

# IMC-1000M

10/100/1000Base-T to 100/1000Base-SX/LX  
Managed Fiber Converter

# IMC-1000MS

10/100/1000Base-T to 100/1000Base-X  
SFP Managed Fiber Converter



IMC-1000M(S) and IMC-1000MS(S) (OAM) models are managed Gigabit media converters that support conversion between electrical 10/100/1000Base-T and optical 100/1000Base-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. These models support software functions such as VLAN, storm filter or converter configurations. The network administrator can manage IMC-1000M(S) via standard SNMP manager such as SmartView. For IMC-1000MS(S) (OAM) Model, it provides loopback 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
- Wide operating temperature -20~75°C (IMC-1000M(S)-E, IMC-1000MS(S)-E (OAM))
- UL60950-1, CE, FCC, RailWay traffic EN50121-4 certification
- Industrial grade EMS, EMI EN61000-6-2, EN61000-6-4 certification
- RMON counters
- Auto Laser Shutdown (ALS)
- SmartView Management System
- Web management
- SNMP management (IMC-1000M(S), IMC-1000MS(S)-E)
- Supports 16 IEEE 802.1Q Tag VLAN Group (IMC-1000M(S), IMC-1000MS(S)-E)
- SNMP alarm trap for power loss and port link down (IMC-1000M(S), IMC-1000MS(S)-E)
- Supports In-band management (IMC-1000M(S) (OAM), IMC-1000MS(S)-E (OAM))
- Remote loop back test (IMC-1000M(S) (OAM), IMC-1000MS(S)-E (OAM))
- Dying gasp (remote power failure detection) (IMC-1000M(S) (OAM), IMC-1000MS(S)-E (OAM))

