30 Watts,
12V Booster

IMC-100M-PH12

10/100Base-TX to 100Base-FX with PoE + PSE Managed Fiber Converter

IMC-100M-PH12 is a 10/100Base-TX to 100Base-FX Ethernet Media converter which not only offers 100M fixed fiber transceiver 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-100M-PH12 converters are designed for harsh environments, such as IP surveillance, industrial networking, intelligent transportation systems (ITS) and are also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications. IMC-100M-PH12 also provides many advanced L2 functions (VLAN, storm filter, ingress/egress bandwidth control, etc.) and can be managed via easy-to-use GUI or standard SNMP manager such as CTC SarmtView. With built-in OAM (Operation, Administration, Maintenance & Provisioning) functions such as loop-back test and dying gasp, IMC-100M-PH12 can be monitored from a centrally located OAM-enabled FRM220-1000MS via remote in-band management which helps to reduces operational expenditures by keeping truck rolls to a minimum.

Features

- Conversion between 10/100Base-TX and 100Base-FX fiber cable interface
- 12/24/48VDC (9.6~57VDC) redundant dual input power with built-in very high efficiency booster(97~98%) to rise up 55 VDC for PoE output
- Constant and regulated PoE output voltage at 55VDC
- Provides IEEE802.3at PoE output (30W)
- IP30 rugged metal housing and fanless
- Wide operating temperature -20~75°C (IMC-100M-PHE12)
- CE, FCC, Railway traffic EN50121-4 certification
- Industrial grade EMS, EMI EN61000-6-2, EN61000-6-4 certification
- Supports Jumbo frame 9K bytes packet
- Ingress/Egress bandwidth control with 64K granularity
- PoE configuration and monitor
- Auto Laser Shutdown (ALS)
- Supports LFPT (Link Fault Pass Through)
- Supports Digital Diagnostic Monitor Interface (DDMI) for SFP
- Supports 16 IEEE802.1Q Tag VLAN Group
- MIB counters
- SNMP alarm trap for power loss and port link down
- Web based and SNMP for management (Figure 1, 3)
- Remote Loop-Back test
- Supports in-band management from FRM220 Chassis With FRM220-1000MS (Figure 2)
- Supports SmartView for centralized management

Specifications

Standard	IEEE802.3 10Base-T 10Mbit/s Ethernet
	IEEE802.3u 100Base-TX, 100Base-FX, Fast Ethernet
	IEEE802.3x Flow Control and Back pressure
	IEEE802.3at Power over Ethernet+, PoE+
	IEEE802.3af Power over Ethernet, PoE
	IEEE802.1q Tag VLAN
Fiber Ports	100Base-FX , 100M Speed
RJ45 Ports	10/100Base-TX
Push Button	Reset, Load default setting
Data Process Architecture	Pass through mode
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: 2KM (Multi-mode), 30KM ,50KM(Single-mode) ,20KM (WDM Bidi)
LFPT (Link Fault Pass Through)	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
Connector and Pin Assignment	Fiber: SC/ST (Multi-mode, 2km), SC/ST (Single-mode, 30km, 50km)
	RJ-45 Socket: CAT-3/5 (10/100Mbps) Twisted Pair cable
	Auto MDI/MDI-X and Auto-Negotiation Function Support
	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)

LED	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: Green : 100Base-X
	RJ-45 port: Speed: 10 (OFF), 100 (Green)
	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
Reverse Polarity Protection	Present for Power Input
Overload Current Protection	Present
Alarm Relay Contact	Relay outputs with current carrying capacity of 1 A @24VDC
Removable Terminal Block	Provide 2 redundant power, alarm relay contact, 6 Pin
Operating Humidity	5%~95% (Non-condensing)
Operating Temperature	-10°C~60°C (IMC-100M-PH12) -20°C~75°C (IMC-100M-PHE12)
Storage Temperature	-40°C~85°C
Housing	Rugged Metal, IP30 Protection and fanless
Dimensions	106 x 62.5 x 135 mm (D X W X H)
Weight	655g
Installation	DIN Rail mounting or wall mounting
Power Supply	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 55 VDC for PoE output

