# IMC-100C

## 10/100Base-TX to 100Base-FX Fiber Converter
### *(Compact)*

UL60950-1  CE  FC  EN50121-4  EN61000-6-2 EN61000-6-4

IMC-100C is a compact sized, unmanaged industrial grade Fast Ethernet media converter that supports conversion between electrical 10/100Base-TX and optical 100Base-FX Ethernet. Simple DIP switch settings allow configuring UTP port for auto-negotiation or for forced 10/100 speed and half/ full duplex as well as for enabling LFPT (Link Fault Pass Through), and selecting Switch Mode (store & forward) or Converter Mode (Jumbo frame Pass-through).  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 (See Figure).

## Features

- DC input power 12/24/48VDC (9.6 ~ 60VDC) or 24VAC (18~36VAC)
- IP30 rugged metal housing, compact size and fanless
- Wide operating temperature -40 ~ 75℃ (IMC-100C-E )
- CE, FCC, railway traffic EN50121-4 certification
- Heavy industrial grad EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- Store-and-Forward mode and Pass Through mode (set by DIP SW)
- Support LFPT (Link Fault Pass Through)
- Conversion between 10/100Base-TX and 100Base-FX cable interface
- Provides a 4 pin DIP-Switch to set functions

## Specifications

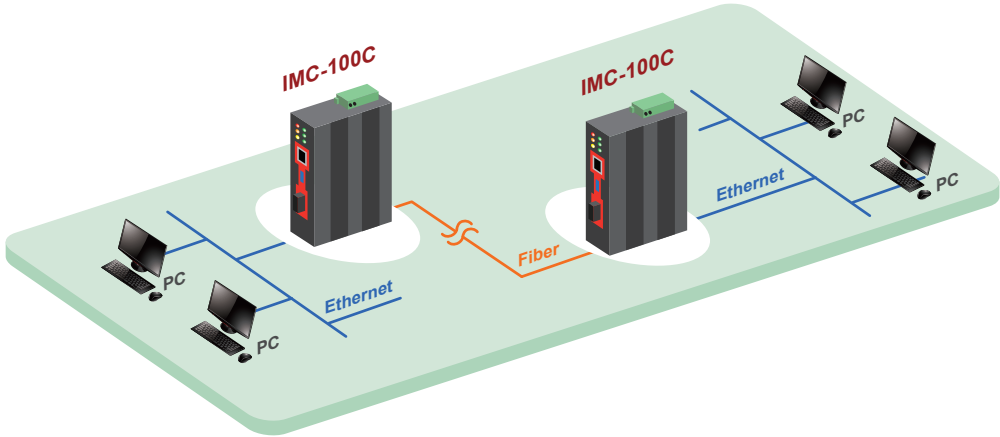| | |
|---|---|
| **Standard** | IEEE 802.3 10Base-T 10Mbit/s Ethernet |
| | IEEE 802.3u 100Base-TX, 100Base-FX, Fast Ethernet |
| | IEEE 802.3x Flow Control |
| **RJ45 Ports** | 10/100Base-TX Auto MDI/MDI-X and Auto-Negotiation Function |
| | Supports UTP CAT.5e Twisted Pair cable |
| **Fiber Ports** | 100Base-FX (SC/ST connectors) |
| **Switch Architecture** | Store and Forward in Switch mode |
| | Supports 1024 MAC addresses in Switch mode |
| **Ethernet Packet length** | 2046Byte (Max) in Switch mode |
| **Jumbo Frame** | 9K bytes in Pass through (Converter mode) |
| **Fiber Parameters** | Fiber Cable (Multi-mode): 50/125um,62.5/125um |
| | Fiber Cable (Single-mode): 9/125um |
| | Wavelength: 1310nm (Multi-mode/Single-mode) |
| | Available distance:  2KM (Multi-mode)<br>30KM (Single-mode)<br>50KM (Single-mode) |
| **Link Fault Pass Through (LFPT)** | 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 |
| **DIP Switch** | Force Fiber port Duplex<br>OFF: Full Duplex        ON: Half Duplex |
| | LFPT:<br>ON: Enables LFPT (Link Fault Pass through)<br>OFF: Disables LFPT |
| | Architecture:<br>OFF: Switching mode<br>ON: Pass through Converter mode |
| **Connector** | Fiber: SC (Multi-mode, 2km), SC (Single-mode, 30km, 50KM)<br>ST (Multi-mode, 2km), ST (Single-mode, 30km, 50KM) |
| | RJ-45 Socket: CAT.5e (10/100Mbps) Twisted Pair cable |
| | Auto MDI/MDI-X and Auto-Negotiation Function Support |
| **LED** | PWR  (Green): ON: Power active / OFF: Power is inactive |
| | Fiber (Green):<br>　LNK/Act (Green) : Link & Active<br>　Dup (Green ) : Fiber port Full or Half duplex |
| | LAN:100 (Green): 100M Link & Active<br>　10 (Green): 10M Link & Active |

| | |
|---|---|
| **Reverse Polarity Protection** | Supported for power input |
| **Overload Current Protection** | Supported |
| **Power Supply** | 12/24/48VDC (9.6~60VDC) or 24VAC (18~36VAC), polarity reverse protect function and removable terminal block |

| **Power Consumption** | Input Voltage | Watt(W) |
|---|---|---|
| | 12VDC | 1.8W |
| | 24VDC | 1.8W |
| | 48VDC | 2.1W |

