



IMC-1000C

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

IMC-1000CS

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



These models are unmanaged industrial grade Gigabit Ethernet media converters that support 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 (See Figure 1).

Features

- DC input power 12/24/48VDC (9.6 ~ 60VDC) or 24VAC (18~36VAC)
- IP30 rugged metal housing and fanless
- Wide operating temperature -20 ~ 75°C
- CE, FCC, Railway traffic EN50121-4 certification
- Heavy 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

Standard	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
RJ45 Ports	10/100/1000Base-T Auto MDI/MDI-X and Auto-Negotiation Function Supports UTP CAT.5e Twisted Pair cable
Fiber Ports	100/1000Base-SX/LX SC (IMC-1000C) 100/1000Base-X SFP Slot (IMC-1000CS)
Data Process Architecture	Store and Forward mode or Pass through mode set by DIP SW
Jumbo Frame	9K bytes
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: (IMC-1000C) 500M (Multi-mode SX) 20KM (Single-mode) 40KM (Single-mode) Distance depend on SFP Fiber Transceiver (IMC-1000CS)
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	Data process architecture OFF: Switch Mode ON: Converter Mode LFPT OFF:LFPT Disable ON: LFPT Enable Fiber Duplex OFF: Auto ON: Force Fiber Speed OFF: 1000Base-X ON: 100Base-FX (IMC-1000CS)
Connector	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
LED	Per Unit: Power (Green) SFP/Fiber port Link/Act (Yellow) RJ-45 port: Speed & Link/Act 10/100 (Green), 1000 (Yellow)

Reverse Polarity Protection	Supported for power input												
Overload Current Protection	Supported												
Power Supply	12/24/48VDC (9.6~60VDC) or 24VAC (18~36VAC) with polarity reverse protect function and removable terminal block												
Power Consumption	<table border="1"> <thead> <tr> <th>Input Voltage</th> <th>IMC-1000C</th> <th>IMC-1000CS</th> </tr> </thead> <tbody> <tr> <td>12VDC</td> <td>2.1W</td> <td>1.8W</td> </tr> <tr> <td>24VDC</td> <td>2.2W</td> <td>2W</td> </tr> <tr> <td>48VDC</td> <td>3.4W</td> <td>2.9W</td> </tr> </tbody> </table>	Input Voltage	IMC-1000C	IMC-1000CS	12VDC	2.1W	1.8W	24VDC	2.2W	2W	48VDC	3.4W	2.9W
Input Voltage	IMC-1000C	IMC-1000CS											
12VDC	2.1W	1.8W											
24VDC	2.2W	2W											
48VDC	3.4W	2.9W											
Removable Terminal Block	Provides for input power (2 Pin)												
Operating Humidity	5% ~ 95% (Non-condensing)												
Operating Temperature	-20 ~ 75°C (IMC-1000C-E, IMC-1000CS-E)												
Storage Temperature	-40 ~ 85°C												
Housing	Rugged Metal, IP30 Protection and fanless												
Dimensions	70x 30x 103 mm (D x W x H)												
Weight	220g (IMC-1000C) 215g (IMC-1000CS)												
Installation	DIN Rail, or wall mounting (Optional)												
MTBF	1,511,224 (IMC-1000C) 1,789,658 (IMC-1000CS) (MIL-HDBK-217)												
Warranty	5 years												
Certification													
EMC	CE												
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE												
Railway Traffic	EN50121-4												
Immunity for Heavy Industrial Environment	EN61000-6-2												
Emission for Heavy Industrial Environment	EN61000-6-4												

EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-2 (ESD) Level 3, Criteria B
	EN61000-4-3 (RS) Level 3, Criteria A
	EN61000-4-4 (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

