

IMC-P101 Series

IEEE 802.3af PoE Ethernet-to-fiber media converters



- 10/100BaseT(X) auto-negotiation and auto-MDI/MDI-X
- IEEE 802.3af compliant PoE PSE equipment
- Power failure alarm by relay output
- Store-and-forward mode and pass through mode
- -40 to 75°C operating temperature range (T models)
- Redundant dual DC power inputs



Introduction

IMC-P101 series Ethernet-to-fiber media converters provide Ethernet media conversion from 10/100BaseT(X) to 100BaseFX (with SC or ST connectors). These converters are classified as power source equipment (PSE), and when used in this way provide up to 15.4 watts to IEEE 802.3af compliant powered devices (PDs), eliminating

the need for additional wiring. The IMC-P101 converters support IEEE 802.3/802.3u/802.3x with 10/100M, full/half-duplex, and MDI/MDI-X auto-sensing, providing a complete solution for your industrial Ethernet network.

Specifications

Technology

Standards:

- IEEE 802.3 for 10BaseT
- IEEE 802.3u for 100BaseT(X), 100BaseFX
- IEEE 802.3af for Power-over-Ethernet

Interface

- RJ45 Ports:** 10/100BaseT(X)
- Fiber Ports:** 100BaseFX (SC/ST connectors)
- LED Indicators:** PWR1, PWR2, Fiber Link, 10/100M (TP port), PSE Indicator
- 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
6	PSE	Disable	Enable*
7	P.R.R. (PD Remote Reset)	Enable	Disable*

* Default DIP switch setting.

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

Optical Fiber

Fiber Cable Type	100BaseFX		
	OM1	50/125 μm 800 MHz*km	Single-Mode G.652
Typical Distance	4 km	5 km	40 km
Wave-length	Typical (nm)	1300	1310
	TX Range (nm)	1260 to 1360	1280 to 1340
	RX Range (nm)	1100 to 1600	1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20	0 to -5
	RX Range (dBm)	-3 to -32	-3 to -34
	Link Budget (dB)	12	29
Dispersion Penalty (dB)	3	1	

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.
Note: Compute the "typical distance" of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

Physical Characteristics

- Housing:** Metal
- Dimensions:** 144.45 x 122.3 x 51.65 mm (5.69 x 4.81 x 2.03 in)
- Weight:**
Product only: 525 g (1.16 lb)
Packaged: 710 g (1.56 lb)
- Installation:** DIN-rail mounting, wall mounting (with optional kit)

Environmental Limits

- Operating Temperature:**
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -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)

Power Requirements

Input Voltage: 48 VDC (46 to 57 VDC), redundant inputs
Input Current: 130 mA @ 48 VDC max.
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

Safety: UL 508
EMC: EN 55032/24
EMI: CISPR 32, FCC Part 15B Class A
EMS:
 EN 61000-4-2 (ESD): Contact: 8 kV; Air: 15 kV
 EN 61000-4-3 (RS): 80 MHz to 1 GHz: 3 V/m
 EN 61000-4-4 (EFT): Power: 4 kV; Signal: 4 kV
 EN 61000-4-5 (Surge): Power: 2 kV; Signal: 2 kV

EN 61000-4-6 (CS): 150 kHz to 80 MHz: 3 V/m
 EN 61000-4-8 (PFMF)
 EN 61000-4-11
Green Product: RoHS, CRoHS, WEEE
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6

MTBF (mean time between failures)

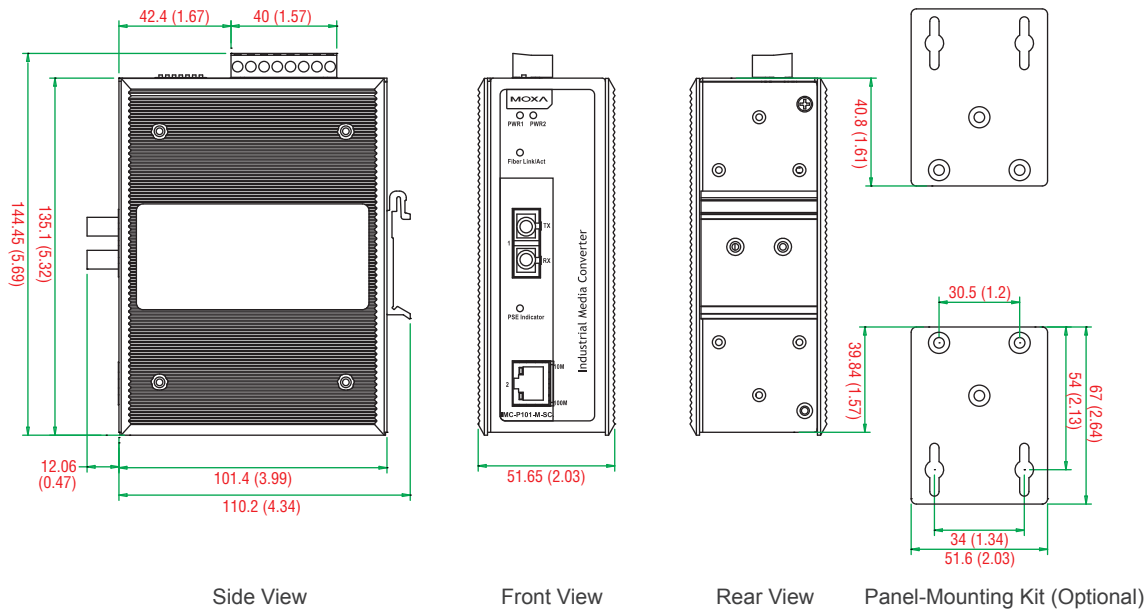
Time: 435,210 hrs
Standard: Telcordia (Bellcore), GB

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

- IMC-P101-M-SC:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with SC connector, 0 to 60°C operating temperature
- IMC-P101-M-ST:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with ST connector, 0 to 60°C operating temperature
- IMC-P101-S-SC:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with SC connector, 0 to 60°C operating temperature
- IMC-P101-S-ST:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with ST connector, 0 to 60°C operating temperature
- IMC-P101-M-SC-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with SC connector, -40 to 75°C operating temperature
- IMC-P101-M-ST-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode port with ST connector, -40 to 75°C operating temperature
- IMC-P101-S-SC-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with SC connector, -40 to 75°C operating temperature
- IMC-P101-S-ST-T:** PoE industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode port with ST connector, -40 to 75°C operating temperature

Package Checklist

- 1 IMC-P101 media converter
- Hardware installation guide (printed)
- Warranty card

Optional Accessories (can be purchased separately)

WK-51: Wall-mounting kit