

FMT Series 1U Managed Platform

SUITABLE FOR WDM NETWORK



Overview

Customized FMT series 1U managed chassis share both a single software and 4x EDFA/OEO/OPD business modules, available with an Optical Supervisory Channel (OSC), is a platform of low-power consumption that combines state-of-art electronics and superior optical performance which makes it possible to build or upgrade networks to meet the demands of today as well as future multi-services access requirements.

FMT Series provides cost-effective and flexible WDM solutions. It has a variety of optical layer boards and provides excellent optical performance, and can be applied to DWDM dual-fiber/DWDM single-fiber/optical cable monitoring systems, to meet the diverse needs of scenarios.

Benefits

- Flexible 1G/10G/25G Interface Speeds
- Redundant Hot-pluggable 2x AC Power Supply Units and 1x Cooling Unit
- Unified Management of Network Nodes via Easy-to-use System on Browser
- Provide Detailed Management Operation Records and Network Element Alarm Logs
- Support Performance Monitoring, Alerts and Optical Power Monitoring in Real Time
- Integrate Compact Modules into 1U Rack Mount Platform, Low Consumption, Low Costs
- Various Optical Layer and Electrical Layer Boards for Access and Aggregation Networks

Technical Specification of the Chassis

Physical Specification	FMT04-CH1U
Slot Count	4-slot
Enclosure Type	Rack mountable
Power Redundancy	1+1 backup AC power supply
Power Supply*	Dual AC Power, 100-240VAC, Hot-swappable Power Supply Dual DC Power, 36-72VDC, Hot-swappable Power Supply
Heat Dissipation	hot swappable fan module
Power Consumption	Max. 50W
Operating Temperature	-5 to 60°C (23 to 140°F)
Storage Temperature	-40 to 80°C (-40 to 176°F)
Relative Humidity	5% to 95%, no condensing
Dimensions (HxWxD)	1.75"x19"x11.81" (44.5x482.6x300mm)
Net Weight	5kg (11lb)
Acoustic Noise	< 40dB
Network Management	Description
Management Interface	1x Console Port 2x SFP LAN Ports 100Base-X 2x RJ45 LAN Ports 10/100Base-T
Management Protocols	SNMP v1, Monitor Online, Simple Management Tool
Management Channel	Optical Supervisory Channel (OSC)

* **Note:** Pluggable 1+1 redundant power, providing stable power supply for the equipment. Dual AC/DC power is optional.

Technical Specification of the Transponder

Physical Specification	FMT4DL-OEO10GSFP	FMT4DL-OEO25GSFP28
Bit Rate	1Gbps to 11.3Gbps	8Gbps to 28.1Gbps
Signal Mode	SM/MM	SM/MM
Interface Type	SFP/SFP+	SFP28/SFP+
Optical Transceiver Slot Numbers	8	8
Service Channel Numbers	4	4
Dithering Performance	Conform ITU-T G.825 (2000)	Conform ITU-T G.825 (2000)
Consumption	<20W	<20W
Consumption/channel	3R	3R
Regeneration	≤5W	≤5W
Transmission Distance	Up to 80km	Up to 80km
Client Protocols	SONET/SDH, Ethernet, FC	Ethernet, FC
Number of Supply Voltage	Single/Dual power	Single/Dual power
Supply Voltage	100V-240VAC/36V-72VDC	100V-240VAC/36V-72VDC
Max Power Consumption	20W	20W
FMT Chassis Dimensions (HxWxD):	1.75"x19"x11.81" (44.5x483.6x300mm)	1.75"x19"x11.81" (44.5x483.6x300mm)
Operating Temperature	-10 to 70°C (14 to 158°F)	0 to 50°C (32 to 122°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)	-10 to 70°C (14 to 158°F)

