMRP
- GVRP
- SNMPv1/v2c/v3
- DHCP Server/Client
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- DHCP Server/Client
- DHCP Option 66/67/82
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- GMRP
- GVRP
- SNMPv1/v2c/v3
- DHCP Server/Client
- DHCP Option 66/67/82
- Bootstrap Protocol
- TFTP
- SMTP
- RARP
- Telnet
- HTTP
- HTTPS
- SSH
- Telnet

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: 10/100 BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
- Console Port: RS-232 (RJ45 connection)
- DIP Switches: Turbo Ring, Master, Coupler, Reserve
- LED Indicators: PWRT, PWRO, 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 (ICS), level 3; EN61000-4-8

Warranty
- Warranty Period: 5 years

Ordering Information
- Port Variants: Type Operating Temperature
- 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
- External Backup and Restore Module: EBR-Modul RS232
- 19” Rack Mounting Kit: RM-KIT

Weidmüller
**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**

<table>
<thead>
<tr>
<th>Type</th>
<th>100BaseFX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multimode</td>
<td>1300 nm</td>
</tr>
<tr>
<td>Singlemode</td>
<td>1310 nm</td>
</tr>
</tbody>
</table>

**Power Requirements**

- Input Voltage: 24 V DC (12 to 48 V DC), redundant inputs
- Input Current: 0.16 A (9 W)
- 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 (2.1 x 5.3 x 4.1 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 80 °C (-40 to 186 °F)

**Regulatory Approvals**

- Safety: UL508, UL60950-1, CSA C22.2 No. 60950-1
- EMI: FCC Part 15, CISPR (EN55022) class A
- EMS: EN61000-4-2 (ESD), level 3
- EN61000-4-3 (RF), 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 Class 1, Division 2, Groups A, B, C, and D, ATEX Class 1, Zone 2, Ex nC IIC

**Freefall**

- 401,000 hrs; Database: ML-HDBK-217F: GB 25 °C

**Warranty**

- Warranty Period: 5 years

**Ordering Information**

<table>
<thead>
<tr>
<th>Port Variants</th>
<th>Type</th>
<th>Operating Temperature</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x RJ45, 1 x SC-Multimode</td>
<td>IE-MC-VL-1TX-1SCS</td>
<td>0 to +60 °C</td>
<td>1241420000</td>
</tr>
<tr>
<td>1 x RJ45, 1 x ST-Multimode</td>
<td>IE-MC-VL-1TX-1ST</td>
<td>0 to +60 °C</td>
<td>1241420000</td>
</tr>
<tr>
<td>1 x RJ45, 1 x SC-Singlemode</td>
<td>IE-MC-VL-1TX-1SCS</td>
<td>0 to +60 °C</td>
<td>1241420000</td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>19” Rack Mounting Kit</td>
<td>1241440000</td>
</tr>
</tbody>
</table>
**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**: 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**
- **Serial Line Protection**
  - 15 KV ESD protection for all signals
  - 1 KV (level 2) surge protection
  - RS-485 Data Direction Control: ADDC
  - 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, DSR, DCD, DSR, DCD, GND
  - RS-422: Tx+, Tx-, Rx+, Rx-, GND
  - RS-485: Data+, Data-, GND

#### Software
- **Network Protocols**: ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, Rlogin, 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, IP50 protection
- **Weight**: IE-CS-2TX-1RS232/485: 4.75 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 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; 120 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 (EN50022 Class A, EN55024), FCC Part 15 Subpart B Class A
- **Safety**: UL 508
- **Hazardious Location**: UL/cUL Class I, 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**: Built-in buzzer and RTC (real-time clock)
- **Automatic Reset Trigger**: Built-in WDT (watchdog timer)

### Warranty
- **Warranty Period**: 5 years

### Pin Assignment

#### RS-485 Data Direction Control
- ADDC (automatic data direction control)

#### RS-422/485 Terminal Block Wiring
- **IE-CS-2TX-1RS232/485: D9 male port**
  - 1: DCD, 2: Txd-(A), 3: TxD+(B), 4: RxD+(B), 5: Data+(B), 6: GND, 7: GND, 8: GND

