IMC-1000-PH12

10/100/1000Base-T to 100/1000Base-FX/SX/LX with PoE+ (PSE) Fiber Converter

IMC-1000S-PH12

10/100/1000Base-T to 100/1000Base-X SFP with PoE+ (PSE) Fiber Converter

NEW

20-57V PoE Regulated

EN50121-4

EN61000-6-2 EN61000-6-4

IMC-1000(S)-PH12 is a family of non-managed Gigabit Ethernet media converters that support conversion between electrical 10/100/1000Base-T and optical 1000Base-X Ethernet and as PSE (Power Source Equipment) provide PoE+ power over Ethernet. Two options are available for optical interfaces, the IMC-1000-PH12 uses a fixed optical transceiver operating at 1000Base-X, while the IMC-1000S-PH12 provides an SFP cage for 100/1000Base-X compatible SFP modules. Housed in rugged DIN rail or wall mountable enclosures, these converters are designed for harsh environments, such as industrial networking, intelligent transportation systems (ITS) and are 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
- Supports dual rate (100/1000) SFP for selectable Fast or Gigabit speed on fiber
- 12/24/48VDC (9.6~57VDC) redundant dual input power, and built-in power booster
- Constant and regulated PoE output voltage at 55VDC
- Provides IEEE802.3at PoE output (30Watts)
- Support Remote PD reset by fiber port link down
- Support LFP (Link Lose Forward)
- IP30 rugged metal housing
- Wide operating temperature -20~75°C (IMC-1000-PHE12, IMC-1000S-PHE12)
- UL60950-1, CE, FCC, Railway traffic EN50121-4 certification
- Industrial grade EMS,EMI EN61000-6-2, EN61000-6-4 certification
- Supports Jumbo frame 9K bytes packet

Specifications

Standard	IEEE802.3 10Base-T
	IEEE802.3u 100Base-TX
	IEEE802.3u 100Base-FX
	IEEE802.3ab 1000Base-T
	IEEE802.3z 1000Base-SX/LX
	IEEE802.3x Flow Control and Back pressure
	IEEE802.3at Power over Ethernet+, PoE+
	IEEE802.3af Power over Ethernet, PoE
	IEEE802.1q Tag VLAN
RJ45 Ports	10/100/1000Base-T
Fiber Ports	100/1000Base-SX/LX (IMC-1000-PH12, IMC-1000-PHE12)
	100/1000Base-X SFP (IMC-1000S-PH12, IMC-1000S-PHE12)
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: • 500M (Multi-mode SX), 20KM (Single-mode), 50KM(Single-mode) (IMC-1000-PH12, IMC-1000-PHE12) • SFP, Distance depend on plug-in Fiber Transceiver (IMC-1000S-PH12, IMC-1000S-PHE12)
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	ON: Disable Alarm For Power Loss OFF: Enable Alarm For Power Loss
	ON: Disable Alarm For Port Link-Failure OFF: Enable Alarm For Port Link-Failure
	ON: LFP Enable, OFF: LFP Disable
	Data process Architecture : ON : Pass through mode OFF : Store and Forward Switch mode
	Fiber Speed: OFF: 1000Base-X ON: 100Base-X
	PoE Output OFF: Enable PoE output ON: Disable PoE output
	Remote PD reset Off : Disable Remote PD reset On: Enable Remote PD reset by fiber port link down
Connector and Pin Assignment	Fiber: SC (Multi-mode, 500M), SC (Single-mode, 20KM, 40KM) (IMC-1000-PH12, IMC-1000-PHE12) SFP Slot (IMC-1000S-PH12, IMC-1000S-PHE12)
Connector and Pin Assignment	RJ-45 Socket: CAT-3/5 (10/100/1000Mbps) 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 (1,2,3,6,4,5,7,8)

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 : Yellow : 1000Base-X, Green : 100 Base- 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
Reverse Polarity Protection	Present for Power Input
Overload Current Protection	Present
Power Supply	12/24/48VDC (9.6~57VDC), Redundant power with polarity reverse protect function and removable terminal block
Power Consumption	IMC-1000-PH12

Input Volt	Total Power consumption (W)	Device Power consumption (W)	PoE Budget (W)	Boost Efficiency
12 VDC	34.4	3.9	30	98.4%
24 VDC	34.9	4.5	30	98.7%
48 VDC	35.4	4.7	30	97.7%

IMC-1000S-PH12

Input Volt	Total Power consumption (W)	Device Power consumption (W)	PoE Budget (W)	Boost Efficiency
12 VDC	34.2	3.9	30	99.0%
24 VDC	34.7	4.4	30	99.0%
48 VDC	35.4	4.7	30	97.7%

