FS MS8100 Series Data Sheet

Contents

▌Product Overview

The MS8100 series is a high-security full-service access transmission platform dominated by key account services. Based on MS-OTN architecture, the MS8100 series can supports OTN cross-connect, MPLS-TP packet switching and SDH cross-connect, with high integration, full-service access capability and flexible three-core cross-scheduling capability, to meet the needs of multiple services and high network security. It is suitable for applications in telecom operators' core and edge networks, data centers, enterprise networks and WANs, providing high-capacity multi-service transmission requirements. The MS8100 series uses the FCP MS software and supports CLI, Telnet and SNMP managements that enable service configuration and performance monitoring. It is easy to check important data, alarms, reports, and much more on-site or remotely at any time.

▌Features and Benefits

- Support Three Different Services Types Including OTN, PTN and SDH
- Support Uniform Cross Connection, ODUk Cross-connection Capacity up to 210 Gbit/s
- Support Centralized Switching and Processing of Packet Services, Capacity up to 280 Gbit/s
- Support Network Management Cascading, Managing Multiple Devices on One Site
- Provide Seamless Connection with Upper Network to Realize Smooth Network Evolution
- Two Redundant and Field Replaceable AC Power Supply Units
- Aim at Access and Aggregation Layer of Metro Networks

▌ Product Details

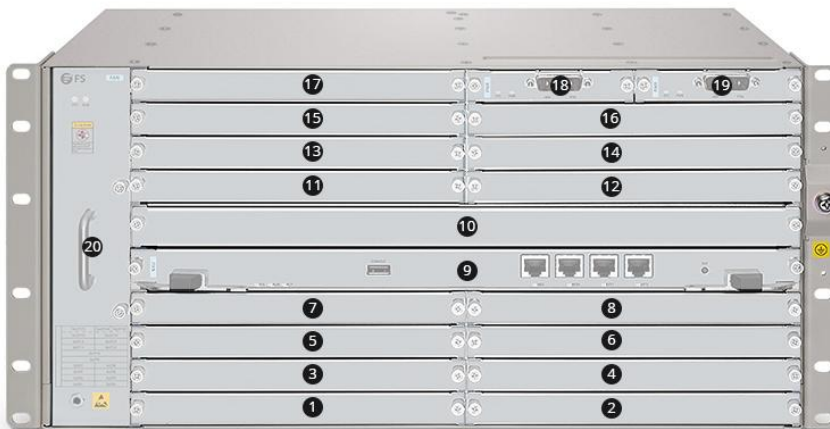## Product configurations

5U Chassis with AC PSUs

①-⑧ Slots for MS8100 Series Cards
⑨ ⑩ Slots for NMU Main Control Card
⑪-⑭ Slots for MS8100 Series Cards
⑮ ⑯ Slots for Hot-swappable Dual AC Power Supplies
⑰ Slot for Hot-swappable Fan

Figure 1.

MS8100-CH5U, 12 Slots 5U Managed Unloaded Chassis, with MS-OTN Architecture, Support OTN/PTN/SDH, Redundant AC PSUs, Support FCP MS Management

5U Chassis with DC PSUs

①-⑧ Slots for MS8100 Series Cards
⑨ ⑩ Slots for NMU Main Control Card
⑪-⑰ Slots for MS8100 Series Cards
⑱ ⑲ Slots for Hot-swappable Dual DC Power Supplies
⑳ Slot for Hot-swappable Fan

Figure 2.

MS8100-CH5U, 15 Slots 5U Managed Unloaded Chassis, with MS-OTN Architecture, Support OTN/PTN/SDH, Redundant DC PSUs, Support FCP MS Management

1 CONSOLE   **2** NEG   **3** MON

4 EXT1   **5** EXT2

Figure 3.

NXU, Network Management Cross Card for MS8100-CH5U Managed Chassis, Up to 210G Capacity of Cross Connection

1 10 SFP/SFP+

Figure 4.

MS8100 OTU10, 5 Channels WDM Transponder (Converter), 10 SFP/SFP+ Slots, with Multi-service Multi-rate 2-way OCP Protection

1 8× SFP

Figure 5.

MS8100 SGH8, 8 x SFP, SDH Tributary Board or 8-way GE Dual-span Service Board

1 4× SFP+

Figure 6.

MS8100 TN4, 4 x SFP+, 4-way OTU2 Hybrid Line Board

❶ 4× SFP

Figure 7.

MS8100 SH4, 4 x SFP, SDH Cross Connection and Aggregation Card, Support Interface Rate Configuration

❶ IN   **❷** OUT

Figure 8.

MS8100 OPA1525, 19-25dB Gain DWDM EDFA Pre-Amplifier, 15dBm Output

❶ IN   **❷** OUT

Figure 9.

