Atop Technologies, Inc.

Industrial Ethernet to Fiber Media Convertor

EF23 Series
10/100 Base-TX to 100Base-Fx Media Converters

EF23G Series
1000Base-TX to 1000Base-FX Media Converters

Hardware Installation Guide

Version 1.1
Updated on Dec, 2011

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-TX and 100Base-FX (SC connectors)/1000base-T(X) and 1000Base-FX(SC connectors/SFP).
This Guide covers Five product models:

EF23 Series

■ EF23-1-Fm-SC-2:
Fast Ethernet 10/100Base-TX to 100Base-FX Media Converter with extended operating temperature.
Include 1 10/100M RJ45 and 1 100M Multi-mode Optical Fiber.

■ EF23-1-Fs-SC-30:
Fast Ethernet 10/100Base-TX to 100Base-FX Media Converter with extended operating temperature.
Include 1 10/100M RJ45 and 1 100M Single-mode Optical Fiber.

EF23G Series

■ EF23-1G-1Fm-SC-500M:
Gigabit Ethernet 1000Base-TX to 1000Base-FX Media Converter with extended operating temperature.
Include 1 1000M RJ45 and 1 1000M Multi-mode Optical Fiber.

■ EF23-1G-1Fs-SC-10:
Gigabit Ethernet 1000Base-TX to 1000Base-FX Media Converter with extended operating temperature.
Include 1 1000M RJ45 and 1 1000M Single-mode Optical Fiber.

■ EF23-1G-1SFP:
Gigabit Ethernet 1000Base-TX to 1000Base-SX/LX/LHX Media Converter with extended operating temperature.
Include 1 1000M RJ45 and 1 1000M 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
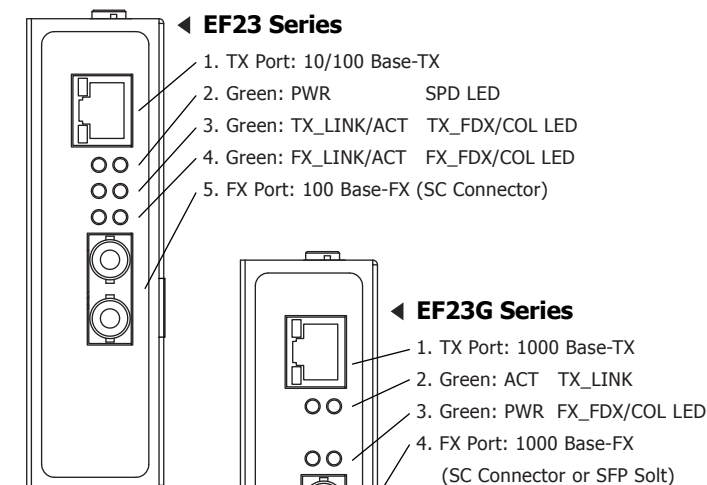(2) this device must accept any interference received; including interference that may cause undesired operation.

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

◄ **EF23 Series**
1. TX Port: 10/100 Base-TX
2. Green: PWR   SPD LED
3. Green: TX_LINK/ACT   TX_FDX/COL LED
4. Green: FX_LINK/ACT   FX_FDX/COL LED
5. FX Port: 100 Base-FX (SC Connector)

◄ **EF23G Series**
1. TX Port: 1000 Base-TX
2. Green: ACT   TX_LINK
3. Green: PWR FX_FDX/COL LED
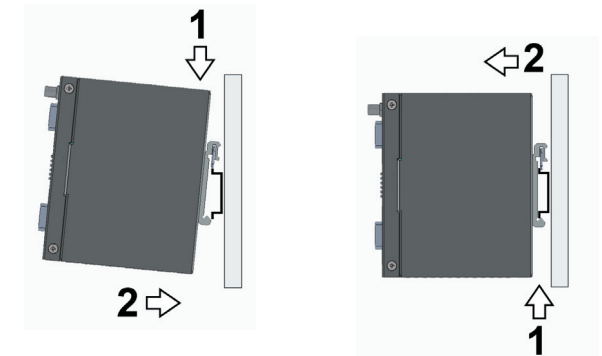4. FX Port: 1000 Base-FX
   (SC Connector or SFP Solt)

Hardware Installation

■ Electrical
Step 1: Unpack the Media Converter, check to make sure no external damages.
Step 2: Connect the power jack with the power adapter. It is normal to see the PWR indicator on.
Step 3: Hook up one RJ-45 port to your LAN, and other port to your computer. Check to mark sure your host computer can access the LAN.
Step 4: Hook up one FIBER port to other EF23 series, It is normal to see the FX_LINK/ACT indicator on.
■ Mechanical
Media Converters are equipped with DIN-Rail bracket attached onto rear panel. Follow the steps below to fasten the Media Converter to 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 LED Indicators

LED	ON	OFF	Flash
PWR	ON	OFF	
SPD	100M	10M	
TX_LINK\ACT	Link up	Link down	Link up/Active
TX_FDX/COL	Full	Half	Half/Col happen
FX_LINK\ACT	Link up	Link down	Link up/Active
FX_FDX/COL	Full	Half	Half/Col happen

* SPD only for TX

EF23G Series LED Indicators

LED	ON	OFF	Flash
ACT			Transmitting or Receiving
TX_LINK\ACT	Link up	Link down	
PWR	ON	OFF	PWR
FX_LINK\ACT	Link up	Link down	Link up/Active

