IMC-100

10/100Base–TX to 100Base–FX Fiber Converter

UL60950-1 CE FC EN50121-4 EN61000-6-2 EN61000-6-4

IMC-100 is an unmanaged industrial grade Fast Ethernet media converter that supports conversion between electrical 10/100Base-TX and optical 100Base-FX Ethernet. Simple DIP switch settings allow configuring the UTP port for auto-negotiation or for forced 10/100 speed and half/ full duplex as well as for enabling LFPT (Link Fault Pass Through), Ethernet flow control (802.3x) and selecting Switch Mode (store & forward) or Converter Mode (Jumbo frame Pass-through). 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 (See Figure 1).

Features

- Redundant dual DC input power 12/24/48VDC (9.6 ~ 58VDC)
- IP30 rugged metal housing and fanless
- Wide operating temperature -40 ~ 75°C (IMC-100-E)
- UL60950-1, CE, FCC, Rail traffic EN50121-4 certification
- Heavy industrial grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- Store-and-Forward mode and Pass Through mode (set by DIP SW)
- Conversion between 10/100Base-TX and 100Base-FX cable interface
- Provides a DIP-Switch to set functions
- Supports LFPT (Link Fault Pass Through)

Specifications

Standard	IEEE 802.3 10Base-T 10Mbit/s Ethernet
	IEEE 802.3u 100Base-TX, 100Base-FX, Fast Ethernet
	IEEE 802.3x Flow Control
RJ45 Ports	10/100Base-TX Auto MDI/MDI-X and Auto-Negotiation Function Supports UTP CAT.5e Twisted Pair cable
Fiber Ports	100Base-FX (SC/ST connectors)
Switch Architecture	Store and Forward in Switch mode
	Supports 1024 MAC addresses in Switch mode
Ethernet Packet length	2046Byte (Max) in Switch mode
Jumbo Frame	9K bytes in Pass through (Converter mode)
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 (Single-mode) 50KM (Single-mode)
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	TP Auto Negotiation OFF: Auto Mode, ON: Force Mode
	Force TP Speed OFF: 100 Mbps, ON: 10 Mbps
	Force TP Duplex OFF: Full Duplex, ON: Half Duplex
	DIP Switch: ON: Enables LFPT (Link Fault Pass through) OFF: Disables LFPT (Link Fault Pass through)
	DIP Switch: ON: Flow Control Enable OFF: Flow Control Disable
	DIP Switch: OFF: Switching mode ON: Pass through Converter mode
Connector	Fiber: SC (Multi-mode, 2km), SC (Single-mode, 30km, 50KM) ST (Multi-mode, 2km), ST (Single-mode, 30km, 50KM)
	RJ-45 Socket: CAT.5e (10/100Mbps) Twisted Pair cable
	Auto MDI/MDI-X and Auto-Negotiation Function Support
LED	PWR 1 (Green): ON: Power1 active/ OFF: Power1 is inactive
	PWR 2 (Green): ON: Power2 active/ OFF: Power2 is inactive
	Fault (Red): ON: Fiber or TP has failed OFF: TP are functional
	Fiber (Green): ON : Connected to network OFF: Not connected to network/ BLK: Receive/Transmit Data
	100 (Amber): ON: 100Mbps/ OFF: 10Mbps
	LAN (Green): ON : Connected to network OFF: Not connected to network/ BLK: Networking is active
Reverse Polarity Protection	Supported for power input
Overload Current Protection	Supported
Power Supply	12/24/48VDC(9.6~58VDC), Redundant power with polarity reverse protect function and removable terminal block
Alarm Relay Contact	Relay outputs with current carrying capacity of 1 A @24VDC
Removable Terminal Block	Provides 2 redundant power, alarm relay contact
Power Consumption	2.9 W
Operating Humidity	5% ~ 95% (Non-condensing)
Operating Temperature	-40 ~ 75°C (IMC-100-E)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection and fanless
Dimensions	106 x 38.6 x 142.1mm (D X W X H)
Weight	0.62kg
Installation	DIN Rail mounting, or wall mounting (Optional)
MTBF	1,199,572 Hours MIL-HDBK-217
Warranty	5 years
Certification	
EMI	CE
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE
Railway Traffic	EN50121-4
Immunity for Heavy Industrial Environment	EN61000-6-2
Emission for Heavy Industrial Environment	EN61000-6-4
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-2 (ESD) Level 3, Criteria B
	EN61000-4-3 (RS) Level 3, Criteria A
	EN61000-4-4 (Burst) Level 3, Criteria A
	EN61000-4-5 (Surge) Level 3, Criteria B
	EN61000-4-6 (CS) Level 3, Criteria A
	EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
Safety	UL60950-1
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

