

# Industrial GbE Media Converter



# 12

## IMC-1001C & IMC-1001CS

- ◀ 1x GbE RJ45 to 1x 1000Base-X Fiber (SC) (Compact, Size)
- ▶ 1x GbE RJ45 to 1x 100/1000Base-X SFP (Compact, Size)

- » Supports LFPT (Link Fault Pass Through) and FEF (Far End Fault)
- » Provides a DIP-Switch to Set Functions
- » 12/24/48VDC (9.6~60VDC) Redundant Power input
- » CE and FCC Certified



These compact models are unmanaged industrial grade gigabit Ethernet media converters that support conversion between electrical 10/100/1000Base-T and optical 1000Base-X Ethernet. Housed in rugged DIN rail or wall mountable enclosures, these converters are designed for harsh environments, such as industrial networking and intelligent transportation systems (ITS) and are also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications.

### Features

- IP30 rugged metal housing and fanless
- Wide operating temperature -20 ~ 70°C
- Store-and-Forward mode and Pass through mode (set by DIP SW)
- Conversion between 10/100/1000Base-T and 1000Base-X Fiber cable interface

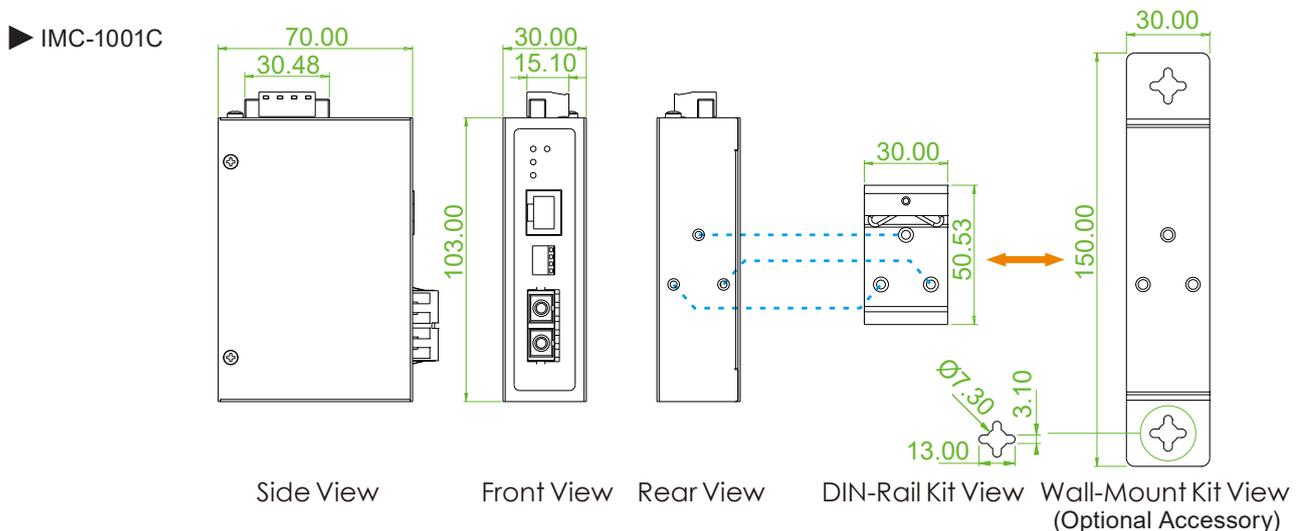
### Specifications

|                                       |  |  |
|---------------------------------------|--|--|
| <b>Standard</b>                       | IEEE 802.3   | 10Base-T 10Mbit/s Ethernet                   |
|                                       | IEEE 802.3u  | 100Base-TX, 100Base-FX, Fast Ethernet        |
|                                       | IEEE 802.3ab   | 1000Base-T Gbit/s Ethernet over twisted pair |
|                                       | IEEE 802.3z  | 1000Base-X Gbit/s Ethernet over Fiber-Optic  |
|                                       | IEEE 802.3x  | Flow Control and Back pressure               |
| <b>RJ45 Ports</b>                     | 10/100/1000Base-T Auto MDI/MDI-X and Auto negotiation Function   |  |
| <b>Fiber Ports</b>                    | 1000Base-SX/LX SC (IMC-1001C)<br>100/1000Base-X SFP Slot (IMC-1001CS)  |  |
| <b>Data Process Architecture</b>      | Store and Forward Switch mode or Pass through mode set by DIP SW   |  |
| <b>Jumbo Frame</b>                    | 16K Bytes (For Store and Forward Switch mode)  |  |
| <b>Fiber Parameters</b>               | Fiber Cable (Multi-mode): 50/125um, 62.5/125um   |  |
|                                       | Fiber Cable (Single-mode): 9/125um   |  |
|                                       | Wavelength: 1310nm (Multi-mode/Single-mode)  |  |
|                                       | Available distance: (IMC-1001C)<br>500M (Multi-mode SX) / 20KM (Single-mode) / 40KM (Single-mode)<br>Distance depend on SFP Fiber Transceiver (IMC-1001CS) |  |
| <b>Link Fault Pass Through (LFPT)</b> | TX-Fiber: If TX port link down, the media converter will force Fiber port to link down   |  |
|                                       | Fiber-TX: If Fiber port link down, the media converter will force TX port to link down   |  |
| <b>Far-End Fault (FEF)</b>            | Work with LFPT to prevents data loss   |  |
| <b>DIP Switch</b>                     | Data Process Architecture<br>OFF: Store and forward switch mode, ON: Pass through mode   |  |
|                                       | LFPT<br>OFF: LFPT Disable, ON: LFPT Enable   |  |
|                                       | SFP Fiber Speed (IMC-1001CS)<br>OFF: 1000Base-X, ON: 100Base-FX  |  |
|                                       |  |  |
| <b>Connector</b>                      | Fiber<br>SC Multi-mode, 500M/ SC Single-mode, 20KM, 40KM (IMC-1001C)<br>SFP Slot (IMC-1001CS)  |  |
|                                       | RJ-45 Socket   |  |
|                                       | Auto MDI/MDI-X and Auto negotiation Function   |  |

