



# Atop Technologies, Inc.

## Industrial Ethernet to Fiber Media Converter

EF23 Series

10/100 Base-T(X) to 100Base-FX Media Converters

EF23G Series

1000Base-T to 1000Base-X Media Converters

## Hardware Installation Guide

Version 1.2

Updated in April, 2015



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P/N:89900403G

## Introduction

Thank you for choosing the Atop Industrial DIN-Rail Ethernet to Fiber Media Converter. The EF23/EF23G Series provide industrial grade media conversion between 10/100Base-T(X) and 100Base-FX (SC connector); and 1000Base-T and 1000BASE-X(SC connector or SFP).

This Guide covers Five product models:

### EF23 Series

- EF23-1-Fm-SC-2:

Fast Ethernet 10/100Base-T(X) to 100Base-FX Media Converter with extended operating temperature.

Include 1 10/100Mbps RJ45 and 1 100Mbps Multi-mode Optical Fiber.

- EF23-1-Fs-SC-30:

Fast Ethernet 10/100Base-T(X) to 100Base-FX Media Converter with extended operating temperature.

Include 1 10/100Mbps RJ45 and 1 100Mbps Single-mode Optical Fiber.

### EF23G Series

- EF23-1G-1Fm-SC-550M:

Gigabit Ethernet 1000Base-T to 1000Base-X Media Converter with extended operating temperature.

Include 1 1000Mbps RJ45 and 1 1000M Multi-mode Optical Fiber.

- EF23-1G-1Fs-SC-10:

Gigabit Ethernet 1000Base-T to 1000Base-X Media Converter with extended operating temperature.

Include 1 1000Mbps RJ45 and 1 1000Mbps Single-mode Optical Fiber.

- EF23-1G-1SFP:

Gigabit Ethernet 1000Base-T to 1000Base-X Media Converter with extended operating temperature.

Include 1 1000Mbps RJ45 and 1 1000Mbps SFP slot.



Never install or work on electrical or cabling during periods of lighting activity. Never connect or disconnect power when hazardous gases are present.



**WARNING:** Disconnect the power and allow to cool 5 minutes before touching.



**Caution:** CLASS 1 LASER PRODUCT. Do not stare into the laser!

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received; including interference that may cause undesired operation.

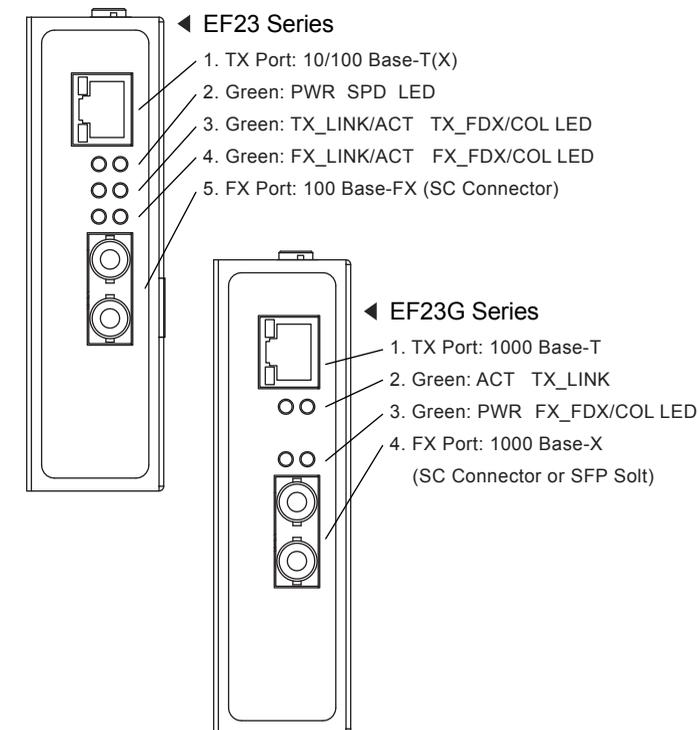
## Inside the Package

- Main Product
  - Atop EF23/EF23G industrial Ethernet Media Converter x1
- Standard accessories
  - 3-pin Terminal Block (2ESDVM-03P) x1  
Atop P/N: 50706701G
  - RJ-45 Port Plugs x1  
Atop P/N: 3990012G
  - Hardware Installation Guide (Warranty card is include) x1  
Atop P/N: 89900403G

