IMC-P111FX Series
IMC-P111P Series

IMC-P111FX Series   IMC-P111P Series

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

Features

- Designed for Railway application and fully compliant with the requirement of IEC 61850-3 and IEEE 1613
- 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

IEC61850 EN50155 Redundant PWR Temperature RoHS Lead Free CE FC

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^{0}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.

IMC-P111FX

IES-1050A
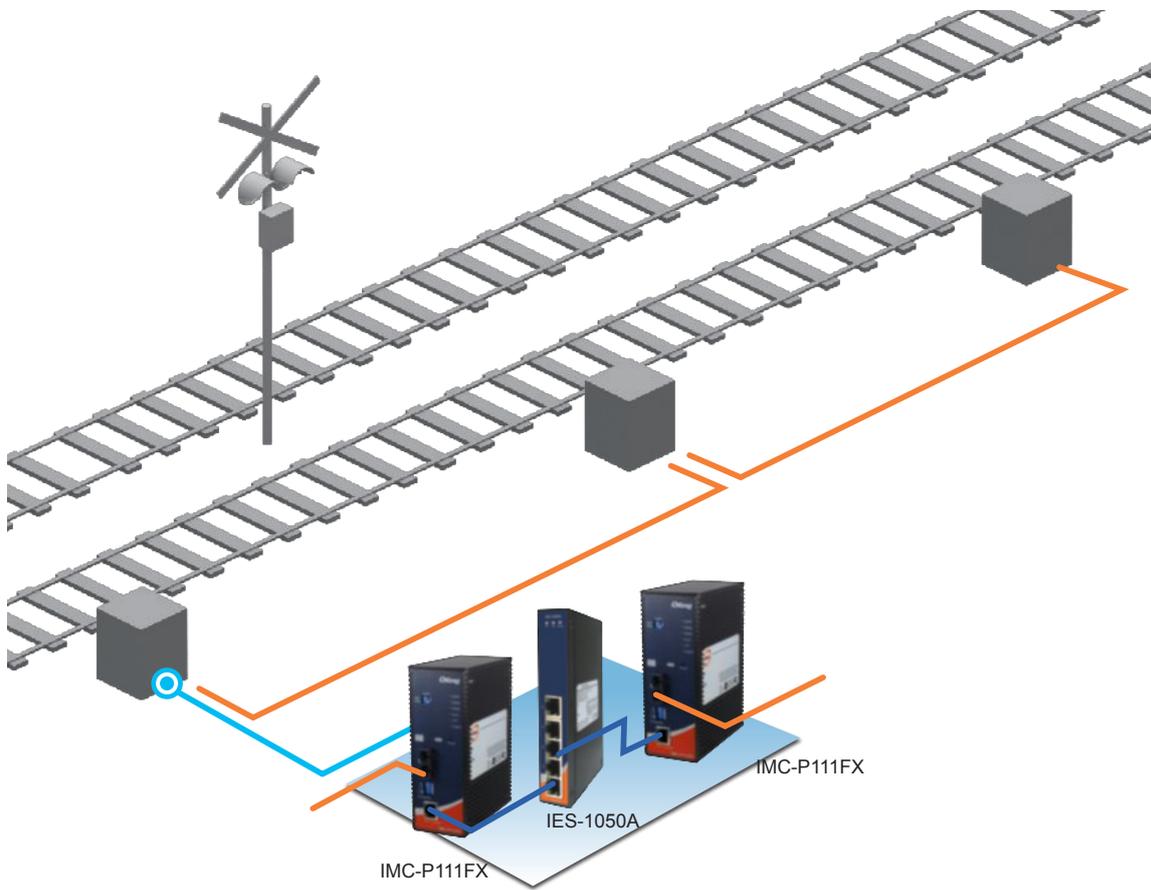
IMC-P111FX

Dimensions

IMC-P111-LV Series
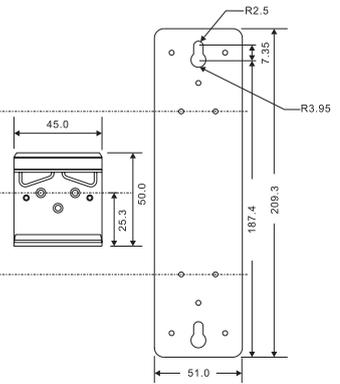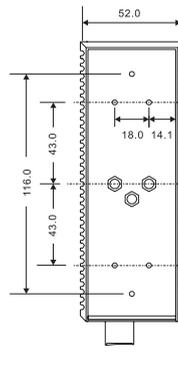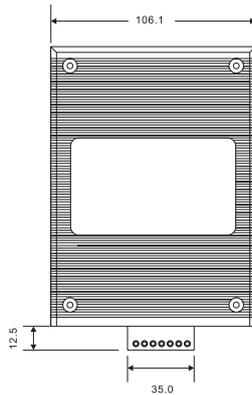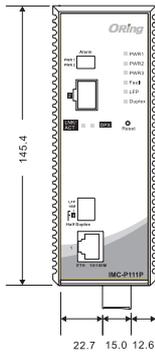
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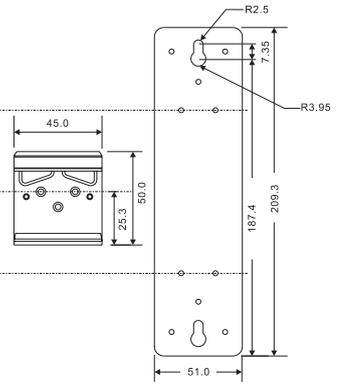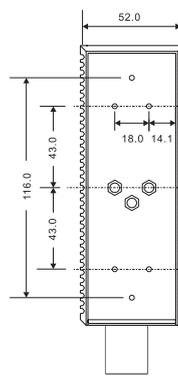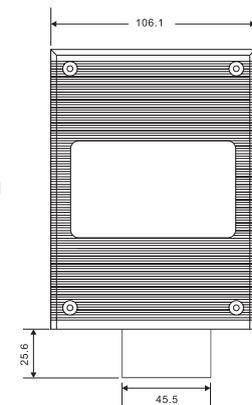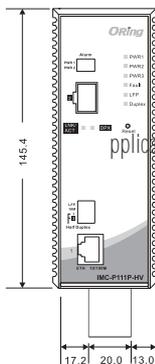
(Unit=mm)

