

# Supercharge Your Fiber with WDM!

## FM-4

### 4 x E1 and Fast Ethernet over single optical pair

#### Description

FM-4 is an optical multiplexer based on WDM (Wavelength Division Multiplexing) technology. It provides transmission of four E1 and one Fast Ethernet streams through single pair of optical fibers.

FM-4 takes up to four E1 2.048 Mbps interfaces and one plug-in card for Fast Ethernet 100 Mbps interface. On optical transmission line, the FM-4 8MB provides different types of optical interfaces for different distances – up to 20/40/60/80 km.

FM-4 comes in two models: stand-alone device with AC or DC power supply or plug-in card (RM-4) for the 19" or 23" rack-mounted chassis.

FM-4 supports control and diagnostic features. LEDs on the front panel provide status indication of optical line, each E1 interface and 100Base-TX interface. DIP-switches allow user to execute diagnostics and fault isolation. Besides, RM-4 mounted into FM-S chassis, has SNMP management for control and diagnostic from anywhere.

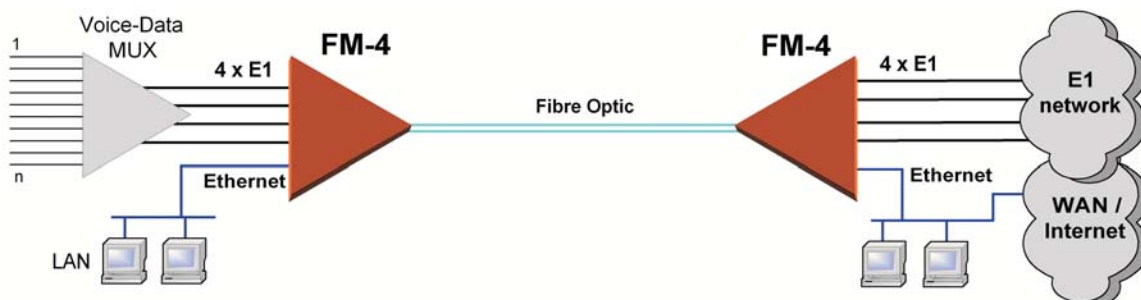
It is a very flexible and efficient way to use the FM-4/RM-4 in your optical transmission network for voice and data applications.



#### Features

- ✓ Optical interface based on WDM technology, variable for different applications
- ✓ Up to four E1 2.048Mbps interfaces compliant with ITU G.703
- ✓ One Fast Ethernet interface with half/full-duplex and 10/100Mbps auto-negotiation
- ✓ Stand-alone model for customer's side and plug-in card for operator's side
- ✓ Control and diagnostic for both local and remote sides
- ✓ SNMP management

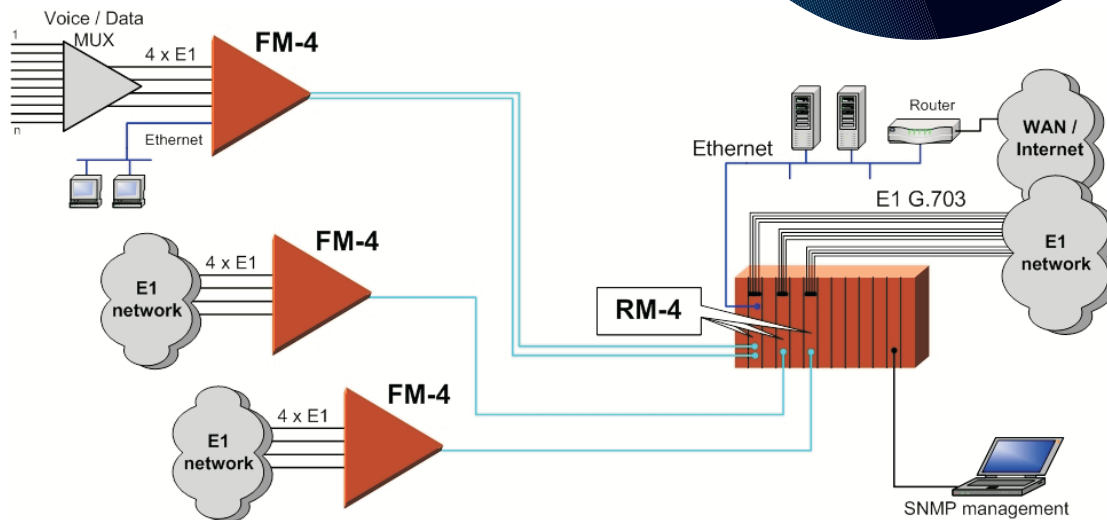
#### Point-to-point application



# RM-4

**4 x E1 and Fast Ethernet  
over single optical pair**

**Point-to-multipoint application**



## Product specifications

### Line interface (optical)

Wavelength	1310/1550 nm
Maximum output	-15 dBm
Minimum sensitivity	-32 dBm
Connector	SC (specify on order)
Fibre type	single mode

### E1 interface

Line Rate	2.048 Mbps
Input Signal	ITU G.703
Output Signal	ITU G.703
Connector	DB-9 (specify on order)
Electrical	120 ohm twisted pair/75 ohm coax

### Ethernet interface

Data rate	100 Mbps
Standard	IEEE 802.3u (100Base-TX)
Auto-negotiation	half/full duplex, 10/100 Mbps
Connector	RJ-45

### Control and diagnostic

LEDs	power, optical link (for each fibre), E1 link (for each E1), test (for each E1), 100Base-TX link, duplex mode, 100 Mbps mode
Diagnostic tests	local loopback, remote loopback
SNMP management	Olencom View (HP Open View compatible)

### Physical/Electrical

#### Stand-alone model:

Dimensions	268 x 43 x 180 mm (WxHxD)
Wight	1.2 kg
AC power supply	100-240Vac, 50-60 Hz, 25 watts
DC power supply	36-72 Vdc, 10 watts
Mounting	Desk-top stackable

#### Plug-in card model:

Dimensions	30 x 177 x 175 mm (WxHxD)
Power	5 Vdc, 5 watts per card
Mounting	Plugs into FM-S, each rack cage can have 13 plug-in units, plus SNMP card

Temperature	0-50°C
Humidity	0-95%, non-condensing