- **IE-CS-2TX-2RS232/485: D9 male port**
  - 1: DCD, 2: Txd-(A), 3: TxD+(B), 4: RxD+(B), 5: Data+(B), 6: GND, 7: GND, 8: GND

### Ordering Information

#### Models
- **Two RJ45, One serial (RS232: Sub-DB9, RS422/485: terminal block)**
  - IE-CS-2TX-1RS232/485: 0 to +60 °C
  - IEC-2TX-2RS232/485: 0 to +60 °C

- **Two RJ45, Two serial (RS232: Sub-DB9)**
  - IE-CS-2TX-2RS232/485: 0 to +60 °C

#### Accessories
- **19" Rack Mounting Kit**: RM-KIT 1241440000

### Pin Assignment

#### RS-422/485 Terminal Block Wiring
- **IE-CS-2TX-1RS232/485: D9 male port**
  - 1: DCD, 2: Txd-(A), 3: TxD+(B), 4: RxD+(B), 5: Data+(B), 6: GND, 7: GND, 8: GND

- **IE-CS-2TX-2RS232/485: D9 male port**
  - 1: DCD, 2: Txd-(A), 3: TxD+(B), 4: RxD+(B), 5: Data+(B), 6: GND, 7: GND, 8: GND
Industrial Ethernet WLAN module

• 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

- 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

Operating Channels (central frequency)

- US: 2.412 to 2.462 GHz (11 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
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

TX Transmit Power

- 802.11b: -97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps,
  -92 dBm @ 5.5 Mbps, -90 dBm @ 11 Mbps
- 802.11g: -60 dBm @ 6 Mbps, -61 dBm @ 9 Mbps,
  -60 dBm @ 12 MHz, -58 dBm @ 18 Mbps,
  -60 dBm @ 24 Mbps, -60 dBm @ 36 Mbps,
  -76 dBm @ 48 Mbps, -74 dBm @ 54 Mbps
- 802.11a: -90 dBm @ 6 Mbps, -85 dBm @ 9 Mbps,
  -89 dBm @ 12 MHz, -50 dBm @ 18 Mbps,
  -83 dBm @ 24 Mbps, -79 dBm @ 36 Mbps,
  -75 dBm @ 48 Mbps, -74 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: -60 dBm @ 6 Mbps, -61 dBm @ 9 Mbps,
  -60 dBm @ 12 MHz, -58 dBm @ 18 Mbps,
  -60 dBm @ 24 Mbps, -60 dBm @ 36 Mbps,
  -76 dBm @ 48 Mbps, -74 dBm @ 54 Mbps
- 802.11a: -90 dBm @ 6 Mbps, -85 dBm @ 9 Mbps,
  -89 dBm @ 12 MHz, -45 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, SMTP, TCP/IP, UDP, RADIUS, SNMP, PPPoE, DHCP
- AP-only Protocols: ARP, BOOTP, DHCP, dynamic VLAN-Tags for
  802.1X-Clients, STP/PSTP (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)
- Security: 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: 816 g
- Dimensions: 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
- Alarm Contact: 1 relay output with current carrying capacity of
  1 A @ 24 V DC
- Interface: 306 x 572

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
- CE, EN60724
- FCC Part 15 Subpart B Class B
- UL/cUL Class I, Div. 2; ATEX
- MTBF: 392.209 hrs
- Warranty: 5 years

Ordering Information

- Models: Type Operating
- IEEE 802.11a/b/g Wireless AP/ Bridge/Client (European version)
  IE-WL-AP-BR-CL-ABG-US 0 to +60 °C
  Order No. 1242100000

Accessories

- Type: Order No.
- External Backup and Restore Module: EBR-Modul RS232 1241430000
- 19" Rack Mounting Kit: R1-Kit 1241440000