MS8100 OBA1720, 14-20dB Gain DWDM EDFA Booster Amplifier, 17dBm Output

❶ IN   **❷** OUT

Figure 10.

FMU-DCM40, 40KM DCF-based Passive Dispersion Compensation Module, LC/UPC

❶ IN   ❷ OUT

Figure 11.

FMU-DCM80, 80KM DCF-based Passive Dispersion Compensation Module, LC/UPC

❶ IN   ❷ OUT
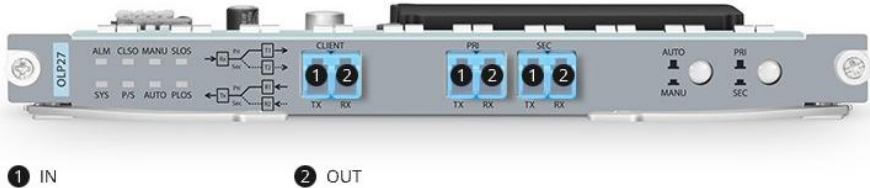
Figure 12.

MS8100 OLP27, 1 + 1 Optical Line Protection Switch (OLP)

❶ MON   ❷ LINE   ❸ MID
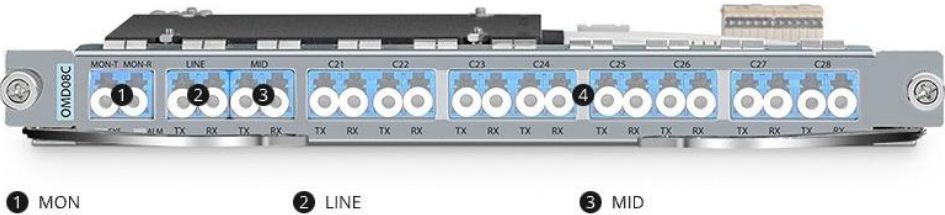
❹ 8x DWDM Channels (C21-C28)

Figure 13.

Customized Active Dual Fiber DWDM Mux Demux, 8 Channels 100GHz, with Monitor Port and Cascade Port, LC/UPC, MS8100 Plug-in Module

▌ Application

The MS8100 Series is a new generation of intelligent transmission device, which is a full-service access transmission platform dominated by key account service and high bandwidth integrated service. These products are aimed at access and aggregation layer of metro networks, for delivering leased line services and aggregating OTN connections.
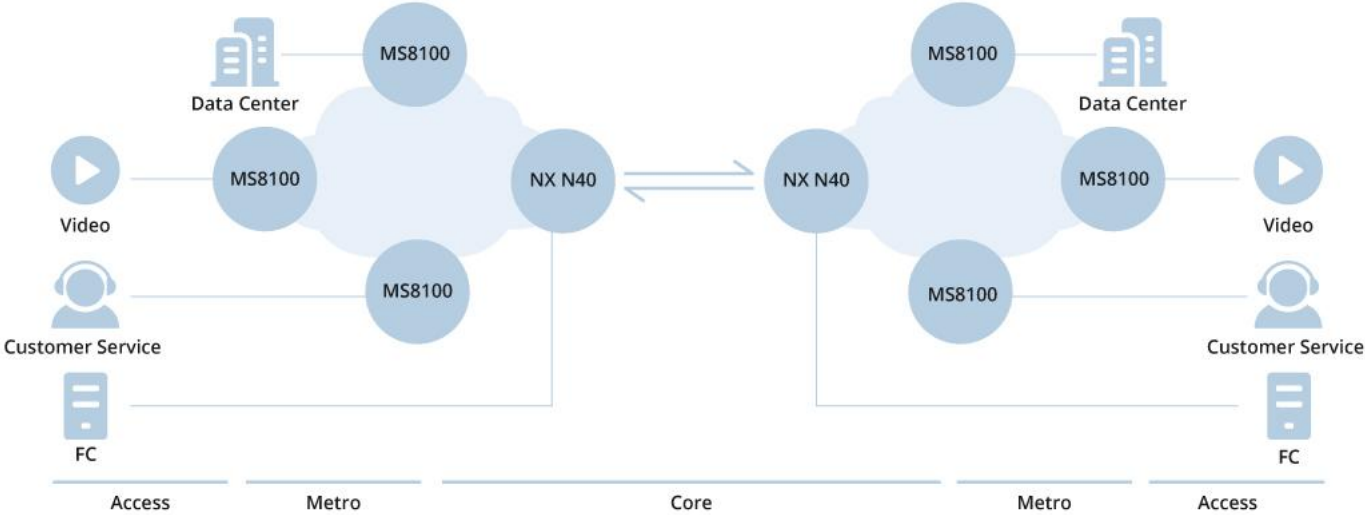
▌ Technical Specification

