

# IMC-1000MS-PH12

1x GbE RJ45 to 100/1000Base SFP with PoE PSE (30W, 12/24/48VDC)



- 12/24/48VDC (9.6~57VDC) redundant dual input power
- Regulate PoE output voltage (52VDC) to stabilize PoE device, and guarantee delivery PoE power distance to 100meter
- SNMP, Web based and In-band management, Remote Loop-Back test
- Supports LFPT (Link Fault Pass Through) and FEF (Far End Fault)



IMC-1000MS-PH12 is a 10/100/1000Base-T to 100/1000Base-X manageable GbE media converter which not only offers dual-speed fixed fiber transceiver or SFP cage module options for the optical interface, but also injects PoE+ power through the electrical RJ-45 port. Housed in rugged DIN rail or wall mountable enclosures, IMC-1000MS-PH12 converter is designed for harsh environments, such as IP surveillance, industrial networking, intelligent transportation systems (ITS) and is also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications.

## Features

- Conversion between 10/100/1000Base-T and 100/1000Base-X fiber cable interface
- Provides IEEE 802.3at PoE output (30W)
- IP30 rugged metal housing and fanless
- Supports Jumbo frame 9K bytes packet
- Ingress/Egress bandwidth control with 64K granularity
- PoE configuration and monitor
- Supports SmartView™ for centralized management\*

\*Please see Chapter 1- **Software Management** for more details

## 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-T 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 802.3at PoE+ (Power over Ethernet enhancement) IEEE 802.3af PoE (Power over Ethernet) IEEE 802.1q Tag VLAN
<b>Fiber Ports</b>	SFP slot for 100Base-X or 1000Base-X, 100M/1000M speed set by Web
<b>RJ45 Ports</b>	10/100/1000Base-T Auto MDI/MDI-X and Auto-Negotiation Function Supports UTP CAT.5e Twisted Pair cable
<b>Push Button</b>	Reset, Load default setting
<b>Data Process Architecture</b>	Pass through mode
<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 SFP, Distance depending on plugged-in Fiber Transceiver
<b>LFPT (Link Fault Pass Through)</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>Far-End Fault (FEF)</b>	Work with LFPT to prevents data loss
<b>Connector and Pin Assignment</b>	SFP Slot RJ-45 Socket: Cat 5e (10/100/1000Mbps) Twisted Pair cable Auto MDI/MDI-X and Auto-Negotiation Function Support
<b>Connector and Pin Assignment</b>	RJ-45 Port support IEEE 802.3at/af End-Span, Alternative A mode PoE (V+): RJ-45 pin 1, 2 PoE (V-): RJ-45 pin 3, 6 Data (1,2,3,6,4,5,7,8)

<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 RJ-45 port: Speed: 10 (OFF), 100 (Green), 1000 (Yellow) LNK/ACT for RJ45(Green): ON : Connected to network, OFF: Not connected to network, BLK : Networking is active PoE Status (Green): Flash : PoE Fault (Over-load or short), ON : PoE normal working, OFF : PoE No Power output
<b>Reverse Polarity Protection</b>	Supported for Power Input
<b>Overload Current Protection</b>	Supported
<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1 A @24VDC
<b>Removable Terminal Block</b>	Provides 2 redundant power, alarm relay contact, 6 Pin
<b>Operating Humidity</b>	5%~95% (Non-condensing )
<b>Operating Temperature</b>	-20°C ~ 75°C
<b>Storage Temperature</b>	-40°C ~ 85°C
<b>Housing</b>	Rugged Metal, IP30 Protection and fanless
<b>Dimensions</b>	106 x 62.5 x 135 mm (D X W X H)
<b>Weight</b>	650g
<b>Installation</b>	DIN Rail mounting, or wall mounting (Optional)
<b>Power Supply</b>	12/24/48VDC (9.6~57VDC), Redundant power with polarity reverse protect function and removable terminal block Built-in very high efficiency booster(97~99%) to rise up 52VDC for PoE output Regulated PoE output voltage (52VDC) to stabilize PoE device, and guarantee delivery PoE power distance to 100meter (Figure)

PoE Power budget	30W				
Power Consumption	Power consumption & Boost efficiency				
	Input Voltage	Total Power Consumption	Device Power Consumption	PoE Budget	Boost Efficiency
	12VDC	34.2W	3.9W	30W	99.0%
	24VDC	34.7W	4.4W	30W	99.0%
	48VDC	35.4W	4.7W	30W	97.7%
MTBF	864,121 Hours MIL-HDBK-217				
Warranty	5 years				
<b>Certifications</b>					
EMC	CE				
EMI	FCC Part 15 Subpart B Class A, CE				

