



30 Watts,  
12V Booster



## IMC-100-PH12

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

3

Industrial FE  
Converter with PoE

IMC-100-PH12 is a family of non-managed Ethernet media converters that support conversion between electrical 10/100Base-TX and optical 100Base-FX Ethernet and as PSE (Power Source Equipment) provide PoE+ power over Ethernet. 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 10/100Base-TX and 100Base-FX SC or ST Fiber interface
- 12/24/48VDC (9.6~57VDC) redundant dual input power with built-in very high efficiency booster (98~99%) to rise up 55 VDC for PoE output
- Constant and regulated PoE output voltage at 55VDC
- Provides IEEE802.3at PoE output (30Watts)
- Supports Remote PD reset by fiber port link down
- Supports LFPT (Link Fault Pass Through)
- IP30 rugged metal housing and fanless
- Wide operating temperature -20~75°C (IMC-100-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

### Specifications

<b>Standard</b>	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
<b>RJ45 Ports</b>	10/100Base-TX
<b>Fiber Ports</b>	100Base-FX with SC or ST connector
<b>Data Process Architecture</b>	Store and Forward mode or Pass Through mode (Set by DIP SW)
<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 Wavelength: 1310nm (Multi-mode/Single-mode) Available Distance: 2KM (Multi-mode), 30KM (Single-mode), 50KM(Single-mode)
<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>DIP Switch</b>	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: LFPT Enable, OFF: LFPT Disable Data process Architecture : ON : Pass through mode OFF : Store and Forward Switch mode 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
<b>Fiber Connector</b>	Fiber: SC / ST (Multi-mode, 2KM), SC / ST (Single-mode, 30KM, 50KM)
<b>RJ45 Connector and Pin Assignment</b>	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)

<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 :Green : 100 Base- 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 States (Green) Flash: PoE Fault (Over-load or short) ON: PoE normal working, OFF : PoE No Power output
------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Reverse Polarity Protection</b>	Present for Power Input
<b>Overload Current Protection</b>	Present
<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 55 VDC for PoE output

<b>Power Consumption</b>	<table border="1"> <thead> <tr> <th>Input Voltage</th> <th>Total Power Consumption</th> <th>Device Power Consumption</th> <th>PoE Budget</th> <th>Boost Efficiency</th> </tr> </thead> <tbody> <tr> <td>12VDC</td> <td>34W</td> <td>3.5W</td> <td>30W</td> <td>98.4%</td> </tr> <tr> <td>24VDC</td> <td>34.4W</td> <td>4.1W</td> <td>30W</td> <td>99.0%</td> </tr> <tr> <td>48VDC</td> <td>34.9W</td> <td>4.3W</td> <td>30W</td> <td>98.0%</td> </tr> </tbody> </table>	Input Voltage	Total Power Consumption	Device Power Consumption	PoE Budget	Boost Efficiency	12VDC	34W	3.5W	30W	98.4%	24VDC	34.4W	4.1W	30W	99.0%	48VDC	34.9W	4.3W	30W	98.0%
Input Voltage	Total Power Consumption	Device Power Consumption	PoE Budget	Boost Efficiency																	
12VDC	34W	3.5W	30W	98.4%																	
24VDC	34.4W	4.1W	30W	99.0%																	
48VDC	34.9W	4.3W	30W	98.0%																	

<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1 A @24VDC
<b>Removable Terminal Block</b>	Provide 2 redundant power, alarm relay contact, 6 Pin
<b>Operating Humidity</b>	5%~95% (Non-condensing)
<b>Operating Temperature</b>	-10°C~60°C (IMC-100-PH12) -20°C~75°C (IMC-100-PHE12)
<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>	655g
<b>Installation</b>	DIN Rail mounting or wall mounting
<b>MTBF</b>	419,822hrs
<b>Warranty</b>	5 years

Certifications	
EMC	CE
EMI	FCC Part 15 Subpart B Class A, CE EN 55022 Class A
Railway 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 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
Safety	UL60950-1 (pending)
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

