B&B ELECTRONICS

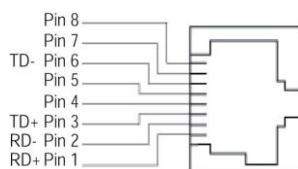## Ethernet Media Converter & Rack Chassis

This quick installation guide describes how to install and use the Ethernet Media Converter and optional Rack Chassis.
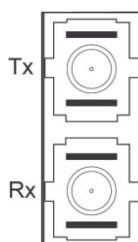
Description

The media converter provides one channel for media conversion between 10/100BaseTX and 100BaseFX. It can be used as a stand-alone device or with a standard 19 inch chassis as shown below.
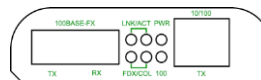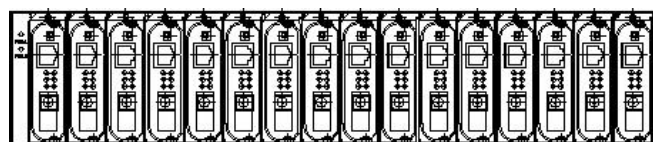
Features

- One-channel media conversion: 10/100BaseTX & 100BaseFX
- Fiber media:
    - Multi-mode fiber using SC or ST connectors
    - Single-mode fiber using SC connectors
- Auto negotiation of speed and duplex mode on TX port
- Auto MDIX on TX port
- DIP switch configuration for:
    - Link-fault-pass-through
    - Fixed speed
    - Half/full duplex
- Store-and-forward mechanism
- Non-blocking full wire-speed forwarding rate
- Supports broadcast storm filtering
- Back-pressure & IEEE802.3x compliant flow control
- Front panel status LEDs
- External AC to DC power adapter (included)
- Used as a stand-alone device or with a chassis
- Hot-swappable when used with a chassis

10/100BaseTX and 100BaseFX Connectors

10/100BaseTX Connections:

| Pin	Regular Ports	Uplink Port
1	Receive Data + (input)	Transmit Data + (output)
2	Receive Data – (input)	Transmit Data – (output)
3	Transmit Data + (output)	Receive Data + (input)
4	NC	NC
5	NC	NC
6	Transmit Data – (output)	Receive Data – (input)
7	NC	NC
8	NC	NC

100BaseFX Connections:

The Tx (transmit) port of device 1 is connected to the Rx (receive) port of device 2, and the Rx (receive) port of device 1 to the Tx (transmit) port of device 2.

LED's and DIP Switch

LED Status:

LEDs	State	Indication
PWR	Steady	Power on *(PWR stands for POWER)*
	Off	Power off
100	Steady	100Mbps network connection
	Off	10Mbps network connection
LNK/ACT	Steady	Network connection established *(LNK stands for LINK)*
	Flashing	Transmitting or receiving data *(ACT stands for ACTIVITY)*
	Off	Neither a network connection established nor transmitting/receiving data
FDX/COL	Steady	Connection in full duplex mode *(FDX stands for FULL-DUPLEX)*
	Flashing	Collision occurred *(COL stands for COLLISION)*
	Off	Connection in half-duplex mode

DIP Switch Settings:

Pos.	DOWN (0)	UP (1)
1	Enable Link-fault-pass-through	Disable Link-fault-pass-through
2	RJ45 Auto Negotiation Enabled	RJ45 Forced Mode
3	RJ45 Forced to 100Mbps	RJ45 Forced to 10Mbps
4	RJ45 Forced to Full Duplex	RJ45 Forced to Half Duplex
5	Fiber Forced to Full Duplex	Fiber Forced to Half Duplex
6		

PRODUCT INFORMATION
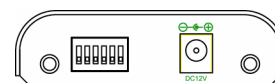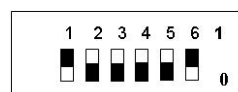
Link-fault-pass-through

Link-Fault-Pass-Through Overview:
When two Media Converters are connected via their fiber ports

Link Fault of the FX port:
A Link Fault condition will be sensed on the RJ45 port whenever the media converter detects a Link Fault condition on the Fiber port. *(The 100, LNK/ACT, and FDX/COL LED's will be off.)*

Link Fault of the TX port:
Media Converter A: A Link Fault condition will be sensed on the Fiber port whenever the media converter detects a Link Fault condition on the RJ45 port. Thus, the 100, LNK/ACT, and FDX/COL LEDs of the RJ45 port of the Media Converter A would be off.