Application

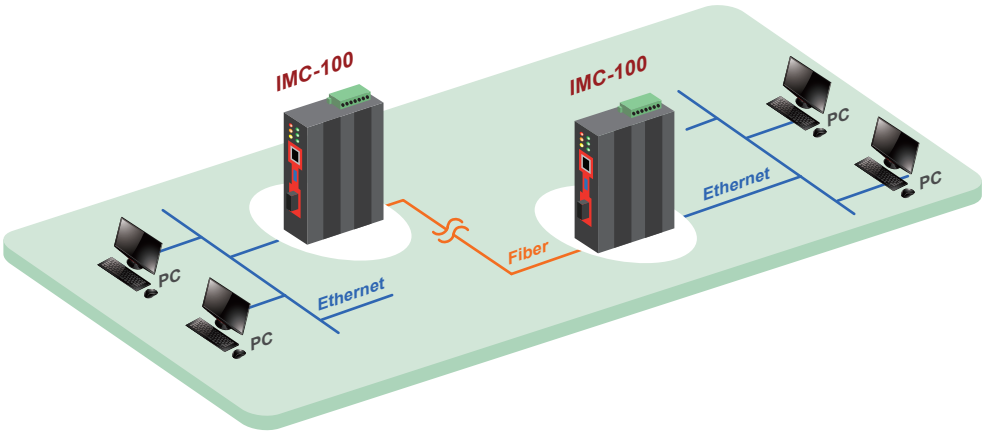
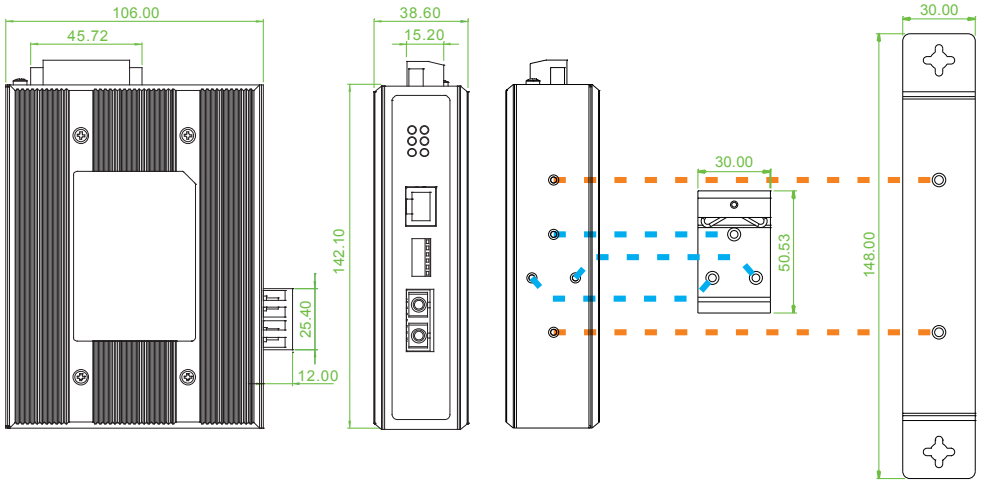


Figure 1 : IMC-100 Media Converter Transmission

Dimensions



Side View | Front View | Rear View | DIN-Rail Kit View | Wall-Mount Kit View (Optional accessory)

Ordering Information

Model Name	RJ45 UTP Port	Fiber	Power Input	Certification					Operating Temperature
	10/100Base-TX	100Base-FX	Redundant	Safety UL60950-1	Railway EN50121-4	EN61000-6-2 EN61000-6-4	CE	FCC	
IMC-100-E	1	1 SC	12/24/48VDC	V	V	V	V	V	-40~75°C

Model Naming Rule

IMC – 100 – E → E: -40~75°C

- IMC: Industrial Media Converter
- 100: 100Base-X Converter

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 – □ - □□□□□

Example: IMC-100 – E – SC002

Optional Accessories

Wall mount kit Accessories

IND-WMK01	Wall Mount kit for Industrial product, 184 x 30mm

Package List

- IMC-100 device
- Quickly installation guide
- Din Rail bracket with screws
- Terminal block