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

Application

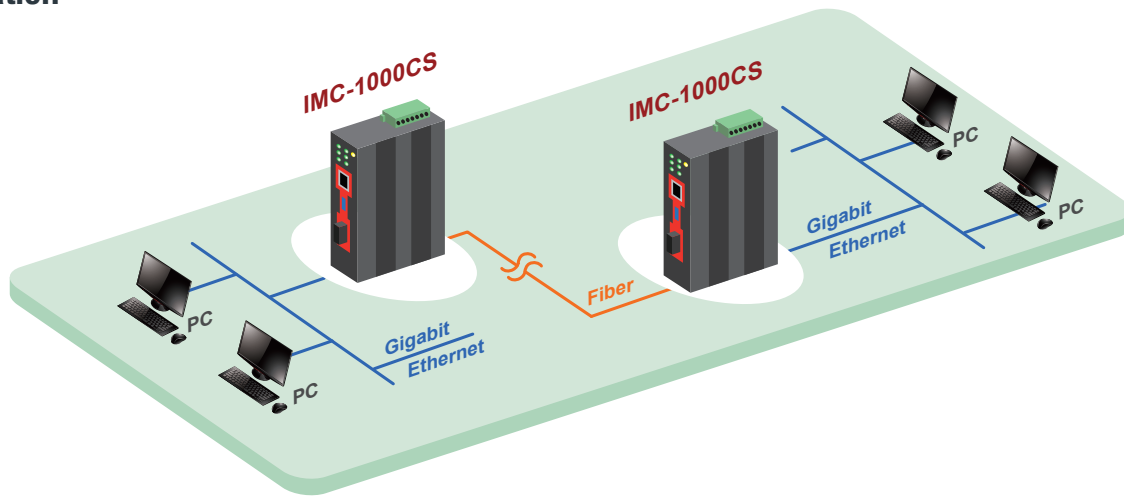
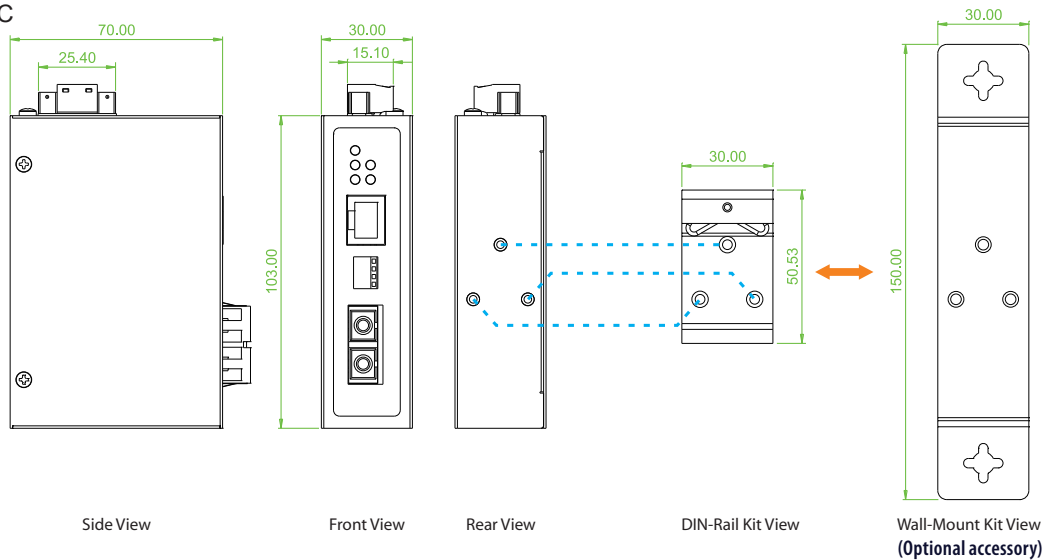


