

# Industrial Unmanaged GbE Converter



## IMC-1000C

100/1000Base-T to 1000Base-SX/LX Fiber Converter (Compact)

## IMC-1000CS

100/1000Base-T to 100/1000Base-X SFP Slot Fiber Converter (Compact)

IMC-1000CS is an industrial grade, non-managed, Gigabit Ethernet media converter that supports conversion between electrical 10/100/1000Base-T and optical 1000Base-FX Ethernet. Simple DIP switch settings allow configuring the UTP port for auto-negotiation or for forced 10/100/1000 speed and half/ full duplex as well as for enabling LFPT (Link Fault Pass Through), Ethernet flow control (802.3x) 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.

### Features

- DC input power 12/24/48VDC (9.6 ~ 60VDC)
- IP30 rugged metal housing and fanless
- Wide operating temperature -20 ~ 75°C (IMC-1000C-E, IMC-1000CS-E)
- CE, FCC, Railway traffic EN50121-4 certification
- Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- Store-and-Forward mode and Pass through mode (set by DIP SW)
- Conversion between 10/100/1000Base-T and 1000Base-X Fiber cable interface
- Provides a DIP-Switch to set functions
- Supports LFPT (Link Fault Pass Through)

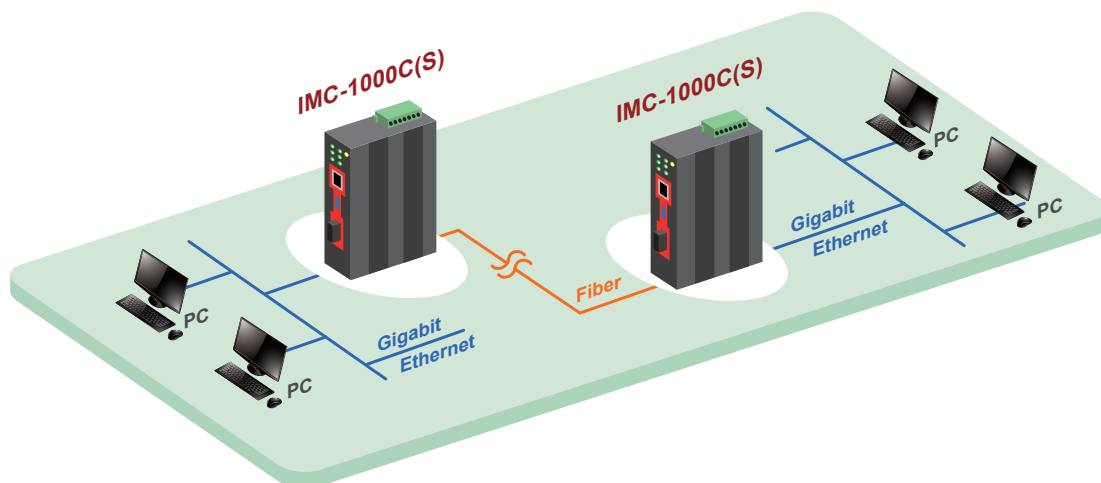
### Specifications

<b>Standard</b>	IEEE802.3 10Base-T 10Mbit/s Ethernet IEEE802.3u 100Base-TX, 100Base-FX, Fast Ethernet IEEE802.3ab 1000Base-T Gbit/s Ethernet over twisted pair IEEE802.3z 1000Base-X Gbit/s Ethernet over Fiber-Optic IEEE802.3x Flow Control
<b>RJ45 Ports</b>	10/100/1000Base-TX
<b>Fiber Ports</b>	1000Base SX/LX, SC (IMC-1000C) 100/1000Base-X SFP Slot (IMC-1000CS)
<b>Data Process Architecture</b>	Store and Forward mode or Pass through mode set by DIP SW
<b>Jumbo Frame</b>	9K bytes
<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-1000C) 500M (Multi-mode SX) 20KM (Single-mode) 40KM (Single-mode) SFP (IMC-1000CS), Distance depend on SFP Fiber Transceiver
<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>DIP Switch</b>	Data process architecture OFF: Switch Mode ON: Converter Mode LFPT OFF:LFPT Disable ON: LFPT Enable Fiber Duplex OFF: Auto ON: Force Fiber Speed (Only for IMC-1000CS) OFF: 1000Base-X ON: 100Base-FX
<b>Connector</b>	Fiber: SC (Multi-mode, 500M), SC (Single-mode, 20KM, 40KM) (IMC-1000C) SFP Slot (IMC-1000CS) RJ-45 Socket: CAT 5e Twisted Pair cable Auto MDI/MDI-X and Auto-Negotiation Function Supports
<b>LED</b>	Per Unit: Power (Green) SFP/Fiber port Link/Act (Yellow) RJ-45 port: Speed & Link/Act 10/100 (Green), 1000 (Yellow)
<b>Reserve Polarity Protection</b>	Present
<b>Overload Current Protection</b>	Present

