



# IMC-1000MS

100/1000Base-T to 100/1000Base-X SFP  
Managed Fiber Converter



IMC-1000MS is a 10/100/1000Base-T to 100/1000Base-X manageable Gigabit Ethernet media converter which offers dual speed fiber transmission. 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. The converters are manageable by Web, SNMP or In-Band management for Operation, Administration, Maintenance & Provisioning, which includes bandwidth control, speed, VLAN, Diagnostic, storm filter and converter configurations. In addition, network administrators can manage IMC-1000MS via standard SNMP manager such as SmartView™. It also provide loop-back test and dying gasp, and can be monitored from a centrally located OAM-enabled FRM220-1000MS converter via remote in-band management.

## Features

- Conversion between 10/100/1000Base-T and 100/1000Base-X Fiber cable interface
- Supports Dual Rate (100/1000) SFP for selectable Fast or Gigabit speed on fiber
- Redundant dual DC input power 12/24/48VDC (9.6 ~ 60VDC)
- IP30 rugged metal housing and fanless
- Wide operating temperature -20~75°C (IMC-1000MS-E)
- UL60950-1, CE, FCC, RailWay traffic EN50121-4 certification
- Heavy industrial grade EMS, EMI EN61000-6-2, EN61000-6-4 certification
- MIB counters
- Supports LFPT (Link Fault Pass Through)
- Auto Laser Shutdown (ALS)
- Supports Digital Diagnostic Monitor Interface (DDMI) for SFP
- Supports SmartView for centralized management (Please see Catalog chapter 1- Software Management for more details)
- Web management (Figure 3)
- SNMP management (Figure 1)
- Supports 16 IEEE 802.1Q Tag VLAN Group
- SNMP alarm trap for power loss and port link down
- Supports in-band management from FRM220 Chassis With FRM220-1000MS (Figure 2)
- Remote loop back test
- Dying gasp (remote power failure detection)

## 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-TX 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 IEEE 802.3ah OAM management	<b>LED</b>	Per Unit : Power 1 (Green), Power 2 (Green), Fault (Amber) Fiber LNK/ACT (Green): ON: Connected to network OFF: Not connected to network BLK: Receive /Transmit Data Fiber speed : Yellow : 1000Base-X Green : 100Base-X
<b>Fiber Ports</b>	100Base-X or 1000Base-X set by Web Supports Auto Laser Shutdown (ALS) Supported DDMI for SFP diagnostic		RJ-45 port: Speed: 10 (OFF), 100 (Green), 1000 (Yellow)
<b>RJ45 Ports</b>	10/100/1000Base-T Auto MDI/MDI-X and Auto-Negotiation Function Supports UTP CAT.5e Twisted Pair cable		LNK/ACT for RJ45(Green): ON : Connected to network/ OFF: Not connected to network/ BLK: Networking is active
<b>CPU watch dog</b>	Supported	<b>Reverse Polarity Protection</b>	Supported for power Input
<b>Push Button</b>	Reset, Load default setting	<b>Overload Current Protection</b>	Supported
<b>Jumbo Frame</b>	9K bytes	<b>Power Supply</b>	12/24/48VDC (9.6~60VDC) , Redundant power with polarity Reverse protect function and removable terminal block
<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) SFP, Distance depend on plug-in Fiber Transceiver	<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1 A @24VDC Relay alarm output for power fail or port link down
<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>Removable Terminal Block</b>	Provides 2 redundant power, alarm relay contact, 7 Pin

<b>Power Consumption</b>	4.8 W
<b>Operating Humidity</b>	5% ~ 95% (Non-condensing )
<b>Operating Temperature</b>	-20 ~ 75°C (IMC-1000MS-E)
<b>Storage Temperature</b>	-40 ~ 85°C
<b>Housing</b>	Rugged Metal, IP30 Protection and fanless
<b>Dimensions</b>	106 x 38.6 x 142.1mm (D x W x H)
<b>Weight</b>	0.62kg
<b>Installation</b>	DIN Rail mounting, or wall mounting (Optional)
<b>MTBF</b>	1,153,428 Hours MIL-HDBK-217
<b>Warranty</b>	5 years
<b>Certification</b>	
<b>EMI</b>	CE
<b>EMI (Electromagnetic Interference)</b>	FCC Part 15 Subpart B Class A, CE
<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 (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>Safety</b>	UL60950-1
<b>Shock</b>	IEC 60068-2-27
<b>Freefall</b>	IEC 60068-2-32
<b>Vibration</b>	IEC 60068-2-6

