Weidmüller ⚡

Hardware installation guide
Media Converter
IE-MC-EL-1GT-1GESFP (3109790000)

1. Introduction

Weidmüller´s Media Converter is designed for reliable and stable operation in harsh industrial environments. 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 notes

⚠ The device heats up during operation. Allow the unit to cool down or use protection gloves when carrying out any work.

⚠ The device may only be connected to the supply voltage shown on the product label. Higher voltage than specified will destroy the device.
The device must be supplied by a SELV source as defined in the Low Voltage Directive 2014/35/EU and 2014/30/EU.

Installation, commissioning and maintenance may only be performed by qualified electricians.

Observe the operating instructions.

⚠
– Indoor use and pollution degree II, it must be wiped with a dry cloth for clean up the device and label.
– Do not block air ventilation holes.
– If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
– Shall be mounted in the industrial control panel and ambient temperature is not exceed 75 °C.

– Utilisation en intérieur et degré de pollution II, il faut l'essuyer avec un chiffon sec pour nettoyer l'appareil et son étiquette.
– Ne bouchez pas les orifices de ventilation.
– Si l'appareil est utilise d'une maniere non specifiee par le fabricant, la protection qu'il apporte peut se voir diminuee.
– Doit être monté dans le panneau de commande industriel et la température ambiante ne doit pas dépasser 75 °C.

Intended use

The device is intended for the realisation of communication networks within an industrial environment. The device provides industrial grade media conversion between 10/100/1000BaseT(X) and 100/1000BaseX (SFP transceiver required for the optical port). 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.

3. Package checklist

The media converter is delivered with a 4-pin terminal connector and protective caps for the RJ45 port and SFP port. Additionally, each media converter is shipped with the following items:
– Hardware installation guide (printed)
– Wall mounting kit
– Leaflet for China RoHS Declaration (printed)

4. Panel layout
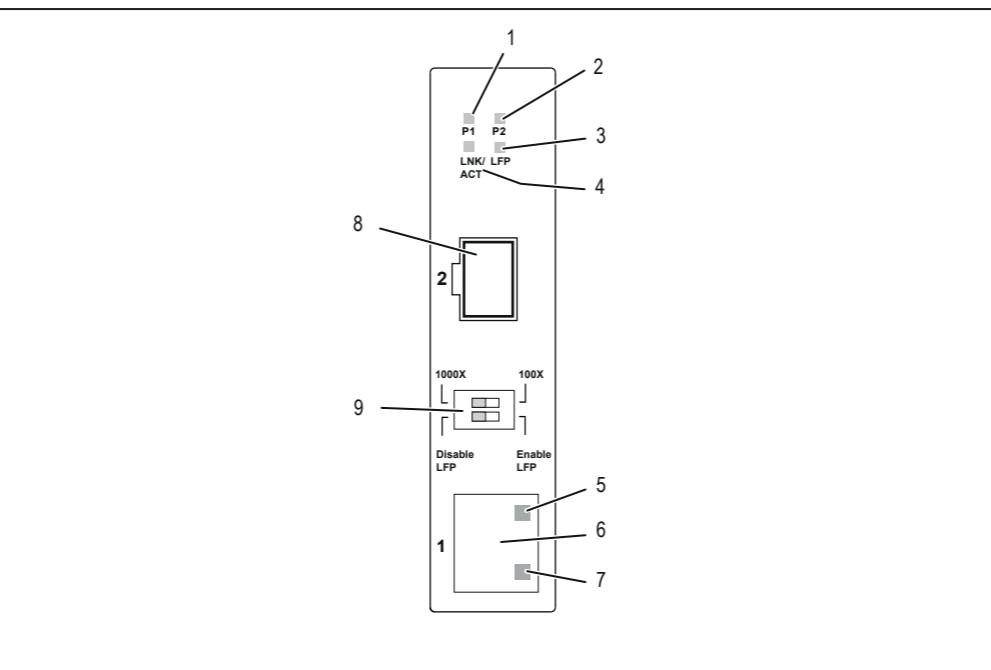
1 Power input 1 LED (PWR1)
2 Power input 2 LED (PWR2)
3 LFP Enabled status LED
4 SFP port Link/Activity LED
5 RJ45 port Link/Activity LED
6 100/1000Base-T(X) port
7 RJ45 port: LED for speed indication (Green=1000 Mbps, Off=100 Mbps)
8 100/1000Base-X Port
9 DIP Switches operation for 100/1000Base-X Port

