

# PTC-101-M12 Series

## EN 50121-4 Ethernet-to-fiber media converters



- > 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- > Link Fault Pass-Through (LFP)
- > Power failure alarm by relay output
- > Redundant dual DC power inputs
- > M12 anti-vibration connector
- > -40 to 85°C operating temperature range



### Overview

The PTC-101-M12 EN 50121-4 Ethernet-to-fiber media converters convert from 10/100BaseT(X) to 100BaseFX. The models are available with SC/ST connectors in fiber and M12 connector in Ethernet to provide a reliable communication. The PTC-101-M12 converters eliminate the need for additional wiring, and support IEEE 802.3 and

IEEE 802.3u/x protocols with 10/100M, full/half-duplex, and MDI/MDI-X auto-sensing to provide a total solution for your industrial Ethernet networks. The PTC-101-M12 is compliant with EN 50121-4 and is well suited for high-vibration wayside locations of railway applications.

### Specifications

#### Technology

##### Standards:

IEEE 802.3 for 10BaseT

IEEE 802.3u for 100BaseT(X), 100BaseFX

##### Interface

**RJ45 Ports:** 10/100BaseT(X)

**Fiber Ports:** 100BaseFX (SC/ST connectors)

**LED Indicators:** PWR1, PWR2, Fiber Link (fiber port), 10/100M (TP port)

**Alarm Contact:** One relay output with current carrying capacity of 1 A @ 24 VDC

##### DIP Switches:

DIP No.	Function	ON	OFF
1	Auto Negotiation	Enable	Disable
2	Force TP Speed	100 Mbps	10 Mbps
3	Force TP Duplex	Full Duplex	Half Duplex
4	Link Fault Pass Through	Enable	Disable
5	Operating Mode	Store-and-Forward	Pass Through

The default setting for all DIP switches is ON.

#### Optical Fiber

	100BaseFX
	Single-mode
Wavelength	1310 nm
Max. Tx	0 dBm
Min. Tx	-5 dBm
RX Sensitivity	-34 dBm
Link Budget	29 dB
Typical Distance	40 km <sup>a</sup>
Saturation	-3 dBm

#### Physical Characteristics

**Housing:** Metal

**Dimensions:** 124 x 145 x 67 mm (4.88 x 5.7 x 2.63 in)

**Weight:** 617 g

**Installation:** WK-51 (wall mount)

#### Environmental Limits

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

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

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

**Conformal Coating:** N/A

#### Power Requirements

**Input Voltage:** 20 to 72 VDC

**Connection:** Removable terminal block

**Overload Current Protection:** 1.6 A (protects against two signals shorted together)

**Reverse Polarity Protection:** Protects against V+/V- reversal

#### Standards and Certifications

**EMC:** CE, FCC

**EMI:** EN 55022 Class A

**EMS:**

EN 61000-4-2 (ESD) Level 4,

EN 61000-4-3 (RS) Level 3,

EN 61000-4-4 (EFT) Level 4,

EN 61000-4-5 (Surge) Level 4,

EN 61000-4-6 (CS) Level 3,

EN 61000-4-8 (PFMF) Level 5,

EN 61000-4-9

**Rail Traffic:** EN 50155, EN 50121-4

**Vibration:** EN 50125-3

**Green Product:** RoHS, CRoHS, WEEE

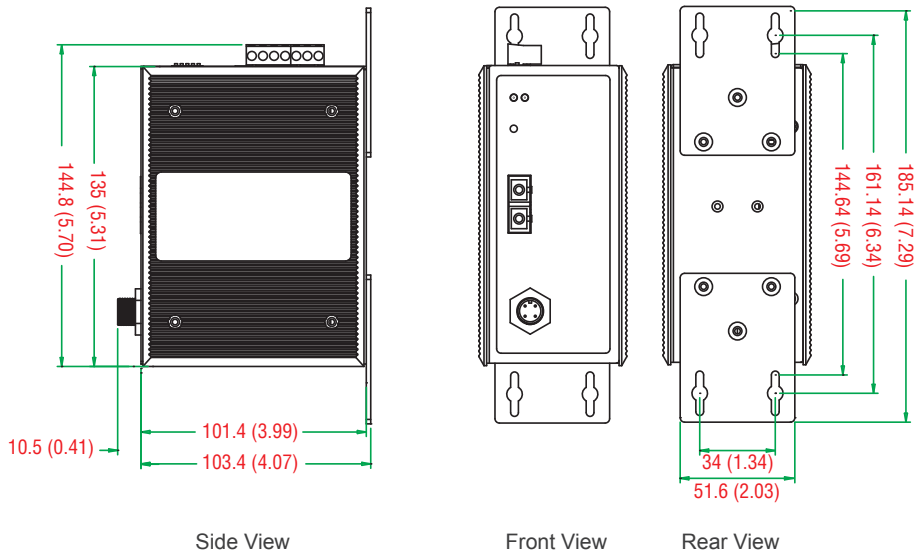
#### Warranty

**Warranty Period:** 5 years

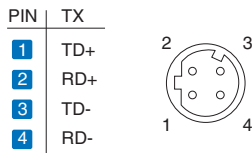
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions & Pin Assignment

Unit: mm (inch)



### Pinouts for the 10/100BaseT(X) M12 Ports



## : Ordering Information

### Available Models

**PTC-101-M12-S-SC-LV-T:** Industrial 10/100BaseT(X) to 100BaseFX media converter, M12 connector, single-mode with SC connector, 20-72 VDC power input, -40 to 85°C operating temperature

**PTC-101-M12-S-ST-LV-T:** Industrial 10/100BaseT(X) to 100BaseFX media converter, M12 connector, single-mode with ST connector, 20-72 VDC power input, -40 to 85°C operating temperature

**Optional Accessories** (can be purchased separately)

**DK-DC50131:** DIN-Rail mounting kit

### Package Checklist

- 1 PTC-101-M12 media converter
- Wall mounting kit
- Quick installation guide (printed)
- Warranty card