

# Quick Installation Guide

# IMC-111 Series

# Industrial Media Converter

## Introduction

IMC-111 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-111 series supports MDI/MDIX auto detection, so you don't need to use crossover wires. IMC-111 series with wide operating temperature range from -40 ~ 70°C and accepts a wide voltage range from dual 12 ~ 48 VDC power inputs, so it is suitable for harsh operating environments.

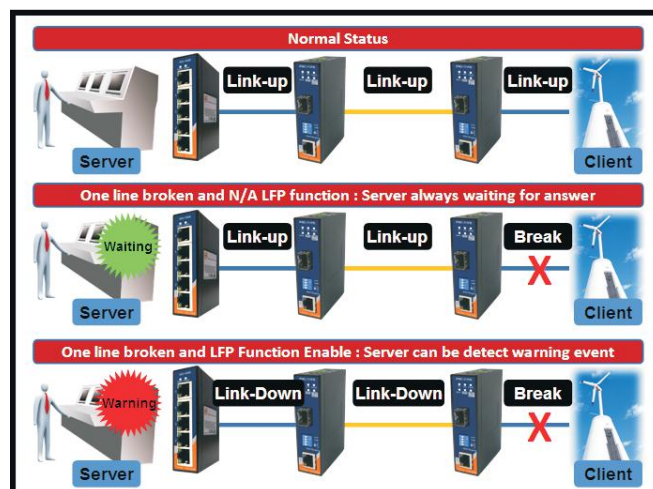
IMC-111 series also supports the LFP (Link Fault Pass-through) feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. Use the DIP-Switch to enable the LFP function, then IMC-111 series will force 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-111 series is reliable media converter and can satisfy most demand of operating environment.



## Features

- > Supports 1 port 10/100Base-T(X) auto-negotiation and auto-MDI/MDI-X
- > Supports Ethernet to fiber or Ethernet to SFP port
- > Supports LFP (Link Fault Pass-through) function
- > Supports full/half duplex operation mode
- > Supports store and forward transmission
- > Provided DIP-Switch to setting function
- > High reliability and rigid IP-30 housing
- > DIN-Rail and wall-mount enabled

## Connections of Media converter and LFP function



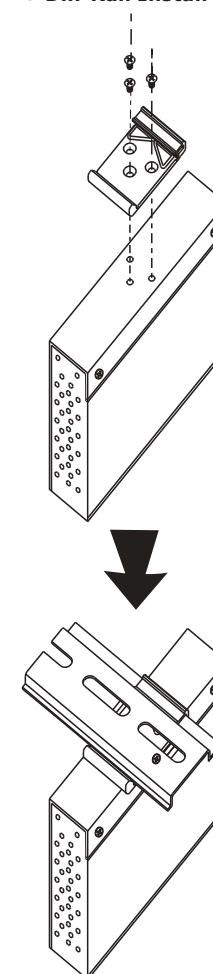
## Specifications

ORing Media Converter Model	IMC-111FB-MM-SC	IMC-111FB-SS-SC	IMC-111PB
<b>Physical Ports</b>			
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	1	1	1
<b>100Base-FX Multi-mode Ports</b>			
Fiber Ports Number	1	-	-
Fiber Diameter (µm)	62.5/125 µm 50/125 µm	-	-
Fiber Optical Connector	SC	-	-
Typical Distance (Km)	2 Km	-	-
Wavelength (nm)	1310 nm	-	-
Max. Output Optical Power (dbm)	-14 dbm	-	-
Min. Output Optical Power (dbm)	-23.5 dbm	-	-
Max. Input Optical Power (Saturation)	0 dbm	-	-
Min. Input Optical Power (Sensitivity)	-31 dbm	-	-
Link Budget (db)	7.5 db	-	-
<b>100Base-FX Single-mode Ports</b>			
Fiber Ports Number	-	1	-
Fiber Diameter (µm)	-	9/125 µm	-
Fiber Optical Connector	-	SC	-
Typical Distance (Km)	-	30 Km	-
Wavelength (nm)	-	1310 nm	-
Max. Output Optical Power (dbm)	-	-8 dbm	-
Min. Output Optical Power (dbm)	-	-15 dbm	-
Max. Input Optical Power (Saturation)	-	0 dbm	-
Min. Input Optical Power (Sensitivity)	-	-34 dbm	-
Link Budget (db)	-	19 db	-
100Base-FX SFP port	-	-	1
<b>Technology</b>			
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) 100Mbps DIP-Switch 3 for Ethernet full/half duplex selection : (ON) Full/Half-Duplex Auto-negotiate / (OFF) Ethernet Full-Duplex DIP-Switch 4 for fiber full/half duplex selection : (ON) Half-Duplex / (OFF) Full/Half-Duplex Auto-negotiate		
<b>LED Indicators</b>			
Power indicator	Green : Power LED x 2 (ON: power input on-line / (OFF) power input off-line)		
10/100Base-T(X) RJ 45 port indicator	Green for port Link/Act - (ON) Link up / (Blinking) Acting / (OFF) Link down Amber for 100Mbps/10Mbps indicator- (ON) Working at 100Mbps / (OFF) Working at 10Mbps Green 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 Green for fiber port duplex indicator- (ON) Full-Duplex / (OFF) Half-Duplex		
LFP status indicator	Amber LED - (ON) LFP function fail / (OFF) LFP function disable		
<b>Power</b>			
Input power	Dual 12~48 VDC power inputs on 4-pin terminal block		
Power consumption(Typ.)	2.2 Watts		
Overload current protection	Present		
Reverse polarity protection	Present on terminal block		
<b>Physical Characteristic</b>			
Enclosure	IP-30		
Dimension (W x D x H)	26.1 (W) x 70 (D) x 95 (H)mm (1.03 x 2.76 x 3.74 inch)		
Weight (g)	218 g		213 g