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

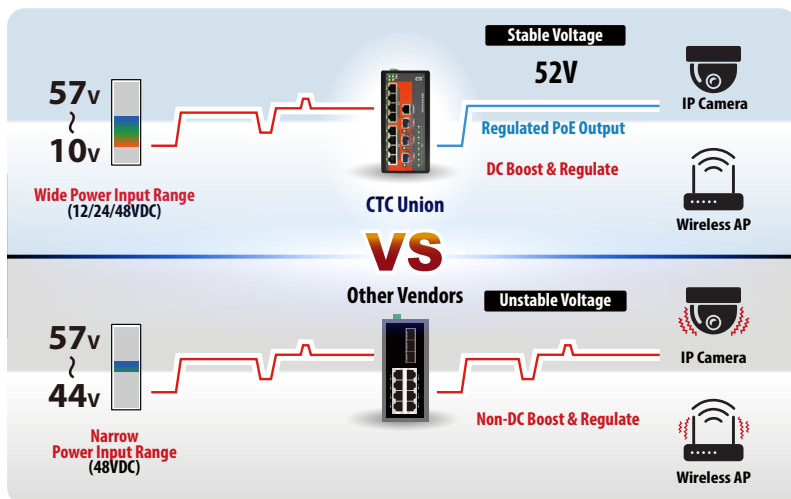
## Software Specifications

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

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

## Application

Figure 1: High efficiency boost technology for PoE

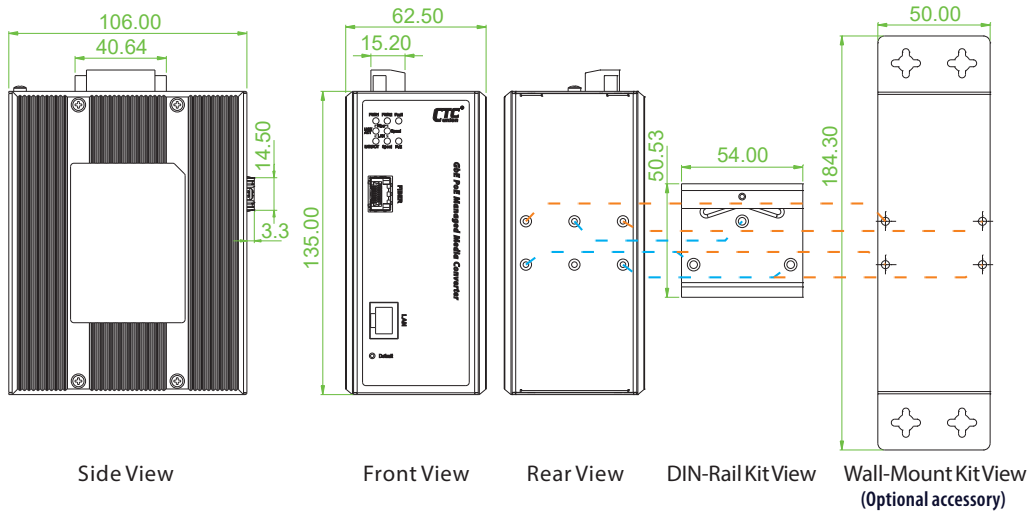


- Regulated PoE output voltage (52VDC) to stabilize PoE device
- Guarantee delivery PoE power distance to 100 meters
- Wide range input power 12/24/48VDC (9.6~57VDC)
- Built-in very high efficiency (94~97%) to boost PoE output voltage

Figure 2 : IMC-1000MS-PH12 Application in Remote, In-Band Management



## Dimensions



## Ordering Information

Model Name	Managed	RJ45 UTP	Fiber	PoE Port		Power Input	Certification		Operating Temperature
		10/100/1000 Base-T	Dual Speed 100/1000Base-X	IEEE 802.3at (PSE)	Power Budget	Redundant	CE	FCC	
IMC-1000MS-PHE12	V	1	1 SFP	1	30W	12/24/48VDC	V	V	-20~75°C

### Package List

- IMC-1000MS-PH12 device
- Protective caps for SFP ports
- Din Rail bracket with screws
- Terminal block

## Optional Accessories

### Wall Mount Kit

IND-WMK02	Wall Mount kit for Industrial product, 184 x 50mm
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### Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with all CTC Union industrial grade Ethernet switches for guaranteed compatibility and performance. Best performance can be guaranteed, even in mission-critical applications. (Please see CTC Union's Industrial SFP datasheets for more items and detailed information.)

ISFP-M7000-85-D(E)	Industrial SFP GbE 1000Base-SX, M/M, 500 meter, wave length 850nm, 7.5dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S7020-31-D(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-T7T00-00-(E)	Industrial SFP 10/100/1000Base-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, DDMI, -10~70°C (-40~85°C)
ISFP-S5030-31-D(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDMI, -10~70°C (-40~85°C)

### Industrial Power Supply

MDR-40-48	Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 48VDC, 40W, -20 ~ +70°C
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