



IMC-P111FX / IMC-P111P

Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/
100Base-T(X) to 1x100Base-FX fiber / 1x100Base-FX SFP socket

Features

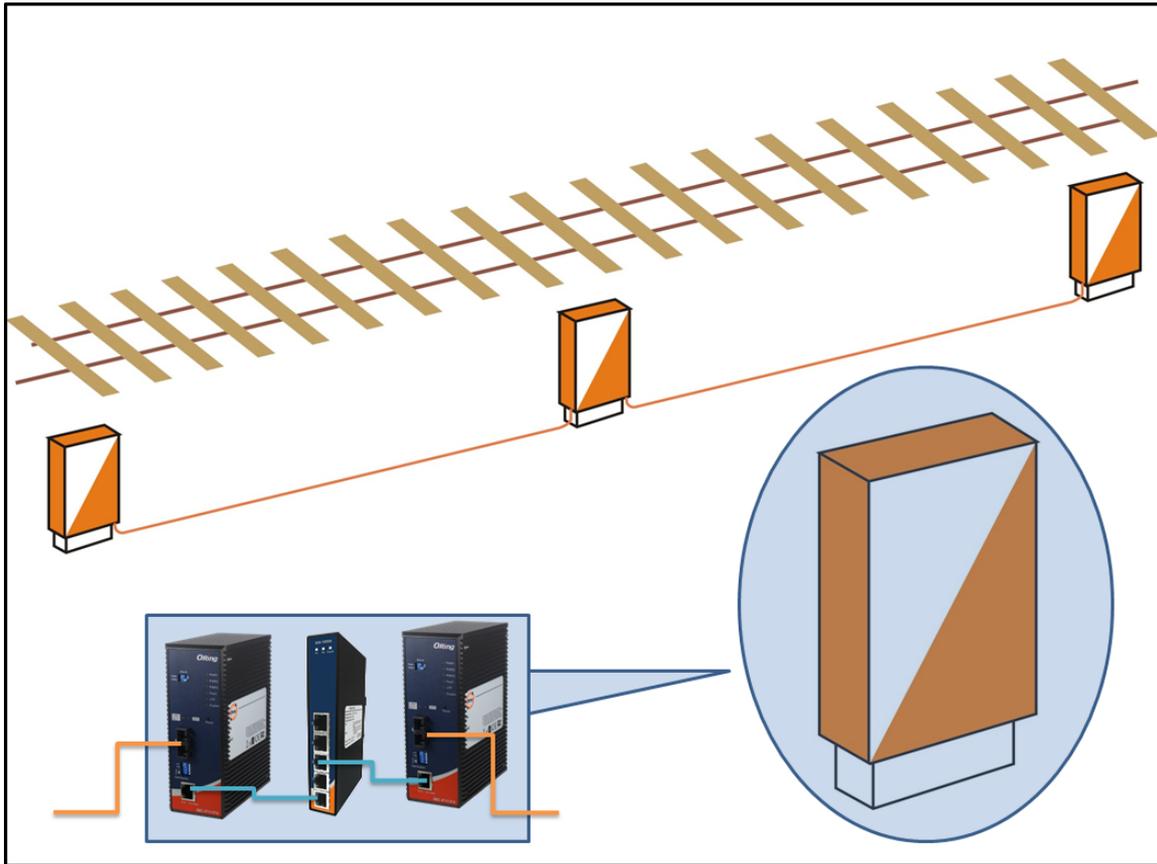
- Designed for Railway application and fully compliant with the requirement of IEC 61850-3 and IEEE 1613
- Leading EN50155-compliant Ethernet switch for rolling stock application
- Supports 1 port 10/100Base-T(X) auto-negotiation and auto-MDI/MDI-X
- Support Ethernet to fiber or Ethernet to SFP port
- Support **LFP (Link Fault Pass-through)** function
- Supports full/half duplex operation
- Supports store and forward transmission
- Supports relay output for power failed alarm
- Provided DIP-Switch to setting function
- High reliability and rigid IP-30 housing
- DIN-Rail and wall mounting enabled



