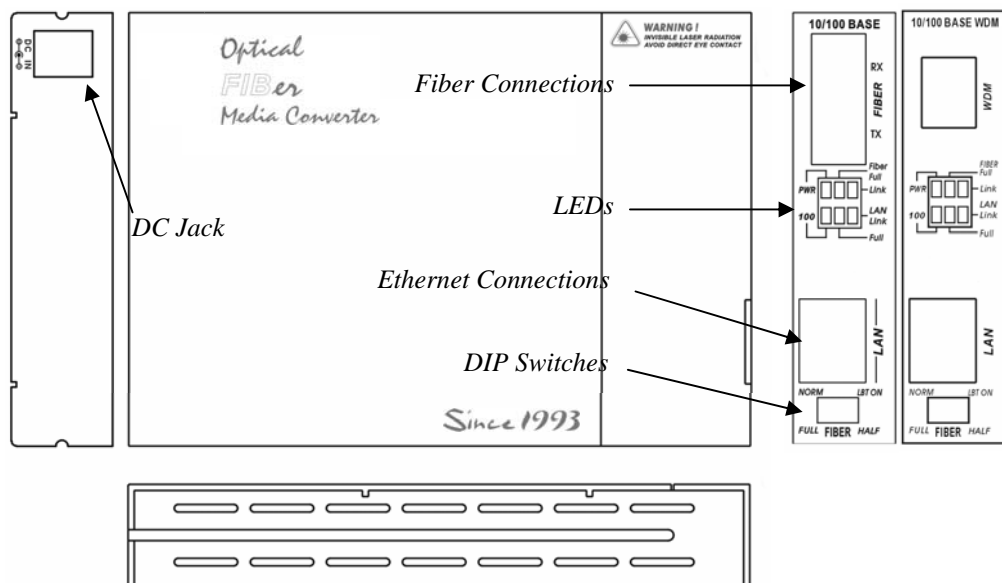


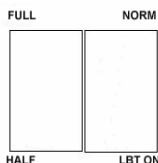
Installation Instructions for FIB1-10/100 Family 10/100BASE-TX / 100BASE-FX Fiber Transceiver Converters

Description

The FIB1 Family are standalone fiber media converters available in a number of different models that also act as line cards for placement in the FRM301 Platform Media Converter Chassis. The **FIB1-10/100** is a media converter for 10Base-T or 100Base-TX, data transmission over optical fiber media depending on your specific network needs. . All media converters are available with either multi-mode or single-mode optical transceivers and with connectors for SC, ST or FC. In single mode, WDM (Wave Division Multiplexing with SC connector) is also available in 20 or 40KM reach, which will provide the ability to transmit and receive data using only a single optical fiber. When the **FIB1-10/100** card is placed in the FRM301 rack with SNMP management, the card status, type, version, fiber link status, data link status and alarms can all be displayed. For the UTP side, auto-negotiation is default. These units will automatically tailor themselves to convert both half-duplex or full-duplex signals and You may also set the FX side in full-duplex only or half-duplex only. The Fiber Transceiver Converters give you the freedom to extend your 10/100Mbps cabling distance by allowing connectivity up to 120 kilometers. Six LED indicators signal the power status of the converter, UTP port speed, duplex status and Link/RX and FX port Link/RX and duplex status.



Front Panel DIP Switch Setting



1. Full / Half : The Fiber Duplex will be configured in Full-duplex or Half-duplex
* **This switch has included an "Auto Reset" function so the power-reset is not necessary when any modification is made here.**
2. Loop-back test and get remote side status (NORM →Not active ; LBT ON→active)
* **If the Local side loop-back test is active then LEDs (except the PWR LED) will all blink rapidly and refresh to display the remote side status.**
***Note: This application must be run under the circumstance that the remote side loop-back testing function is off.

Specifications

Standard

IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, 100BASE-FX (Fast Fiber, 100Mbps)
Supports Full Duplex Ethernet mode (200Mbps)
FIB1-10/100 family supports transmission of Ethernet packet up to 1600 Bytes in size.

10/100BASE-TX RJ-45 Connectors

One RJ-45 connector is provided auto MDI/X function for connection to either MDI-X (To PC) or MDI (To HUB) equipment. This allows all UTP connections to be made using only a common straight-through UTP cable.