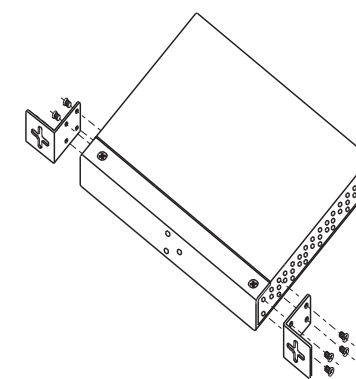
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 70°C (-40 to 158°F)
Operating Humidity	5% to 95% Non-condensing
Regulatory approvals	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (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

## Installation

### Din-Rail Install Step



### Wall-mounted Install Step



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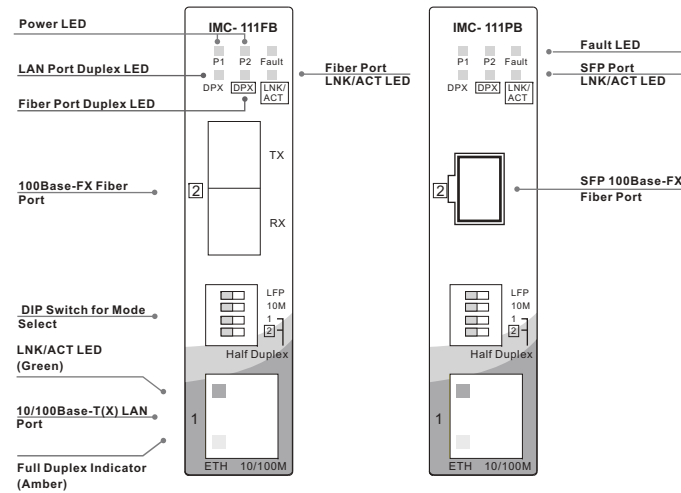