| | |
|---|---|
| **Removable Terminal Block** | Provide for 1x DC input power (2 Pin) |
| **Operating Humidity** | 5% ~ 95% (Non-condensing) |
| **Operating Temperature** | -40 ~ 75℃ (IMC-100C-E) |
| **Storage Temperature** | -40 ~ 85℃ |
| **Housing** | IP30 rugged metal housing ,compact size and fanless |
| **Dimensions** | 70 x 30 x 103 mm (D x W x H) |
| **Weight** | 215g |
| **Installation** | DIN Rail mounting, Wall Mounting (Optional) |
| **MTBF** | 1,558,180 Hours<br>(MIL-HDBK-217) |
| **Warranty** | 5 years |
| **Certifications** | |
| **EMC** | CE |
| **EMI** | FCC Part 15 Subpart B Class A, CE |
| **Railway Traffic** | EN50121-4 |
| **Immunity for Heavy Industrial environment** | EN 61000-6-2 |
| **Emission for Heavy Industrial Environment** | EN 61000-6-4 |

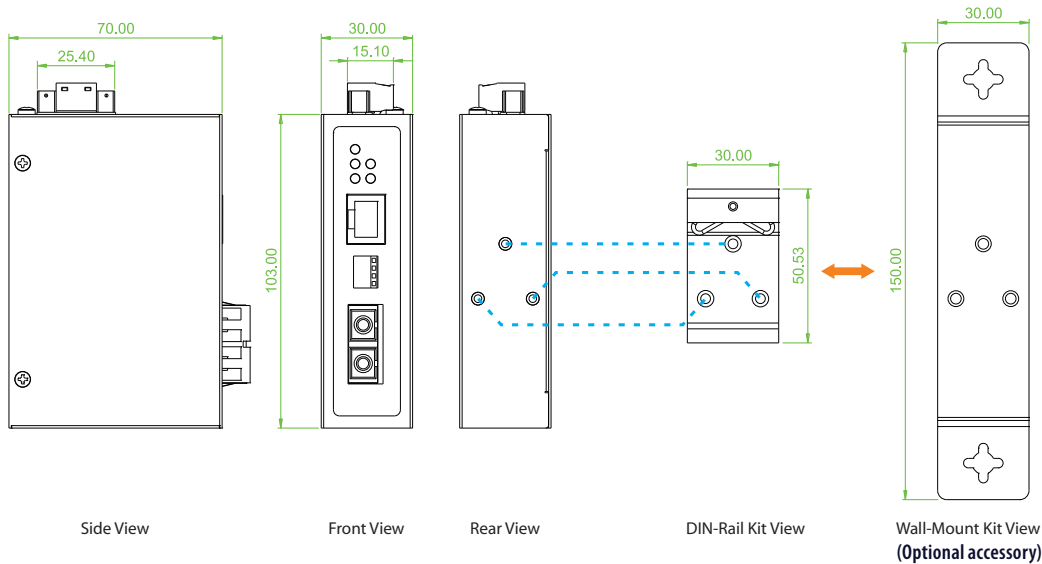| EMS (Electromagnetic Susceptibility) Protection Level | EN61000-4-2 (ESD) Level 3, Criteria B |
| --- | --- |
| | EN61000-4-3 (RS) Level 3, Criteria A |
| | EN61000-4-4 (EFT) Level 3, Criteria A |
| | EN61000-4-5 (Surge) Level 3, Criteria B |
| | EN61000-4-6 (CS) Level 3, Criteria A |
| | EN61000-4-8 (PFMF) Field strength 300A/m Criteria A |

| Shock | IEC 60068-2-27 |
| --- | --- |
| Freefall | IEC 60068-2-32 |
| Vibration | IEC 60068-2-6 |

## Application

**Figure 1 :** IMC-100C Media Converter Transmission



## Dimensions



Side View    Front View    Rear View    DIN-Rail Kit View    Wall-Mount Kit View **(Optional accessory)**

## Ordering Information

| Model Name | RJ45 UTP Port | Fiber | Power Input | Certification | | | | Operating Temperature |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 10/100Base-TX | 100Base-FX | Single power | Railway EN50121-4 | EN61000-6-2 EN61000-6-4 | CE | FCC | |
| **IMC-100C-E** | 1 | 1 SC | 12/24/48VDC | V | V | V | V | -40~75℃ |

### Model Naming Rule

**IMC** – **100C** – **E** – **SC002**

**I**ndustrial **M**edia **C**onverter

**100C:** 100Base-X Converter (Compact)

**E:** -40~75℃

See below for more detail

IMC – 100C – ☐ – ☐☐☐☐☐
Temperature / Connector Type / Connectivity Distance

Example: IMC – 100C – E – SC002
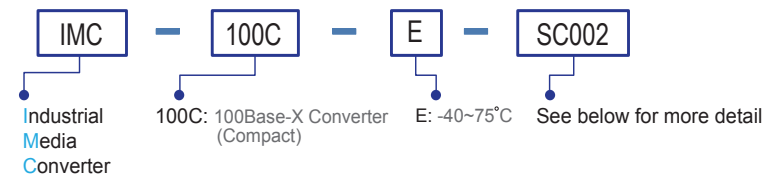
| Connector Type | Connectivity Distance |
| --- | --- |
| **SC, ST** | 002:2km (M/M)    030:30km (S/M)    050:50km (S/M) |
| | 020A: WDM 20km A type (TX:1310nm) |
| | 020B: WDM 20km B type (TX: 1550nm) |

### ■ Package List

- IMC-100C device
- Quickly installation guide
- Din Rail with screws
- Terminal block

## Optional Accessories

### ■ Wall mount kit Accessories

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

7 Industrial Unmanaged FE Converter

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Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.