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-1000-PH12, IMC-1000S-PH12)
	-20°C~75°C (IMC-1000-PHE12, IMC-1000S-PHE12)
Storage Temperature	-40°C~85°C
Housing	Rugged Metal, IP30 Protection
Dimensions	106 x 38.6 x 142 mm (D x W x H)
Weight	655g (IMC-1000-PH12, IMC-1000-PHE12) 650g (IMC-1000S-PH12, IMC-1000S-PHE12)
Installation	DIN Rail mounting or wall mounting

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

Specifications

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
MTBF	419,822Hrs (IMC-1000-PH12, IMC-1000-PHE12) 432,104Hrs (IMC-1000S-PH12, IMC-1000S-PHE12) MIL-HDBK-217
Warranty	5 years

Application

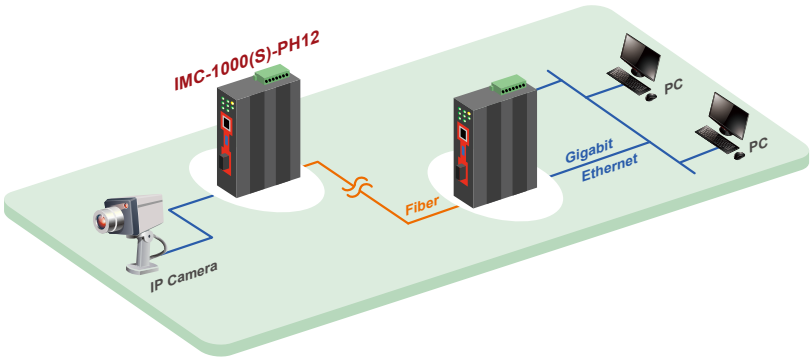
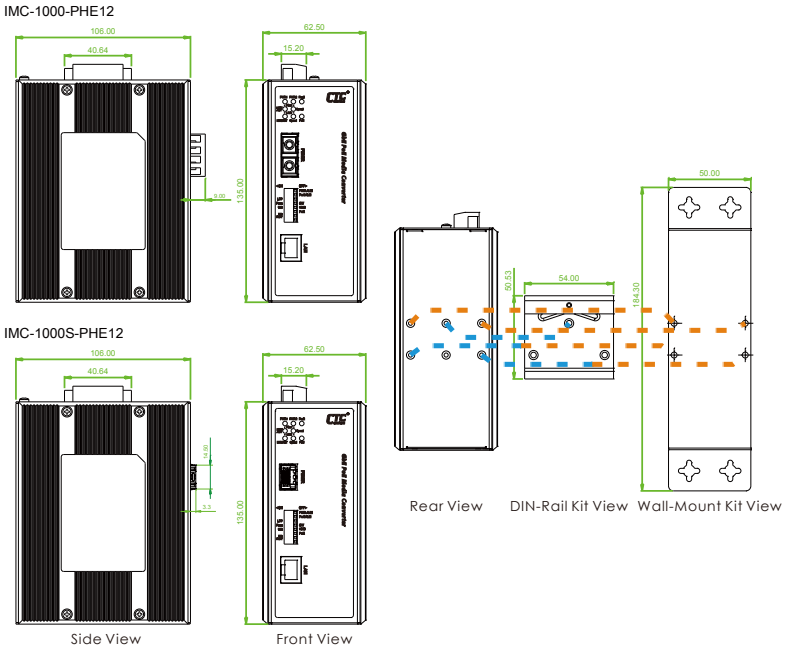


Figure : IMC-1000(S)-PH12 Industrial PoE Transmission

Dimensions



Ordering Information

Model Name	Description
IMC-1000-PH12	10/100/1000Base-T to 100/1000Base-FX/SX/LX with PoE+ (PSE) Fiber Converter (30W, 12V Booster) (-10~60°C)
IMC-1000-PHE12	10/100/1000Base-T to 100/1000Base-FX/SX/LX with PoE+ (PSE) Fiber Converter (30W, 12V Booster) (-20~75°C)
IMC-1000S-PH12	10/100/1000Base-T to 100/1000Base-X SFP with PoE+ (PSE) Fiber Converter (30W, 12V Booster) (-10~60°C)
IMC-1000S-PHE12	10/100/1000Base-T to 100/1000Base-X SFP with PoE+ (PSE) Fiber Converter (30W, 12V Booster) (-20~75°C)

Fiber Connector Type	Connectivity Distance
SC (IMC-1000-PH12 & IMC-1000-PHE12 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)

Temperature / Connector Type / Connectivity Distance

IMC-1000 –PH □12 - □□□□□

Example: IMC-1000 – PHE12 – SC001

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, Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 60W, -20 ~ +70°C
SFP Transceiver	Compatible, Reliable, 5-year Warranty

ISFP – M 7 040 – 31 – E

- ISFP: Industrial SFP Transceiver
- M: Multi Mode; S: Single Mode; T: Copper
- 7: GbE; 5: FE
- 040: Distance (002(2km), 020(20km), 040(40km)...)
- 31
- E: -40~85°C; Blank: 0~70°C: Wavelength