Power Consumption	Input Voltage	Total Power Consumption	Device Power Consumption	PoE Budget	Boost Efficiency
	12VDC	34.4W	3.9W	30W	98.4%
	24VDC	34.9W	4.5W	30W	98.7%
	48VDC	35.4W	4.7W	30W	97.7%
MTBF	410,235 Hrs (IMC-100M-PH12, IMC-100M-PHE12)				
Warranty	5 years				
Certifications					
EMC	CE				
EMI	FCC Part 15 Subpart B Class A, CE EN 55022 Class A				
Rail Way Traffic	EN50121-4				
Immunity for Heavy Industrial environment	EN 61000-6-2				

Emission for Heavy industrial environment	EN 61000-6-4
EMS (Electromagnetic Susceptibility) Protection leve	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
Safety	UL60950-1 (pending)
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

Software Specifications

SNMP or Web Mode (figure 1, 3)	
Management	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
Configuation	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

In-Band Remote mode (Figure 2)	
Management	Supports in-band management from FRM220 Chassis With FRM220-1000MS card
	Ingress/Egress bandwidth control with 64K granularity
Configuation	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

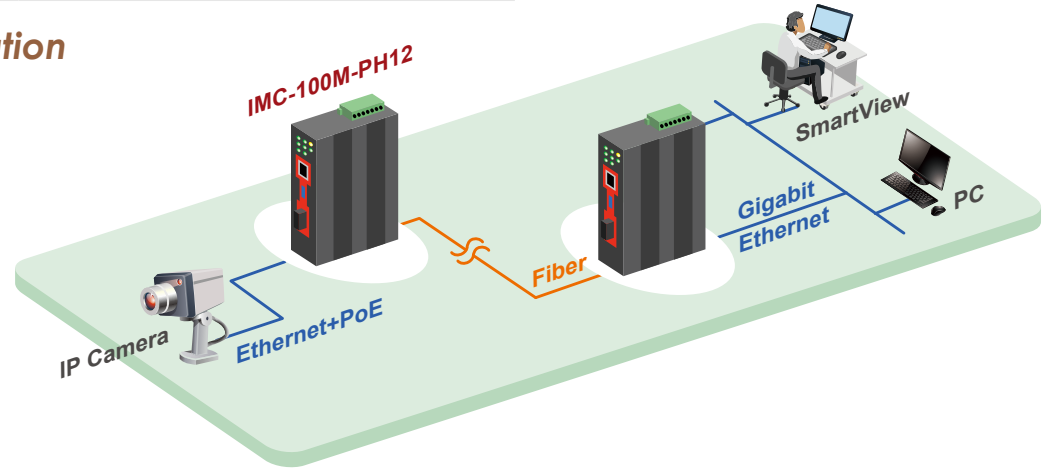


Figure 1 : IMC-100M-PH12 Management by SNMP, SmartView

