

# IMC-P21A-G2 Series

## PoE+ Fast Ethernet-to-fiber media converters



### Features and Benefits

- 10/100BaseT(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-P21A-G2 PoE+ Fast Ethernet-to-fiber media converters are designed to provide reliable and stable 10/100BaseT(X)-to-100Base-FX media conversion. 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-P21A-G2 PoE+ Fast Ethernet-to-fiber media converters provide up to 30 watts of power for PoE+ port in standard mode and allow highpower output of up to 36 watts for heavy-duty industrial PoE devices, such as weather-proof IP surveillance cameras with wipers/heaters, highperformance wireless access points, and IP phones. The IMC-P21A-G2 media converters are highly versatile and with SC or ST fiber ports, can transmit data with high EMI immunity for up to 40 km from the device to the control center.

The PoE+ Fast Ethernet-to-fiber media converters support a variety of useful functions, as well as PoE diagnostics, Link Fault Pass-through, storeand- forward mode, and pass-through mode. The IMC-P21A-G2 converters support IEEE 802.3/802.3u/802.3x with 10/100M and MDI/MDI-X autosensing, providing a complete solution for your industrial Ethernet networks.

## Specifications

| Ethernet Interface                         |  |                                |                |              |             |              |
|--|--|--------------------------------|----------------|--------------|-------------|--------------|
| 100BaseFX Ports (multi-mode SC connector)  |  | IMC-P21A-G2-M-SC models: 1     |                |              |             |              |
| 100BaseFX Ports (multi-mode ST connector)  |  | IMC-P21A-G2-M-ST models: 1     |                |              |             |              |
| 100BaseFX Ports (single-mode SC connector) |  | IMC-P21A-G2-S-SC models: 1     |                |              |             |              |
| PoE Ports (10/100BaseT(X), RJ45 connector) |  | 1                              |                |              |             |              |
| Optical Fiber                              |  |                                |                |              |             |              |
|  |  | Fiber Module Optical Interface |                | Multi-mode   | Single-mode |              |
|  |  | Fiber Data Rate                |                | 100Base-FX   |             |              |
|  |  | Fiber Cable Requirements       |                | 62.5/125 μm  | 50/125 μm   | 9/125 μm     |
|  |  |                                |                | OM1          | OM2/OM3/OM4 | OS2 (G.652)  |
|  |  | Typical Distance               |                | 2 km         | 5 km        | 40 km        |
|  |  | Wavelength                     | Typical (nm)   | 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      |

|  |   |                         |                   |             |             |
|--|---|-------------------------|-------------------|-------------|-------------|
|  | Fiber Module Optical Interface  |                         | Multi-mode        |             | Single-mode |
|  | Fiber Data Rate   |                         | 100Base-FX        |             |             |
|  | Fiber Cable Requirements  |                         | 62.5/125 μm       | 50/125 μm   | 9/125 μm    |
|  |   |                         | OM1               | OM2/OM3/OM4 | OS2 (G.652) |
|  |   | RX Range (dbm)          | -3 to -32         |             | -3 to -34   |
|  |   | Link Budget (dB)        | 12                |             | 29          |
|  |   | Dispersion Penalty (dB) | 3                 |             | 1           |
|  | Note:<br>1. When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.<br>2. Compute the “Typical Distance” of a specific fiber transceiver as follows:<br>Link budget (dB) > dispersion penalty (dB) + total link loss (dB).<br>3. An OS1 cable can be used for single-mode models. However, an OS2 cable is required to achieve a transmission distance of 40 km. |                         |                   |             |             |
|  |   |                         |                   |             |             |
|  | Magnetic Isolation Protection   |                         | 1.5 kV (built-in) |             |             |

## Power Parameters

|                             |   |
|-----------------------------|---|
| Input Voltage               | 44 to 57 VDC<br>PoE+ output: > 52 VDC recommended<br>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<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-6 CS: 150 kHz to 80 MHz; Signal: 10 V<br>IEC 61000-4-8 PFMF |
| Shock | IEC 60068-2-27  |

|                         |  |
|-------------------------|--|
| Vibration               | IEC 60068-2-6<br>IEC 60068-2-64                                      |
| Freefall                | ISTA 1A  |
| <b>MTBF</b>             |  |
| Time                    | 6,708,861 hrs  |
| Standards               | Telcordia SR332  |
| <b>Warranty</b>         |  |
| Warranty Period         | 5 years  |
| Details                 | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |
| <b>Package Contents</b> |  |
| Device                  | 1 x IMC-P21A-G2 Series converter                                     |
| Documentation           | 1 x quick installation guide<br>1 x warranty card                    |

Dimensions

Unit: mm



Ordering Information

| Model Name       | Operating Temperature | Fiber Module Type |
|------------------|-----------------------|-------------------|
| IMC-P21A-G2-M-ST | -10 to 60°C           | Multi-mode ST     |
| IMC-P21A-G2-M-SC | -10 to 60°C           | Multi-mode SC     |
| IMC-P21A-G2-S-SC | -10 to 60°C           | Single-mode SC    |

Accessories (sold separately)

Wall-Mounting Kits

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