## Specifications

|                          |   |                                    |  |
|--------------------------|---|------------------------------------|--|
| <b>Standard</b>          | IEEE802.3 10Base-T<br>IEEE802.3u 100Base-TX , 100Base-FX<br>IEEE802.3ab 1000Base-TX Gbit/s Ethernet over twisted pair<br>IEEE802.3z 1000Base-X Gbit/s Ethernet over Fiber-optic<br>IEEE802.3x Flow Control and Back pressure<br>IEEE802.3ah OAM management  | <b>LED</b>                         | Per Unit : Power 1 (Green), Power 2 (Green), Fault (Amber)<br>Fiber LNK/ACT (Green):<br>ON: Connected to network<br>OFF: Not connected to network<br>BLK: Receive /Transmit Data<br>Fiber speed : Yellow : 1000Base-X Green : 100Base-X<br>RJ-45 port:<br>Speed: 10 (OFF), 100 (Green), 1000 (Yellow)<br>LNK/ACT for RJ45(Green):<br>ON : Connected to network/<br>OFF: Not connected to network/<br>BLK: Networking is active |
| <b>Fiber Ports</b>       | 100Base-X or 1000Base-X set by Web Supports Auto Laser Shutdown (ALS)   | <b>Reverse Polarity Protection</b> | Present for power Input  |
| <b>RJ45 Ports</b>        | 10/100/1000Base-T   | <b>Overload Current Protection</b> | Present  |
| <b>CPU watch dog</b>     | Present   | <b>Power Supply</b>                | 12/24/48VDC (9.6~60VDC) , Redundant power with polarity reverse protect function and removable terminal block<br>Provide DC Power JACK adapter cable for external power adapter  |
| <b>Push Button</b>       | Reset, Load default setting   | <b>Alarm Relay Contact</b>         | Relay outputs with current carrying capacity of 1 A @24VDC<br>Relay alarm output for power fail or port link down  |
| <b>Jumbo Frame</b>       | 9K bytes  | <b>Removable Terminal Block</b>    | Provide 2 redundant power, alarm relay contact, 7 Pin  |
| <b>Fiber Parameters</b>  | Fiber Cable (Multi-mode): 50/125um,62.5/125um<br>Fiber Cable (Single-mode): 9/125um<br>Wavelength: 1310nm (Multi-mode/Single-mode)<br>Available distance: 500M (Multi-mode SX)<br>20KM (Single-mode)<br>40KM (Single-mode)<br>(IMC-1000M, IMC-1000M-E, IMC-1000MS(OAM), IMC-1000MS-E (OAM))<br>SFP, Distance depend on plug-in Fiber Transceiver<br>(IMC-1000MS, IMC-1000MS-E, IMC-1000MS (OAM) , IMC-1000MS-E (OAM)) | <b>Power Consumption</b>           | 4.8 W  |
| <b>Link Lose Forward</b> | TX-Fiber: If TX port link down, the media converter will force Fiber port to link down<br>Fiber-TX: If Fiber port link down, the media converter will force TX port to link down  | <b>Operating Humidity</b>          | 5% ~ 95% (Non-condensing )   |
| <b>Connector</b>         | Fiber: SC (Multi-mode, 500M), SC (Single-mode, 20KM, 40KM)<br>(IMC-1000M, IMC-1000M-E, IMC-1000MS(OAM), IMC-1000MS-E (OAM))<br>SFP Slot<br>(IMC-1000MS, IMC-1000MS-E, IMC-1000MS(OAM), IMC-1000MS-E (OAM))<br>RJ-45: CAT 5e (10/100/1000Mbps) Twisted Pair cable<br>Auto MDI/MDI-X and Auto-Negotiation Function Supports   | <b>Operating Temperatur</b>        | -10° ~ 60°C (IMC-1000M, IMC-1000M (OAM), IMC-1000MS, IMC-1000MS (OAM))<br>-20 ~ 75°C (IMC-1000M-E, IMC-1000M-E (OAM), IMC-1000MS-E, IMC-1000MS-E (OAM))  |
|                          |   | <b>Storage Temperature</b>         | -40 ~ 85°C   |
|                          |   | <b>Housing</b>                     | Rugged Metal, IP30 Protection  |
|                          |   | <b>Dimensions</b>                  | 106 x 38.6 x 142 mm (D x W x H)  |
|                          |   | <b>Weight</b>                      | 0.63kg (IMC-1000M, IMC-1000M (OAM), IMC-1000M-E, IMC-1000M-E (OAM))<br>0.62kg (IMC-1000MS, IMC-1000MS (OAM), IMC-1000MS-E, IMC-1000MS-E (OAM))   |

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

## Specifications

|                     |   |
|---------------------|---|
| <b>Installation</b> | DIN Rail mounting or wall mounting  |
| <b>EMI</b>          | FCC Part 15 Subpart B Class A, CE EN 55022 Class A  |
| <b>EMS</b>          | EN 61000-6-2 – Immunity for Industrial environment<br>EN61000-4-2 (ESD) Level 3, Criteria B<br>EN61000-4-3 (RS) Level 3, Criteria A<br>EN61000-4-4 (EFT) Level 3, Criteria A<br>EN61000-4-5 (Surge) Level 3, Criteria B<br>EN61000-4-6 (CS) Level 3, Criteria A<br>EN61000-4-8 (Magnetic Field) Level 3, Criteria A |
| <b>Safety</b>       | UL60950-1   |

|                        |  |
|------------------------|--|
| <b>Railway Traffic</b> | EN 50121-4   |
| <b>Shock</b>           | IEC 60068-2-27   |
| <b>Freefall</b>        | IEC 60068-2-32   |
| <b>Vibration</b>       | IEC 60068-2-6  |
| <b>MTBF</b>            | 544,905 hrs (IMC-1000M, IMC-1000M (OAM), IMC-1000M-E, IMC-1000M-E (OAM))<br>559,059 hrs (IMC-1000MS, IMC-1000MS (OAM), IMC-1000MS-E, IMC-1000MS-E (OAM)) |
| <b>Warranty</b>        | 5 years  |