Table 1. Technical Specification of MS8100 Chassis

Parameter	MS8100-CH5U
Physical Specifications	
Power Redundancy	1+1 Backup Power Supply
Power Supply	Dual AC Power, 110~240VAC, Hot-swappable Power Supply Dual DC Power, -48VDC, Hot-swappable Power Supply
Enclosure Type	Rack Mountable
Cooling Unit	1x Fan Module, Hot-swappable
Dimensions (HxWxD)	17.48''x8.66''x8.75'' (444x220x222.3mm)
Maximum Output Power	AC: 110V 800W, 220V 1000W DC:-48V 1500W
Acoustic Noise	76dB
Port	
Slot Count	12-slot for AC Chassis 15-slot for DC Chassis
Controller Card Slots*	2
Supported Service Types	OTN/PTN/SDH
Management	
Management Type	CLI, Telnet, SNMP
Management Software	FCP MS
Environmental	
Operating Temperature	-5 to 55°C (23 to 131°F)
Storage Temperature	-40 to 50°C (-40 to 122°F)
Relative Humidity	10% to 90%, No Condensing

* Note: The chassis comes with 1x NXU main control card, 1x cooling fan and 2x power supply.

Table 2. Technical Specification of MS8100 NXU

Parameter	NXU
Physical Specifications	
Redundancy	1+1 Backup
Power Consumption	122W
Capacity of ODUk Cross Connection	210 Gbit/s
Capacity of Packet Switching and Processing	280 Gbit/s
Heat Dissipation	Hot swappable
Hot-swappable	Supported
Matching Chassis	MS8100-CH5U
Chassis Type	5U
Port	
Network Interface	1x Console, 1x NEG, 1x MON, 2x EXT
Visual Indicator	
Equipment Status Indicator	SYS/ALM/ACT/BUSY
Function	
Network Management Functions	Managing Configurations, Alarms, Performance, and Faults of All Service Cards
Network Management Cascading	Supported
PW 1:1 Protection Switching	Supported
LSP Linear 1:1 Protection Switching	Supported
Clock Function	Supported
Upgrade	Support Smooth Upgrade
Management	
Management Type	CLI, Telnet, SNMP

Parameter	NXU
Management Software	FCP MS
Environmental	
Operating Temperature	-5 to 55°C (23 to 131°F)
Storage Temperature	-40 to 50°C (-40 to 122°F)

Table 3. Technical Specification of MS8100 OTU10

Parameter	OTU10
Physical Specifications	
Protection Mode	Support automatically revertive mode and switching delay
	Support SD switching in OCP mode
	The switching time is less than 50ms
	Support protection switching based on LOS alarm. Support recording switching information
Hot-swappable	Supported
Port	
Interface Rate	The rate ranges from1.25 to 11.317 Gbit/s
	Support CPRI rate to be 2457.6 Mbit/s, 3072.0 Mbit/s, 4915.2 Mbit/s, 6144.0 Mbit/s, 9830.4 Mbit/s, or 10137.6 Mbit/s
	Support OBSAI rate to be 1536 Mbit/s
	Support Fiber Channel rate to be 2.125 Gbit/s, 4.25 Gbit/s, 8.5 Gbit/s, 10.51875 Gbit/s, or 11.317 Gbit/s
	Support Ethernet-1G rate to be 1.25 Gbit/s
	Support Ethernet-10G rate to be 10.3125 Gbit/s
	Support SDH rate to be 2488.32 Mbit/s or 9953.28 Mbit/s
	Support OTN rate to be 2666.057143 Mbit/s, 10709.225316 Mbit/s, or 11095.72784 Mbit/s
Interface Type	SFP/SFP+
Function	
Basic Functions	Support OTU and OCP
	OTU indicates bidirectional wavelength conversion, which supports up to 5 ways of OTU services
	OCP supports bidirectional wavelength conversion protected by the line-side interface and supports up to 2 ways of OCP services. Each way of client-side services implement 1+1 protection through 2 line-side interfaces, where signals are sent on both paths concurrently and the best signal is received
	The line side supports the SFP optical module and SFP+ optical module of CWDM or DWDM wavelength
	The client side supports the SFP optical module of 1310nm or 1550nm wavelength and SFP+ optical module of 1310nm or 1550nm wavelength

Parameter	OTU10
Wavelength Conversion	Support wavelength conversion from 1310nm/1550nm to CWDM and DWDM
	Support 3R regeneration
Performance Monitoring and Alarm Monitoring	Support CDR LOL alarm and optical module LOS alarm
	Support querying the current working channels (active and standby channels)
	Support modifying switching modes of the working channel (automatic and forced switching)
Management	
Optical module management	Support querying information about the optical module and DDM
	Support 10 SFP or SFP+ optical interfaces
	Support ALS and link-state tracking
	Support optical module hot swapping
	Support hot swapping