Technical Specification of the Amplifiers

Physical Specification	FMT20PA-EDFA	FMT26PA-EDFA	FMT17BA-EDFA
Amplifier Type	Pre-Amplifier	Pre-Amplifier	Booster Amplifier
Operation Wavelength	1528nm-1564nm	1528nm-1564nm	1528nm-1564nm
Optical Gain	20dB	26dB	17dB
Gain Flatness	1dB (Typical)	1dB (Typical)	1dB (Typical)
Input Power	-30dBm~ +5dBm	-30dBm~+5dBm	-23dBm~+12dBm
Saturated Output Power	≤13dBm	≤16dBm	≤17dBm
Single Channel Input Power	-23dBm (Typical)	-26dBm (Typical)	-13dBm (Typical)
Single Channel Output Power	-3dBm (Typical)	0dBm (Typical)	1dBm (Typical)
Noise Figure	4.5dB (Typical)	4.5dB (Typical)	4.5dB (Typical)
Power Consumption	≤ 15W	≤ 15W	≤ 15W
Optical Connector	LC/UPC	LC/UPC	LC/UPC
Management	SNMP, Monitor Online, Simple Management Tool	SNMP, Monitor Online, Simple Management Tool	SNMP, Monitor Online, Simple Management Tool
Operation Mode	AGC	AGC	AGC
For Use With	FMT managed chassis	FMT managed chassis	FMT managed chassis
Operation Temperature	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)	-10 to 60°C (14 to 140°F)
Storage Temperature	-20 to 75°C (-4 to 171°F)	-20 to 75°C (-4 to 167°F)	-20 to 75°C (-4 to 171°F)

Technical Specification of the BIDI Splitter

Physical Specification	FMT-BDSplitter
Operating Wavelength	C21-C60/1270nm~1610nm
Return Loss	≥55dB
Insertion Loss	Splitter<3.8dB, BIDI OLP<1.2dB
Monitoring Power Range	+23~ -50dBm
Optical Power Resolution	0.01dB
Monitoring Optical Power Accuracy	±0.25dB
PDL	≤0.05dB
WDL	≤0.1dB
Crosstalk	≥55dB
Switching Speed	<15ms
Isolation	≥45dB
Optical Power	≤500mW
Connectors	LC/UPC
For Use With	FMT managed chassis
Operation Temperature	-10 to 50°C (14 to 122°F)
Storage Temperature	-40 to 80°C (-40 to 176°F)

Technical Specification of the Optical Line Protection

Physical Specification	FMT-OLP
Operating Wavelength	1310±50nm/1550±50nm
Monitoring Power Range	+23~-50 dBm
Protected Mode	OLP 1:1
Fiber Type	SMF
Monitoring Power Accuracy	±0.25 dB
Optical Power Resolution	0.01 dB
Isolation	≥45 dB
Crosstalk	≥55 dB
PDL	≤0.05 dB
WDL	≤0.1 dB
Operating Life (cycle)	>10000000
Optical Power	≤300 mW
Insertion loss (dB)	Tx<1.5, Rx<1.2
Switching Speed	<35 ms
Consumption	<3 W
Connector	LC/UPC
Power Supply	100V-240VAC 36V-72VDC
Operation Temperature	-10 to 50°C (14 to 122°F)
Storage Temperature	-40 to 80°C (-40 to 176°F)

Technical Specification of the Optical Power Detection

Physical Specification	FMT-4OPD
Operating Wavelength	1550±20 nm
Power Monitoring	±0.25 dB
Power/Gain Stability	±0.1 dB
Power Resolution	0.01 dB
Optical Power Monitoring Scope	-50~+23dBm
Insertion Loss (online)	≤1dB
Connector	LC/UPC
Power Consumption	<2W
Crosstalk	>55dB
Channel Optional	4 channels
Chassis Type	1U, 2U, 4U
Management	Monitor Online, Simple Management Tool, Monitor Cable

Managed Chassis Introduction

4-slot 1 U managed chassis, supports multiple FMT series business modules with accessories.



NMU Module

NMU (Network Management Unit) module provides a strong ability in data processing, supporting the function module rapid configuration and intelligent management.

Blank Plate

Used for FMT series business modules, which are designed as 1-slot or 2-slot type to match the managed chassis:

1-slot module: OEO, DWDM EDFA, OLP, VOA, DWDM Red/Blue Filter, OPD, etc;

2-slot module: DCM, EYDFA, SOA, OTDR, OPM, etc.

Cooling Fan

Intelligent temperature control system and optimized design of ventilation, ensuring high stability and reliability.

Power Supply

Pluggable 1+1 redundant power, providing stable power supply for the equipment. Dual AC/DC power is optional.

Grounding Screw

The grounding screw is used to connect with the ground wire to avoid electric shock.