5. DIN rail mounting
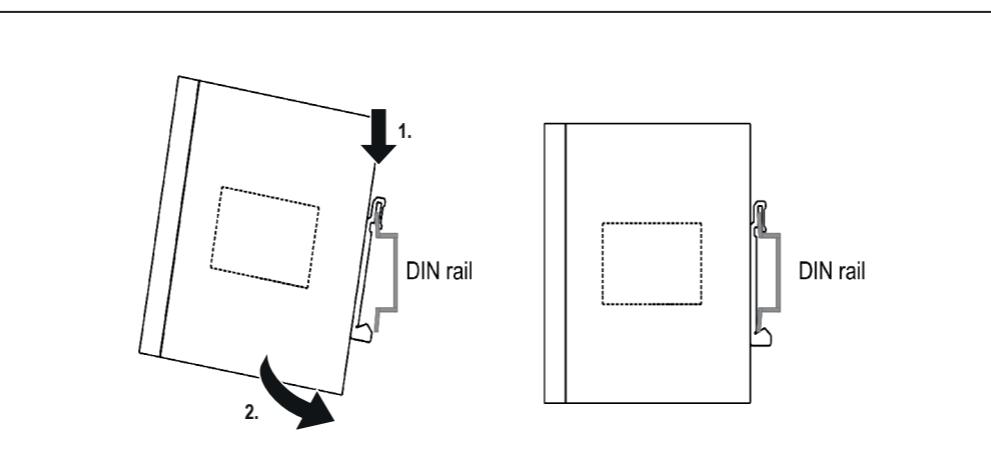
Slide the device onto DIN-rail and make sure that the Din-rail clip clicks into the rail firmly.
1. Insert the top of the DIN-Rail into the slot just below the stiff metal spring.
2. The DIN-Rail attachment unit will snap into place as shown below.
► To remove the device from the DIN-rail simply reverse steps 1 and 2.