Table 4. Technical Specification of MS8100 SGH8

Parameter	SGH8
Physical Specifications	
Protection Mode	Support SNCP 1+1 protection on the SDH VC4/VC3/VC12 level
	Support a protection switching time less than 50ms
Hot-swappable	Supported
Port	
Interface Type	8x SFP
Function	
Basic Functions	Support front panel GE to EoS mode: GE services accessed on the front panel form EOS services through the VCG on the board, and are cross-connected to the upstream SDH plane on the group board through the backplane. 8 GE interfaces share 32 VCGs and support 2 applications: packet flow based on interface, SVLAN, CVLAN, SVLAN+CVLAN or Untag type, upstream support service flow mapping from front panel interface to VCG, downstream support service flow mapping from VCG To the interface on the front panel, support configuring the packet flow mapping of each GE interface to enter multiple VCGs to access SDH; based on the packet flow of interface + SVLANID + TPID + CoS, the upstream support service flow first strips the SVLANTag of the packet It is then mapped to VCG, and the downlink supports the service flow mapping from VCG to the front panel interface and adds SVLANTag of the packet, and supports configuring the packet flow mapping of each GE interface to enter multiple VCGs to access SDH
	Support front panel GE to ETH mode: FE/GE services connected to the front panel are transparently transmitted to the backplane, and then connected to the NXU interface from the backplane, based on the interface configuration of the NXU interface, such as VLAN, to access the packet plane. This mode supports configuring 100Mbit/s and 1000Mbit/s interface rates
	Support backplane GE to EoS (VLAN) mode: the EOS service time slots of other SDH boards are crossconnected to the SGH8(E) board VCG, and the Ethernet services in each VCG add an outer VLAN and pass through the SGH8(E) backplane. On-board GE interfaces (up to 32 VCGs share 8 backplane GE interfaces) are forwarded to NXUGE interfaces. The NXUGE interfaces undergo VLAN processing such as N:1 VLAN conversion and are forwarded to grouped single-board Ethernet interfaces. This mode is also known as the total header aggregation mode. In this mode, the GE port on the front panel is invalid
	Support backplane GE to EoS (transparent transmission) mode: the EOS service time slots of other SDH boards are cross-connected to the SGH8(E) board VCG, and the Ethernet services in VCG1 to VCG8 pass through the SGH8(E) backplane GE1~ The GE8 interface is forwarded to the NXUGE interface, which is then processed by the NXU and forwarded to the Ethernet interface of grouping boards. The GE port on the front panel is invalid in this mode
Cross Connection	Support VC4/VC3/VC12 timeslot assignment
	Each VCG supports VC4/VC3/VC12 bandwidth levels. Each VAC can be configured with only one bandwidth level
	Each VCG supports up to 8 VC4s 8×3 VC3, or 50 VC12
	Support 32 VCG interfaces to share 2.5 Gbit/s (inserted into slots 1, 2, and 13–17, supporting 16 VC4) or 5 Gbit/s (inserted into slots 3–6, 11, and 12, supporting VC4) bandwidth

Parameter	SGH8
Overhead Processing	Support processing VC4/VC3/VC12 channel overheads
	Support configuring and query the JI/C2/J2/V5/K4 byte. The C2/V5/K4 are card-level configurations. J1 and J2 are independent configurations for each VC
	Support processing the AU/TU pointer
EOS Functions	Support GFP encapsulation. The MTU ranges from 1522 to 12000 bytes, and is 9600 bytes by default
	Support LACP
L2	ETH interface: support querying and clear configurations of the interface enabling status, rate, duplex mode, flow control, interface loopback, and interface statistics
	Rate limiting: support rate limiting based on the interface
ALS	Supported
Reset	Support software reset and hardware reset

