

Hardware Installation Guide

Unmanaged Fast Ethernet Switches

IE-SW-EL05-5TX (Part No. 2682130000) IE-SW-EL08-8TX (Part No. 2682140000)

1. Introduction

Ethernet Switches from Weidmüller are designed with a very compact housing size and are fitted with a robust housing. To ensure reliable, error-free operation, and to prevent damage or injury, please read the operating instructions, all safety information provided in this document and any other safety information that were supplied with the product.

2. Safety notice



Intended use

The device is intended for the realization of communication networks within an industrial environment, it is intended to be used in a restricted access location. The device may only be used within the scope of the specified technical data. The device is intended to be mounted to a well-grounded mounting surface, such as a metal panel. Any other use may result in unintentional malfunction and damage. Observing the documentation is part of the intended use

Environmental conditions

This equipment is intended to be used in a restricted access location. When planning the installation site make sure that the ambient temperature during operation will not exceed the temperature given in the technical data. Also make sure that the air flow will not be compromised by other devices. Ensure that the mounted and wired device is not exposed to any mechanical stress.

FCC compliance

This device complies with part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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3. Package Checklist

Your Ethernet Switch is shipped with the following items:

- Ethernet Switch
- Hardware Installation Guide (printed)
- 4-Pin Terminal connector
- Protective caps for RJ45 ports

4. Panel Layouts



- 1. Terminal block for power input PWR1/PWR2
- 2. Grounding screw / Frame ground Note: The shielding ground of the LAN port is electrically connected to the grounding screw.
- Power input LEDs (PWR1 / PWR2) 3.
- LAN port Link/Activity LED 4.
- LAN port 10/100 Mbps LED 5. 5/8 x 10/100BaseT(X) ports
- 6 7. Article Number
- 8. Screw holes for wall mounting kit

Rear Panel View

DIN-Rail kit





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5. Mounting Dimensions



(units = mm)



6. DIN-Rail Mounting

Slide the switch onto a DIN-rail and make sure that the switch's Din-rail clip clicks into the rail firmly.



To remove the DIN-rail from the Ethernet Switch, simply reverse Steps 1 and 2.

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7. Grounding Ethernet Switch

ATTENTION

- Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI).
- the ground connection from the ground screw to the grounding surface prior to connecting devices.
- This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.
- The shielding ground of the RJ45 ports are electrically connected to the ground connection (screw).

8. Wiring the Redundant Power Inputs

The switch supports redundant power supply inputs which are located on the 4-pin terminal block. Refer to illustration below for correct wiring.

Warning / Avertissement

- Take into consideration the following guidelines before wiring the device
- Tenez compte des directrices suivantes avant de câbler l'appareil.
 Terminal block is mating with Plug and suitable for 12-24AWG. Torque value 4.5 lb-in.
- $_{\odot}$ Le bornier est compatible avec les connecteurs et convient pour 12-24AWG. Valeur de couple 4,5 lb-in.
- The temperature rating of the input connection cable should higher than 105°C.
- La température de service nominale du câble d'entrée doit être supérieure à 105 °C.
- Supplied by SELV source evaluated by UL 61010-1 or 61010-2-201 power supply only.
- Fourni par la source SELV évaluée uniquement par l'alimentation UL 61010-1 or 61010-2-201.

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Grounding screw

9. Communication Connections

- Switch IE-SW-EL05-5TX is equipped with following communication interfaces: 5x 10/100Base-T(X) ports
- Switch IE-SW-EL08-8TX is equipped with following communication interfaces: 8x 10/100Base-T(X) ports

Please only use cables suitable for the respective type of communication and ensure that signals are protected from possible interference.

9.1 10/100Base T(X) RJ45 Ports

The 10/100BaseT(X) ports located on Ethernet Switch's front panel are used to connect to Ethernet-enabled devices. Below we show pinouts for both MDI (NIC-type) ports and MDI-X (HUB/Switch-type) ports. Auto MDI-X ensures that both wiring-schemes are supported. (Automatic crossover function)

Each RJ45 Ethernet port independently supports auto-negotiation for recognizing the transmission speed 10 Mbps or 100 Mbps according to the IEEE802.3 standard. This means that some of connected Ethernet devices could operate at 10 Mbps, while at the same time other nodes are operating at 100 Mbps.

