

IE-SW-SL10M-7TX-3GC-HV

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



Features of SubstationLine managed switch series

The SubstationLine includes Ethernet switches complying with the IEC 61850-3 and IEEE 1613 standards, making them robust enough for operation in harsh environments. The family includes variants for mounting on DIN rails and in 19" racks.

All products have a redundant power supply to ensure reliability in critical environments. The new family ranges from managed Fast Ethernet switches to 10-Gigabit Ethernet products with all the necessary features to operate according to the most demanding requirements.

- DIN-rail and 19" rack variants
- IEC 61850-3 and IEEE 1613 compliance
- PRP/HSR support according to Clause 4/Clause 5 of IEC 62439-3
- MMS server based on bridge model defined in IEC 61850-90-4
- Redundant power supply modules in all models
- Wide operating temperature range of -40°C up to 85°C
- Modular switch version with high flexibility in number and type of ports
- Fast/Gigabit/10-Gigabit interfaces
- Layer 3 models for hardware supported routing between up to 28 IP-subnets

General ordering data

| | |
|------------|---|
| Version | Layer 2 Network Switch, managed, Fast/Gigabit Ethernet, IEC 61850-3 / IEEE 1613, high voltage, Number of ports: 7x RJ45 10/100BASE-T(X), 3x combo-ports (10/100/1000BASE-T(X) or 100/1000BaseSFP), IP30, -40 °C...85 °C |
| Order No. | 2778950000 |
| Type | IE-SW-SL10M-7TX-3GC-HV |
| GTIN (EAN) | 4064675048213 |
| Qty. | 1 items |

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Technical data

Approvals

Approvals



ROHS Conform

Dimensions and weights

| | | | |
|------------|----------|-----------------|-------------|
| Depth | 148.5 mm | Depth (inches) | 5.8464 inch |
| Height | 154 mm | Height (inches) | 6.063 inch |
| Width | 96.4 mm | Width (inches) | 3.7953 inch |
| Net weight | 2000 g | | |

Temperatures

| | | | |
|---------------------|----------------------------|-----------------------|----------------|
| Storage temperature | -40 °C...85 °C | Operating temperature | -40 °C...85 °C |
| Humidity | 5 to 95 % (non-condensing) | | |

Environmental Product Compliance

| | |
|--------------------------------------|---|
| RoHS Compliance Status | Compliant with exemption |
| RoHS Exemption (if applicable/known) | 6c, 7a, 7cl, 7clI |
| REACH SVHC | Lead 7439-92-1, Lead monoxide 1317-36-8 |
| SCIP | 9229992a-00b9-4096-8962-200a7f33e289 |

EMC conformity and approvals

| | | | |
|-----------------|-------------------------------------|--|--|
| Free fall | IEC 60870-2-2 class Cm | EMC standards | EN 55032, CISPR 22, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A, EN 55035, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 3 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV, IEC 61000-4-6 CS: 10 V, IEC 61000-4-8, IEC 61000-4-11 |
| Vibration | IEC 60870-2-2 class Cm and class Bm | Shock | IEC 60870-2-2 class Cm |
| Safety standard | SELV according to EN 62368-1 | Power Transmission & Distribution Systems acc. to standard | IEEE 1613, IEC 61850-3 |

Environmental conditions

| | | |
|-----------------------------|----------------------------|-----------------|
| Operating temperature, max. | 85 °C | |
| Operating temperature, min. | -40 °C | |
| Humidity | 5 to 95 % (non-condensing) | |
| Storage temperature, max. | 85 °C | |
| Storage temperature, min. | -40 °C | |
| Operating altitude | Altitude, max. | 2000 m |
| | Note | in acc. with UL |
| | Altitude, max. | 6000 m |

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Note

for restrictions, see the manufacturer's declaration for operating altitude in section downloads