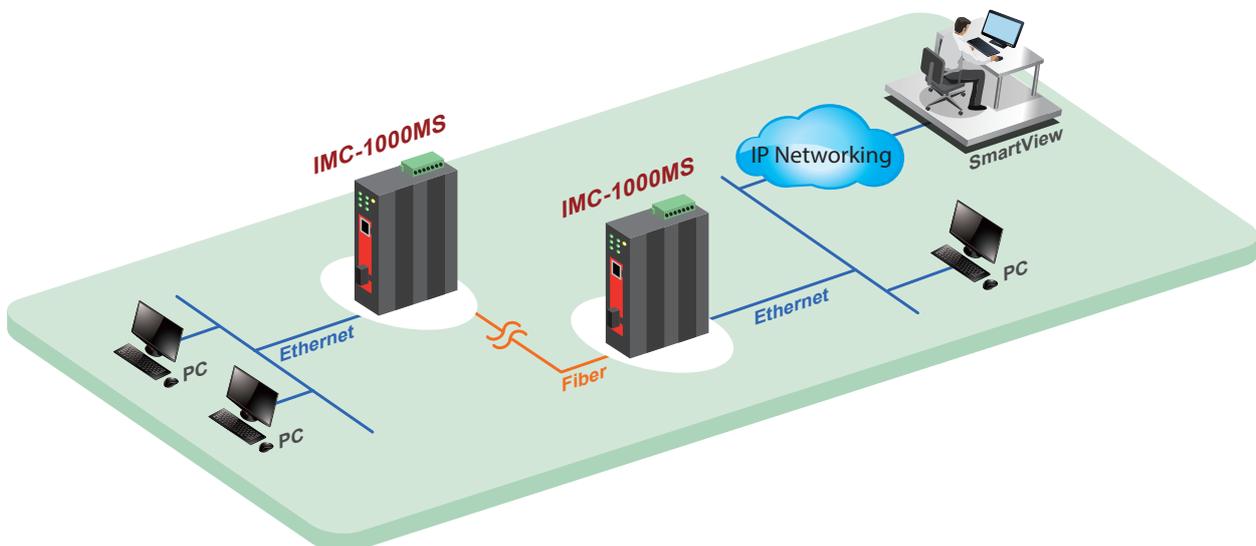
## Software Specifications

<b>SNMP or Web Mode (figure 1, 3)</b>	
<b>Management</b>	Ingress/Egress bandwidth control with 64K granularity Web management, Firmware upgrade via Web Supports SNMP, MIB for management Supports DHCP client for automatic IP configuration Supports 802.1Q tag VLAN, 16 Tag VLAN group, MIB counters display
<b>Configuration</b>	IP configuration, password setting, converter configuration port configuration, MIB counter, SNMP configuration VLAN group configuration, alarm configuration PoE Configuration
<b>Diagnostic &amp; Monitor</b>	Supports Link Fault Pass-Through (LFPT) Function Broadcast/Multicast/Unicast storm filter SNMP alarm trap for power loss and port link Up/Down