## Software Specification

### IMC-1000M(S), IMC-1000M(S)-E

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

### IMC-1000M(S) (OAM), IMC-1000M(S)-E (OAM)

|  |   |
|--|---|
| <b>Management (Remote)</b>               | Supports in-band management from FRM220 Chassis (Remote)<br>Ingress/Egress bandwidth control with 64K granularity (Remote)<br>Web management, Firmware upgrade via Web (Stand-alone)<br>Supports DHCP client for automatic IP configuration<br>Supports 802.1Q tag VLAN, 16 Tag VLAN group, RMON counters display (Stand-alone) |
| <b>Configuration (Stand-alone)</b>       | IP configuration, password setting, converter configuration, port configuration, MIB counter VLAN group configuration, alarm configuration  |
| <b>Configuration (Remote)</b>            | IP configuration, converter configuration, port configuration, MIB counter, VLAN group configuration, alarm configuration   |
| <b>Diagnostic &amp; Monitor (Remote)</b> | Remote loop back test (Remote)<br>Dying gasp (remote power failure detection) (Remote)<br>Supports Link Fault Pass-Through (LFPT) Function (Remote, Stand-alone)<br>Broadcast/Multicast/Unicast storm filter (Remote, Stand-alone)<br>SNMP alarm trap for power loss and port link Up/Down (Stand-alone)                        |

