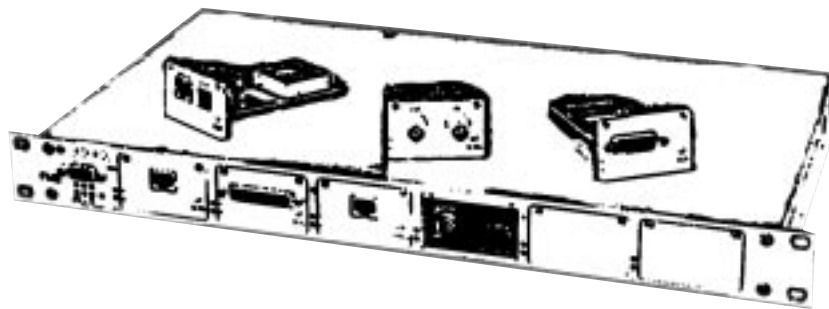


6-Channel FO-MUX Modular



Key Features

- ▶ 850 or 1300 nm MM, 1300 or 1550 nm SM
- ▶ Up to 6 interface ports for flexible use of I/F modules
- ▶ Fractional and non-fractional version
- ▶ NMS integrated
- ▶ SNMP agent available
- ▶ Transmission distances up to 90 km
- ▶ Redundant FO link (on request)
- ▶ Redundant power supply, AC / DC (on request)

The outspread of fiber optic cables, even in the local loop area, increases the demand for devices enforcing the distribution of 2 Mbps lines over the last mile. In this context management has become an important issue.

In order to offer an effective solution BLACK BOX has a portfolio of the FME which converts electrical data of up to 6 channels to fiber optic signals. The modular interface concept supports any existing and all future interfaces (e.g. G.703 (E1/T1), X.21, V.35, 10Base-T, BRI (ISDN(BRI)), HDSL), providing flexible assembly according to the user's demands.

The individual configuration of each channel concerning data rate (up to 2 Mbps), loops and clock source (internal or external) offers high flexibility and independence from central network clock sources. The 6-Channel unit is available as non-fractional (MDSP7xx) or even as fractional version (MDSP6xx) supporting data rates of $n \times 56 / 64$ Kbps where the distance between

two 6-Channel FO-MUX can be up to 6 km for multimode and up to 90 km for singlemode.

The included management allows the control and monitoring of each individual port via a VT100 terminal connected to a V.24 port. All management features are also possible via an external SNMP proxy agent controlling up to 4 stacks with up to 15 6-Channel FO-MUX per stack.

A redundant FO link or power supply provides further reliability and link availability. Each link has its own relay contact in order to report link failure. The MDSP7xx is available as 19" rack mountable standalone units.

Specifications

General Characteristics

LED for TXD, RXD, On,FO sync and loops

Size — 44 x 483 x 263 mm (H x W x D)

Loop tests — Local and remote

FO Interface

Connectors — ST, SC or FC-PC

MM LED — 850 or 1300 nm multimode

SM LED — 1300 or 1550 nm singlemode

Management Functions

Integrated — NMS management via VT100

SNMP — proxy agent to manage up to 4 stacks with 15 FME available, supports MIB I and II e.g. with SNMPc or HP OV

DTE Port Specification

Clock modes per channel — Internal, external or remote

6 -Channel FO MUX (fixed interface ports) —

- MDSP7xx (modular I/F ports) or MDSP6xx (fractional version, modular I/F ports)
- X.21, V.35, V.24, V.36
- G.703, T1 or E1, 120 Ω balanced or 75 Ω unbalanced, all types mixable
- 2-wire module, up to 6 km, max. 128 Kbps
- HDSL module for 4 wire transmission, up to 6 km, 2 Mbps
- Ethernet bridge module with 10BaseT

- BRI module, 2 B + 1 D-channel, TE/NT simulation
- Service Module with 1x audio port and 1x data port V.24, 9600 baud Options
- Redundant fiber optic
- Redundant power supply 230 AC/48 DC
- WDM Fiber Doubler
- Laser or High Power Laser for extended range
- V DC
- 40 DC power supply for ISDN bus

Optical Data						
FO Type	850 nm MM LED	1300 nm MM LED	1300 nm SM LED	1300 nm SM Laser	1550 nm SM Laser	1550 nm SM DFB Laser
Output Power	-14 dBm @ 62.5/125 μ m	-18 dBm @ 62.5/125 μ m	-15 dBm @ 9/125 μ m	-5 dBm @ 9/125 μ m	-5 dBm @ 9/125 μ m	-5 dBm @ 9/125 μ m
Receiver Sensitivity	-28 dBm @ 62.5/125 μ m	-30 dBm @ 62.5/125 μ m	-32dBm @ 9/125 μ m	-32dBm @ 9/125 μ m	-32dBm @ 9/125 μ m	-32dBm @ 9/125 μ m
Power Budget	11 dB	9 dB	17 dB	27 dB	27 dB	27dB
Max. Range	1 km* @ 3.5 dB/km	5 km @ 1.6 dB/km	40 km @ 0.4 dB/km	65 km @ 0.4 dB/km	15 km* @ 0.3 dB/km	90 km @ 0.3 dB/km