Management

Optical Module Management	Support DDM
	Support hot-swappable

Table 6. Technical Specification of MS8100 SH4

Parameter	SH4
Physical Specifications	
Backplane Mode	Support common backplane mode (default mode): support VCC,VC4/VC3/VC12/64k cross connect
	Support 10G backplane mode: support VCC, VC4/VC3/VC12/64k cross connection
	Support 70G backplane mode: VCC, VC3/VC12/64k cross-connection is not supported, only VC4 cross-connection is supported
Protection mode	Support parallel-slot 4 Gbit/s service, interconnection and master/slave card protection
	Support intra-card and inter-card interface protection
	Support linear multiplexing section protection and SNCP protection
Hot-swappable	Supported
Function	
Basic Functions	Be a SDH cross connection and aggregation card
	Provide 4 SFP optical interfaces of which the rate can be configured
	STM-16 interface rate: support working as the SDH aggregation card, support transmitting 2 ways of STM-16 services upstream to the SDH network, and use interfaces 1 and 2 on the front panel
	STM-4 interface rate: support working as the SDH aggregation card, support transmitting 4 ways of STM-4 services upstream to the SDH network, and use interfaces 1 and 4 on the front panel
	STM-16 and STM-4 hybrid interface rate: support transmitting 1 way of STM-16 services and 2 ways of STM-4 services upstream to the SDH network. Interfaces 1 and 3 on the front panel belong to one group while interfaces 2 and 4 belong to another. Each group can be configured with 1 ways of STM-16 services or 2 ways of STM-4 services
	SDH services can be accessed to the OTN through the TN4 card
	When the SH4 card cooperates with the TN4 card, SDH optical switch based on interface must be enabled. The backplane interface corresponding to the interface is interconnected with the TN4 backplane interface, and supports cross-connecting with other service cars, the interface on the front panel corresponding to the interface is unavailable. After services of other service cards are cross-connected to the interface on the SH4 backplane, they can be accessed to the STM-16 interface on the TN4 backplane
	TN4 card multiplexes these services into OTU2 services upstream to the OTN
Cross Connection	Support VC4/VC12/VC3 cross connection
	VC4 capacity: 368
	VC3 capacity: 64x3

| Parameter	SH4
Cross Connection	VC12 capacity: 64x63
Overhead Processing	Support processing section overheads of STM-16/STM-4 signals
	Support transparently transmitting/terminating channel overheads
	Support configuring and querying the J0/JI/J2/C2/V5/S1/K1/K2 byte
	Support processing the AU/TU pointer
Clock	Support 2 line-side recovery clock sources
	Support processing SSMs
	Support restoring and selecting the clock source
ALS	Supported
Performance Monitoring and Alarm Monitoring	Supports laser bias current monitoring, laser operating temperature monitoring, and optical power monitoring
	Supports the alarm and performance of each level of regeneration section, multiplex section, and VC4
	Support different levels of alarm suppression and alarm severity classification
ECC Functions	Support up to 4 DCCs and 8 VCCs for network management
Loopback	Support optical interface internal loopback and external loopback
	Support VC4/VC3/VC12 internal loopback, external loopback, and bidirectional loopback
Reset	Support software reset and hardware reset
Upgrade	Support upgrading the software smoothly
Management	
Optical Module Management	Support DDM
	Support hot-swappable

Table 5. Technical Specification of MS8100 TN4

Parameter	TN4
Physical Specifications	
Protection Mode	Support OCh 1+1 protection for intra-card OTU2 interfaces. Support OTU2 interfaces 1 and 2 to protect each other. Support OTU2 interfaces 3 and 4 to protect each other
	Support intra-card ODU0, ODU1, and ODUflex SNCP 1+1 protection
Hot-swappable	Supported
Function	
Basic Functions	Be an OTN line card
	Support accessing 40 Gbit/s PS services (32 virtual interfaces) and 2 ways of SDH STM-16 services, and aggregating them into 4 ways of OTU2 services, and transmitting OTU2 services upstream to the OTN
	Support two mapping modes: in packet mode, the TN4 supports accessing PS services and SDH services; in SAR mode, the TN4 supports accessing ODUk services and SDH services
OTN Functions	Support multiplexing and demultiplexing services from client-side ODU0/1 to line-side ODU2
	Support 1.25G timeslots. Support level-1 mapping and overhead processing
	Support mapping backplane PS services into ODU0/Flex and cross- connecting them to line-side OTU2
	Support mapping backplane SDH services into ODU1 and cross- connecting them to line-side OTU2
	Support monitoring and generating SM/PM (including lower-path ODUk) TTI and BIP
	Support inserting SM/PM (including lower-path ODUk) BDI and error codes
	Support configuring the bandwidth of ODUFlex services to occupy one to eight 1.25G timeslots
Electrical Cross Connection	Support ODUk electrical cross connection
	Support unidirectional cross connection, bidirectional cross connection, and loopback cross connection
	Support SNCP
ECC Functions	Support OTU2-layer GCC, with options of GCC0/1/2
	Support OTUk-layer GCC, with options of GCC1/2
	Support SNCP
Error Correction	Support GFEC and no FEC

Parameter	TN4
Performance Monitoring and Alarm Monitoring	Support alarm monitoring and performance statistics, such as alarm suppression, alarm reverse, and alarm masking
	Support service performance and performance processing, such as zero-performance suppression, current performance, and history performance. The performance period is 15min or 24h
	Support sending OTN faults to the STM-16 interface on the backplane
	Support cooperating with the NXU card to sending OTN faults to PS services
	Support shielding alarms based on alarm type or interface
	Support the following SM layer alarms: LOS/LOF/OOF/LOM/OOM/AIS/TIM/BDI/BIP8-DEG/BIP8-OVER/BEI-DEG/BEI-OVER/BFEC/AFEC
	Support the following PM layer alarms: LCK/OCI/AIS/TIM/BIP8- DEG/BIP8-OVER/BEI-DEG/BEI-OVER/PLM/MSIM/SSF/BDI
	Support the following SM layer performance: ES/SES/BBE/UAS/FEES/FESES/FEBBE/FEUAS/OFS/AFEC/BFEC
	Support the following PM layer performance: ES/SES/BBE/UAS/FEES/FESES/FEBBE/ FEUAS
	Support measuring delay online on the ODU2 interface
Clock	Support the OTU2 to receive recovery clock signals and transmit frequency
Upgrade	Support upgrading software online