## Application

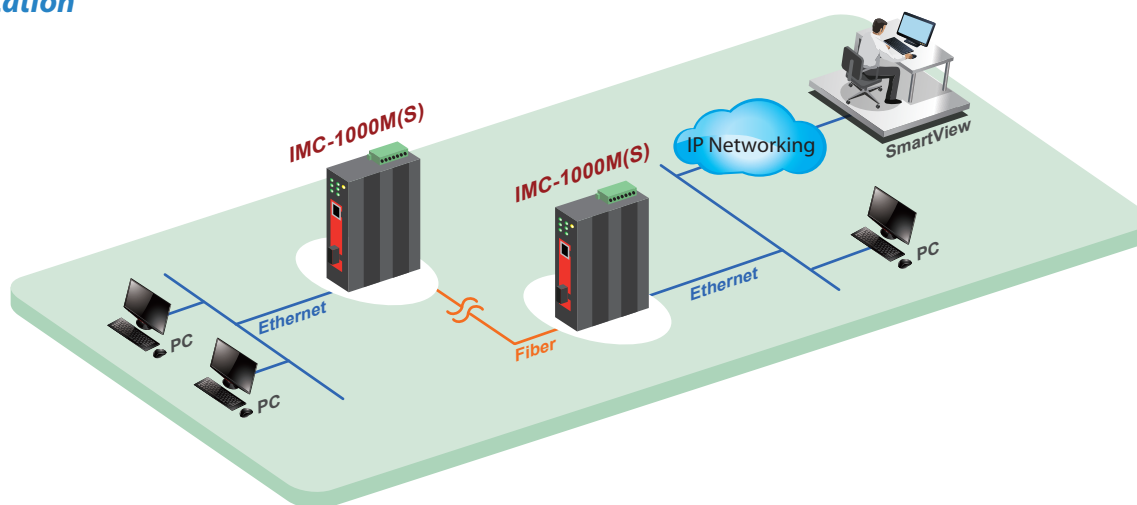


Figure : IMC-1000M(S) Application in Stand-alone

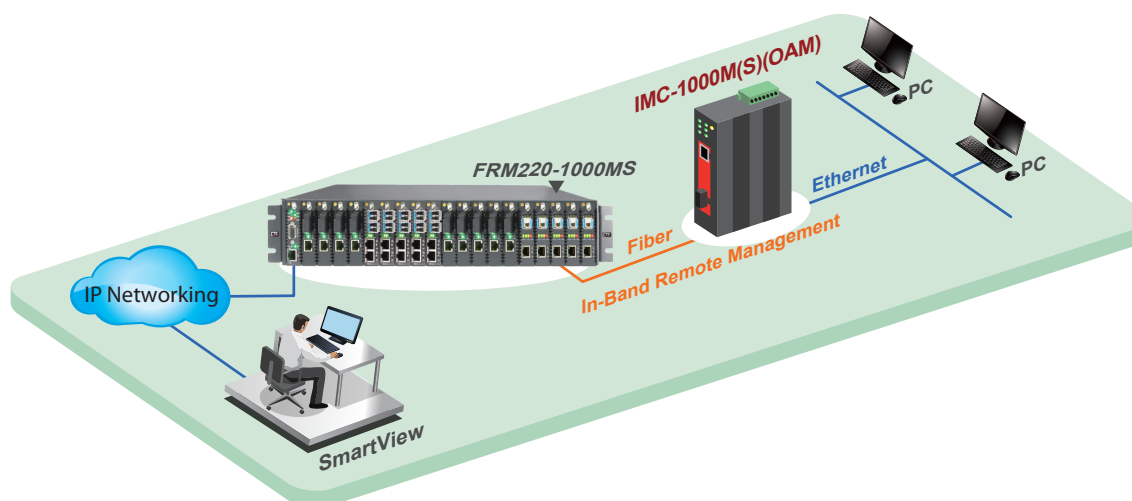


Figure : IMC-1000M(S)(OAM) Application in Remote, In-Band management

## Application

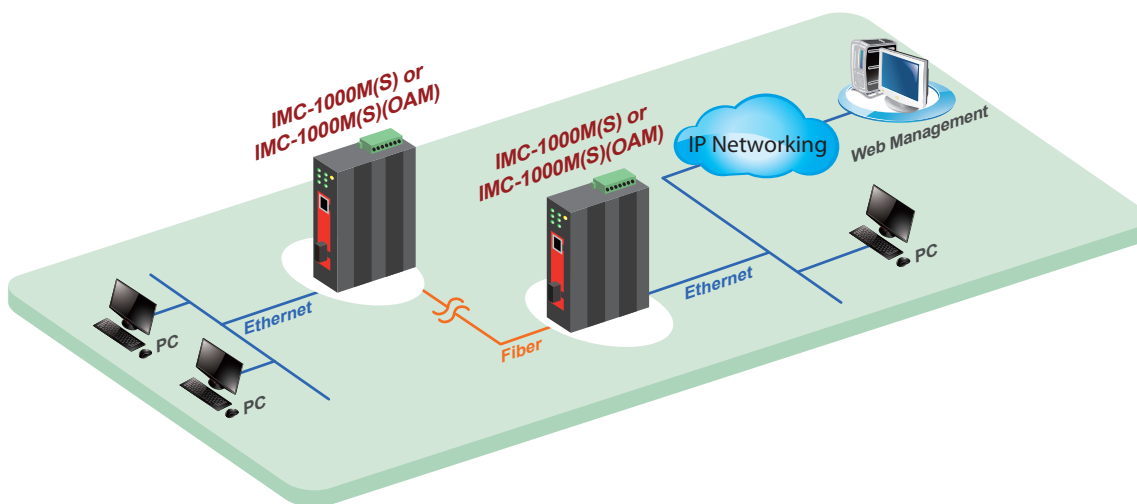
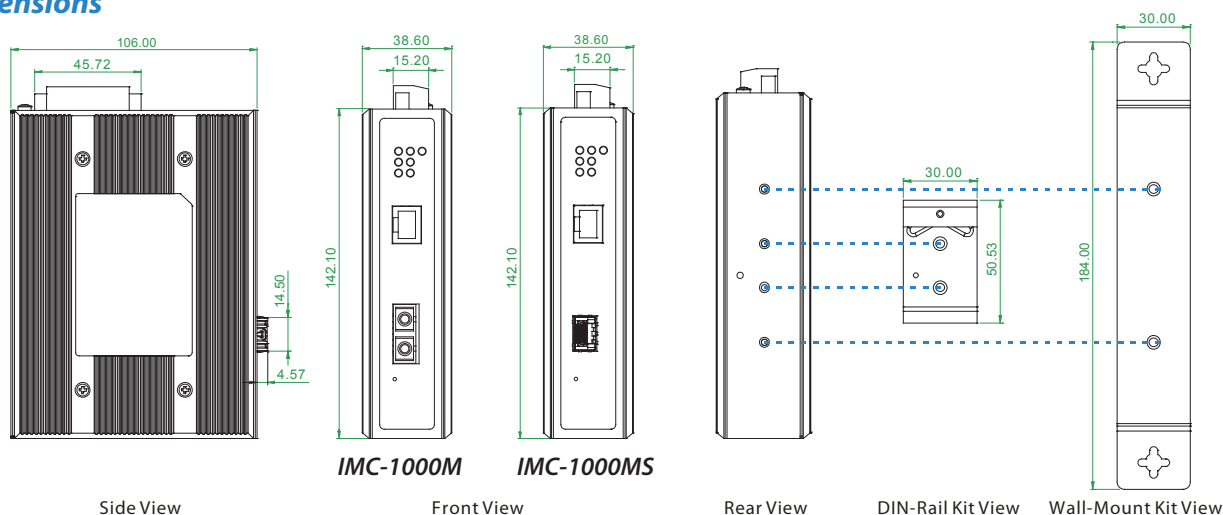