<b>Power Supply</b>	12/24/48VDC (9.6~60VDC) or 24VAC (18~36VAC) with polarity reverse protect function and removable terminal block		
<b>Power Consumption</b>	<b>Input Voltage</b>	<b>IMC-1000C</b>	<b>IMC-1000CS</b>
	12VDC	2.1W	1.8W
	24VDC	2.2W	2W
	48VDC	3.4W	2.9W
<b>Removable Terminal Block</b>	Provides for input power (2 Pin)		
<b>Operating Humidity</b>	5% ~ 95% (Non-condensing)		
<b>Operating Temperature</b>	-10 ~ 60°C (IMC-1000C, IMC-1000CS) -20 ~ 75°C (IMC-1000C-E, IMC-1000CS-E)		
<b>Storage Temperature</b>	-40 ~ 85°C		
<b>Housing</b>	Rugged Metal, IP30 Protection and fanless		
<b>Dimensions</b>	70x 30x 103 mm (D x W x H)		
<b>Weight</b>	220g (IMC-1000C)	215g (IMC-1000CS)	
<b>Installation</b>	DIN Rail, or wall mounting (Optional)		
<b>MTBF</b>	325,508 (IMC-1000C)	326,287 (IMC-1000CS) (MIL-HDBK-217)	
<b>Warranty</b>	5 years		
<b>Certification</b>			
<b>EMC</b>	CE		
<b>EMI (Electromagnetic Interference)</b>	FCC Part 15 Subpart B Class A, CE EN55022 Class A		
<b>Railway Traffic</b>	EN50121-4		
<b>Immunity for Heavy Industrial Environment</b>	EN61000-6-2		
<b>Emission for Heavy Industrial Environment</b>	EN61000-6-4		
<b>EMS</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		