Management	
Optical Module Management	Support DDM
	Support hot-swappable

Transponder

Utilize the network management software to flexibly switch between EOS or SDH mode according to the network environment, and create clever product combinations to realize multi-service multiplexing according to transmission requirements.
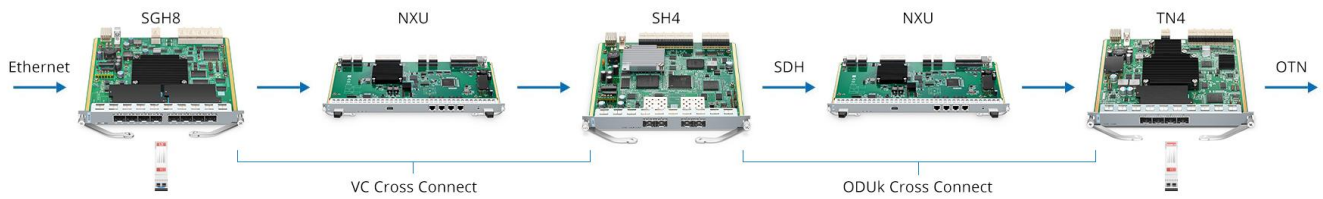
Note:

1. TN4 is specifically designed for the line side, while SGH8 is intended for the client side. SH4, on the other hand, is versatile and can be used on both sides.

2. TN4 needs to be paired with SGH8 or SH4 accordingly.

Table 7. Technical Specification of EDFA

Parameter	OPA1525	OBA1720
Optical Specifications		
Amplifier Type	Pre-Amplifier	Booster Amplifier
Input Power (dBm)	-35 to -10	-15 to 10
Saturation Output Power (dBm)	≤ 15 (typical value is 15)	≤ 17 (typical value is 17)
Gain (dB)	19–25 (typical value is 25)	14–20 (typical value is 20)
Gain Adjustable Range (dB)	6	6
Noise Figure (dB)	≤ 5.5	≤ 5.5
Polarization Dependent Gain (dB)	≤ 0.5	≤ 0.5
Polarization Mode Dispersion (ps)	≤ 0.5	≤ 0.5
Pump Leakage at Output (dB)	≤ -27	≤ -27
Pump Leakage at Input (dB)	≤ -30	≤ -30
Return Loss (dB)	≥ 40	≥ 40
Input and Output Max Reflection Capacity (dB)	≥ -27	—
Gain Flatness (dB) (25° C)	≤ 1.5 (typical value is 1)	—
Output Optical Power Reading Accuracy (dB)	0.5 to 0.5	—
Input Optical Power Reading Accuracy (dB)	-0.5 to 0.5	—
Operation Mode	AGC/APC/ACC	AGC/APC/ACC
Port		
Optical Connector	LC/UPC	LC/UPC
Physical Specifications		
Power Consumption	15W	15W

Parameter	OPA1525	OBA1720
Environmental		
Operating Temperature	–5 to 55°C (23 to 131°F)	–5 to 55°C (23 to 131°F)
Storage Temperature	-25 to 70°C (-13 to 158°F)	-25 to 70°C (-13 to 158°F)

EDFA

(1) Pre-Amplifier (PA) EDFA is typically applied in the front of receiver for improving sensitivity of the receiver and increasing the optical power level of DWDM wavelength in the DWDM long-haul transmission link.

(2) Booster Amplifier (BA) EDFA is designed to boost the power of multiple wavelength signals after multiplexing. It's usually placed at the beginning of the DWDM transmission link.

Table 8. Technical Specification of DCM

Parameter	FMU-DCM40	FMU-DCM80
Optical Specifications		
Compensation Length	40km	80km
Wavelength Range	1525nm-1565nm	1525nm-1565nm
Dispersion @1545nm (ps/nm)	-680±3%	-1360±3%
Insertion Loss	≤4.2dB	≤5.8dB
Polarization Mode Dispersion	≤0.8ps	≤1.2ps
Polarization Dependence Loss	≤0.1dB	≤0.1dB
Port		
Connector Type	LC/UPC	LC/UPC
Physical Specifications		
Work With*	MS8100-CH5U	MS8100-CH5U
Environmental		
Operating Temperature	5 to 55°C (41 to 131℉)	-5 to 55°C (23 to 131℉)
Storage Temperature	-40 to 85°C (-40 to 185℉)	-40 to 85°C (-40 to 185℉)

* Note: The DCM should be installed in FMU chassis but used with MS8100 Series.