### Optional Accessories

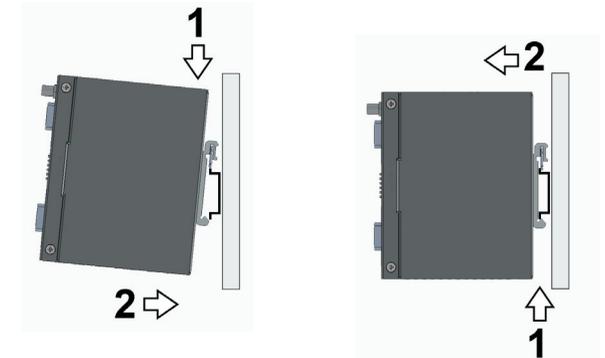
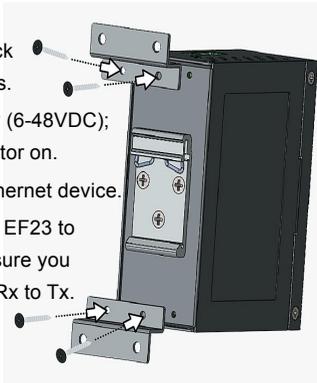
- 3-pin Terminal Block(2ESDVM-03P)  
Atop P/N: 50706701G
- Adapter : 3-pin Terminal block (5.08 mm) power adaptor, 100-240VAC input, 1.25A @ 12VDC output, US plug  
Atop P/N: 70100000000027G
- Adapter : 3-pin Terminal block (5.08 mm) power adaptor, 100-240VAC input, 1.25A @ 12VDC output, EU plug  
Atop P/N: 70100000000028G

## Product Description



## Hardware Installation

- Electrical
  - Step 1:** Unpack the Media Converter, check to make sure no external damages.
  - Step 2:** Connect the power adapter/supply (6-48VDC); It is normal to see the PWR indicator on.
  - Step 3:** Connect the RJ-45 port to your Ethernet device.
  - Step 4:** Connect the fiber optical port from EF23 to another EF23 or a switch. Make sure you connect the cable's Tx to Rx and Rx to Tx. At this point, you should see the FX\_LINK/ACT LED indicator on.
  - Step 5:** Now check to make sure your Ethernet device can access the network.
- Mechanical
  - Media Converters are equipped with a DIN-Rail bracket attached onto the rear panel. Follow the steps below to fasten the Media Converter to the DIN-Rail.
  - Step 1:** Tilt the unit slightly backwards.
  - Step 2:** Fit the unit over top the DIN-Rail.
  - Step 3:** Push downwards and against the DIN-Rail for locking.
  - Step 4:** Check that the unit is locked into position.



## EF23 Series DIP Switch Definition

DIP Switch	Mode	OFF	ON
1	TX_DUPLEX_MODE	Full(default)	Half
2	FX_DUPLEX_MODE	Full(default)	Half
3	SPEED_MODE	100M(default)	10M
4	LFP	Disable(default)	Enable
5	Auto Negotiation	Enable(default)	Disable

\* SPEED is only for TX  
\* LFP: Link Fault Pass-through  
\* This table only applies to EF23 series

## Pin Assignment of Network Connections

10/100/1000Base-T(X) Ethernet Port Connection

10/100BASE-T(X)								
Pin	1	2	3	4	5	6	7	8
Signal	Tx+	Tx-	Rx+	-	-	Rx-	-	-
1000BASE-T								
Pin	1	2	3	4	5	6	7	8
Signal	BI_DA+	BI_DA-	BI_DB+	BI_DC+	BI_DC-	BI_DB-	BI_DD+	DI_DD-

## EF23 Series LED Indicators

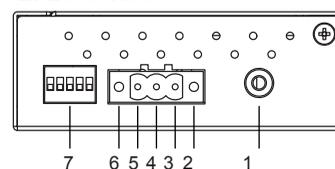
LED	Color	State	Description
PWR	Green	On	System is powered on
		Off	System is not powered on
SPEED (SPD)	Green	On	TX port is running at 100Mbps
		Off	TX port is running at 10Mbps
TX_LINK\ACT	Green	On	TX port is connected
		Off	TX port is disconnected
		Blinking	Data is transmitting on this port
TX_FDX\COL	Green	On	TX port is transmitting in full duplex mode
		Off	TX port is transmitting in half duplex mode
		Blinking	TX port is transmitting in half duplex mode and collision has occurred
FX_LINK\ACT	Green	On	FX port is connected
		Off	FX port is disconnected
		Blinking	Data is transmitting on this port
FX_FDX\COL	Green	On	FX port is transmitting in full duplex mode
		Off	FX port is transmitting in half duplex mode
		Blinking	FX port is transmitting in half duplex mode and collision has occurred

## EF23G Series LED Indicators

LED	Color	State	Description
ACT	Green	Blinking	Data is transmitting on both TX and FX ports
TX_LINK\ACT	Green	On	TX port is connected
		Off	TX port is disconnected
PWR	Green	On	System is powered on
		Off	System is not powered on
FX_LINK\ACT	Green	On	FX port is connected
		Off	FX port is disconnected
		Blinking	FX port is transmitting in half duplex mode and collision has occurred