## Application

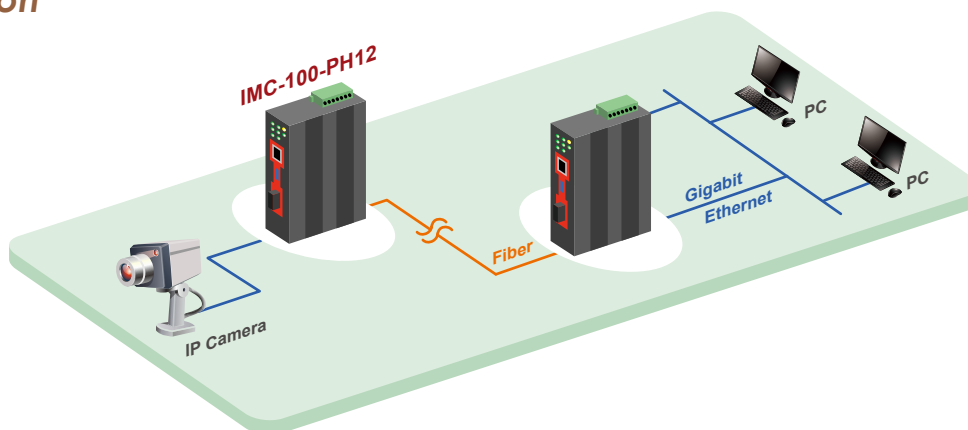
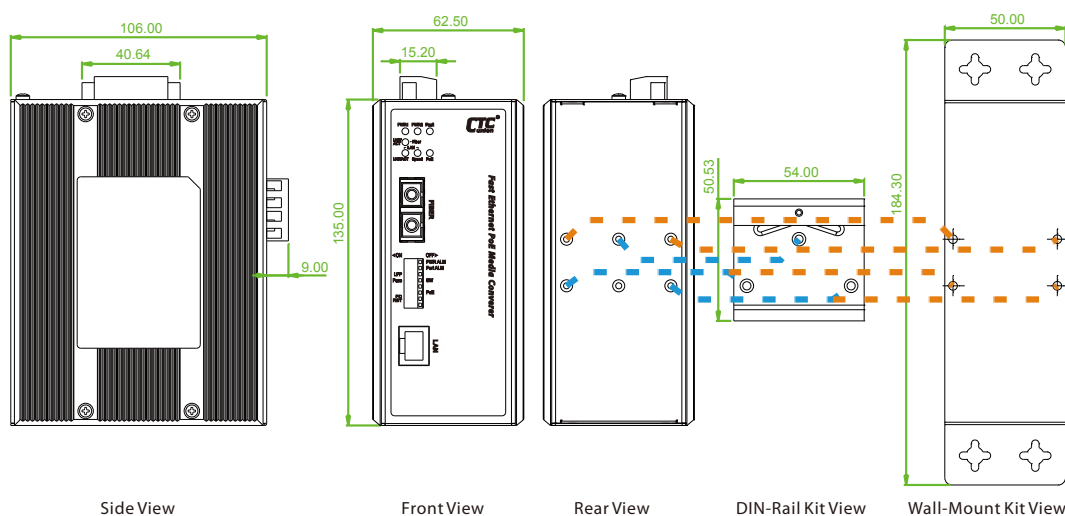


Figure : IMC-100-PH12 Industrial PoE Transmission

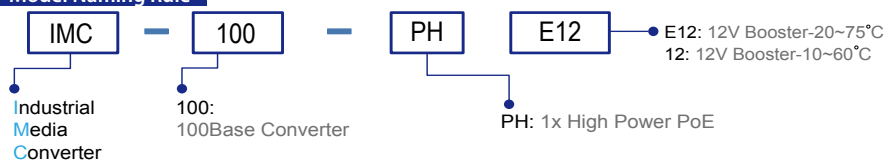
## Dimensions



## Ordering Information

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

### Model Naming Rule



Fiber Connector Type	Connectivity Distance
SC, ST	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)

Temperature Connector Type Connectivity Distance

IMC-100 -PH 12 - [ ] [ ] [ ] [ ] [ ] [ ]

Example: IMC-100 - PHE12 - SC002