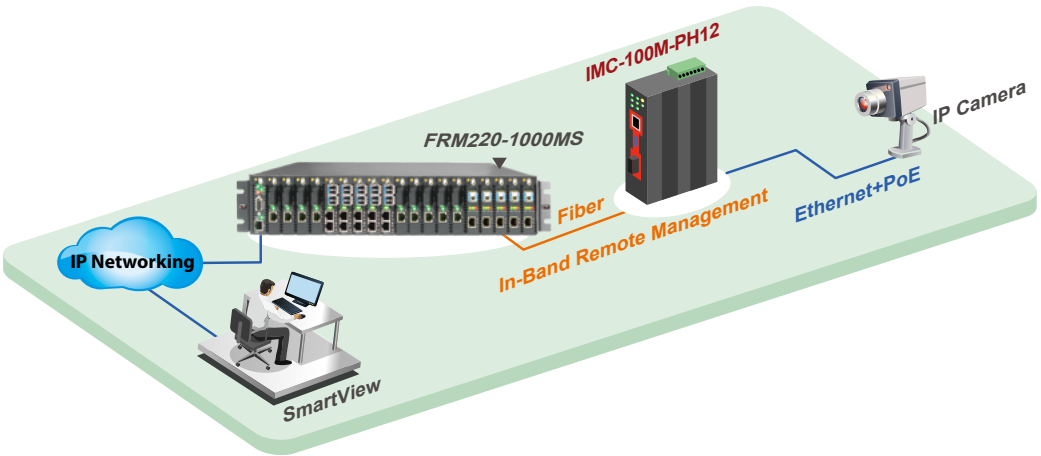


Figure 2 : IMC-100M-PH12 Application in Remote, In-Band Managment

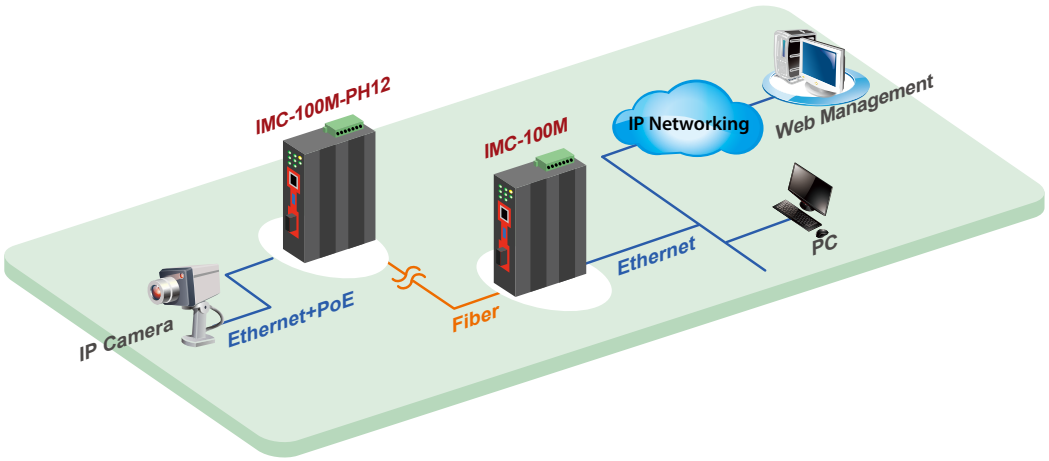
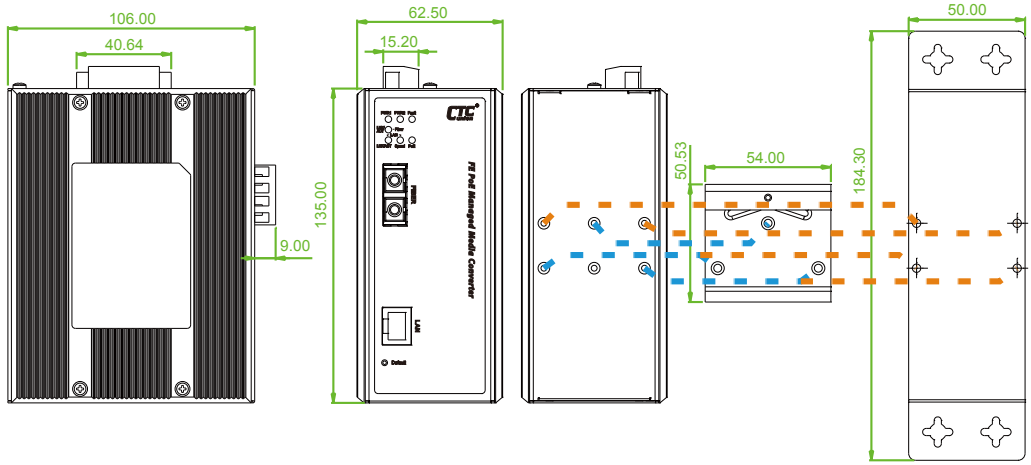


Figure 3 : IMC-100M-PH12 Application in Web Management

Dimensions



Ordering Information

Model Name	Managed	UTP	Fiber	PoE Port		Input Voltage (Boost)	Certification			Operating Temperture
		10/100 Base-TX	100Base-FX	IEEE802.3at (PSE)	Power Budget		Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE, FCC	
IMC-100M-PH12	V	1	1 SC	1	30W	12/24/48VDC	V	V	V	-10~60 C
IMC-100M-PHE12	V	1	1 SC	1	30W	12/24/48VDC	V	V	V	-20~75 C

Model Naming Rule

IMC – 100 – M – PH – E12

- IMC: Industrial Media Converter
- 100: 100Base Converter
- M: Managed
- PH: 1x High Power PoE
- E12: 12V Booster-20~75°C
- 12: 12V Booster-10~60°C

Fiber Connector Type	Connectivity Distance
SC	002:2km (M/M) 030:30km (S/M) 050:50km (S/M) 020A: WDM 20km A type (TX:1310nm) 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
MDR-60-24	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 60W, -20 ~ +70°C

Temperature / Connector Type / Connectivity Distance

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Example: IMC-100M -PHE12 - SC002