

# E1/T1 to Fiber Converter, Built-in Power Supply Family FIB2-E1R/E1B/T1B



**FIB2-E1B**  
**FIB2-E1R**

The FIB2 family is standalone fiber media converter available in a number of different models, with AC or DC power supplies built-in. The FIB2 family of converters may be applied in point-to-point applications or they may be linked to a centrally located FRM301 rack. The FIB2-E1 is a fiber media transport for G.703 E1 transmission. The BNC model provides unbalanced 75 Ohm coaxial connections while the RJ-45 model provides balanced 120 Ohm connections over twisted pair wiring. The FIB2-T1 is a fiber media transport for G.703 T1 transmission and features an RJ-45 connector for connection to 100 Ohm twisted pair wiring. 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 FIB2-E1 or T1 is linked to the FRM301 with FIB1-E1 or T1 card, it allows network engineers to get greater functionality through advanced SNMP features. The network administrator can manage any converter module from anywhere on the network, detect any link loss and maintain each loop.

## Features

- T1/E1 RJ45/RJ48 or Coax to Fiber converter
- Supports multimode, single-mode, and single fiber with ST, SC, or FC connectors
- User selectable line code setting, Far End Fault (FEF) setting, Loop back test

- Built-in Universal AC or DC power supply, depending on the model
- LED indicators - Power, Fiber Link, Line (E1 or T1) Link, Test mode
- Network Management via Terminal or SNMP card (when installed in or connected to FRM301 rack)
- Supports AMI or B8ZS/HDB3 line codes

## Technical Specifications

### E1/T1 Technical Specifications

- Ports 1 port
- Standards E1: ITU-T G.703, G.704, G.706, G.732, G.823  
T1: ITU-T G.703, G.704, AT&T TR-62411, ANSI T1.403
- Framing Unframed (transparent clear channel)
- Data rate E1: 2.048 Mbps ; T1: 1.544Mbps
- Line Code E1: HDB3/AMI ; T1: B8ZS/AMI
- Receive Level E1 Long haul: - 43dB ; T1 Long haul: -36dB
- Line impedance 75 ohms for FIB2-E1B ; 120 ohms for FIB2-E1R  
100 ohms for FIB2-T1R
- Connector BNC for FIB2-E1B (75 ohms) ;  
RJ-45 for FIB2-E1R (120 ohms)  
RJ-45 for FIB2-T1R (100 ohms)

## General Specifications

### Power Supply

- AC Power Supports: 90 ~ 260 VAC +/- 10%  
Frequency: 50 ~ 60 Hz
- DC Power Adapter Supports: 24 ~ 48 VDC
- Power consumption <2W
- EMI FCC Class A, CE (EN55022), (EN60950)

### Physical

- Dimension: 191.7 x 85.6 x 30 mm (H x W x D)
- Weight AC model : 16.1 Oz (500g)  
DC model : 17.8 Oz (550g)
- Temperature 0 - 50°C (Operating) ; 0 - 70°C (Storage)
- Humidity 20 - 80 % non-condensing (Operating)  
10 - 90 % (Storage)



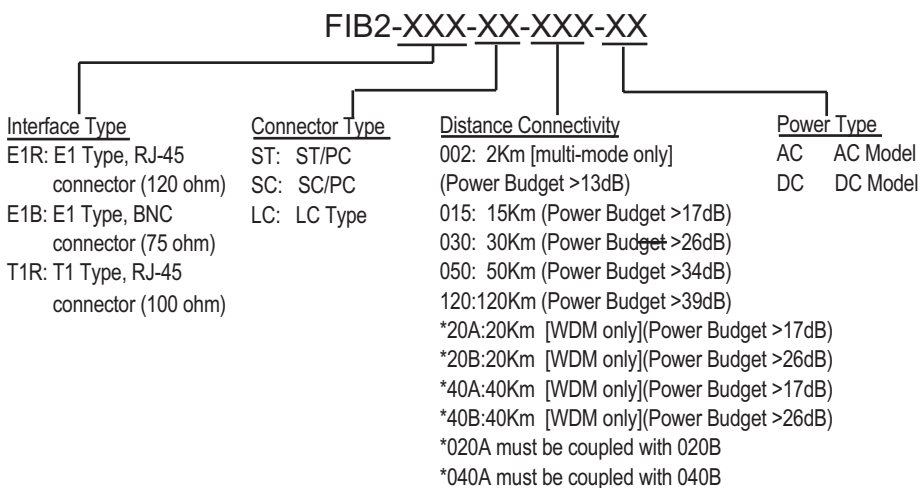
# E1/T1 to Fiber Converter, Built-in Power Supply Family FIB2-E1R/E1B/T1B

## Optical Specifications

		Standard Types					WDM Types*			
Type		M-M	S-M	S-M	S-M	S-M	S-M	S-M	S-M	S-M
Distance (Km)		2	15	30	50	120	20(A)*	20(B)*	40(A)*	40(B)*
Wavelength (nm)		1310	1310	1310	1310	1550	Tx:1310	Tx:1550	Tx:1310	Tx:1550
							Rx:1550	Rx:1310	Rx:1550	Rx:1310
BER		<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>	<10 <sup>-10</sup>
Sensitivity		-31dBm	-32dBm	-35dBm	-36dBm	-35dBm	-32dBm	-32dBm	-32dBm	-32dBm
Output Power		-20dBm	-20dBm	-15dBm	-8dBm	0dBm	-18dBm	-15dBm	-10dBm	-7dBm
Power Margin		11dB	12dB	20dB	28dB	35dB	14dB	17dB	22dB	25dB
Return Loss		-12dBm	-12dBm	-12dBm	-12dBm	-12dBm	-14dBm	-14dBm	-14dBm	-14dBm
Conn. Types	ST	v	v	v	v	v				
	SC	v	v	v	v	v	v	v	v	v
	LC	v	v	v	v	v				
	MT-RJ	v	v	v	v	v				
	FC	v	v	v	v	v				

M-M: multi-mode S-M: single-mode  
\* WDM types must match (A) with (B) in pairs

## Ordering Information



### Example:

FIB2-E1R-SC-120-AC  
FIB2-E1B-SC-40A-DC

FIB2 unit, with E1 RJ-45 connectors, one single mode 120 Km, SC type connector optical interface, and AC model  
FIB2 unit with E1 BNC connectors, one WDM 40 Km, SC type connector optical interface, and DC model (Must be coupled with FIB2-E1B-SC-40B)

\*Special note for WDM : Because WDM utilizes different wave lengths on the same physical fiber cable, the WDM units must be matched in pairs (which we designate as A and B). Failure to match in pairs (A unit to B unit) will not allow any transmission on the fiber link as the transmit wavelength of one unit in the pair must match the receive wavelength of the other unit in the pair.

100~240VAC  
AC Model



18~75VDC  
DC Model