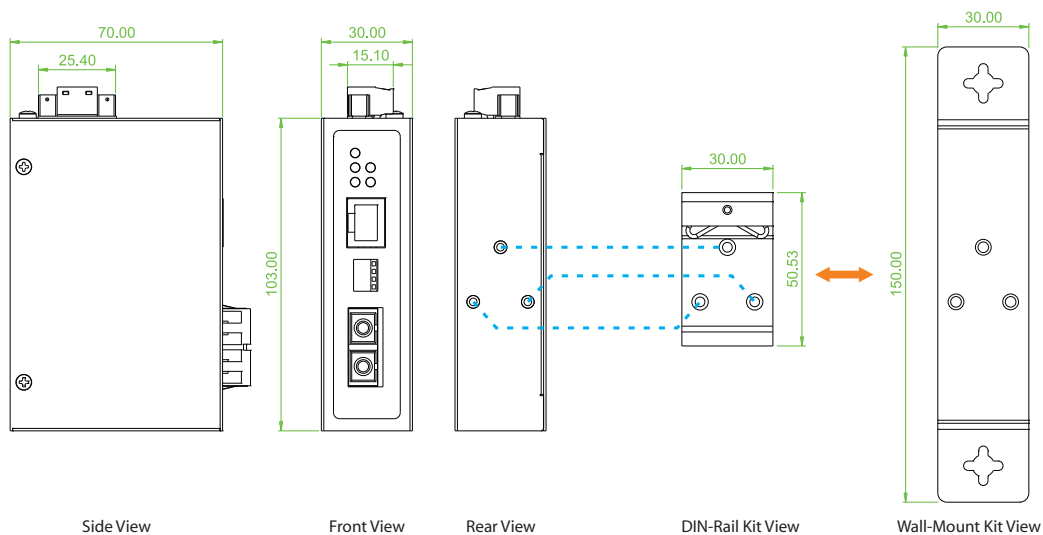
## Application & Topology

► Figure : IMC-1000C & IMC-1000CS Media Converter Transmission

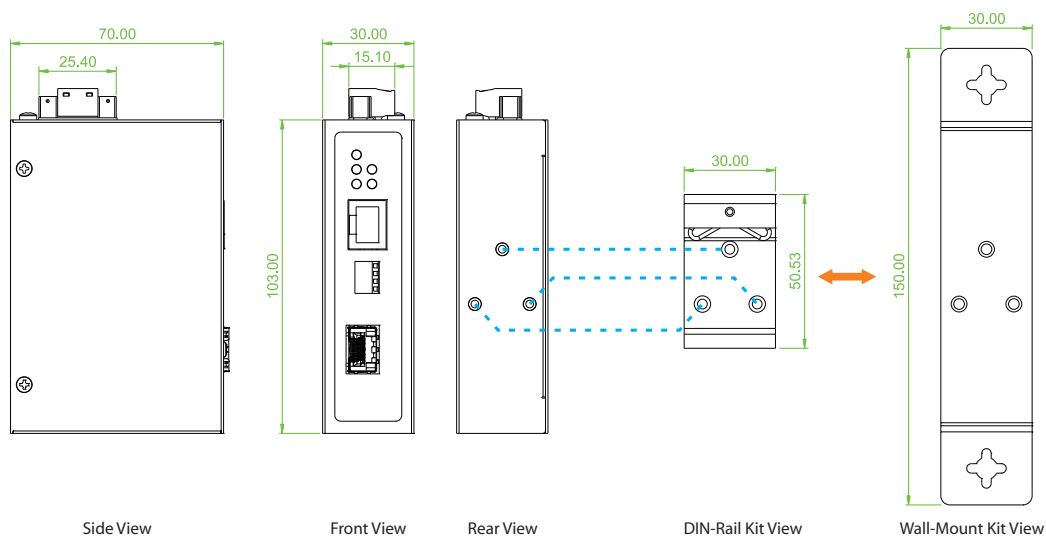


## Dimensions

► IMC-1000C



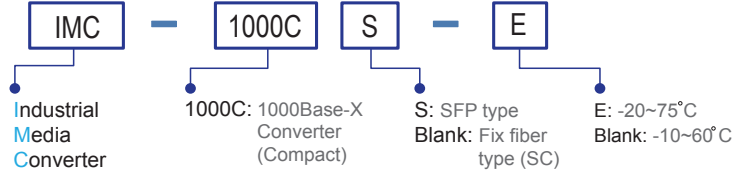
► IMC-1000CS



## Ordering Information

Model Name	UTP		Fiber		Certification				Operating Temperature
	10/100/1000Base-T	1000Base-X	Dual Speed 100/1000Base-X		Railway EN50121-41	EN61000-6-2 EN61000-6-4	CE	FCC	
IMC-1000C	1	1 SC	—		V	V	V	V	-10~60 C
IMC-1000C-E	1	1 SC	—		V	V	V	V	-20~75 C
IMC-1000CS	1	—	1 SFP		V	V	V	V	-10~60 C
IMC-1000CS-E	1	—	1 SFP		V	V	V	V	-20~75 C

### Model Naming Rule



Connector Type	Connectivity Distance
SC	001:500M (M/M) 002: 2km (M/M) 020:20km (S/M) 040:40km (S/M)
(IMC-1000C only)	020A: WDM 20km A type (TX:1310nm) 020B: WDM 20km B type (TX: 1550nm)/type



## Optional Accessories

### Industrial Power Supply

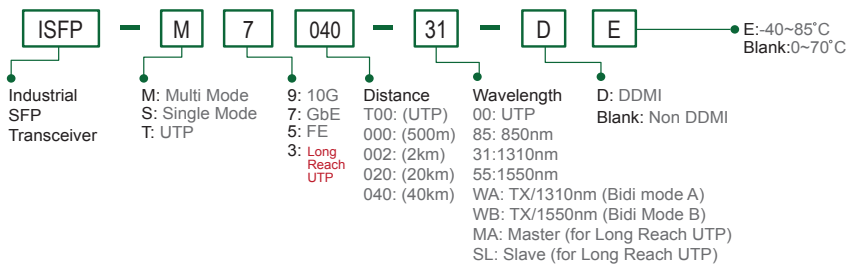
DR-4524	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 48W, -10 ~ +50°C
MDR-40-24	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 40W, -20 ~ +70°C
IND-WMK03	Wall Mount kit for Industrial product (Compact, 150x 30mm)

### Industrial SFP Transceiver

(The ISFP series of industrial grade SFP modules have been fully tested with the IMC-1000CS product for guaranteed compatibility and performance. The best performance can be guaranteed even in mission-critical applications.)  
 (Please see CTC Union's Industrial SFP datasheet for more details and more items.)

ISFP-M7000-85-(E)	Industrial SFP GbE 1000Base-SX, M/M, 500 meter, wave length 850nm, 7.5dB, LC, -10~70°C (-40~85°C)
ISFP-S7020-31-(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, -10~70°C (-40~85°C)
ISFP-T7T00-00-(E)	Industrial SFP 1000Base-T UTP 100meter, -10~70°C (-40~85°C)
ISFP-M5002-31-(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, -10~70°C (-40~85°C)
ISFP-S5030-31-(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, -10~70°C (-40~85°C)
ISFP-T3T00-MA-(E)	Industrial SFP 100Mbps, long reach UTP (2 wire) (500meter), Master, -10~70°C (-40~85°C)
ISFP-T3T00-SL-(E)	Industrial SFP 100Mbps, long reach UTP (2 wire) (500meter), Slave, -10~70°C (-40~85°C)

### SFP Naming Rule



## Package List

- IMC-1000CS or IMC-1000C device
- Quickly installation guide
- Din Rail bracket with screws
- Terminal block
- Protective caps for SFP ports