RJ-45 Pin MDI type

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

Environment

Temperature : 0°C - 70°C
Humidity 10-90% non condensing

Dimension

122.6mm x 85.6mm x 20mm
(H x W x D)

10/100BASE-TX UTP Cable

Cable type: 10Base-T; Cat. 3,4 or 5 ; 100Base-Tx; Category 5
Maximum cable distance: 100 meters (328 feet)

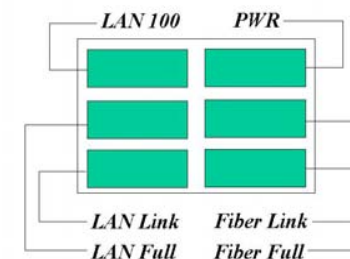
Power

+9V /1A maximum
DC Plug Type : Center Positive

Fiber Optic Connectors

For FIB1-10/100: Two connectors are provided for fiber optic cable connection. One is for transmission and the other is for reception of optical data

For FIB1-10/100W: One connector is provided for fiber optic cable connection. For both transmission and reception of optical data. Please note that transceiver "A" must connect to transceiver "B" for proper fiber linking.



LED Indicators

LED	Function	State	Status
PWR	Power indicator	On	Converter has power
		Off	Converter has no power
Fiber Full	Mode display	On	Fiber side full duplex mode (200Mbps)
		Off	Fiber side half-duplex mode
Fiber Link	Fiber link	On	The fiber link is ok.
		Off	No link or the link is faulty.
		Blinking	Receiving data on the fiber.
LAN 100	Mode display	On	UTP side is operating in 100Mbps mode.
		Off	UTP side is operating in 10Mbps mode
LAN Full	Mode display	On	UTP side full duplex mode (200Mbps).
		Off	UTP side half-duplex mode
LAN Link	Ethernet link	On	The UTP link is ok.
		Off	No link or the link is faulty.
		Blinking	Receiving data on Ethernet.

Dip Switch Settings (on PCB)

(Observe the "ON" marking on the DIP switch. All "Off" is the default position. Except the dip switch #5. Any changes to the default settings require opening the case. Please follow the number order from left to right)

1. UTP Auto/Manual :

UTP Auto : Automatically configure UTP port for 100M, 10M, full-duplex or half-duplex operation.

UTP Manual : Force UTP port only for its choice manually.

2. UTP Full / Half : The UTP will be configured in Full-duplex or Half-duplex mode.

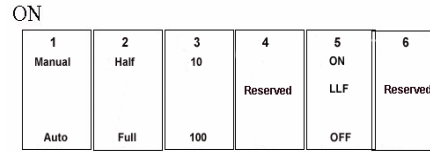
3. UTP 100/10 : Force UTP port in 100 or 10 Base.

4. Reserved

5. Link-Loss-Forwarding function (Details please see at bottom)

6. Reserved * **On previous versions, this switch enables transmission of packets up to 1536bytes**

** **Please remember to reset power of the unit if any change of the dip switch setting is made while power is on. (except switch#5)**

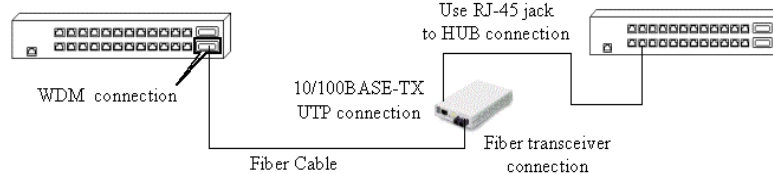


Installation

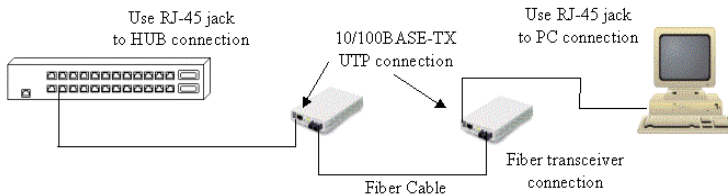
Connect the fiber interface cable to the FIB1-10/100. Using UTP cable, connect the Ethernet connection to the Auto-MDI/X RJ-45 jack for PC or HUB. Set the "FX" switch according to the specifications of your fiber side equipment. The switch has two positions, one is "Half" for half duplex, the other is "Full" for full duplex. A full duplex setting will be indicated by the LED. Follow the connection examples below. Install the fiber converter with the DC power cable provided.