6. Mounting dimensions [mm]
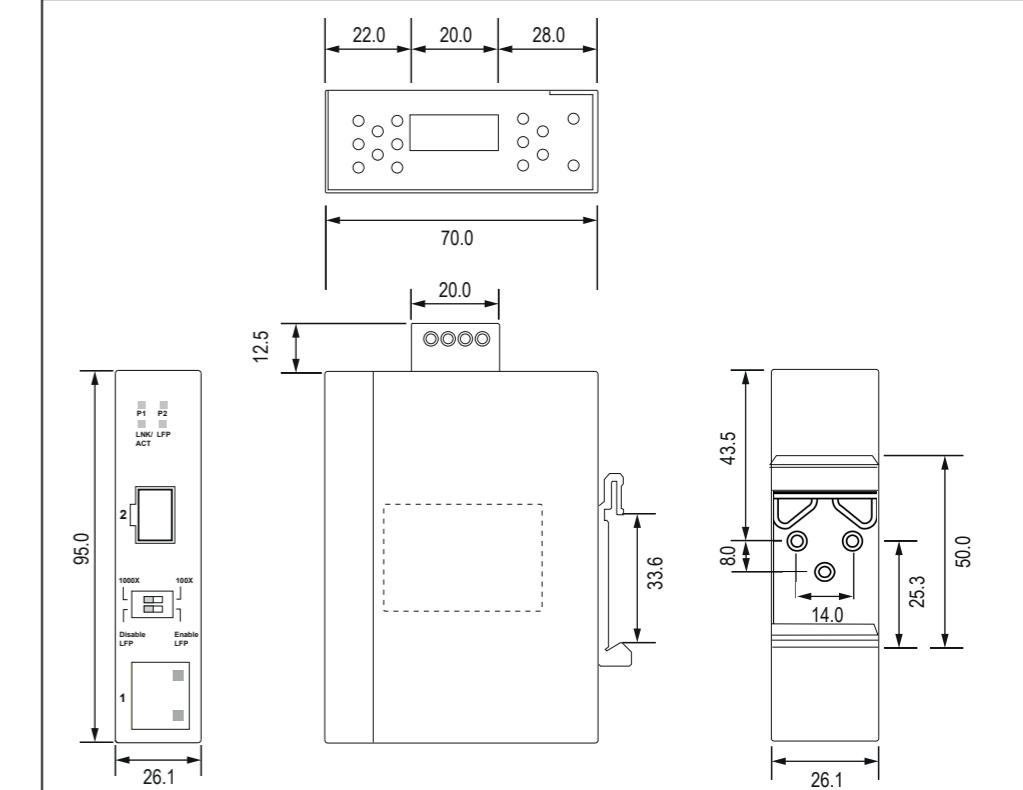
7. Grounding

⚠ **ATTENTION**
– Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI).
– Run 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 redundant power supply inputs

The media converter supports redundant power supply inputs which are located on the 4-pin terminal block.

⚠ **Warning**
– Take into consideration the following guidelines before wiring the device
– Terminal block is suitable for 12-24AWG, torque value 4.5 lb-in.
– The temperature rating of the input connection cable should be higher than 105 °C.
– Supplied by SELV source evaluated by UL 61010-1 or 61010-2-201 power supply only.

Avertissement
– Tenez compte des directrices suivantes avant de câbler l'appareil.
– Le bornier est convient pour 12-24AWG, valeur de couple 4,5 lb-in.
– La température de service nominale du câble d'entrée doit être supérieure à 105 °C.
– Fourni par la source SELV évaluée uniquement par l'alimentation UL 61010-1 or 61010-2-201.
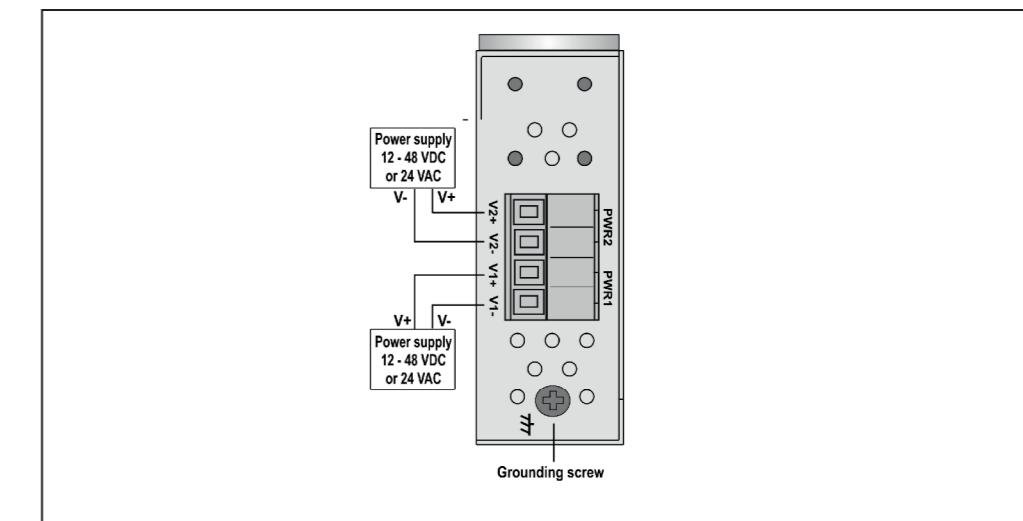
9. Communication connections

The media converter is equipped with following communication interfaces:
- 1 x 10/100/1000BASE-T(X) port
- 1 x 100/1000BASE-X port (SFP slot)

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

9.1 100/1000BASE-T(X) RJ45 port

The 100/1000BaseT(X) port located on the front panel is used to connect to Ethernet-enabled devices. The following table shows pinouts for both MDI ports (NIC-type) and MDI-X ports (HUB/Switch-type). Auto MDI-X ensures that both wiring schemes are supported (automatic crossover function).