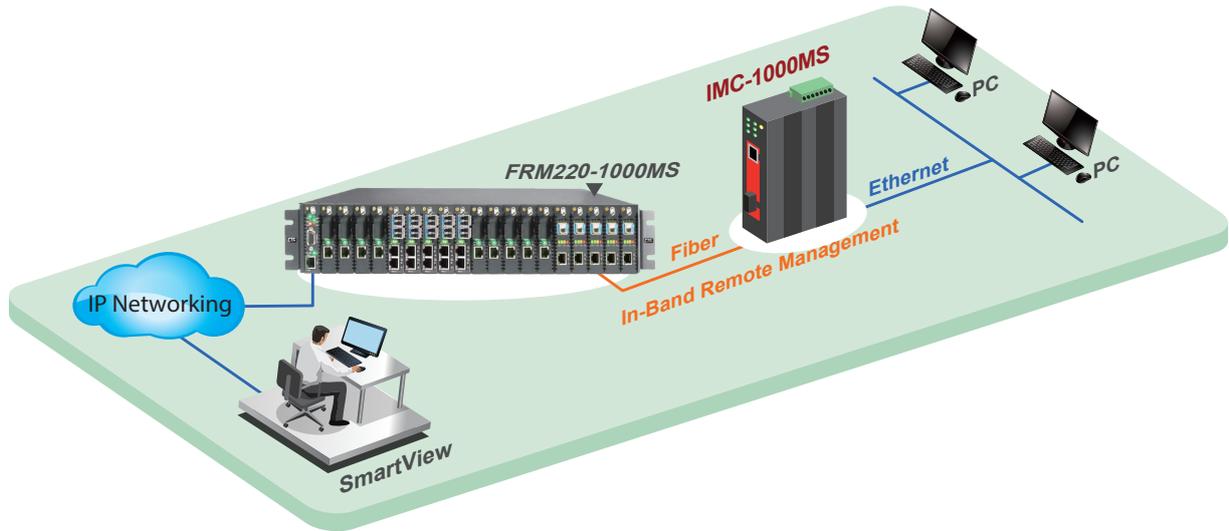
<b>In-Band Remote mode (Figure 2)</b>	
<b>Management</b>	Supports in-band management from FRM220 Chassis With FRM220-1000MS card Ingress/Egress bandwidth control with 64K granularity
<b>Configuration</b>	IP configuration, converter configuration, port configuration, MIB counter VLAN group configuration, alarm configuration, PoE Configuration
<b>Diagnostic &amp; Monitor</b>	Remote loop back test Supports Link Fault Pass-Through (LFPT) Function Broadcast/Multicast/Unicast storm filter

## Application

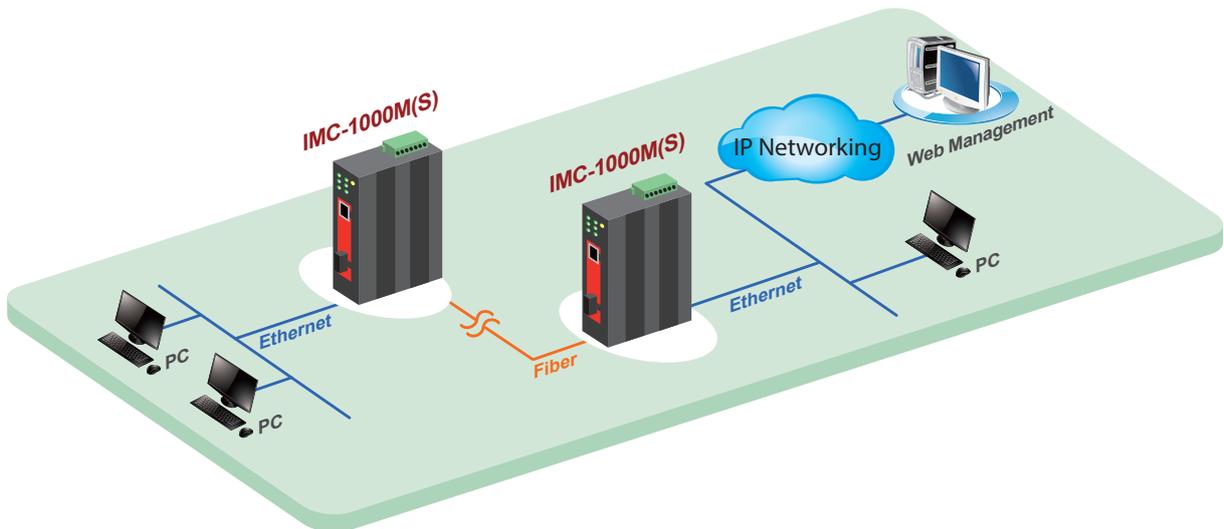
Figure 1 : IMC-1000MS Management by SNMP, SmartView



