FIBERSYSTEM

Datasheet

Singlemode 1310nm, 20km

Contact us for or other wave-lenght and distances

Features 21-219 Fiber optic IEEE C37.94 - G.703 E1 Multiplexer Singlemode

- Singlemode with wave-length 1310nm or 1550nm, lenght 20-120km
- Two independent IEEE C37.94 fiber optical connections over a single E1
- Standards compliant for power substation installation
- 19” mounting with only 200mm depth
- Single supply range from 48VDC to 230VAC

IEEE C37.94

Fiber optic interface according to standard “IEEE C37.94-2002, IEEE Standard for N times 64 Kilobit per Second Optical Fiber Interfaces between Teleprotection and Multiplexer Equipment” describes a fiber optic intrasubstation communication links between teleprotection equipment and multiplexers.

G.703 E1

E1 describes a galvanic G.703 interface with G.703 frames at 2048kbps commonly used in telecommunication.

Function

The 21-219 is an electro optical multiplexer between one G.703 E1 and two IEEE C37.94 optical ports. The two IEEE ports are fully mapped into the G.703 standard frame structure of the E1 port, allowing for further SDH/PDH multiplexing and de-multiplexing.

21-219 derives it synchronization from the network port (E1) or from an internal 2048Kbps PDH compliant clock enabling it to be used in leased line applications using electrical E1 modems such as SHDSL and alike.

Usage

The 21-219 Fiber optic IEEE C37.94 – G.703 multiplexer from Fibersystem is intended for interfacing substation teleprotection equipment with IEEE C37.94 interfaces to telecom multiplexers using G.703 E1 interfaces.

The two independent IEEE C37.94 ports can be used for redundancy in the network or as a cross redundancy in dual installations.

The 21-219 Fiber optic IEEE C37.94 – G.703 multiplexer can also be used in combination with the 21-216 Fiber optic IEEE C37.94 – G.703 64Kbps Codirectional Converter, for instance when the Teleprotection equipment lack IEEE C37.94 ports or when the intermediate SDH/PDH network offers a mixture of E1 G.703/704 ports and 64Kbps G.703 ports on different sites.

*The 21-219 product is part of a wide **product family** of interface, speed and protocol converters.*

*Fibersystem also offer **many related products** like Relay Trip Links, Asynchronous Modems, 19” Rack Based Interface Conversion and Operator Station KVM extensions.*

*The 21-219 product has been **tested and approved** to be used with the REL and RED product lines from ABB Power Technologies.*

***Fibersystem AB** is an inventive Swedish company who since 1982 has been working with the application of fibreoptic technology in the delivery of solutions fulfilling the Customers’ multitude of needs.*

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21-219 Fiber optic IEEE C37.94 - G.703 E1 Multiplexer Singlemode

Technical data

Fiber optic link

Data speed	2048kbps
Protocol	IEEE C37.94
Wave-length	1310nm (contact us for 1550nm)
Fiber	Singlemode 9/125um, ST-connector
Optical system budget	9/125um, 19db
Typical distance	20km (contact us for other lenght up to 120km)

Galvanic

Data speed	2048kbps
Protocol	G.703, E1
Connector	2 x BNC , Coaxial cable

Power Supply

DC	48V DC to 250V DC, ±20%
AC	230VAC ±20%, 50−60 Hz
AC-connector	IEC 320, 3 pin

Environmental

Operating temperature range	-25 to +55 oC
Storage teperature range	-40 to +85 oC
Relative humidity operating	5 to 95 %
Relative humidity storage	5 to 95 % non condensing

Designed to meet CE compliance

Immunity	EN 61000-6-2
Emission	EN 61000-6-4
LVD	EN 50178; RIV = 250 V OVC = III

Designed to meet mechanical compliance

Vibration	IEC 60255-21-1 Klass 2
Shock	IEC 60255-21-2 Klass 2
Seismic	IEC 60255-21-3 Klass 2

Designed to meet EMC compliance

ESD	IEC 60255-22-2 Class 3, contact 6kV, air 8kV
Radiated	IEC 60255-22-3 / IEEE/ANSI C37.90.2; 35V/m
Burst Power	IEC 60255-22-1 Class III
Burst Communication	IEC 60255-22-1 Class II; 0,5 kV diff; 1 kV common mode
Fast transient Power	IEC 60255-22-4 Class IV
Fast transient Communication	IEC 60255-22-4 Class II; 1kV

Designed to meet Insulation

Dielectric test	IEC 60255-5, 2,0kV 1min
Impuls voltage test	IEC 60255 / EN 50178 5kV / 6kV
Insulation resistance	IEC 60255-5; > 100 Mohm at 500 VDC

Dimensions and Weight

Physical size	The unit is intendend to be mounted in a 19” rack. By adjusting the mount brackets the unit can also be mounted on a wall or similar Heigth 45 mm, Width 483 mm (Without brackets 380mm), Depth 173 mm
Weight	3 kg

Ordering information

Product number	Model	Description
60-00-7119	21-219	Fiberoptic G.703 Codir to C37.94 E1 Singlemode 1310nm

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