

IE-SW-AL12M-8GTPOE-4GESFP-120W

Weidmüller Interface GmbH & Co. KG
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www.weidmueller.com



Features of AdvancedLine Power-over-Ethernet managed switches

- Variants with 4,8 or 24 IEEE 802.3af/at compliant PoE ports (up to 30 W power output per PoE port)
- Variants with integrated DC/DC converter for providing PoE voltage to PDs over the entire PSE input voltage range from 12 to 57 V DC
- Model for 19" rack mounting with 24 PoE ports and 720 W total power budget
- Advanced PoE management functions, including PD alive check with auto reboot function and PoE time scheduling
- Extensive set of management features enable the set-up of various redundancy, monitoring, traffic filter and security functions
- Models with SFP ports for communication links over long distances with fiber optic transceivers
- Suitable for use in harsh industrial environment thanks to rugged design and wide operating temperature range of -40°C up to 75°C

General ordering data

Version	Network switch, managed PoE, Gigabit Ethernet, Number of ports: 8x RJ45 10/100/1000 BaseT(X) PoE+, 4x 100/1000BaseSFP Slot, IP30, -40 °C...75 °C
Order No.	3109760000
Type	IE-SW-AL12M-8GTPOE-4GESFP-120W
GTIN (EAN)	4099987187930
Qty.	1 items

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Technical data

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E141197

Dimensions and weights

Depth	120 mm	Depth (inches)	4.7244 inch
Height	145.1 mm	Height (inches)	5.7126 inch
Width	54.3 mm	Width (inches)	2.1378 inch
Net weight	937 g		

Temperatures

Storage temperature	40 °C...85 °C	Operating temperature	-40 °C...75 °C
Humidity	5 to 95 % (non-condensing)		

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1, Lead monoxide 1317-36-8
SCIP	aa4e94ed-b5d0-4245-91e3-1adf29647214

EMC conformity and approvals

Free fall	According to IEC 60068-2-31	EMC standards	EN 55032, EN 55035, FCC Part 15 Subpart B Class A, IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz - 5 GHz: 3 V/m, IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV, IEC 61000-4-5 Surge: Power: 0,5 kV; Signal: 1 kV, IEC 61000-4-6 CS: 3 V, IEC 61000-4-8
Vibration	according to IEC 60068-2-6	Shock	according to IEC 60068-2-27
Safety standard	UL 61010-1, UL 61010-2-201		

Environmental conditions

Operating temperature, max.	75 °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	10/100/1000BaseT(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	8x RJ45 10/100/1000 BaseT(X) PoE+, 4x 100/1000BaseSFP Slot	Function reset button	<5 sec: System reboot and set LAN IP to factory Default, >5 sec: Factory default, Note: behavior of reset button can be configured via web interface

MTBF

MTBF	According to Standard	Telcordia SR-332
	Operating time (hours), min.	487579 h
	Ambient temperature	25 °C

Management features

Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Command Line Interface (Telnet/SSH), Local serial console port (RS-232 via RJ-45 port), Upload of a configuration file via web-interface, TFTP-Server or external backup module	Monitoring function	SNMP v1/v2c/v3, Link Layer Discovery Protocol (LLDP), Port mirroring (local, remote), 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, Ethernet cable diagnostics on RJ-45 ports
Network redundancy	Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), O-Ring (recovery time <30 ms), O-Chain (recovery time <30 ms), Link Aggregation Control Protocol (LACP), Fast recovery, Media Redundancy Protocol (MRP-manager/client)	Network traffic filter	Quality of Service (QoS), Tag based VLAN, GVRP (GARP VLAN Registration Protocol), IGMP v2/v3, Traffic Rate Limiting, Differentiated Services Code Point (DSCP), IGMP Snooping, MLD Snooping, MLD v1/v2
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, DoS/DDoS auto prevention, Access Control List, DHCP

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snooping, Loop protection,
 Management access
 security via privilege level
 configuration for different
 user roles

Time synchronization management	SNTP server, SNTP client	Industrial protocol support	PROFINET device acc. to conformance class B, EtherNet/IP, Modbus/TCP slave
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Power over Ethernet (PoE)

PoE output power	Standard	IEEE 802.3af	
	Output power	15.4 W	
	Standard	IEEE 802.3at	
	Output power	30 W	
PoE output current	Standard	IEEE 802.3af	
	Output current	350 mA	
	Standard	IEEE 802.3at	
	Output current	600 mA	
	Total PoE power budget	Voltage type	DC
		Voltage, min.	12 V
	Voltage, max.	23.9 V	
	Power budget	60 W	
	Voltage type	DC	
	Voltage, min.	24 V	
	Voltage, max.	57 V	
	Power budget	120 W	
PoE pin assignment	Mode A: Pin 1, 2 (V+); Pin 3, 6 (V-); Alternative A; MDI		

Power supply

Reverse polarity protection	Yes	
Supply voltage	2 redundant inputs	
Overload current protection	Yes	
Connection type	1 removable 6-pin terminal block	
Voltage supply range	Voltage type	DC
	Voltage, min.	12 V
	Voltage, max.	57 V
Current consumption	Voltage	12 V
	Voltage type	DC
	Current consumption with Powered Device (PD)	6.97 A
	Current consumption without Powered Device (PD)	0.93 A
	Voltage	24 V
	Voltage type	DC
	Current consumption with Powered Device (PD)	5.82 A
	Current consumption without Powered Device (PD)	0.47 A
	Voltage	48 V
	Voltage type	DC
	Current consumption with Powered Device (PD)	2.83 A
	Current consumption without Powered Device (PD)	0.24 A

Switch characteristics

Priority queues	8	Max. number of available VLANs	4095
VLAN-ID min	1	VLAN-ID max	4095

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MAC table size	8 K	Packet buffer size	4 Mbit
Bandwidth backplane	24 Gbit/s	Number of IGMP-Groups per VLAN	256
Jumbo frame support	up to 9.6 KB		

Technical data

Housing main material	Metal	Type of mounting	DIN rail
Protection degree	IP30	Speed	Gigabit Ethernet
Switch	managed PoE		

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 802.3at/af for Power-over-Ethernet, IEEE 802.1D for the Spanning Tree protocol, IEEE 802.1w for Rapid STP, IEEE 802.1s for the Multiple Spanning Tree Protocol (MSTP), IEEE 802.1p for Class of Service / Quality of Service (CoS/QoS), IEEE 802.1Q for VLAN tagging, IEEE 802.1X for authentication, 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	
Type	IE-SFP-1GE-RJ45	Version
Order No.	2766120000	SFP Transceiver, 10/100/1000 MBit/s, RJ45, 0.1 km, -40 °C...85 °C
GTIN (EAN)	4064675023791	
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	

Configuration backup and restore module (for use with switches of Advanced- and SubstationLine)



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

General ordering data

Type	IE-EBR-MODULE-RS232-ALM	Version
Order No.	2682610000	Configuration backup and restore module, IP40, -10 °C...60 °C
GTIN (EAN)	4050118692105	
Qty.	1 ST	