Industrial
Ethernet Switch

Industrial
Media Converter

Industrial
Device Server

Industrial Wireless
Access Point

Industrial Cellular
VPN Router

Industrial
M2M Gateway

Accessories

Network
Management Software

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Industrial Media Converter

Specifications

ORing Media Converter Model		IMC-P111FX-MM	IMC-P111FX-SS	IMC-P111P
Physical Ports				
10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX		1	1	1
Fiber Port Specification	Fiber Ports Number	1	1	-
	Fiber Ports Standard	100Base-FX	100Base-FX	-
	Fiber Mode	Multi-mode	Single-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		
Alarm DIP-Switch				
DIP-Switch 1		Power-1 failed warning : (ON) enable, (OFF) disable		
DIP-Switch 2		Power-2 failed warning : (ON) enable, (OFF) disable		
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		
Duplex indicator		Green for port duplex indicator – (ON) Full-Duplex / (OFF) Half-Duplex		
Power				
LV Model Input Power		Triple DC inputs. Dual 12~48VDC on 7-pin terminal block, one 12~45VDC on power jack		
HV Model Input Power		Dual 100~240VAC power inputs on 8-pin terminal block		
Power consumption (Typ.)		LV model : 12 Watts, HV model : 100VAC/4.8Watts, 240VAC/5.8Watts)	LV model : 12 Watts HV model : 100VAC/4.8Watts, 240VAC/5.8Watts)	LV model : 12 Watts HV model : 100VAC/4.8Watts, 240VAC/5.8Watts)
Overload current protection		Present		
Reverse polarity protection		Present on terminal block		

Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	52(W)x106.1(D)x144.3(H) mm (2.05x4.18x5.68 inch.)
Weight (g)	LV model : 660 g / HL model : 802 g LV model : 660 g / HL model : 802 g LV model : 650g / HV model : 792g

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	
EMC	CE EMC (EN 55024, EN 55032), IEC 61850/IEEE1613, FCC Part 15 B
EMI	EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, FCC Part 15 B class A
EMS	EN 55024 (IEC/EN 61000-4-2 (ESD), IEC/EN 61000-4-3 (RS),IEC/EN 61000-4-4 (EFT), IEC/EN 61000-4-5 (Surge), IEC/EN 61000-4-6 (CS), IEC/EN 61000-4-8(PFMF), IEC/EN 61000-4-11 (DIP))
Shock	IEC60068-2-27
Free Fall	IEC60068-2-31
Vibration	IEC60068-2-6
Safety	EN60950-1
MTBF	-HV: 871329 hrs / -LV: 602979 hrs -HV: 779622 hrs / -LV: 509133 hrs -HV: 1401738 hrs / -LV: 816887 hrs
Warranty	5 years

Ordering Information

IMC-P1 [A][B][CC] - [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 port	- **1:** 1 ports	**-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, low-voltage 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, low-voltage power inputs
	IMC-P111FX-MM-SC-HV_US	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, multi-mode, 2Km/1310nm, SC connector, high-voltage power inputs, US power cord
	IMC-P111FX-SS-SC-HV_US	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, multi-mode, 2Km/1310nm, SC connector, high-voltage power inputs, UK power cord
	IMC-P111FX-MM-SC-HV_UK	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, low-voltage power inputs
	IMC-P111FX-SS-SC-HV_UK	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, single-mode, 30Km/1310nm, SC connector, high-voltage power inputs, UK power cord
	IMC-P111FX-MM-SC-HV_EU	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, multi-mode, 2Km/1310nm, SC connector, high-voltage power inputs, EU power cord
	IMC-P111FX-SS-SC-HV_EU	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, single-mode, 30Km/1310nm, SC connector, high-voltage power inputs, EU power cord
	IMC-P111FX-MM-SC-HV_JP	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, multi-mode, 2Km/1310nm, SC connector, high-voltage power inputs, JP power cord
	IMC-P111FX-SS-SC-HV_JP	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, single-mode, 30Km/1310nm, SC connector, high-voltage power inputs, JP power cord
	IMC-P111P-LV	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, low-voltage power inputs

Industrial Ethernet Switch

Industrial Media Converter

Industrial Device Server

Industrial Wireless Access Point

Industrial Cellular VPN Router

Industrial M2M Gateway

Accessories

Network Management Software

	Model Name	Description
Available Model	IMC-P111P-HV_US Preliminary	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, high-voltage power inputs, US power cord
	IMC-P111P-HV_UK Preliminary	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, high-voltage power inputs, UK power cord
	IMC-P111P-HV_EU Preliminary	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, high-voltage power inputs, EU power cord
	IMC-P111P-HV_JP Preliminary	Industrial IEC 61850-3 Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket, high-voltage power inputs, JP power cord

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

Optional Accessories (Can be purchased separately)
- SFP100 series : 100Mbps SFP optical transceiver
- DR-75 series : 75 Watts power supply
- DR-45 series : 45 Watts power supply
- DR-120 series : 120 Watts power supply