100/1000BASE-T(X) RJ45 Port

10/100BASE-T(X) MDI/MDI-X			1000BASE-T(X) MDI/MDI-X			8-pin RJ45
Pin	MDI port	MDI-X port	Pin	MDI port	MDI-X port	
1	TD+ (transmit)	RD+ (receive)	1	BI_DA+	BI_DB+	
2	TD- (transmit)	RD- (receive)	2	BI_DA-	BI_DB-	
3	RD+ (receive)	TD+ (transmit)	3	BI_DB+	BI_DA+	
4	not used	not used	4	BI_DC+	BI_DD+	
5	not used	not used	5	BI_DC-	BI_DD-	
6	RD- (receive)	TD- (transmit)	6	BI_DB-	BI_DA-	
7	not used	not used	7	BI_DD+	BI_DC+	
8	not used	not used	8	BI_DD-	BI_DC-	

9.2 100/1000BASE-X SFP fiber optic port

The 100/1000BaseSFP type slot requires either a 100BaseSFP or a 1000BaseSFP fiber transceiver (mini-GBIC) to work properly. Please only use SFP modules and cables that are compatible with each other to establish an optical connection.

Cable wiring
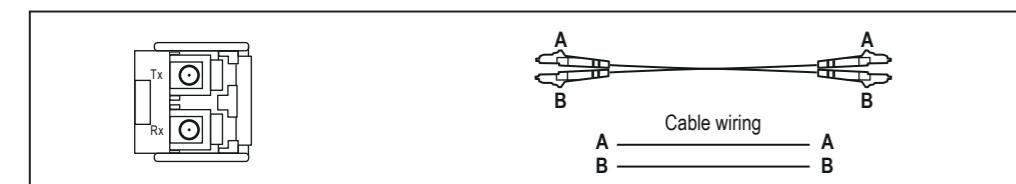
For a LC-Port with separate transmit and receive ports please remember to connect the Tx (transmit) port of device 1 to the Rx (receive) port of device 2, and the Rx (receive) port of device 1 to the Tx (transmit) port of device 2.

10. DIP-Switch Settings

The following table describes the settings of the DIP-switches on top of the device.

DIP switch	Setting	Decription
100X / 1000X	100X	Fast ethernet optical port (SFP transceiver)
	1000X	Gigabit ethernet optical port (SFP transceiver)
LFP	Enable LFP	Enables Link Fault Pass Through function
	Disable LFP	Disables Link Fault Pass Through function

11. LED indicators

The following table describes the functions of the LED indicators at the front panel.

LED	Color	Status	Description
PWR1	Green	On	Power supplied to power input PWR1.
PWR2	Green	On	Power supplied to power input PWR2.
LFP	Amber	On	Link Fault Pass Through function enabled.
LNK/ACT RJ45 port	Green	On	Port link is active.
		Off	Port link is inactive.
		Blinking	Data is transmitted.
100/1000M RJ45 port	Green	Green	Port speed is set to 1000 Mbps
		Off	Port speed is set to 100 Mbps
LNK/ACT	Green	On	Optical port link is active.
		Blinking	Data is transmitted.

12. Disposal

🗑 Observe the notes for proper disposal of the product. You can find the notes here: www.weidmueller.com/disposal.

13. Specifications

Technology	
Ethernet standards	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
Interfaces	
RJ45 ports	1 x 100/1000BASE-T(X) auto negotiation speed, F/H duplex mode and auto MDI/MDI-X connection
Fibre optic ports	1 x 100/1000BASE-X SFP slots
LED indicators	PWR1, PWR2 (Power), LFP (Link Fault Pass Through function), Port Link/Activity/Speed
DIP switch	100X / 1000X: Optical port operating at Fast (100X) or Gigabit (1000X) LFP ON / LFP OFF: Link Fault Pass Through function enabled (LFP ON) or disabled (LFP OFF)
Power supply	
Input voltage	11 ... 52 V DC
Power consumption (max.)	3.4 W
Connection	Removable 4-pin terminal block, Wiring cable 12 ... 24AWG
Overload current protection	Yes
Reverse polarity protection	Yes
Physical characteristics	
Housing	IP30 protection, metal
Dimensions (W x H x D)	26.1 x 95 x 70 mm (1.03 x 3.74 x 2.76 inch)
Weight	202 g
Installation	DIN-rail
Environmental conditions	
Operating temperature	-40 ... 75 °C (-40 ... 167 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Ambient relative humidity	5 ... 95 % (non-condensing)
Operating altitude	Up to 2000 m
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	2,268,268 hrs
Database	Telcordia SR332
Warranty	
Time period	5 years

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