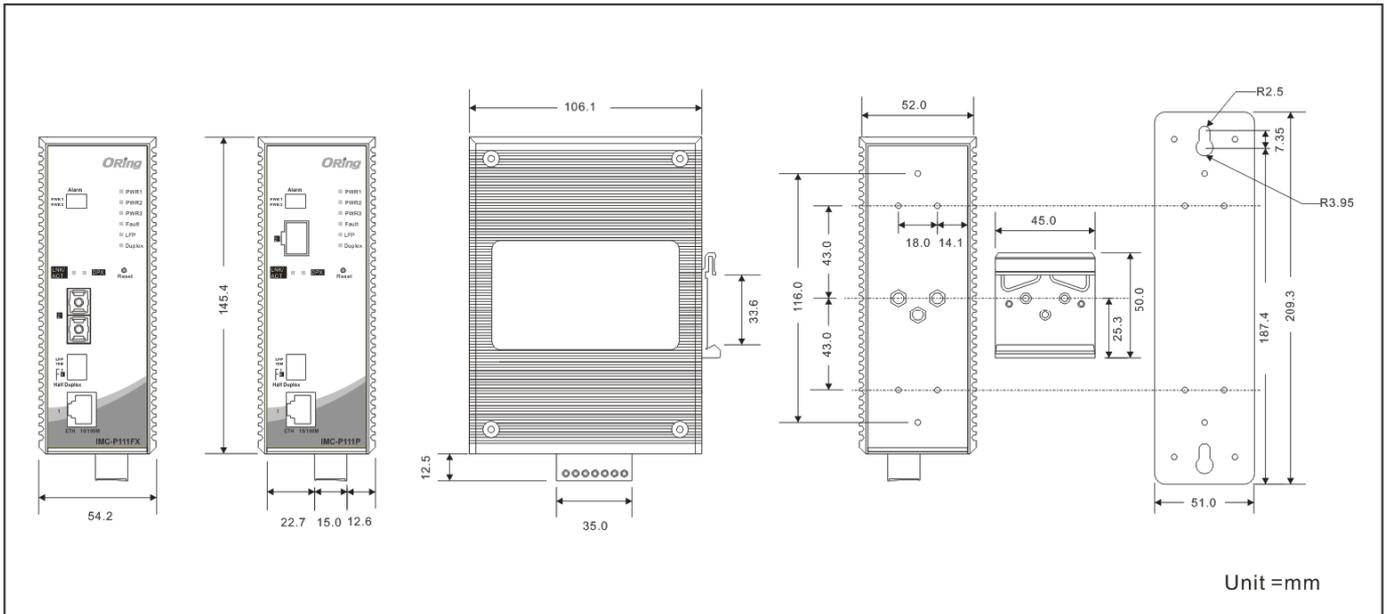
Introduction

IMC-P111 series is a cost-effective solution for the conversion between 10/100Base-T(X) and 100Base-FX interface, it allows you to extend communication distance by optical fiber. IMC-P111 series are designed for power substation application and rolling stock application, fully compliant with the requirement of IEC 61850-3 and IEEE 1613. IMC-P111 series supports MDI/MDIX auto detection, so you don't need to use crossover wires. IMC-P111 series with wide operating temperature range from -40 ~ 85°C and accepts a wide voltage range power inputs, so it is suitable for harsh operating environments.

IMC-P111 series also support the **LFP (Link Fault Pass-through)** feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. Use the DIP-Switch to enable the LFP function, then IMC-P111 series will force the link to shutdown as soon as noticed that the other link has failed, giving the application software a chance to react to the situation. Therefore, the IMC-P111 series is reliable media converter and can satisfy most demand of power substation and rolling stock application.