Guarantee

Time interval 5 years

Interfaces

| | | | |
|------------------------|---|-----------------------|--|
| Fibre-optic ports | 100/1000Base SFP Slot | RJ45 ports | 10/100BaseT(X) or 10/100/1000BaseT(X), auto negotiation, Full-/half duplex mode, Auto MDI/MDI-X port |
| Console port interface | RS-232 (RJ45 connector) | Alarm contact | 1 relay output with a current capacity of 1 A at 24 V DC |
| Number of ports | 7x RJ45 10/100BASE-T(X), 3x combo-ports (10/100/1000BASE-T(X) or 100/1000BaseSFP) | Function reset button | <5 sec: System reboot, >5 sec: Factory default |

MTBF

| | | |
|------|------------------------------|------------------|
| MTBF | According to Standard | Telcordia SR-332 |
| | Operating time (hours), min. | 599113 h |

Management features

| | | | |
|-----------------------|---|------------------------|--|
| Device configuration | Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface or TFTP-Server, Command Line Interface (Telnet/SSH) | Monitoring function | SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring, Port statistics, Port monitoring, Syslog, RMON (Remote monitoring), Event based warning via E-Mail, Event based warning via relay, Event based warning via SNMP trap |
| Network redundancy | Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), O-Chain (recovery time <10/30 ms at Fast/Gigabit Ethernet interface), Link Aggregation Control Protocol (LACP), Fast recovery | Network traffic filter | Quality of Service (QoS), Class of Service (CoS), Type of Service (ToS), Differentiated Services Code Point (DSCP), Port based VLAN, Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Multicast VLAN Registration (MVR), Traffic Rate Limiting |
| IP-address management | Static, DHCP-Client, DHCP-Server (port based, pool-based), DHCP Option 82, DHCP-Relay, IPv4/IPv6 | Security functions | VLAN segmentation, Enable/disable ports, TACACS+ and IEEE 802.1X User Authentication, Access control (port based via IEEE 802.1X), Access control list (IP-based), Access control list (MAC-based), Management access security via secure IP-list and configuration of |

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| Time synchronization management | NTP server, SNTP client | Industrial protocol support | allowed access methods (web-interface, telnet, SSH), Loop protection |
| | | | Modbus/TCP slave, PROFINET device acc. to conformance class A |

Power supply

| | | | |
|-----------------------------|---|--------|--|
| Reverse polarity protection | Yes | | |
| Supply voltage | 110/220 V DC, 110/220 V AC, 2 redundant isolated inputs | | |
| Overload current protection | Yes | | |
| Connection type | 2x 3-pin fork/ring lug connection | | |
| Voltage supply range | Voltage type | DC | |
| | Voltage, min. | 88 V | |
| | Voltage, max. | 373 V | |
| | Voltage type | AC | |
| | Voltage, min. | 85 V | |
| | Voltage, max. | 264 V | |
| Current consumption | Voltage | 110 V | |
| | Current | 0.18 A | |
| | Voltage | 220 V | |
| | Current | 0.13 A | |

Switch characteristics

| | | | |
|--------------------|--------|--------------------------------|------------|
| Priority queues | 4 | Max. number of available VLANs | 4095 |
| VLAN-ID min | 1 | VLAN-ID max | 4094 |
| IGMP-Groups | 1024 | MAC table size | 8 K |
| Packet buffer size | 1 Mbit | Bandwidth backplane | 7.4 Gbit/s |

Technical data

| | | | |
|-----------------------|---------|------------------|-----------------------|
| Housing main material | Metal | Type of mounting | DIN rail |
| Protection degree | IP30 | Speed | Fast/Gigabit Ethernet |
| Switch | managed | | |

Technology

| | | | |
|----------------|--|--------------|--------------------------|
| Data switching | Store and Forward | Flow control | IEEE 802.3x flow control |
| Standard | IEEE 802.3 for 10BASE-T, IEEE 802.3u for 100BASE-TX and 100BASE-FX, IEEE 802.3ab for 1000BASE-T, IEEE 802.3z for 1000BASE-X, IEEE 802.3x for flow control, IEEE 802.3ad for port trunk with LACP, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol 2004), IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, | | |

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Technical data

IEEE 802.1AB for Link
Layer Discovery protocol
(LLDP)