Connections

The following example illustrates the connection scheme when connecting from a 10/100BASE-TX port of one HUB to a 100BASE-FX port of another HUB through the fiber converter.



The following example illustrates the connection scheme when connecting from a 10/100BASE-TX port of one HUB to a 10/100BASE-TX Network Interface Card (NIC) in a computer through the fiber converter.



Link-Loss-Forwarding (LLF) Application Note

This media converter incorporates a Fiber Link Forwarding feature which allows indirect sensing of a Fiber Link Loss via the 100 Base-TX UTP connection. Whenever the media converter detects a Link Loss condition on the Receive fiber (Fiber LNK OFF), it disables its UTP transmitter so that a Link Loss condition will be sensed on the receive UTP port. (See the following figure) The link loss can then be sensed and reported by a Network Management agent at the host equipment of remote UTP port.

This feature has no effect on the media converter's UTP LNK LED, which continues to function normally, independent of the state of the Fiber LNK LED and the UTP transmitter.

This feature is enabled by default on all the FIB1 Series media converters.

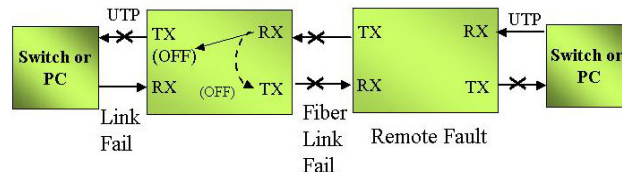


Figure : Fiber Break Responses

Loop-back Testing(LBT)& Get CPE status Application Note :

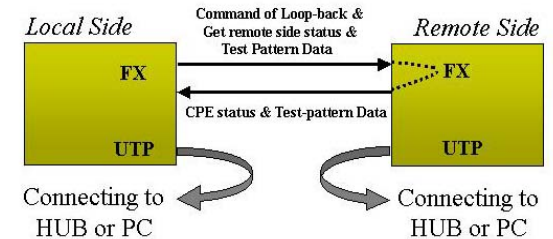
(While this feature is operating the fiber side transmission will be halted)

This media converter incorporates a Fiber Loop-back Testing feature which allows the system to confirm that the fiber or Ethernet circuit loop is complete or not. The local-side unit will send out a detect message which includes both command and test-pattern data to the remote-side unit and request for an answer. When the remote-side unit receives the message, first it will try to recognize the command. After the remote-side unit recognizes the command message, then it will deliver the received test-pattern data back to the local-side unit. In this way, the circuit loop is complete. This feature is enabled by the DIP switch#2 on the front panel.

The get remote side status feature allows the system (both available for FIB1 & FRM301 and FRM401 series application) to monitor the remote side status. First, the unit will send out a message which includes a command to the remote side unit and request for an answer. When the remote side unit receives the message, first it will try to recognize the command. After the remote side unit recognizes the command message, it will deliver the remote side status back to the rack mount unit. In this way, the rack mount unit can easily monitor every remote side unit. The remote side status message include the fiber side - link status and duplex status, the UTP side - link status, duplex status and speed status, the power status, transmission status and fiber (Tx side) failure status.

The FIB1 series is compatible with FRM301 & FRM401 series on this feature so you may test the whole application with FIB1 & FRM301 and FRM401.

Situation 1 : If the local side can not access to remote side when LBT is running, then only the power LED will flash rapidly alone.



TRADEMARKS

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WARNING:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference in which case the user will be required to correct the interference at his own expense. NOTICE: (1) The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (2) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

CISPR PUB.22 Class A COMPLIANCE:

This device complies with EMC directive of the European Community and meets or exceeds the following technical standard. EN 55022 - Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment. This device complies with CISPR Class A.

WARNING:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CE NOTICE

Marking by the symbol CE indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards: EN 55022:1994/A1:1995/A2:1997 Class A and EN61000-3-2:1995, EN61000-3-3:1995 and EN50082-1:1997