Figure : IMC-1000M(S), IMC-1000M(S)(OAM) Ethernet Transmission

## Dimensions



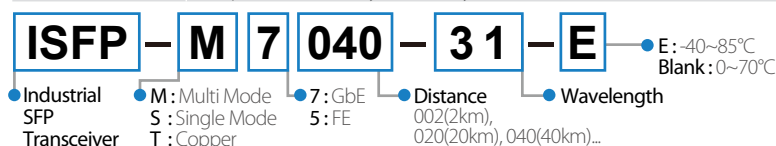
## Ordering Information

| Model Name         | Description   |
|--------------------|---|
| IMC-1000M          | Industrial Managed 10/100/1000Base-T to 1000Base-SX/LX/ FX Fiber Converter (-10 ~ 60°C)         |
| IMC-1000M-E        | Industrial Managed 10/100/1000Base-T to 1000Base-SX/LX/ FX Fiber Converter (-20 ~ 75°C)         |
| IMC-1000M (OAM)    | Industrial In-Band Managed 10/100/1000Base-T to 1000Base-SX/LX/ FX Fiber Converter (-10 ~ 60°C) |
| IMC-1000M-E (OAM)  | Industrial In-Band Managed 10/100/1000Base-T to 1000Base-SX/LX/ FX Fiber Converter (-20 ~ 75°C) |
| IMC-1000MS         | Industrial Managed 10/100/1000Base-T to 1000Base-X SFP Fiber Converter (-10 ~ 60°C)             |
| IMC-1000MS-E       | Industrial Managed 10/100/1000Base-T to 1000Base-X SFP Fiber Converter (-20 ~ 75°C)             |
| IMC-1000MS (OAM)   | Industrial In-Band Managed 10/100/1000Base-T to 1000Base-X SFP Fiber Converter (-10 ~ 60°C)     |
| IMC-1000MS-E (OAM) | Industrial In-Band Managed 10/100/1000Base-T to 1000Base-X SFP Fiber Converter (-20 ~ 75°C)     |

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

### Accessories

|                 |   |
|-----------------|---|
| 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 |
| SFP Transceiver | Compatible, Reliable, 5-year Warranty                               |



Example: **IMC - 1000M - E - SC002**

Temperature Connector Connectivity  
Type Type Distance