%
# SFP modules

## 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

### Technical data

#### Interface
<table>
<thead>
<tr>
<th>Port Variants</th>
<th>Type</th>
<th>Operating Temperature</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigabit-Ethernet, Multimode, LC Connector, 500 m</td>
<td>IE-SFP-1GSXLC</td>
<td>0 to +60 °C</td>
<td>1241490000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Multimode, LC Connector, 2 km</td>
<td>IE-SFP-1GLXLC</td>
<td>0 to +60 °C</td>
<td>1241500000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 10 km</td>
<td>IE-SFP-1GLXLC-T</td>
<td>0 to +60 °C</td>
<td>1241510000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 40 km</td>
<td>IE-SFP-1GLXLC</td>
<td>0 to +60 °C</td>
<td>1241520000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 10 km</td>
<td>IE-SFP-1GLXLC</td>
<td>0 to +60 °C</td>
<td>1241530000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 40 km</td>
<td>IE-SFP-1GLXLC</td>
<td>0 to +60 °C</td>
<td>1241540000</td>
</tr>
<tr>
<td>WDM-Type, Gigabit Ethernet, LC Connector, 10 km, Tx 1310 nm, Rx 1550 nm, must be paired with IE-SFP-1G10BLC</td>
<td>IE-SFP-1G10ALC</td>
<td>0 to +60 °C</td>
<td>1241550000</td>
</tr>
<tr>
<td>WDM-Type, Gigabit Ethernet, LC Connector, 20 km, Tx 1310 nm, Rx 1550 nm, must be paired with IE-SFP-1G20BLC</td>
<td>IE-SFP-1G20ALC</td>
<td>0 to +60 °C</td>
<td>1241560000</td>
</tr>
</tbody>
</table>

### Ordering Information

- 3 years Warranty Period

---

# 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

### Technical data

#### Interface
<table>
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<th>Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fast Ethernet, Multimode, LC Connector, 4 km</td>
<td>IE-SFP-1FEMLC-T</td>
<td>0 to +60 °C</td>
<td>1241490000</td>
</tr>
<tr>
<td>Fast Ethernet, Singlemode, LC Connector, 40 km</td>
<td>IE-SFP-1FEMLC-T</td>
<td>0 to +60 °C</td>
<td>1241470000</td>
</tr>
<tr>
<td>Fast Ethernet, Singlemode, LC Connector, 80 km</td>
<td>IE-SFP-1FEMLC-T</td>
<td>0 to +60 °C</td>
<td>1241480000</td>
</tr>
</tbody>
</table>

### Ordering Information

- 3 years Warranty Period

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## Technical data

### Interface
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<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigabit Ethernet, Multimode, LC Connector, 500 m</td>
<td>IE-SFP-1GSXLC</td>
<td>0 to +60 °C</td>
<td>1241490000</td>
</tr>
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<td>IE-SFP-1GLXLC</td>
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<td>1241500000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 10 km</td>
<td>IE-SFP-1GLXLC-T</td>
<td>0 to +60 °C</td>
<td>1241510000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 40 km</td>
<td>IE-SFP-1GLXLC</td>
<td>0 to +60 °C</td>
<td>1241520000</td>
</tr>
<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 10 km</td>
<td>IE-SFP-1GLXLC</td>
<td>0 to +60 °C</td>
<td>1241530000</td>
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<tr>
<td>Gigabit-Ethernet, Singlemode, LC Connector, 40 km</td>
<td>IE-SFP-1GLXLC</td>
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<td>0 to +60 °C</td>
<td>1241550000</td>
</tr>
<tr>
<td>WDM-Type, Gigabit Ethernet, LC Connector, 20 km, Tx 1310 nm, Rx 1550 nm, must be paired with IE-SFP-1G20BLC</td>
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<td>WDM-Type, Gigabit Ethernet, LC Connector, 20 km, Tx 1310 nm, Rx 1550 nm, must be paired with IE-SFP-1G20BLC</td>
<td>IE-SFP-1G20BLC</td>
<td>0 to +60 °C</td>
<td>1241570000</td>
</tr>
</tbody>
</table>

### Ordering Information

- 3 years Warranty Period
**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**

