



8/16/34 Mbps 1+1 Multi-Rate Modular Indoor Unit (CFM-MP-MUX)



CFM-MP-MUX is a solution providing 1+1 HSB/SD/FD protection switching for CFM radio installations. It is a software configurable four-slot indoor unit (IDU) supporting 8/16/34Mbps rates and operating over all commercially-used frequency bands. CFM-MP-MUX comprises a number of significant features:

-  [Radio specifications](#)
-  [Management System](#)

- It can be equipped with 1 or 2 power supply hot-swappable plug-in modules. If there is only one module installed, CFM-MP-MUX operates in 1+0 mode, for 1+1 operation two power supply modules are required.
- Both plug-in modules operate in a load-sharing mode to power IDU components and provide DC-DC conversion for each radio.
- Two CFM LM radios are connected to CFM-MP-MUX
- Enclosed power supply supervisor measures voltage, reports to the management system and performs base-band signal switching
- Maximum switchover time is 50 ms

1+1 IDU can be complemented with 5 interface modules, including 10/100Base-T Ethernet Bridge module (single-port or two-port), 1xE1 module, 4xE1 module, V.35 module. The typical 1+1 link installation consists of two CFM-MP-MUX units, 4 LM Outdoor Units (ODU) and IDU-ODU interconnection cables.

The 1+1 Protection Switch IDU can be equipped with alarm port implemented on DB-25 connector and providing 4 programmable alarm outputs and 4 user inputs. The alarm outputs notify radio-related problems and power failures.

TECHNICAL PARAMETERS	
Model name	CFM-MP-MUX
Operating capacity	8/16/34Mbps
Number of slots for modules	4
Optional interface modules/connectors	Single-port E1 module, balanced (RJ-45) + unbalanced (BNC) 4-port E1 module, balanced 120 Ohm (4xRJ-45) 4-port E1 module, balanced 120 Ohm (1xDB-25) 4-port E1 module, unbalanced 75 Ohm (1xDB-25) Single-port 10/100 Base-T Ethernet (RJ-45) V.35 module (M.34)
Port capacity configuration options	Slot 1: 0-34 Mbps; Slot 2: 0-16 Mbps; Slot 3: 0-16 Mbps; Slot 4: 0-16 Mbps, 2 Mbps step Slot
Compatibility with following CFM radio	CFM LM
Maximum switchover time	50 ms

MANAGEMENT	
Remote management via service channel	+
Web management	+
Telnet/ASCII console support	+
SNMP monitoring/Traps	+
Alarm port	Optional, 4 inputs, 4 outputs
Performance monitoring	According to ITU-T rec. G.826
Physical interface	DB-9 & RJ-45
Interface	RS-232 & 100 Base-T Ethernet
Loopback test facility	E1, V.35, base-band modem, RF loopback
Network management	SAF Network management system (NMS), built-in terminal management tools - web, SNMP, Telnet (local & remote), IDU LCD
Engineering orderwire	via optional VoIP handset
ELECTRICAL	
Power consumption, IDU	less than 17W (depending on modules installed)
Power consumption, ODU	less than 13W per ODU
Power supply	20 to 60 V DC, any polarity can be grounded
Protection circuit	1.5A
Cable (IDU-ODU)	Single coaxial, up to 300 m LMR 400 (or similar) or up to 100m RG-213 (or similar), N-type connectors/ up to 20 dB attenuation @ 350 MHz
ENVIRONMENTAL	
Ambient temperature IDU	-5°C to +45°C
Ambient temperature ODU/FODU	-33°C to +55°C
Humidity IDU	5% to 95%
Humidity ODU/FODU	15% to 100%
Altitude	in accordance with climatic standards
MECHANICAL	
IDU HxWxD mm/weight kg/ H in U	88x 482x270/2.3/2U
ODU/FODU mm/weight kg	280x85/2.5 (FODU 3.0)
STANDARDS	
Standard compliance	ETSI, ITU
EMC	EN 301 489
Operational, ODU	EN 300 019, Class 4.1
Operational, IDU	EN 300 019, Class 3.1E
Storage, ODU & IDU	EN 300 019, Class 1.2
Transportation, ODU & IDU	EN 300 019, Class 2.3
Safety	EN 60950