Disperion Compensation Module

DCM is needed to fix the form of optical signals that are deformed by chromatic dispersion in long-haul transmission. It can effectively neutralize the fiber dispersion before the signal reaches the receiver, which provides a simple, reliable, and cost-effective long-haul transport solution, making signals go further without regeneration.
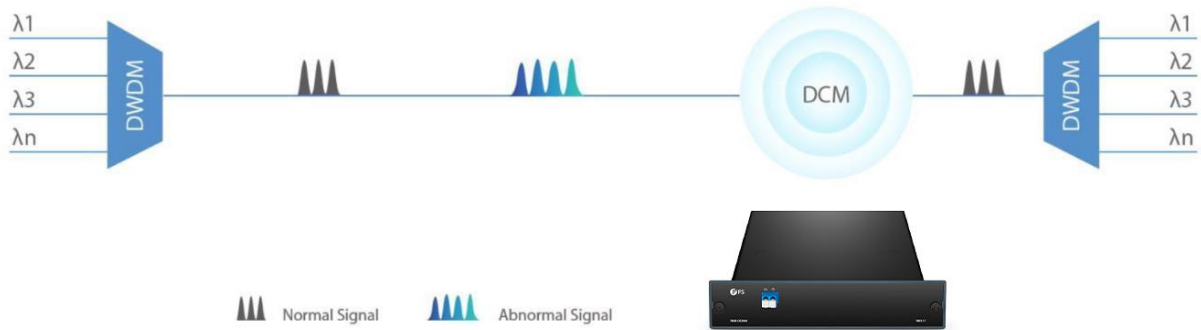
Table 9. Technical Specification of MUX&DEMUX

Parameter	OMD08C
Optical Specifications	
ITU Channel	8 Channels
Central Wavelength	C21-C60
Channel Spacing	100GHz
Channel Passband	± 0.11nm
Center Wavelength Accuracy	± 0.05nm
-0.5 dB channel width	± 0.11nm
Passband Flatness	≤ 0.5dB
Insertion Loss	≤ 3.2dB
Adiacent Channel Isolation	≥ 28dB
Non-adjacent Channel Isolation	≥ 45dB
Insertion Loss Uniformity	3dB
Return Loss	≥ 45dB
Directivity	≥ 50dB
Polarization Dependent Loss	≤ 0.15dB
Polarization Mode Dispersion	
Port	
Connector Type	LC/UPC
Physical Specifications	
Power Consumption	≤ 1W
Environmental	
Operating Temperature	-5 to 55°C (23 to 131°F)
Storage Temperature	-25 to 70°C (-13 to 158°F)

MUX&DEMUX

The 8ch DWDM Mux Demux adopts high quality AAWG Gaussian technology, which can achieve a long distance transmission in a point-to-point network by using EDFA and DCM.
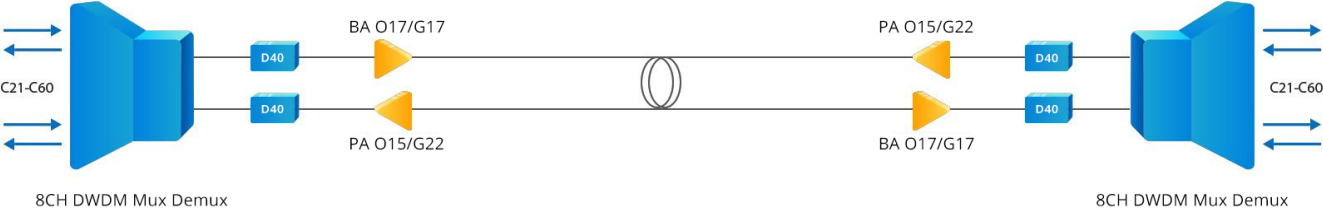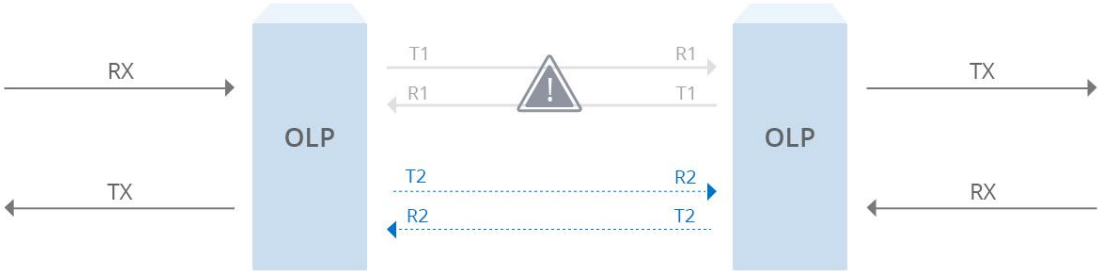
Table 10. Technical Specification of OLP