<table>
<thead>
<tr>
<th>Basic Operation</th>
<th>Connector</th>
<th>RS232-Interface with RJ45-Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration</td>
<td>Use the WEB-Console of managed Switches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Requirements</th>
<th>Input Voltage</th>
<th>3 to 5 V DC (through the RS-232 port's RTS signal)</th>
</tr>
</thead>
</table>

**Physical Characteristics**

- Housing: PVC molding, IP40 protection
- Dimensions: 32.5 x 97 x 12 mm (1.27 x 3.82 x 0.47 in)
- Weight: 50 g
- Mounting possibility: M4 screw (< 4 mm)
- Cable Length: 35 cm (including connector)

<table>
<thead>
<tr>
<th>Environmental Limits</th>
<th>Operating Temperature</th>
<th>0 to 60 °C (32 to 140 °F)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Storage Temperature</td>
<td>-20 to 70 °C (-4 to 158 °F)</td>
</tr>
<tr>
<td></td>
<td>Ambient Relative Humidity</td>
<td>5 to 90 % (non-condensing)</td>
</tr>
</tbody>
</table>

**Regulatory Approvals**

- CE
- FCC Part 15, CISPR (EN55022) Class A
- 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**

<table>
<thead>
<tr>
<th>Models</th>
<th>Type</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Backup and Restore Module</td>
<td>EBR-Modul RS232</td>
<td>1241430000</td>
</tr>
</tbody>
</table>

**Kit for 19"-rack mounting**

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

**Technical data**

<table>
<thead>
<tr>
<th>Physical Characteristics</th>
<th>Dimensions</th>
<th>481 x 177.8 x 202.4 mm</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ordering Information</th>
<th>Models</th>
<th>Type</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>19&quot; Rack Mounting Kit</td>
<td>RM-KIT</td>
<td>1241440000</td>
<td></td>
</tr>
</tbody>
</table>
## Industrial Ethernet passive

### Connectors for copper cable

<table>
<thead>
<tr>
<th>Connector</th>
<th>Standard</th>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RJ45 (IP20)</strong> acc. to IEC 60603-7</td>
<td></td>
<td>For use in office environments, in floor and building distributors, or in the electrical cabinet</td>
<td>• For high-speed transmissions, up to 10-gigabit Ethernet • Standardized internationally • Can be used overall • Sturdy version suitable for industrial applications</td>
</tr>
<tr>
<td><strong>RJ45 (IP67)</strong> acc. to IEC 61076-3-106</td>
<td></td>
<td>For connections between electrical cabinets and for use in the field for gigabit applications</td>
<td>• For high-speed transmissions, up to 10-gigabit Ethernet • IP67 protection • Can be assembled in the field</td>
</tr>
<tr>
<td><strong>M12, D-coded</strong> acc. to IEC 61076-2-101</td>
<td></td>
<td>For use near machinery or where a high degree of vibration resistance is required</td>
<td>• Compact design • IP67 protection • Can be used with extrusion mould or assembled in the field • Particularly resistant to vibrations</td>
</tr>
</tbody>
</table>

### Connector for fibre-optic cable

<table>
<thead>
<tr>
<th>Connector</th>
<th>Standard</th>
<th>Description</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SC duplex</strong> acc. to IEC 61754-4</td>
<td></td>
<td>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</td>
<td>• For multi-mode, single-mode or POF</td>
</tr>
<tr>
<td><strong>SC-RJ</strong> acc. to IEC 61754-24</td>
<td></td>
<td>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</td>
<td>• For multi-mode, single-mode and POF</td>
</tr>
<tr>
<td><strong>LC-Duplex</strong> acc. to IEC 61754-20</td>
<td></td>
<td>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</td>
<td>• For multi-mode and single-mode • In protective housing, also in IP67</td>
</tr>
<tr>
<td><strong>ST</strong> acc. to IEC 61754-2</td>
<td></td>
<td>For use in building distributors, electrical cabinets, or for connecting our active components</td>
<td>• For multi-mode, single-mode and POF</td>
</tr>
</tbody>
</table>
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

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.6A. 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
IP67 – AdvancedLine