## Industrial GbE Media Converter

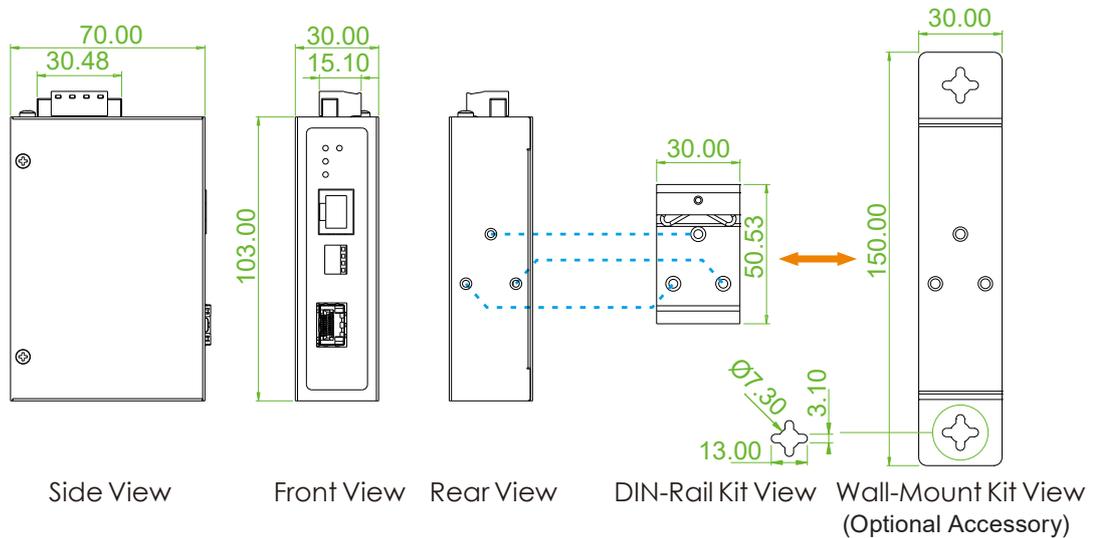
| <b>LED</b>   | Per Unit: Power 1 (Green), Power 2 (Green)<br>SFP Fiber port Speed & LinK/Act (IMC-1001CS)<br>100Base-X (Green), 1000Base-X (Amber)<br>SC/ST Fiber port Speed & LinK/Act (IMC-1001C)<br>1000Base-X (Amber)<br>RJ-45 port: Speed & Link/Act: 10/100 (Green), 1000 (Yellow)           |               |      |     |     |            |      |    |      |           |      |    |      |
|--|---|---------------|------|-----|-----|------------|------|----|------|-----------|------|----|------|
| <b>Reverse Polarity Protection</b>                           | Supported for power input   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Overload Current Protection</b>                           | Supported   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Power Supply</b>  | 12/24/48VDC (9.6~60VDC) Redundant input power with polarity reverse protect function and removable terminal block   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Power Consumption</b>                                     | <table border="1"> <thead> <tr> <th>Input Voltage</th> <th>12V</th> <th>24V</th> <th>48V</th> </tr> </thead> <tbody> <tr> <td>IMC-1001CS</td> <td>1.8W</td> <td>2W</td> <td>2.4W</td> </tr> <tr> <td>IMC-1001C</td> <td>1.8W</td> <td>2W</td> <td>2.4W</td> </tr> </tbody> </table> | Input Voltage | 12V  | 24V | 48V | IMC-1001CS | 1.8W | 2W | 2.4W | IMC-1001C | 1.8W | 2W | 2.4W |
| Input Voltage  | 12V   | 24V           | 48V  |     |     |            |      |    |      |           |      |    |      |
| IMC-1001CS   | 1.8W  | 2W            | 2.4W |     |     |            |      |    |      |           |      |    |      |
| IMC-1001C  | 1.8W  | 2W            | 2.4W |     |     |            |      |    |      |           |      |    |      |
| <b>Removable Terminal Block</b>                              | Provides for dual input power, 4 Pin  |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Operating Humidity</b>                                    | 5% ~ 95% (Non-condensing)   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Operating Temperature</b>                                 | -20 ~ 70°C (IMC-1001C-E, IMC-1001CS-E)  |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Storage Temperature</b>                                   | -40 ~ 85°C  |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Housing</b>   | Rugged Metal, IP30 Protection and fanless   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Dimensions</b>  | 70 x 30 x 103mm (D x W x H)   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Weight</b>  | 230g (IMC-1001C)<br>225g (IMC-1001CS)   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Installation</b>  | DIN Rail or wall mounting (Optional)  |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>MTBF</b>  | 1,278,798 Hours (IMC-1001C)<br>1,940,623 Hours (IMC-1001CS)<br>(MIL-HDBK-217)   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Warranty</b>  | 5 years   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Certification</b>   |   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>EMC</b>   | CE (EN55032, EN55035)   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>EMI (Electromagnetic Interference)</b>                    | FCC Part 15 Subpart B Class A, CE   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>EMS (Electromagnetic Susceptibility) Protection Level</b> | EN61000-4-2 (ESD) Level 3, Criteria B   |               |      |     |     |            |      |    |      |           |      |    |      |
|  | EN61000-4-3 (RS) Level 3, Criteria A  |               |      |     |     |            |      |    |      |           |      |    |      |
|  | EN61000-4-4 (Burst) Level 3, Criteria A   |               |      |     |     |            |      |    |      |           |      |    |      |
|  | EN61000-4-5 (Surge) Level 3, Criteria B   |               |      |     |     |            |      |    |      |           |      |    |      |
|  | EN61000-4-6 (CS) Level 3, Criteria A  |               |      |     |     |            |      |    |      |           |      |    |      |
|  | EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A   |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Shock</b>   | IEC 60068-2-27  |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Freefall</b>  | IEC 60068-2-32  |               |      |     |     |            |      |    |      |           |      |    |      |
| <b>Vibration</b>   | IEC 60068-2-6   |               |      |     |     |            |      |    |      |           |      |    |      |