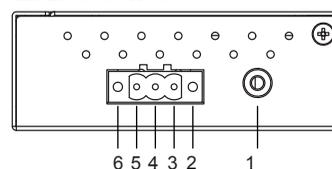
## 3-pin Terminal Block for power input

### EF23 Series



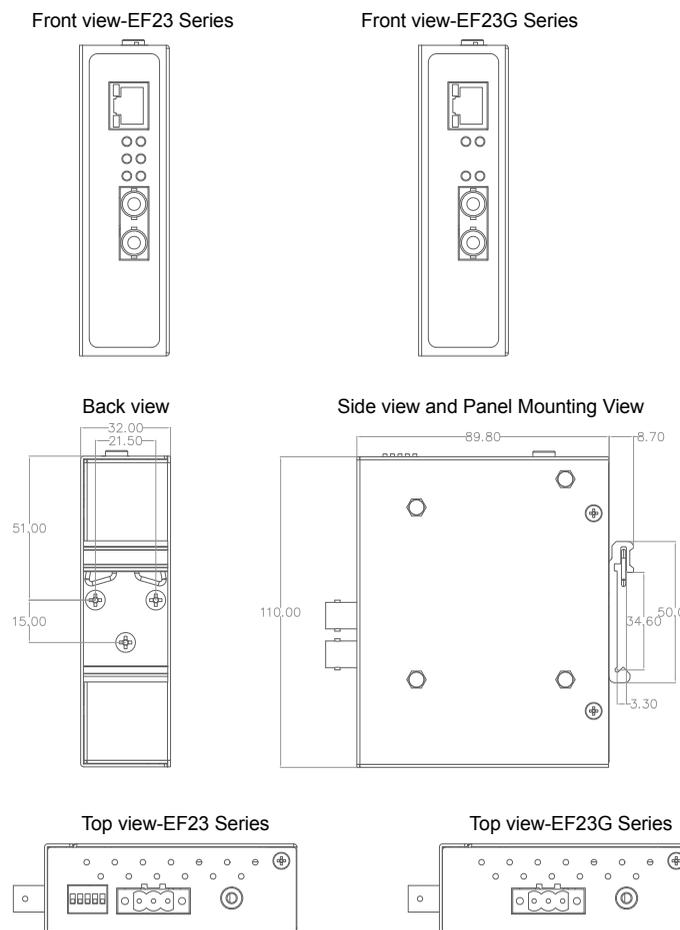
1. Grounding screw
2. LOCK
3. Frame Ground
4. V-
5. V+
6. LOCK
7. DIP Switch

### EF23G Series



1. Grounding screw
2. LOCK
3. Frame Ground
4. V-
5. V+
6. LOCK

## Mechanical dimensions(unit=mm)



## Warranty Policy

### Warranty Conditions

Products supplied by Atop Technologies are covered in this warranty for sub-standard performance or defective workmanship. The warranty is not, however, extended to goods damaged in the following circumstances:

- Excessive forces or impacts
- War or an Act of God: wind storm, fire, flood, electric shock, earthquake
- Use of unqualified power supply, connectors, or unauthorized parts/kits
- Replacement with unauthorized parts

### RMA and Shipping Costs Reimbursement

Customers shall always obtain an authorized "RMA" number from Atop before shipping the goods to be repaired to Atop. When in normal use, a sold product shall be replaced with a new one within 3 months after purchase. The shipping cost from the customer to Atop will be reimbursed by Atop.

After 3 months and still within the warranty period, it is up to Atop whether to replace the unit with a new one; normally, as long as a product is under warranty, all parts and labor are free of charge to the customers.

After the warranty period, the customer shall cover the cost for parts and labor. Three months after purchase, the shipping cost from the customer to Atop will not be reimbursed, but the shipping cost from Atop to the customer will be paid by Atop.

### Limited Liability

Atop shall not be held responsible for any consequential losses from using Atop's product.

### Warranty Period

Product Categories	Warranty
Ethernet Switches	5 Years
Wireless	
Serial Device Servers	
Modbus Gateways	
Embedded Device Servers	
Media Converters	3 Years
DIN-Rail Power Supplies	
Power Adaptors	1 Year
Antennas	
Other Accessories	

The warranty certification will not be effective until an authorized stamp issued by Atop's overseas agents.

Purchase Date: / / (yyyy/mm/dd)

Serial Number:



Atop Customer Services and Supports

1. Please contact your local dealers or Atop Technical Support Center at the following numbers.

+ 886-3-550-8137 (Atop Taiwan)

+ 86-21-6495-6232 (Atop China)

2. Please report the defected problems via Atop's Web site or E-mail account

Web Site : [www.atop.com.tw](http://www.atop.com.tw), e-mail : [service@atop.com.tw](mailto:service@atop.com.tw)

Web Site : [www.atop.com.cn](http://www.atop.com.cn), e-mail : [service@atop.com.cn](mailto:service@atop.com.cn)

— Any Changes to this material will be announced on Atop's website. —