### Metal plug

<table>
<thead>
<tr>
<th>Inserts</th>
<th>Housings</th>
<th>Variant 1 Bayonet</th>
<th>Variant 14 PushPull RJ</th>
<th>Variant 14 PushPull fibre-optic</th>
<th>Variant 5 HDC</th>
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<tbody>
<tr>
<td></td>
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<td>Without KS</td>
<td>With KS</td>
<td>Without KS</td>
<td>With KS</td>
</tr>
<tr>
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<td>1963140000</td>
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<tr>
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<td>1963230000</td>
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KS = anti-kink protection

### Plastic plug

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<th>Variant 4 PushPull</th>
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<td>With KS</td>
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</table>

KS = anti-kink protection

### Outlet boxes IP67

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<td>Bayonet V 01, 2 ports, left</td>
<td>1966320000</td>
<td></td>
</tr>
<tr>
<td>Bayonet V 01, 2 ports, right</td>
<td>1966310000</td>
<td></td>
</tr>
<tr>
<td>Bayonet V 01, 2 ports, straight</td>
<td>1966330000</td>
<td></td>
</tr>
<tr>
<td>Push Pull RJ V 04, 1 port, straight</td>
<td>1966220000</td>
<td></td>
</tr>
<tr>
<td>Push Pull RJ V 04, 2 ports, left</td>
<td>1966240000</td>
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<tr>
<td>Push Pull RJ V 04, 2 ports, right</td>
<td>1966230000</td>
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<td>Push Pull RJ V 04, 2 ports, straight</td>
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### Metal flange

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<tr>
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<th>Variant 14 PushPull RJ</th>
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<th>Var. 5 HDC</th>
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<tr>
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<td>PROFINET</td>
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<tr>
<td>SC/SC RJ coupling</td>
<td>multimode</td>
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<td>singlemode</td>
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<tr>
<td>LC Duplex coupling</td>
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<td></td>
<td>singlemode</td>
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<td>USB coupling</td>
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<tr>
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<tr>
<td>Single junction box V14 RJ45</td>
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<tr>
<td>Double junction box V14 RJ45 / PushPull Power</td>
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<tr>
<td>Single junction box V14 Hybrid</td>
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<td>Single junction box V14 Hybrid</td>
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<tr>
<td>Y-Verteiler PushPull Power</td>
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### FrontCom® Micro service interface

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<tr>
<td>RJ45 TIA-A Module</td>
<td>E-FCM RJ45-FIJ-A</td>
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<td>RJ45 TIA-B Module</td>
<td>E-FCM RJ45-FIJ-B</td>
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<td>E-FCM RJ45-FIJ-F</td>
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<td>USB Coupling</td>
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**IP67 – AdvancedLine**
## RJ45 plug field installation

### Ordering data

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<th>Order No.</th>
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<td>IE-PS-RJ45-FH-BK</td>
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<tr>
<td>Plug TIA - A</td>
<td>IE-PS-RJ45-BK-A</td>
<td>1132040000</td>
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<tr>
<td>Plug TIA - B</td>
<td>IE-PS-RJ45-BK-B</td>
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<td>Plug TIA - P</td>
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## RJ45 crimp plug

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<tr>
<td>Plug without cable bushing</td>
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## SC duplex connectors

### Ordering data

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</thead>
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<tr>
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<td>IE-PS-SCD-SM</td>
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<tr>
<td>Plug SC duplex, multimode</td>
<td>IE-PS-SCD-MM</td>
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<td>Plug SC duplex, POF</td>
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## SCRJ connectors

### Ordering data

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<td>IE-PS-SCRJ1-SM</td>
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<tr>
<td>Plug SCRJ, multimode</td>
<td>IE-PS-SCRJ1-MM</td>
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<td>Plug SCRJ, POF</td>
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## LC duplex connectors

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## Terminal rail outlets

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<td>ST-ST coupler</td>
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<td>IE-RJ45-FJ-A</td>
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<td>RJ45-FX45 coupler</td>
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### Ordering data