### Dimensions



# Industrial GbE Media Converter

12 ▶ IMC-1001CS



## Ordering Information

| Model Name   | RJ45                 | Fiber      |                           | Power Input     | Certification | Operating Temperature |
|--------------|----------------------|------------|---------------------------|-----------------|---------------|-----------------------|
|              | 10/100/1000Base-T(X) | 1000Base-X | Dual Speed 100/1000Base-X | Redundant Power | CE, FCC       |                       |
| IMC-1001C-E  | 1                    | SC         |                           | 12/24/48VDC     | V             | -20~70°C              |
| IMC-1001CS-E | 1                    |            | 1                         | 12/24/48VDC     | V             | -20~70°C              |

| Connector Type           | Connectivity Distance   |
|--------------------------|---|
| SC<br>(IMC-1001C-E only) | 001:500M (M/M) 002 : 2km (M/M) 020:20km (S/M) 040:40km (S/M)<br>020A: WDM 20km A type (TX:1310nm)<br>020B: WDM 20km B type (TX: 1550nm)type |

## Optional Accessories

### ■ Wall Mount Kit

|           |   |
|-----------|---|
| IND-WMK03 | Wall Mount kit for Industrial product (Compact, 150 x 30mm) |
|-----------|---|

### ■ Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with all CTC Union industrial grade Ethernet switches for guaranteed compatibility and performance. Best performance can be guaranteed, even in mission-critical applications. (Please see CTC Union's Industrial SFP datasheets for more items and detailed information.)

|                    |   |
|--------------------|---|
| ISFP-M7000-85-D(E) | Industrial SFP GbE 1000Base-SX, M/M, 500 meter, wave length 850nm, 7.5dB, LC, DDMI, -10~70°C (-40~85°C) |
| ISFP-S7020-31-D(E) | Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDMI, -10~70°C (-40~85°C)          |
| ISFP-T7T00-00-(E)  | Industrial SFP 10/100/1000Base-T UTP 100meter, -10~70°C (-40~85°C)                                      |
| ISFP-M5002-31-D(E) | Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, DDMI, -10~70°C (-40~85°C)        |
| ISFP-S5030-31-D(E) | Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDMI, -10~70°C (-40~85°C)                   |

### ■ Industrial Power Supply

|           |   |
|-----------|---|
| MDR-20-24 | Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 24VDC, 24W, -20 ~ 70°C |
| MDR-40-48 | Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 48VDC, 40W, -20 ~ 70°C |