10/100Base T(X) RJ45 Pinouts

MDI Po	ort Pinouts	MDI-X	Port Pinouts	8-pin RJ45
Pin	Signal	Pin	Signal	
1	Tx+	1	Rx+	
2	Tx-	2	Rx-	1 8
3	Rx+	3	Tx+	
6	Ry-	6	Ty-	



Note about possible loss of data packages in case of "Duplex mismatching" If the switch's auto-negotiation port is connected to a non-negotiating device,

If the switch's auto-negotiation port is connected to a non-negotiating device, then the switch will set its port transmission speed same as the connected device but is unable to correctly detect the duplex mode.

As result the port is set to the correct speed but is using always the half duplex mode as required by the IEEE 802.3u standard in such cases.

For correct transmission, the non-negotiating port must be set to half-duplex mode (speed can be either 10 Mbps or 100 Mbps, it always will be recognized automatically by an Auto-Negotiation-Device).

10. LED Indicators

The front panel of the Ethernet Switch contains several LED indicators. The function of each LED is described in the table below.

	LED	Color	Status	Status Description	
		Green	On	Power is being supplied to power input PWR1.	
-	PWR1		Off	Power is not being supplied to power input PWR1.	
	PWR2	Green	On	Power is being supplied to power input PWR2.	
			Off	Power is not being supplied to power input PWR2.	
	LNK/ACT	Green	On	Port's link is active.	
			Off	Port's link is inactive.	
			Blinking	Transmitting data.	
	10/100M	Amber	On	Port speed is 100 Mbps	
			Off	Port speed is 10 Mbps	

11. Specifications

Technology				
Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3x for Flow Control			
Processing Type	Store and Forward			
MAC Table size	1K			
Packet buffer size	448 Kbit			
Backplane bandwidth	IE-SW-EL05-5TX: 1 Gbps IE-SW-FL08-8TX: 1 6 Gbps			
Interface				
RJ45 Ports	10/100BaseT(X) auto negotiation speed, F/H duplex mode and auto MDI/MDI-X connection			
LED Indicators	PWR1, PWR2 (Power), Port Link/Activity, Port Speed			
Power				
Input Voltage	24 V DC (12 - 48 V DC), 24 V AC (18 -36 V AC), 2 redundant inputs			
Input Current @24 VDC	IE-SW-EL05-5TX: 0.10 A IE-SW-EL08-8TX: 0.14 A			
Connection	One removable 4-pin terminal block, Wiring cable 12-24AWG			
Overload Current Protection	Present			
Reverse Polarity Protection	Present			
Physical Characteristics				
Housing	IP30 protection, metal			
Dimension (W x H x D)	IE-SW-EL05-5TX: 26.1 x 95 x 70 mm (1.03 x 3.74 x 2.76 in) IE-SW-EL08-8TX: 41 x 95 x 90 mm (1.61 x 3.74 x 3.54 in)			
Weight	IE-SW-EL05-5TX: 205 g IE-SW-EL08-8TX: 334 g			
Installation	DIN-rail			
Environmental conditions				
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)			
Altitude	up to 2000 m			
Pollution Degree	2			
Regulatory Approvals				
Safety	UL 61010-1: UL 61010-2-201			
EMC	EN 55032, EN 55024, 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 to 1 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 Vrms			
Shock	IEC 60068-2-27			
Free Fall	IEC 60068-2-31			
Vibration	IEC 60068-2-6			
MTBF				
Time	IE-SW-EL05-5TX: 2.638.236 hrs IE-SW-EL08-8TX: 1.390.019 hrs			
Database	Telcordia SR332			
Warranty				
Time Period	5 years			

Contact Information

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