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<td>IE-TO-SCD-MM</td>
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<td>Adaptor SC Duplex SM</td>
<td>IE-TO-SCD-MM</td>
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<td>Adaptor SC-RJ MM</td>
<td>IE-TO-SCRJ-MM</td>
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<td>Adaptor SC-RJ SM</td>
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### Accessories

#### Cable tester

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#### Dismantling tool

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<tr>
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<td>for UTP / STP data cables</td>
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#### Crimping pliers RJ45

<table>
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<tbody>
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#### Cable markers

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<tbody>
<tr>
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<td>SF 5/21 NEUTRAL WS V0</td>
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<tr>
<td>SlimFix, 5.8 – 7.0 mm</td>
<td>SF 6/21 NEUTRAL WS V0</td>
<td>1740870000</td>
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<tr>
<td>TM1 for M12, 18 mm</td>
<td>TM-1 18 NEUTRAL WS</td>
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#### Crimping pliers FO

<table>
<thead>
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<tbody>
<tr>
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<td>SC GOF Profinet</td>
<td>IE-CT-SC-GOF-P</td>
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<td>SC POF</td>
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### Copper cables

#### Connecting cable

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<td>8955490000</td>
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<tr>
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* PROFINET

#### Installation cable

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<td>Cat.5; 4x2AWG24/1; PVC</td>
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<tr>
<td>Cat.7; 4x2AWG23/1; PUR</td>
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* PROFINET

#### Dragline cable

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<td>Cat.5; 4x2AWG26/7; PVC*</td>
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* PROFINET

### Fibre optic cables

#### FO connecting cable, zipcord, POF

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<th>Type</th>
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<tbody>
<tr>
<td>2 x POF 980/1000 μm, Bulk stock starting at 50 m</td>
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#### LWL-Dragline cable, Breakout, POF

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<tbody>
<tr>
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#### LWL-Dragline cable, Breakout, MM, Fibre-optic

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<tbody>
<tr>
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<td>2x Core 62.5 μm, Bulk stock starting at 50 m</td>
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## Copper cables

### Dragline cable Cat.6 RJ45 IP20

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<td>3 m</td>
<td>IE-C5DD4UG0030A20A20-E</td>
<td>1173030030</td>
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<tr>
<td>5 m</td>
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<td>1173030050</td>
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<tr>
<td>10 m</td>
<td>IE-C5DD4UG0100A20A20-E</td>
<td>1173030100</td>
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<tr>
<td>15 m</td>
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<td>1173030150</td>
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<td>20 m</td>
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### Dragline cable Cat.5 M12 IP67

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<td>IE-C5DD4UG0015MCSMCS-E</td>
<td>1025950100</td>
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<td>plug / plug 3 m</td>
<td>IE-C5DD4UG0030MCSMCS-E</td>
<td>1025950200</td>
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<tr>
<td>plug / plug 5 m</td>
<td>IE-C5DD4UG0050MCSMCS-E</td>
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<td>plug / plug 10 m</td>
<td>IE-C5DD4UG0100MCSMCS-E</td>
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#### plug / socket

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### System cable Cat.5 RJ45 IP67 V1

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### Dragline cable Cat.5 M12/open

#### plug / plug

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<td>plug / plug 5 m</td>
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#### plug / socket

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<tr>
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### Dragline cable Cat.5 - M12

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## System cables – AdvancedLine

### LWL-Patch cable IP20, Zipcord

#### SC duplex

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<th>Type</th>
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</tr>
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<td>Core 62.5 μm, 2 m</td>
<td>IE-FM6Z2V0002MSD0SD0X</td>
<td>8813340000</td>
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<tr>
<td>Core 62.5 μm, 3 m</td>
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<tr>
<td>Core 62.5 μm, 5 m</td>
<td>IE-FM6Z2V0005MSD0SD0X</td>
<td>8876360050</td>
</tr>
<tr>
<td>Core 62.5 μm, 10 m</td>
<td>IE-FM6Z2V0010MSD0SD0X</td>
<td>8876360100</td>
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<tr>
<td>Core 50 μm, 1 m</td>
<td>IE-FM5Z2V0001MSD0SD0X</td>
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<td>Core 50 μm, 2 m</td>
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#### ST / ST