Ordering Information

Chassis		
1U	FMT04-CH1U	FMT04-CH1U, 1U Managed Chassis Unloaded Platform, Supports up to 4x EDFA/OEO/OLP Card #39214
1U/2U/4U	FMT-CH	Customized 1U/2U/4U Managed Chassis Unloaded, Supports up to 16x Multiplexer/EDFA/OEO/OLP Module with Accessories #70413
Transponder		
10G	FMT4DL-OEO10GSFP	FMT4DL-OEO10GSFP, 4 Channels WDM Transponder (Converter), 8 SFP/SFP+ Slots #30515
25G	FMT4DL-OEO25GSFP28	FMT4DL-OEO25GSFP28, 4 Channels 25G WDM Transponder (Converter), 8 SFP28/SFP+ Slots #92056
Optical Amplifiers		
20dB	FMT20PA-EDFA	FMT20PA-EDFA, 20dB Gain DWDM EDFA Pre-Amplifier, 13dBm Output #72284
26dB	FMT26PA-EDFA	FMT26PA-EDFA, 26dB Gain DWDM EDFA Pre-Amplifier, 16dBm Output #36524
17dB	FMT17BA-EDFA	FMT17BA-EDFA, 17dBm Output DWDM EDFA Booster Amplifier, 17dB Gain #72283
16/17/20/24/28/32dB	EDFA-LA	Customized In-Line EDFA for DWDM Solution #35924
—	HPA	Customized FTTx PON High Power 1550nm EYDFA #65789
10/14/17/18/22/24dB	EDFA-BA	Customized Booster EDFA for DWDM Solution #35926
16/20/24/26/28/32dB	EDFA-PA	Customized Pre-Amplifier EDFA for DWDM Solution #35925
10/11/12/13/14dB	FS-SOA	Customized 1310nm Semiconductor Optical Amplifier (SOA) #69350
DCMs		
40KM	FMT40-DCM	FMT40-DCM, 40KM DCF-based Passive Dispersion Compensation Module #65781
80KM	FMT80-DCM	FMT80-DCM, 80KM DCF-based Passive Dispersion Compensation Module #65779
10-140KM	FS-DCM	Customized DCF-based Dispersion Compensation Module #65783
-20→+20KM -40→+40KM	FS-TDCM	Customized C-band Tunable Dispersion Compensation Module (TDCM) #72427
Line Protection		
	FMT-OLP	FMT-OLP, 1:1 Optical Line Protection Switch #192620
OLP	FS-OLP	Customized Optical Line Protection Switch (OLP) #34720
	FMT-BDOLP	Customized BIDI Optical Line Protection Switch (OLP) #72700
BIDI Splitter	FMT-BDSplitter	FMT-BDSplitter, Optical Splitter #73324

Ordering Information

Fiber Monitoring

OPD	FMT-4OPD	FMT-4OPD, 4 Channels 1550nm Optical Power Detection OPD (AIU) #78568
	FMT-OPD	Customized Optical Power Detection OPD (AIU) #70941
LSU	FMT-LSU	Customized LSU Light Source Unit, Pluggable Module for FMT Multi-Service Transport Platform #78469
OSW	FMTOSW-1x16	Customized 1x16 Multi-Channel MEMS Optical Switches with Adjustable Channels Control #73287
OPM	FMT-OPM	FMT-OPM, Optical Performance Monitoring (OPM) #71586
OTDR	FMT-OTDR	Customized Optical Time Domain Reflectometer (OTDR) #73281

Accessories

Power Supply	FMT124U-PS	Customized Power Supply Module Tailored for FMT 1U/2U/4U Managed Chassis #66922
Cooling Fan	FMT1U-FAN	Cooling Fan Card Tailored for FMT 1U Managed Chassis #66916
	FMT-FAN	Customized Cooling Fan Module Tailored for FMT 1U/2U/4U Managed Chassis #70414
Red/Blue Filter	FSBR-1x2	Customized 1x2 Single Fiber DWDM Splitter Red/Blue C Band Filter #65981
VOA Units	FS-VOA-C	Customized Variable Optical Attenuator, 0~15dB, LC/UPC #65271
NMU	FMT-MNG-S	FMT-MNG-S, Network Management Unit for FMT 1U, 2U and 4U Managed Chassis, , 2x 100Base-X SFP Ports, 2x 10/100Base-T RJ45 Ports #66915