Media Converter B: A Link Fault condition will be informed to the Fiber port of the Media Converter B. Then a Link Fault condition will be sensed on the RJ45 port of the Media Converter B whenever the Media Converter B detects a Link Fault condition on the Fiber port. Thus, the 100, LNK/ACT, and FDX/COL LEDs of the Media Converter B would be off.

Link Fault of the FX port		TX Port			FX Port	
LEDs	PWR	100	LNK/ACT	FDX/COL	LNK/ACT	FDX/COL
Media Converter A	ON	OFF	OFF	OFF	OFF	OFF
Media Converter B	ON	OFF	OFF	OFF	OFF	OFF

Link Fault of the TX port		TX Port			FX Port	
LEDs	PWR	100	LNK/ACT	FDX/COL	LNK/ACT	FDX/COL
Media Converter A	ON	OFF	OFF	OFF	ON	ON
Media Converter B	ON	OFF	OFF	OFF	OFF	OFF

Installation

Connecting Power:
The media converter is a plug-and-play device, so simply plug the power supply into the converter and then the AC outlet.
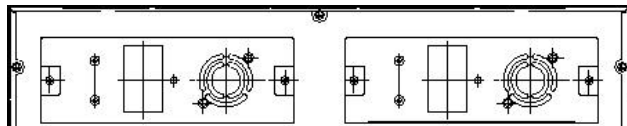
Installing the Media Converter into the Chassis:
The media converter fits into any of the chassis expansion slots.
- First, remove one of the expansion slot carriers
- Then, install the converter onto the carrier
- Next, insert the carrier onto the guide rails of the expansion slot
- Carefully slide the carrier unit in, until it firmly fits the chassis
- Reinstall the screw that locks the carrier to the chassis

Installing the Power Supply into the Chassis:
The power supply fits into either of the two power supply bays on the back of the rack chassis.
- First, remove the cover plate
- Then, insert the power supply into the guide rails of the bay
- Carefully slide the power supply in until it firmly fits in the chassis
- Tighten the thumb screws provided on the power supply

Rack Chassis Specifications

Features:
- House up to 16 media converters
- Front panel LED's for power status
- Standard 19 inch Rack, 2U size
- Hot-swappable: Media converters and Power supplies
- Cooling fans for ventilation - one on right & left sides of chassis
- Ventilation holes on each side
- Load sharing mechanism:
  If one power supply fails, the other takes over immediately
- Each converter bay is electrically isolated from each other
- Over current protection
  Fuses on PCB for each converter bay
  Fuses on each power supply

Chassis Specifications:

Capacity	Houses up to 16 media converters
Power	One power supply included, second optional hot-swappable
Cooling	One fan on the left and right side of the chassis
LED Indicators	One LED for each power supply's power status)
Dimensions	17.3 x 10.9 x 3.5 in (44 x 27.6 x 9 cm) Standard 19 inch, 2U size
Net Weight	8.5kg approx. (with sixteen media converters)

Power Supply Specifications:

Power Input	110 to 240VAC, 50/60Hz
Power Output	12VDC, 84W max.
Load	7A max.
Operating Temp	0°C to 40° C (32°F to 104°F)
Storage Temp	-25°C to 70°C (-13°F to 158°F)
Emissions	FCC Part 15 Class A; CE Class A

Media Converter Specifications

Applicable Standards	IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX & 100BaseFX
Fixed Ports	(1) TX port, (1) FX port
Speed 10BaseT 100BaseTX/FX	10/20Mbps for half/full-duplex 100/200Mbps for half/full-duplex
Switching Method	Store-and-Forward
Forwarding rate	14,880/148,800pps for 10/100Mbps
Cable 10BaseT 100BaseTX 100BaseFX	2-pair UTP/STP Cat. 3, 4, 5 up to 100m 2-pair UTP/STP Cat. 5 up to 100m MMF (50 or 62.5µm), SMF (9 or 10µm)
LED Indicators	Per Unit - PWR1, PWR2, FAULT, LFP
	Per Port - TX: LNK/ACT, FDX/COL, 100 FX: LNK/ACT, FDX/COL
Dimensions	4.3 x 3.2 x 0.9 in. (10.9 x 8 x 2.4 cm)
Weight	0.15 Kg
Power	External Power Supply 12VDC @ 280mA
Power Consumption	3.4W
Operating Temperature	0°C to 50°C
Storage Temperature	-25°C to 70°C
Humidity	10 to 90%, non-condensing
Emissions	FCC Part 15, Class A; CE
Safety	UL/CUL 60950, EN60950, IEC 60950, IEC61000-6-2

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