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<td>Core 62.5 μm, 1 m</td>
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<td>Core 62.5 μm, 2 m</td>
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<td>Core 62.5 μm, 5 m</td>
<td>IE-FM6Z2V0005MST0ST0X</td>
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<td>Core 62.5 μm, 10 m</td>
<td>IE-FM6Z2V0010MST0ST0X</td>
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<tr>
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<td>Core 50 μm, 3 m</td>
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<td>Core 50 μm, 5 m</td>
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#### LC duplex / LC duplex

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#### ST / SC duplex

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<tr>
<td>Core 62.5 μm, 1 m</td>
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#### SCRJ / SCRJ

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### LWL-System cable, Breakout

#### Dragline cable SC duplex

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#### Dragline cable LC duplex

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#### Dragline cable ST / ST

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<td>IE-FM5D2UE0003MSD0ST0X</td>
<td>8876450030</td>
</tr>
<tr>
<td>Core 50 μm, 5 m</td>
<td>IE-FM5D2UE0005MSD0ST0X</td>
<td>8876450050</td>
</tr>
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<td>Core 50 μm, 10 m</td>
<td>IE-FM5D2UE0010MSD0ST0X</td>
<td>8876450100</td>
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<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core 50 μm, 100 m</td>
<td>IE-FM5D2UE0010MLD0LD0X</td>
<td>8876450100</td>
</tr>
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## CabinetLine Cat.6/LSZH
### Patch cable grey

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<tr>
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<tbody>
<tr>
<td>0.5 m</td>
<td>IE-C6FPILD0005M40M40-D</td>
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<tr>
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<td>IE-C6FPILD020M40M40-D</td>
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<tr>
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<td>IE-C6FPILD030M40M40-D</td>
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<tr>
<td>20 m</td>
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<tr>
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<tr>
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<td>IE-C6FPILBD100M40M40-B</td>
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<td>IE-C6FPILBD150M40M40-B</td>
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### Patch cable red

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<tr>
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<th>Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>0.5 m</td>
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<tr>
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### Patch cable black

<table>
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<tbody>
<tr>
<td>0.5 m</td>
<td>IE-C6FPILDE0005M40M40-E</td>
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<tr>
<td>1 m</td>
<td>IE-C6FPILDE010M40M40-E</td>
<td>1251610010</td>
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<tr>
<td>1.5 m</td>
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<tr>
<td>2 m</td>
<td>IE-C6FPILDE020M40M40-E</td>
<td>1251610020</td>
</tr>
<tr>
<td>3 m</td>
<td>IE-C6FPILDE030M40M40-E</td>
<td>1251610030</td>
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<tr>
<td>5 m</td>
<td>IE-C6FPILDE050M40M40-E</td>
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<tr>
<td>10 m</td>
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<tr>
<td>20 m</td>
<td>IE-C6FPILDE200M40M40-E</td>
<td>1251610200</td>
</tr>
<tr>
<td>25 m</td>
<td>IE-C6FPILDE250M40M40-E</td>
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### Note
- CabinetLine Cat.6/LSZH
- Patch cable grey
- Patch cable blue
- Patch cable red
- Patch cable black

### Ordering data

- Cable length
- Type
- Order No.
## Patch cables – CabinetLine

### CabinetLine Cat.6/LSZH

**Patch cable yellow**

<table>
<thead>
<tr>
<th>Cable length</th>
<th>Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>0.5 m</td>
<td>IE-C6FP8LY0005M40M40-Y</td>
<td>1251580005</td>
</tr>
<tr>
<td>1 m</td>
<td>IE-C6FP8LY0100M40M40-Y</td>
<td>1251580010</td>
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<tr>
<td>1.5 m</td>
<td>IE-C6FP8LY0150M40M40-Y</td>
<td>1251580015</td>
</tr>
<tr>
<td>2 m</td>
<td>IE-C6FP8LY0200M40M40-Y</td>
<td>1251580020</td>
</tr>
<tr>
<td>3 m</td>
<td>IE-C6FP8LY0250M40M40-Y</td>
<td>1251580030</td>
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<tr>
<td>5 m</td>
<td>IE-C6FP8LY0500M40M40-Y</td>
<td>1251580050</td>
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<tr>
<td>10 m</td>
<td>IE-C6FP8LY1000M40M40-Y</td>
<td>1251580100</td>
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<tr>
<td>15 m</td>
<td>IE-C6FP8LY1500M40M40-Y</td>
<td>1251580150</td>
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<td>IE-C6FP8LY2000M40M40-Y</td>
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<tr>
<td>25 m</td>
<td>IE-C6FP8LY2500M40M40-Y</td>
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### CabinetLine Cat.6/LSZH