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC000734 | ETIM 9.0 | EC000734 |
| ETIM 10.0 | EC000734 | ECLASS 14.0 | 19-17-04-01 |
| ECLASS 15.0 | 19-17-04-01 | | |

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Accessories

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SFP transceiver (for use with switches of Eco-, Advanced-, Substation and BasicLine series B)


Features of SFP-Transceiver series

- Huge variety of transceiver types for several transmission speeds (up to 10 Gigabit Ethernet) and distances (up to 60 km)
- BiDi SFP models for communication via single fiber
- Easy control of transceiver status due to support of Digital Diagnostic Monitoring (DDM)
- Hot pluggable (during operation)
- Class 1 laser product, EN60825-1 compliant
- Applicable for switches of the Eco-, Advanced- and SubstationLine

General ordering data

| | | |
|------------|----------------------------|--|
| Type | IE-SFP-1FE-MM-2 | Version |
| Order No. | 2682450000 | SFP Transceiver, 100 Mbps, Multimode, LC-Duplex, 4 km, -40 °C...85 |
| GTIN (EAN) | 4050118692266 | °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1FE-SM-30 | Version |
| Order No. | 2682460000 | SFP Transceiver, 100 Mbps, Singlemode, LC-Duplex, 30 km, -40 |
| GTIN (EAN) | 4050118692259 | °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1FE-SM-60 | Version |
| Order No. | 2682470000 | SFP Transceiver, 100 Mbps, Singlemode, LC-Duplex, 60 km, -40 |
| GTIN (EAN) | 4050118692242 | °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-MM-05 | Version |
| Order No. | 2682480000 | SFP Transceiver, 1000 Mbps, Multimode, LC-Duplex, 0.5 km, -40 |
| GTIN (EAN) | 4050118692235 | °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-MM-2 | Version |
| Order No. | 2682490000 | SFP Transceiver, 1000 Mbps, Multimode, LC-Duplex, 2 km, -40 |
| GTIN (EAN) | 4050118692228 | °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-SM-10 | Version |
| Order No. | 2682500000 | SFP Transceiver, 1000 Mbps, Singlemode, LC-Duplex, 10 km, -40 |
| GTIN (EAN) | 4050118692211 | °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-SM-40 | Version |
| Order No. | 2682510000 | SFP Transceiver, 1000 Mbps, Singlemode, LC-Duplex, 40 km, -40 |
| GTIN (EAN) | 4050118692204 | °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-SM-10-BIDI-T... | Version |
| Order No. | 2682520000 | SFP Transceiver, 1000 Mbps, Singlemode BiDi, LC-Simplex, 10 km, |
| GTIN (EAN) | 4050118692198 | -40 °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-SM-10-BIDI-T... | Version |
| Order No. | 2682530000 | SFP Transceiver, 1000 Mbps, Singlemode BiDi, LC-Simplex, 10 km, |
| GTIN (EAN) | 4050118692181 | -40 °C...85 °C |
| Qty. | 1 ST | |
| Type | IE-SFP-1GE-SM-20-BIDI-T... | Version |
| Order No. | 2682540000 | SFP Transceiver, 1000 Mbps, Singlemode BiDi, LC-Simplex, 20 km, |
| GTIN (EAN) | 4050118692174 | -40 °C...85 °C |
| Qty. | 1 ST | |

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| | | |
|------------|----------------------------|---|
| Type | IE-SFP-1GE-SM-20-BIDI-T... | Version |
| Order No. | 2682550000 | SFP Transceiver, 1000 Mbps, Singlemode BiDi, LC-Simplex, 20 km, |
| GTIN (EAN) | 4050118692167 | -40 °C...85 °C |
| Qty. | 1 ST | |

Mounting kit for 19" rack assembly

- For assembling DIN rail-based devices on 19" racks



General ordering data

| | | |
|------------|----------------------------|---------------------------|
| Type | RM-KIT | Version |
| Order No. | 1241440000 | Kit for 19"-rack mounting |
| GTIN (EAN) | 4050118029154 | |
| Qty. | 1 ST | |