Pin Assignment of Network Connections

10/100 Base-TX Ethernet Port Connection

RJ-45	⬚ (connector diagram)

10/100/1000 Base –TX							
Pin	1	2	3	4	5	6	7	8
Signal	Tx+	Tx-	Rx+	NC1+	NC1-	Rx-	NC2+	NC2-

Cable type, Max. Transmission and Connection

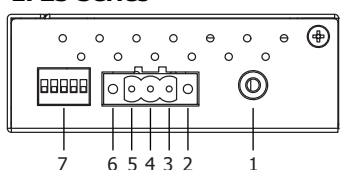| Speed	Cable	Max. Length	Connector
10 Base-T	Cat. 3,4,5	UTP 100m (328 ft)	RJ-45
100 Base-T	Cat. 5 UTP	UTP 100m (328 ft)	RJ-45
1000 Base-T	Cat. 5/Cat.5e UTP	UTP 100m (328 ft)	RJ-45
100 Base-F	850nm,1310nm, Multi-mode	2km	SC
1000 Base-SX	850nm,1310nm, Multi-mode	500m	SC
1000 Base-LX\LHX	1310nm,Single-mode	30km	SC
1000 Base-SX\SX+	850nm,1310nm, Multi-mode	2km	SFP
1000 Base-LX\LHX	1310nm,1550nm, Single-mode	30km	SFP

100/1000Base-Fx Fiber SC Cable Wiring

Fiber Port	SC Connectors	ST Connectors
	Tx / Rx	Tx / Rx
	Single-mode	Multi-mode

100/1000Base-Fx Fiber SC Cable Wiring

ST Connector

	A	← →	B	RX
TX	A	← →	B	**RX**
RX	B	← →	A	**TX**

SC Connector

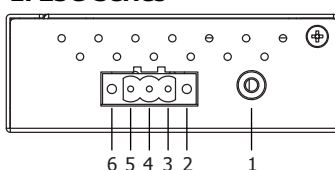|	A	← →	B	RX
TX	A	← →	B	**RX**
RX	B	← →	A	**TX**

3-pin Terminal Block for power input
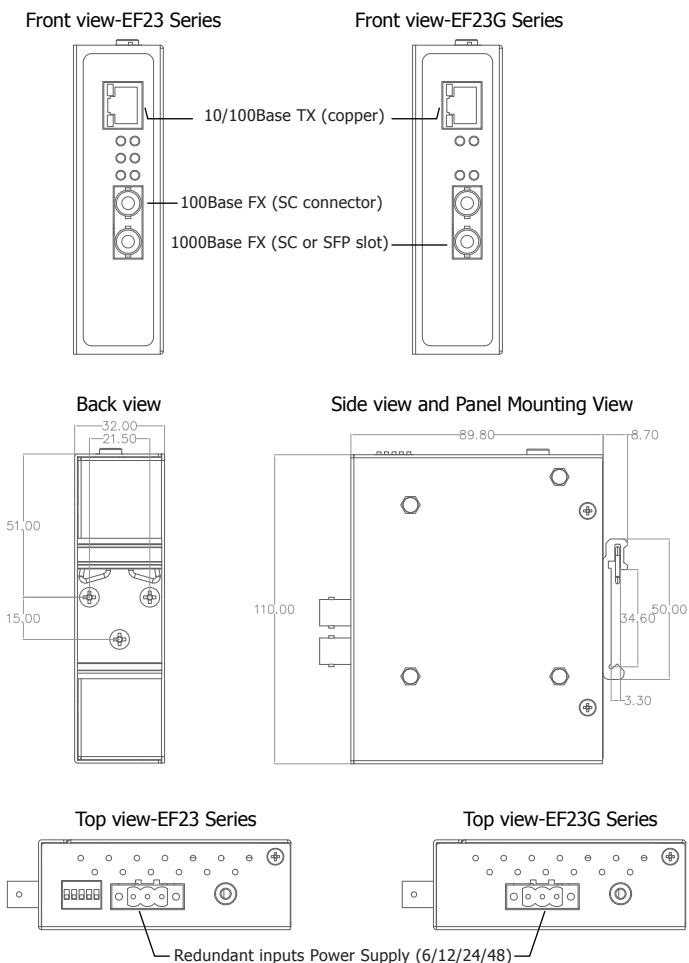
EF23 Series

7 6 5 4 3 2 1

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

EF23G Series

6 5 4 3 2 1

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

Mechanical dimensions(unit=mm)

Front view-EF23 Series

Front view-EF23G Series

- 10/100Base TX (copper)
- 100Base FX (SC connector)
- 1000Base FX (SC or SFP slot)

Back view

32.00
21.50
51.00
15.00

Side view and Panel Mounting View

89.80
8.70
110.00
34.60
50.00
3.30

Top view-EF23 Series

Top view-EF23G Series

Redundant inputs Power Supply (6/12/24/48)

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:

(a) Excessive forces or impacts
(b) War or an Act of God: wind storm, fire, flood, electric shock, earthquake
(c) Use of unqualified power supply, connectors, or maintenance procedure
(d) 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	
DIN-Rail Power Supplies	3 Years
Power Adaptors	1 Year
Antennas	
Other Accessories	

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

Serial Number:

— **Any change by website in material announcement primarily.** —