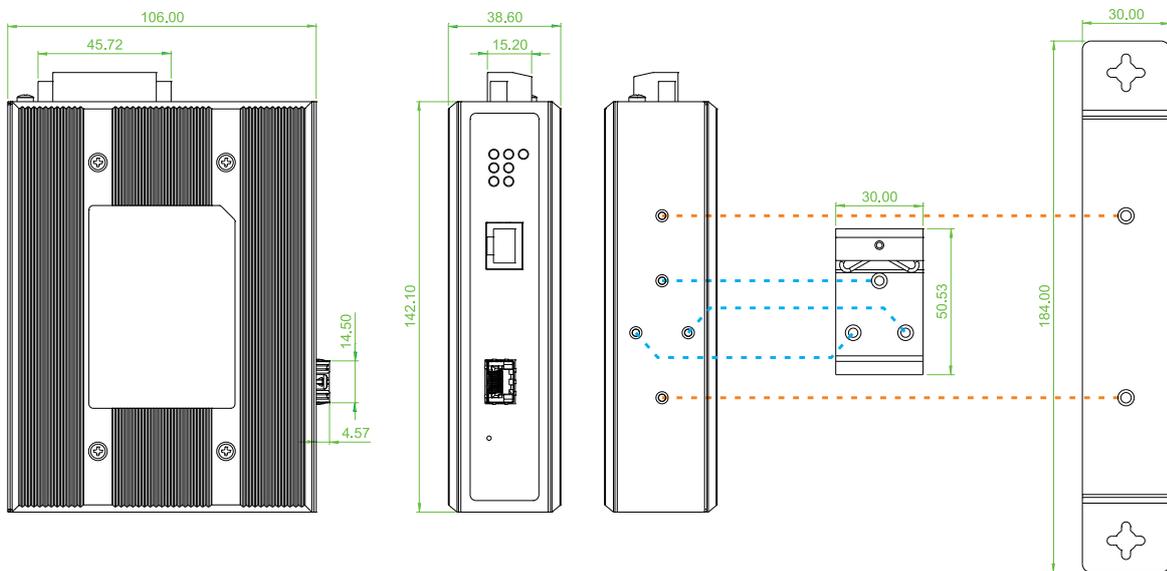
**Figure 2 :** IMC-1000MS Application in Remote, in-band Management



**Figure 3 :** IMC-1000MS Application in Web Management



**Dimensions**



Side View

Front View

Rear View

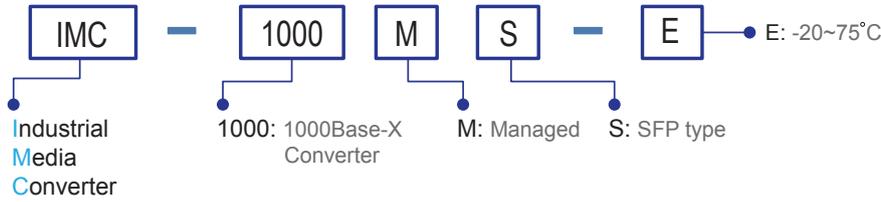
DIN-Rail Kit View

Wall-Mount Kit View  
(Optional accessory)

## Ordering Information

Model Name	Managed	RJ45 UTP Port	Fiber	Power Input	Certification					Operating Temperature
		10/100/1000 Base-T	Dual Speed 100/1000Base-X	Redundant	Safety UL60950-1	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE	FCC	
IMC-1000MS-E	V	1	1 SFP	12/24/48VDC	V	V	V	V	V	-20~75°C

### Model Naming Rule



### Package List

- CD (MIB file, Manual)
- Quick installation guide
- Din Rail with screws
- Terminal block
- Protective caps for SFP ports

## Optional Accessories

### Wall mount kit Accessories

IND-WMK01	Wall Mount kit for Industrial product, 184 x 30mm
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### Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with the IMC-1000MS 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-D(E)	Industrial SFP GbE 1000Base-SX, M/M, 500 meter, wave length 850nm, 7.5dB, DDML, LC, -10~70°C (-40~85°C)
ISFP-S7020-31-D(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDML, -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-D(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, DDML, -10~70°C (-40~85°C)
ISFP-S5030-31-D(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDML, -10~70°C (-40~85°C)

### SFP Naming Rule

