IMC-P21GA-G2 Series

PoE+ Gigabit Ethernet-to-fiber media converters

Features and Benefits

- 10/100/1000BaseT(X) auto-negotiation and auto-MDI/MDI-X
- IEEE 802.3af (PoE) and IEEE 802.3at (PoE+) standard compliance
- Up to 36 W output on the PoE+ port
- Supports store-and-forward mode and pass-through mode
- -10 to 60°C operating temperature range
- Redundant dual DC power inputs

Certifications

Introduction

IMC-P21GA-G2 PoE+ Gigabit Ethernet-to-fiber media converters are designed to provide reliable and stable 10/100/1000BaseT(X)-to-100/1000Base-SX/LX or selected 100/1000Base SFP module media conversions. These converters are classified as power source equipment (PSE) and are used to directly power up powered devices (PDs), eliminating the need for additional wiring.

The IMC-P21GA-G2 PoE+ Gigabit Ethernet-to-fiber media converters provide up to 30 watts of power on the PoE+ port in standard mode and allow high-power output of up to 36 watts for heavy-duty industrial PoE devices, such as weather-proof IP surveillance cameras with wipers/heaters, high-performance wireless access points, and IP phones. The IMC-P21GA-G2 media converters are highly versatile, and with SFP fiber ports, can transmit data high EMI immunity for up to 80 km from the device to the control center.

The PoE+ Gigabit Ethernet-to-fiber media converters support a variety of useful functions, as well as PoE diagnostics, Link Fault Pass-through, store-and-forward mode and pass-through mode. The IMC-P21GA-G2 converters support IEEE 802.3/802.3u/802.3x with 10/100/1000M and MDI/MDI-X auto-sensing, providing a complete solution for your industrial Ethernet networks.

Specifications

Ethernet Interface

100/1000BaseSFP Ports	IMC-P21GA-G2 models: 1
1000BaseSX Ports (multi-mode SC connector)	IMC-P21GA-G2-SX-SC models: 1
1000BaseLX Ports (single-mode SC connector)	IMC-P21GA-G2-LX-SC models: 1
PoE Ports (10/100/1000BaseT(X), RJ45 connector)	1

Optical Fiber

Fiber Module Optical Interface		Multi-mode		Single-mode
Fiber Data Rate		1000Base-SX		1000Base-LX
Fiber Cable Requirements		62.5/125 µm	50/125 µm	9/125 µm
		OM1	OM2/OM3/OM4	OS1/OS2
Typical Distance		550 m	550 m	10 km
Wavelength	Typical (nm)	850	850	1310
	TX Range (nm)	830 to 870	830 to 870	1280 to 1340
	RX Range (nm)	770 to 870	770 to 870	1100 to 1600
Optical Power	TX Range (dbm)	-3 to -10	-3 to -10	-3 to 9

Fiber Module Optical Interface		Multi-mode		Single-mode
Fiber Data Rate		1000Base-SX		1000Base-LX
Fiber Cable Requirements		62.5/125 µm	50/125 µm	9/125 µm
		OM1	OM2/OM3/OM4	OS1/OS2
	RX Range (dbm)	-3 to -20	-3 to -20	-3 to -21
	Link Budget (dB)	10	10	12
	Dispersion Penalty (dB)	3	3	1

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

Magnetic Isolation Protection	1.5 kV (built-in)

Power Parameters

Input Voltage	44 to 57 VDC PoE+ output: >52 VDC recommended PoE output: >44 VDC recommended
Power Consumption	Max 828 mA
Overload Current Protection	Supported

Physical Characteristics

Housing	Metal
IP Rating	IP40 (with I/O modules attached)
Dimensions	90 x 73 x 20.3 mm (3.54 x 2.87 x 0.79 in)
Weight	Product Only: 212 g (0.47 lb)
Installation	DIN-rail mounting

Environmental Limits

Operating Temperature	-10 to 60°C (14 to 140°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz; Signal: 10 V IEC 61000-4-8 PFMF
Shock	IEC 60068-2-27

Vibration	IEC 60068-2-6 IEC 60068-2-64
Freefall	ISTA 1A

MTBF

Time	8,709,561 hrs
Standards	Telcordia Standard SR-332

Warranty

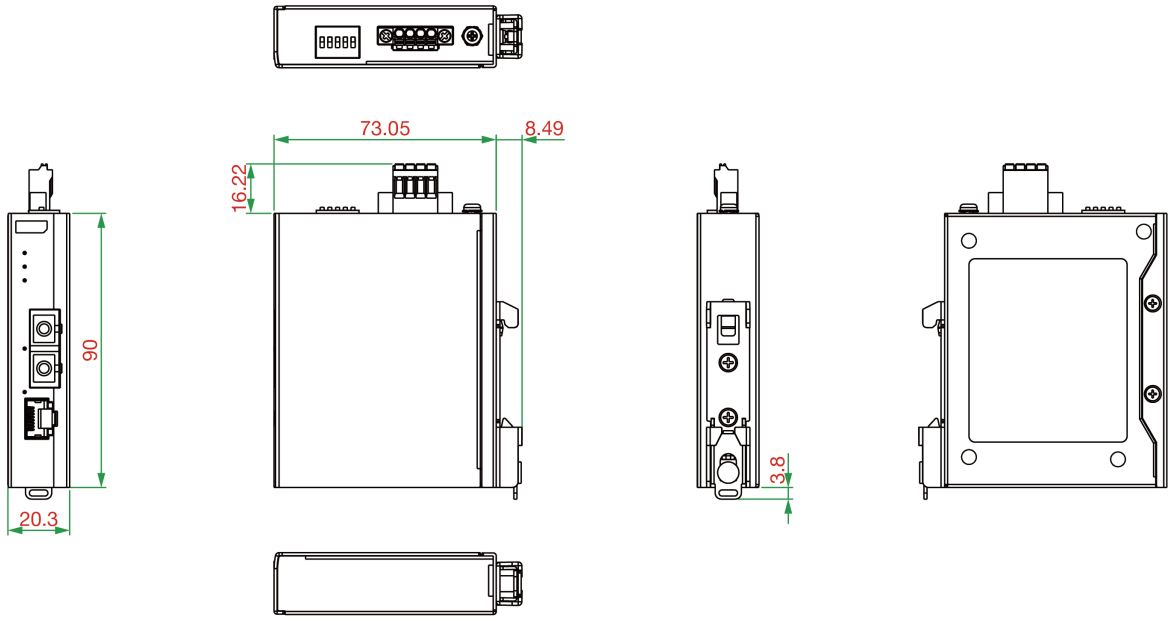
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x IMC-P21GA-G2 Series converter
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm



Ordering Information

Model Name	Operating Temperature	Fiber Module Type
IMC-P21GA-G2	–10 to 60°C	SFP
IMC-P21GA-G2-SX-SC	–10 to 60°C	Multi-mode SC
IMC-P21GA-G2-LX-SC	–10 to 60°C	Single-mode SC

Accessories (sold separately)

SFP Modules

SFP-1GSXLC	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature

SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLHXLC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXLC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLXLC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXLC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GZXLC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1GLSXLC	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLSXLC-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GEZXLC	SFP module with 1 1000BaseEZX port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1FELLC-T	SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1FEMLC-T	SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature
SFP-1FESLC-T	SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -40 to 85°C operating temperature

Wall-Mounting Kits

WK-20-02	Wall-mounting kit, 3 screws, 20 x 140 x 2 mm