* due to dispersion

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Ordering information		Ordering information	
ITEM	CODE	ITEM	CODE
6-Channel FO-MUX (fractional version)		6-Channel FO-MUX (non-fractional version)	
6-Channel FO-MUX, ST, MM, 820nm LED	.MDSP608AE-MM-ST	6-Channel FO-MUX, ST, MM, 820nm LED	.MDSP708AE-MM-ST
6-Channel FO-MUX, SC, MM, 820nm LED	.MDSP608AE-MM-SC	6-Channel FO-MUX, SC, MM, 820nm LED	.MDSP708AE-MM-SC
6-Channel FO-MUX, FC-PC, mm, 820nm LED	.MDSP608AE-MM-FC	6-Channel FO-MUX, FC-PC, mm, 820nm LED	.MDSP708AE-MM-FC
6-Channel FO-MUX, ST, MM, 1300nm LED	.MDSP613AE-MM-ST	6-Channel FO-MUX, ST, MM, 1300nm LED	.MDSP713AE-MM-ST
6-Channel FO-MUX, SC, MM, 1300nm LED	.MDSP613AE-MM-SC	6-Channel FO-MUX, SC, MM, 1300nm LED	.MDSP713AE-MM-SC
6-Channel FO-MUX, ST, SM, 1300nm LED	.MDSP613AE-SM-ST	6-Channel FO-MUX, ST, SM, 1300nm LED	.MDSP713AE-SM-ST
6-Channel FO-MUX, SC, SM, 1300nm LED	.MDSP613AE-SM-SC	6-Channel FO-MUX, SC, SM, 1300nm LED	.MDSP713AE-SM-SC
6-Channel FO-MUX, FC-PC, SM, 1300nm LED	.MDSP613AE-SM-FC	6-Channel FO-MUX, FC-PC, SM, 1300nm LED	.MDSP713AE-SM-FC
6-Channel FO-MUX, ST, SM, 1300nm Laser	.MDSP613AE-SML-ST	6-Channel FO-MUX, ST, SM, 1300nm Laser	.MDSP713AE-SML-ST
6-Channel FO-MUX, SC, SM, 1300nm Laser	.MDSP613AE-SML-SC	6-Channel FO-MUX, SC, SM, 1300nm Laser	.MDSP713AE-SML-SC
6-Channel FO-MUX, FC-PC, SM, 1300nm Laser	.MDSP613AE-SML-FC	6-Channel FO-MUX, FC-PC, SM, 1300nm Laser	.MDSP713AE-SML-FC
6-Channel FO-MUX, ST, SM, 1550nm DFB Laser	.MDSP615AE-SML-ST	6-Channel FO-MUX, ST, SM, 1550nm DFB Laser	.MDSP715AE-SML-ST
6-Channel FO-MUX, SC, SM, 1550nm DFB Laser	.MDSP615AE-SML-SC	6-Channel FO-MUX, SC, SM, 1550nm DFB Laser	.MDSP715AE-SML-SC
6-Channel FO-MUX, FC-PC, SM, 1550nm DFB Laser	.MDSP615AE-SML-FC	6-Channel FO-MUX, FC-PC, SM, 1550nm DFB Laser	.MDSP715AE-SML-FC
Interface Modules for 6-Channel FO-MUX (for fractional and non-fractional version)		Interface Modules for 6-Channel FO-MUX (for fractional and non-fractional version)	
I/F, X.21, DB15F	.MDSP600C-X21	I/F, X.21, DB15F	.MDSP600C-X21
I/F, V.35, DB25F	.MDSP600C-V35D	I/F, V.35, DB25F	.MDSP600C-V35D
I/F, V.35, M34	.MDSP600C-V35	I/F, V.35, M34	.MDSP600C-V35
I/F, G.703/E1, RJ45 F	.MDSP600C-G703	I/F, G.703/E1, RJ45 F	.MDSP600C-G703
I/F, G.703/E1, BNC F	.MDSP600C-G703B	I/F, G.703/E1, BNC F	.MDSP600C-G703B
I/F, Bridge 10Base-T, RJ45 F	.MDSP600C-10BT	I/F, Bridge 10Base-T, RJ45 F	.MDSP600C-10BT
I/F, ISDN, 2B+1D-Channel, RJ45 F	.MDSP600C-ISDN	I/F, ISDN, 2B+1D-Channel, RJ45 F	.MDSP600C-ISDN
I/F, V.24, DB25F	.MDSP600C-V24	I/F, V.24, DB25F	.MDSP600C-V24
I/F, E1, FO, ST, MM, 820nm, LED	.MDSP608-MM-ST	I/F, E1, FO, ST, MM, 820nm, LED	.MDSP608-MM-ST
I/F, E1, FO, SC, MM, 820nm, LED	.MDSP608-MM-SC	I/F, E1, FO, SC, MM, 820nm, LED	.MDSP608-MM-SC
I/F, E1, FO, ST, MM, 1300nm, LED	.MDSP613-MM-ST	I/F, E1, FO, ST, MM, 1300nm, LED	.MDSP613-MM-ST
I/F, E1, FO, SC, MM, 1300nm, LED	.MDSP613-MM-SC	I/F, E1, FO, SC, MM, 1300nm, LED	.MDSP613-MM-SC
I/F, E1, FO, ST, SM, 1300nm, LED	.MDSP613-SM-ST	I/F, E1, FO, ST, SM, 1300nm, LED	.MDSP613-SM-ST
I/F, E1, FO, FC, SM, 1300nm, LED	.MDSP613-MM-FC	I/F, E1, FO, FC, SM, 1300nm, LED	.MDSP613-MM-FC
I/F, E1, FO, ST, SM, 1300nm, Laser	.MDSP613-SML-ST	I/F, E1, FO, ST, SM, 1300nm, Laser	.MDSP613-SML-ST
I/F, E1, FO, SC, SM, 1300nm, Laser	.MDSP613-SML-SC	I/F, E1, FO, SC, SM, 1300nm, Laser	.MDSP613-SML-SC
I/F, E1, FO, FC, SM, 1300nm, Laser	.MDSP613-SML-FC	I/F, E1, FO, FC, SM, 1300nm, Laser	.MDSP613-SML-FC