**Patch cable magenta**

<table>
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<th>Type</th>
<th>Order No.</th>
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</thead>
<tbody>
<tr>
<td>0.2 m</td>
<td>IE-C6FP8LM0002M40M40-M</td>
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<tr>
<td>0.35 m</td>
<td>IE-C6FP8LM035CM40M40-M</td>
<td>1201380000</td>
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<tr>
<td>0.5 m</td>
<td>IE-C6FP8LM0005M40M40-M</td>
<td>1201270005</td>
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<tr>
<td>1 m</td>
<td>IE-C6FP8LM0100M40M40-M</td>
<td>1201270010</td>
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<tr>
<td>1.5 m</td>
<td>IE-C6FP8LM0150M40M40-M</td>
<td>1201270015</td>
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<td>2 m</td>
<td>IE-C6FP8LM0200M40M40-M</td>
<td>1201270020</td>
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<tr>
<td>3 m</td>
<td>IE-C6FP8LM0300M40M40-M</td>
<td>1201270030</td>
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<tr>
<td>5 m</td>
<td>IE-C6FP8LM0500M40M40-M</td>
<td>1201270050</td>
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<tr>
<td>10 m</td>
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### CabinetLine Cat.6/LSZH

**Patch cable grey 270° angled**

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<th>Order No.</th>
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</thead>
<tbody>
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<td>1233160005</td>
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<tr>
<td>1 m</td>
<td>IE-C6FP8LD0100M40W40-D</td>
<td>1233160010</td>
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<td>1.2 m</td>
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<td>2 m</td>
<td>IE-C6FP8LD0200M40W40-D</td>
<td>1233160020</td>
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<tr>
<td>3 m</td>
<td>IE-C6FP8LD0300M40W40-D</td>
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<td>IE-C6FP8LD0500M40W40-D</td>
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### CabinetLine Cat.6/LSZH

**Patch cable grey 90° angled**

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</tr>
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<tbody>
<tr>
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<td>IE-C6FP8LD0005M40V40-D</td>
<td>1248280005</td>
</tr>
<tr>
<td>1 m</td>
<td>IE-C6FP8LD0100M40V40-D</td>
<td>1248280010</td>
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<tr>
<td>1.2 m</td>
<td>IE-C6FP8LD0120M40V40-D</td>
<td>1248280012</td>
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<tr>
<td>1.5 m</td>
<td>IE-C6FP8LD0150M40V40-D</td>
<td>1248280015</td>
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<tr>
<td>2 m</td>
<td>IE-C6FP8LD0200M40V40-D</td>
<td>1248280020</td>
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<tr>
<td>3 m</td>
<td>IE-C6FP8LD0300M40V40-D</td>
<td>1248280030</td>
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<tr>
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<td>IE-C6FP8LD0500M40V40-D</td>
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<tr>
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## CabinetLine Cat.5/PVC

**Patch cable green**

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<th>Type</th>
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<tr>
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<td>IE-C5ES8VG0010M40M40-G</td>
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<tr>
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<td>IE-C5ES8VG0030M40M40-G</td>
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<tr>
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**Note**

CabinetLine Cat.5/PVC
Patch cable green

## CabinetLine Cat.5/PUR

**Patch cable green**

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<th>Type</th>
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<tr>
<td>20 m</td>
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</tr>
</tbody>
</table>

**Note**

CabinetLine Cat.5/PUR
Patch cable green

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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