Parameter	OLP27
Optical Specifications	
Operating Wavelength	1310±50nm/1550±100nm
Monitoring Power Range	-45~10dBm
Insertion Loss	Tx <4.0dB, typical 3.7dB Rx <1.8dB, typical 1.5dB
Switching Speed	<10ms
Monitoring Power Accuracy	±0.5dBm
Monitoring Power Resolution	0.1dBm
Return Loss	≥45dB
Polarization Dependent Loss	≤0.2dB, typical 1.0dB
Wavelength Dependent Loss	≤0.5dB
Port	
Connector Type	LC/UPC
Environmental	
Operating Temperature	-5 to 55°C (23 to 131°F)
Storage Temperature	-25 to 70°C (-13 to 158°F)

Optical Line Protection

1+1 Optical Line Protection Switch (OLP) is designed to protect transmission network from link failures, using an optical splitter to bridge the optical signal to working fiber and protection fiber.

Chassis Slots

With AC PSUs

17 Fans	15 Power Supply	16 Power Supply
	13	14
	11	12
	10	
	9	
	7	8
	5	6
	3	4
	1	2

Notes:

1. NXU can be inserted into slot 9 or 10. If only one NXU is used, we recommend inserting it into slot 9.

2. OTU10, OMD08C, OBA1720 and OPA1525 can be inserted into slots 1–8 and 11–14.

3. SH4 can be inserted into slots 7-8. If only one SH4, we recommend slot 7.

4. SGH8 and TN4 can be inserted into slots 1-6 and 11-14.

With DC PSUs

20 Fans	17	18 Power Supply	19 Power Supply
	15	16	
	13	14	
	11	12	
	10		
	9		
	7	8	
	5	6	
	3	4	
	1	2	

Notes:

1. NXU can be inserted into slot 9 or 10. If only one NXU is used, we recommend inserting it into slot 9.

2. OTU10, OMD08C, OBA1720 and OPA1525 can be inserted into slots 1–8 and 11–17.

3. SH4 can be inserted into slots 7-8. If only one SH4, we recommend slot 7.

4. SGH8 and TN4 can be inserted into slots 1-6 and 11-17.

Ordering Information

FS P/N	Product Description
Chassis	
[MS8100-CH5U](#)	MS8100-CH5U, 12 Slots 5U Managed Unloaded Chassis, with MS-OTN Architecture, Support OTN/PTN/SDH, Redundant AC PSUs, Support FCP MS Management
[MS8100-CH5U](#)	MS8100-CH5U, Customized 12/15 Slots 5U Managed Unloaded Chassis, with MS-OTN Architecture, Support OTN/PTN/SDH, Redundant AC/DC PSUs, Support FCP MS Management
Transponder (Converter) & Muxponder	
[OTU10](#)	MS8100 OTU10, 5 Channels WDM Transponder (Converter), 10 SFP/SFP+ Slots, with Multi-service Multi-rate 2-way OCP Protection
[SGH8](#)	MS8100 SGH8, 8 x SFP, SDH Tributary Board or 8-way GE Dual-span Service Board
[SH4](#)	MS8100 SH4, 4 x SFP, SDH Cross Connection and Aggregation Card, Support Interface Rate Configuration
[TN4](#)	MS8100 TN4, 4 x SFP+, 4-way OTU2 Hybrid Line Board
EDFA	
[OPA1525](#)	MS8100 OPA1525, 19-25dB Gain DWDM EDFA Pre-Amplifier, 15dBm Output
[OBA1720](#)	MS8100 OBA1720, 14-20dB Gain DWDM EDFA Booster Amplifier, 17dBm Output
DCM	
[FMU-DCM40](#)	FMU-DCM40, 40KM DCF-based Passive Dispersion Compensation Module, LC/UPC
[FMU-DCM80](#)	FMU-DCM80, 80KM DCF-based Passive Dispersion Compensation Module, LC/UPC
MUX&DEMUX	
[OMD08C](#)	Customized Active Dual Fiber DWDM Mux Demux, 8 Channels 100GHz, with Monitor Port and Cascade Port, LC/UPC, MS8100 Plug-in Module
OLP	
[OLP27](#)	MS8100 OLP27, 1 + 1 Optical Line Protection Switch (OLP)
Accessories	
[NXU](#)	NXU, Network Management Cross Card for MS8100-CH5U Managed Chassis, Up to 210G Capacity of Cross Connection

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