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# IMC-111 Series

# Industrial Media Converter

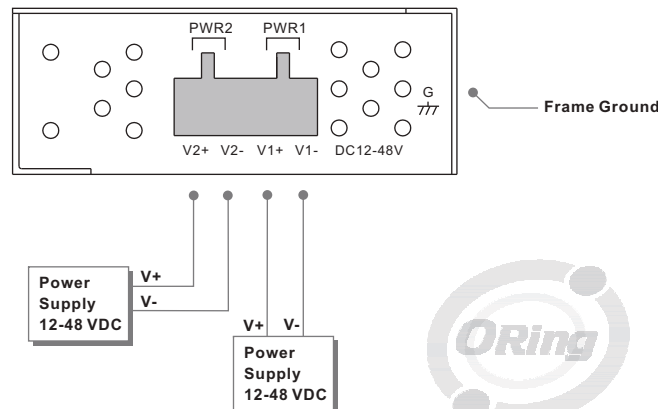
## Front Panel



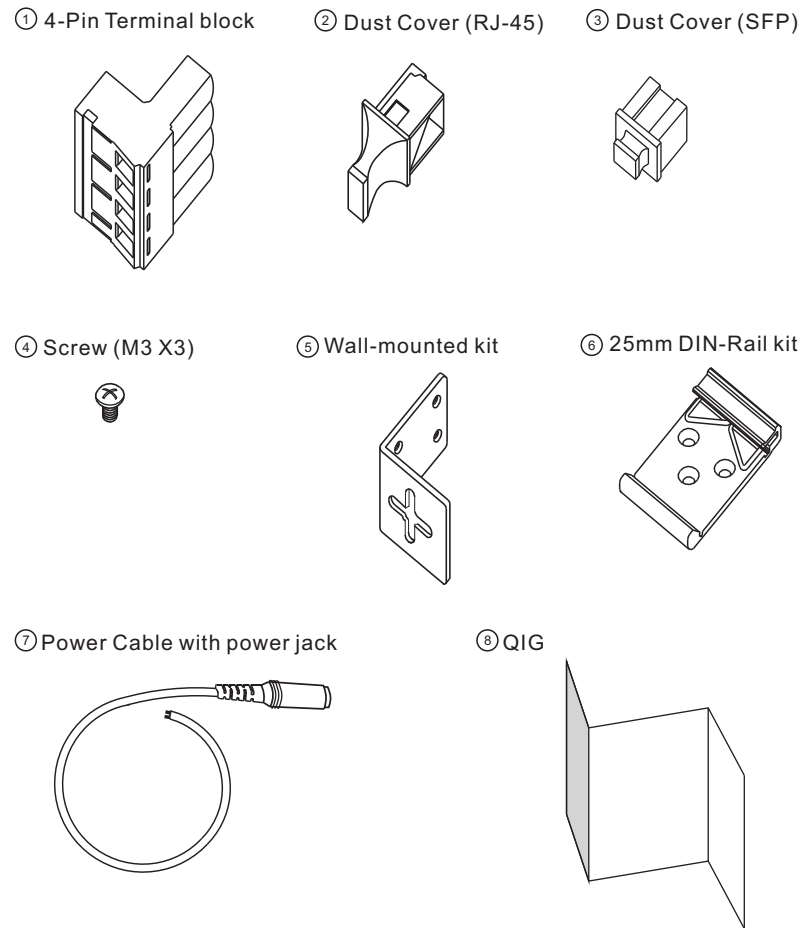
**DIP Switch Function**

DIP-Switch	Description
1 ON	LFP mode enable
1 OFF	LFP mode disable
2 ON	Ethernet speed 10Mbps
2 OFF	Ethernet speed 100Mbps
3 ON	Full/Half-duplex Auto-negotiate
3 OFF	Ethernet Full-duplex
4 ON	Fiber Half-duplex
4 OFF	Fiber Full/Half-duplex Auto-negotiate

## Power Connection Guide



## Accessory



## Packing list

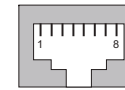
Model name	Model Description	Accessory
IMC-111FB-MM-SC	Industrial mini type Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, multi-mode, 2Km/1310nm, SC connector	⊗X1, ⊗X1, ⊗X8, ⊗X2, ⊗X1, ⊗X1, ⊗X1
IMC-111FB-SS-SC	Industrial mini type Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, single-mode, 30Km/1310nm, SC connector	⊗X1, ⊗X1, ⊗X8, ⊗X2, ⊗X1, ⊗X1, ⊗X1
IMC-111PB	Industrial mini type Ethernet to fiber media converter with 1x10/100Base-T(X) and 1x100Base-FX, SFP socket	⊗X1, ⊗X1, ⊗X1, ⊗X8, ⊗X2, ⊗X1, ⊗X1, ⊗X1

## Communication Connections

### 10/100Base-T(X) Ethernet Port Connection

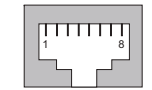
#### RJ45 (8-pin, MDI) Port Pinouts

Pin	Single
1	Tx+
2	Tx-
3	Rx+
6	Rx-

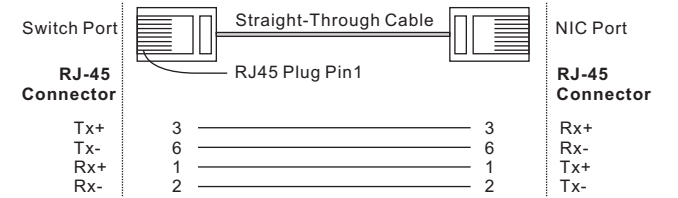


#### RJ45 (8-pin, MDI-X) Port Pinouts

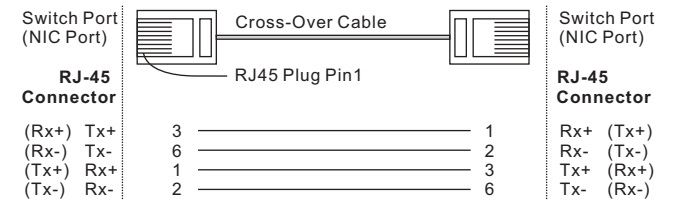
Pin	Single
1	Rx+
2	Rx-
3	Tx+
6	Tx-



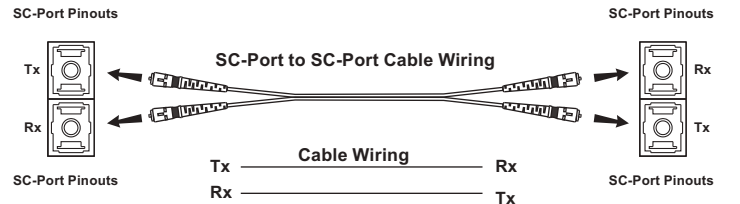
#### RJ45 (8-pin) to RJ45 (8-Pin) Straight-Through Cable Wiring



#### RJ45 (8-pin) to RJ45 (8-Pin) Cross-Over Cable Wiring



### 100Base-FX Connection



### 100Base-FX SFP Port Connection