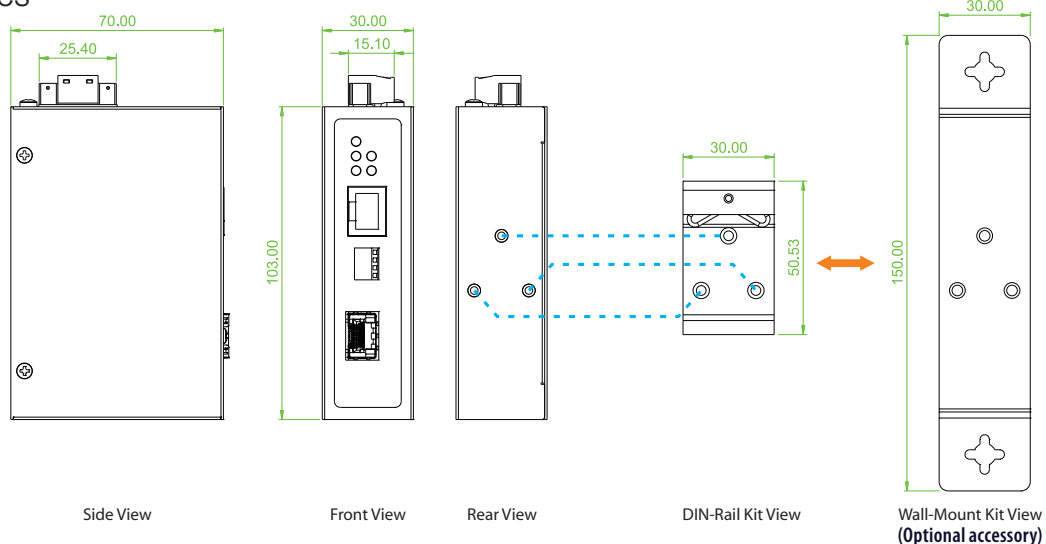
Figure 1 : IMC-1000CS Media Converter Transmission

Dimensions

► IMC-1000C



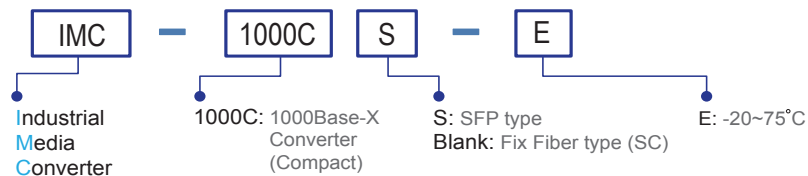
► IMC-1000CS



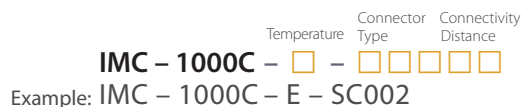
Ordering Information

Model Name	RJ45 UTP Port		Fiber		Power Input	Certification				Operating Temperature
	10/100/1000Base-T	1000Base-X	Dual Speed 100/1000Base-X	Blank	Single power	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE	FCC	
IMC-1000C-E	1	SC			12/24/48VDC, 24VAC	V	V	V	V	-20~75°C
IMC-1000CS-E	1		1 SFP		12/24/48VDC, 24VAC	V	V	V	V	-20~75°C

Model Naming Rule



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



Optional Accessories

Wall mount kit Accessories

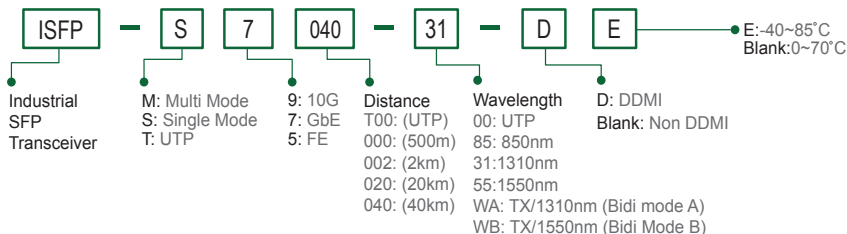
IND-WMK03	Wall Mount kit for Industrial product (Compact, 150 x 30mm)
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Industrial SFP Transceiver

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)

SFP Naming Rule



Package List

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