FC1X00

E1 G.703 (BNC/RJ45) to Fibre Converters

- Low cost voice or data trunk extension or trunk connection over fibre
- DPNSS, Primary Rate ISDN-30 DASS and ISDN30e QSIG PBX trunk protocols supported
- Unchannelised and Fractional E1 Router data also supported
- Payload, voice and data protocols and PBX signalling are passed transparently
- Must be used in pairs
- Available in a large number of multi-mode and single-mode variants
- BNC or RJ45 E1 connection selection via a switch
- Minimal configuration of unit needed, so easy to install & maintain
- Integral auto-sensing power supply (100-250V AC or -48V DC versions)
- 12-24V DC power supply available on request
- Rack mounting kits for 2 or 18 units available

FC1000 E1 - Fibre Converter

The FC1X00 product range provides a competitively priced method of extending the operating distance of PBX trunks or E1 2Mbps G.703 Router interfaces over fibre. For example a trunk connection between two PBX systems can be extended over fibre. Alternatively a connection between a PBX and a carrier NTU can be extended over fibre. The three standard FC1X00 models provide multimode fibre, short haul singlemode or long haul singlemode interfaces using SC connectors. The FC1X00 products are totally transparent to payload, voice and data protocols and PBX signalling whether DPNSS, Primary Rate ISDN-30 DASS, ISDN-30e QSIG or other proprietary PBX trunk protocols. The FC1X00 also supports unframed or framed data Router connection, i.e. G.703, G.704, unchannelised or fractional E1.

The E1 interface offers both a BNC connector pair and a single RJ45 connector, and a RJ45 crossover dongle is provided to simplify cabling to connected equipment. The standard FC1X00 variants are supplied with SC fibre connectors and operate at a nominal wavelength of 1300nm. Other wavelengths, distances and connector options are available on request, e.g. 850nm, 1550nm, 1550/1300 Bi-Di WDM and CWDM, as well as ST and FC. There is a choice of integrated power supplies at 100-250 VAC or -48 VDC, with 12-24VDC also available on request. Optional rackmounting kits are available for 2 or 18 units.

PBX to PBX extension over multimode fibre

This application shows a pair of PBX systems connected over a multimode fibre using a pair of FC1000 units. This multimode fibre could be within a building (e.g. between two PBXs at either end of a large hotel), or across a campus (e.g. between two departmental buildings of a University).

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Specifications

Single-mode short haul Line Interface	
Interface	Dual SC single mode 8/125 um
Tx Power	-8 dBm to -15 dBm
Max Rx input power	-8 dBm
Rx sensitivity	-8 to -31 dBm
Optical loss budget	-15 - (-31) = 16 dB

Single-mode long haul Line Interface	
Interface	Dual SC single mode 8/125 um
Tx Power	0 dBm to -5dBm
Max Rx input power	-8 dBm (may need attenuator)
Rx sensitivity	-8 to -34 dBm
Optical loss budget	-5 - (-34) = 29 dB

Multi-mode Fibre Interface	
Interface	Dual SC multi-mode 62.5/125 um
Tx Power	-14 to -19 dBm
Max Rx input power	-14 dBm
Rx sensitivity	-14 to -30 dBm
Optical loss budget	-19 - (-30) = 11 dB

Compliance & Approvals	
Safety	EN60950, IEC-60825-1
	(Class 1 Laser Eye Safety)
EMC	EN55022, EN50082

Line E1 Electrical Interface	
Port	G.703, 75 ohm unbalanced
	120 ohm balanced
Interface	BNC (75 ohm), RJ45 (120ohm)
Line coding	HDB3
Bit Rate	2.048 Mbps +/- 50 ppm
Barrier	Fully barriered per EN41003
Cable lengths	RG59 = 600 m
	UR202 = 750 m

Environment	
Temp	0 - 50 deg C
Humidity	0 - 95% RH, non condensing
Pressure	86 - 106 KPa

Power supply	
-48 VDC	-40 to -72 VDC, 200 - 100mA
AC Mains	100 - 250 VAC, 50 - 60 Hz,
	60 - 25mA, IEC connector
Power consumption	6 watts approx when operating

Packaging	
Type	Modem, 1U high without feet

Dimensions (W x D x H mm)	
Rackmount	202 x 132 x 44 (without feet)
Tabletop	202 x 132 x 48 (with feet)

Order codes

Product	100 - 250 VAC	-48 VDC
FC1000 E1 to multi-mode Fibre	80-05-910	80-21-910
FC1100 E1 to single-mode short haul	80-05-918	80-21-918
FC1200 E1 to single-mode long haul	80-05-919	80-21-919
1U 2 Unit Rackmount Kit	80-05-256	80-05-256
6U 18 unit Rackmount Kit	80-05-250	80-05-255

About Metrodata

Founded in 1989 Metrodata Limited offers a wide range of connectivity solutions for the LAN and WAN arena including Speed, Interface and Protocol Conversion devices. Network Interfaces and Transports supported include those for Serial, SDH/PDH, ATM, Ethernet and Fibre applications.

Our portfolio today extends from simple connectivity products through to Multiplexing and Managed Service Delivery Solutions for the Telecoms Carrier market. The company also offers Network Design and Integration services and in this area has a particular expertise in Fibre technologies, enabling clients to maximise the effectiveness of their Fibre infrastructure investments. Our business is to help our clients maximise their productivity whilst reducing costs.

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