Dimension



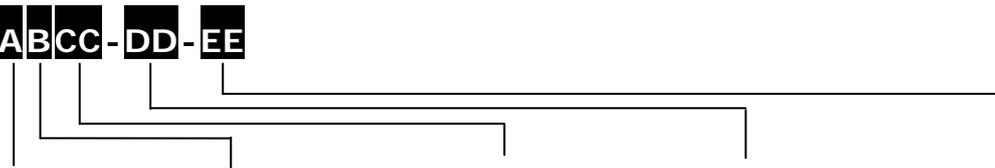
Specifications

ORing Media Converter Model	IMC-P111FX-MM	IMC-P111FX-SS	IMC-P111P	
Physical Ports				
10/100 Base-T(X) Port in RJ45 Auto MDI/MDIX	1	1	1	
Fiber Port Specification	Fiber Ports Number	1	-	
	Fiber Ports Standard	100Base-FX	-	
	Fiber Mode	Multi-mode	-	
	Fiber Diameter (µm)	62.5/125 µm 50/125 µm	9/125 µm	-
	Fiber Optical Connector	SC	SC	-
	Typical Distance (Km)	2 Km	30 Km	-
	Wavelength (nm)	1310 nm	1310 nm	-
	Max. Output Optical Power (dbm)	-14 dbm	-8 dbm	-
	Min. Output Optical Power (dbm)	-23.5 dbm	-15 dbm	-
	Max. Input Optical Power (Saturation)	0 dbm	0 dbm	-
	Min. Input Optical Power (Sensitivity)	-31 dbm	-34 dbm	-
	Link Budget (db)	7.5 db	19 db	-
100Base-FX SFP port	-	-	1	
Technology				
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-T(X) and 100Base-FX IEEE 802.3x for Flow control			
Processing	Store-and-Forward			
DIP-Switch setting	DIP-Switch 1 for LFP mode selection : (ON) enable / (OFF) disable DIP-Switch 2 for Ethernet speed selection : (ON)10Mbps / (OFF) 10/100Mbps Auto-negotiate DIP-Switch 3 for Ethernet full/half duplex selection : (ON) Half-duplex / (OFF) Full/Half-Duplex Auto-negotiate DIP-Switch 4 for fiber full/half duplex selection : (ON) Half-Duplex / (OFF) Full-Duplex			
LED indicators				
Power indicator	Green : Power LED x 3 (ON : power input on-line / (OFF) power input off-line			
10/100Base-T(X) RJ45 port indicator	Green for port Link/Act – (ON) Link up / (Blinking) Acting / (OFF) Link down Amber for port duplex indicator – (ON) Full-Duplex / (OFF) Half-Duplex			
100Base-FX fiber port indicator	Green for fiber port Link/Act - (ON) Link up / (Flash) Acting / (OFF) Link down Amber for fiber port duplex indicator – (ON) Full-Duplex / (OFF) Half-Duplex			
LFP statue indicator	Amber LED – (ON) LFP function fail / (OFF) LFP function disable			
Fault indicator	Amber : Indicate unexpected event occurred			
Power				
LV Model Input power	Triple DC inputs. 12~48VDC on 7-pin terminal block, 12~45VDC on power jack			
Power consumption (Typ.)	10.56 Watts	10.08 Watts	10.56 Watts	
Overload current protection	Present			
Reverse polarity protection	Present on terminal block			
Physical Characteristic				
Enclosure	IP-30			
Dimension (W x D x H)	52(W) x 106.1(D) x 144.3(H) mm (2.05x4.18x5.68 inch.)			
Weight (g)	660 g		650g	
Environmental				
Storage Temperature	-40 to 85°C (-40 to 185°F)			
Operating Temperature	-40 to 85°C (-40 to 185°F)			
Operating Humidity	5% to 95% Non-condensing			
Regulatory approvals				
Power Automation	IEC 61850-3, IEEE 1613			
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)			

EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years

Ordering Information

IMC-P1**ABCC-DD-EE**



Code Definition	10/100Base-T(X) Port Number	100Base-FX Fiber Port Number	Fiber Port Type	Fiber Optical Mode	Fiber Optical Connector
Option	- 1: 1 ports	- 1: 1 port	- FX : 100Base-FX fiber - P : 100Base-FX SFP	- MM : Multi-mode - SS : Single-mode	- SC : SC connector

	Model Name	Description
Available Model	IMC-P111FX-MM-SC-LV	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, multi-mode, 2Km/1310nm, SC connector, 12~48VDC power inputs
	IMC-P111FX-SS-SC-LV	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, single-mode, 30Km/1310nm, SC connector, 12~48VDC power inputs
	IMC-P111P-LV	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, 12~48VDC power inputs

Packing List

- IMC-P111FX/P111P x 1
- Quick Installation Guide x 1
- Din-Rail Kit x 1
- Wall-Mount Kit x 1

Optional Accessories

- SFP100 series : 100Mbps SFP optical transceiver
- DR-45 series : 45 Watts power supply
- DR-75 series : 75 Watts power supply
- DR-120 series : 120 Watts power supply