

# HX9400S-1U SDH/SONET

## Features

- 1U , 19" , 23" rack mount
- TM, ADM, XC
- VC11/12/3/4 cross-connect
- SDH and SONET
- Aggregate Lines
  - Two Aggregate Lines
  - STM-4/1 or OC-12/3 (software configurable) Option
  - Pure STM-1 or OC-3 Option
  - Hot Swappable Aggregate Lines.
- Fixed Tributary modules (option):
  - One Base module and two extension modules (manufacturer's option)
  - 8/16-channel E1/DS1 on base module
  - 16 E1/T1 per extension module
  - 3 E3/DS3 per module
  - 4 FE EoS port on 2<sup>nd</sup> extension module
  - 1 GbE
  - 1GbE + 3 DE
- Protection:
  - SNCP/UPSR protection
  - MSP (1+1) protection for TM
  - Redundant hot-swappable DC power card
  - Rack mount, Wall mount, and Stand-Alone
- SDH NG over Ethernet : EoS
- External/Internal/Line timing with SSM
- Support VCAT, GFP, and LCAS for EoS
- Intelligent L2 Switch option for Ethernet module to support Ethernet lease line service and virtual LAN.
- Jumbo Frame supported
- VLAN transparent
- Link down transmission
- Performance monitoring
- Alarm suppression, masking, and report
- 4 alarms input and 4 output.
- Fully front access option ETSI
- Management:
  - Centralized management with CXR's EMS/NMS over DCC channel
  - VT100 menu-driven EMS
  - CXRView GUI EMS
  - CXR iNMS with Full FCAPS and end-to-end Circuit management
- ETSI chassis available
- 19" or 23"

## ADM & TM STM1/4 MULTIPLEXER ECONOMIC & COMPACT



Mounted with 2 aggregate optical or electrical STM-1/4 interfaces, the HX9400-S is a compact and economic SDH/SONET ADM/TM of the CXR range. This device is provided with SNCP or MSP(1+1) protection in Ring or Termination topology, and it is used by the Telco/ISP to distribute Ethernet/Gigabit Ethernet or by all Transport and Utility infrastructures to deploy a 622Mbps backbone for legacy/TDM/analogue/Scada or for pure IP video/voice/data with a high level of protection.

All interfaces are fully compliant with the relevant ETSI standards and ITU recommendations. The HX9400-S ADM provides powerful Operation, Administration, Maintenance and Provisioning (OAM&P) functionality, including fault management, performance monitoring, configuration management, and network security management. Through the console port, LAN port, and DCC channel, the OAM&P can be achieved both locally and remotely via SNMP or menu-driven interfaces.

The HX9400-S deliver different tributaries E1, T1, E3, DS3, FastEthernet and GigabitEthernet.

The manufacturing concept allows following configurations:

- 16, 32 or 48 E1/T1
- 3 E3/T3 (DS3)
- 2 Giga Ethernet 1000BaseT
- 8 Fast Ethernet 10/100BaseT

*Details on Tributary type and Capacity are show in following page.*

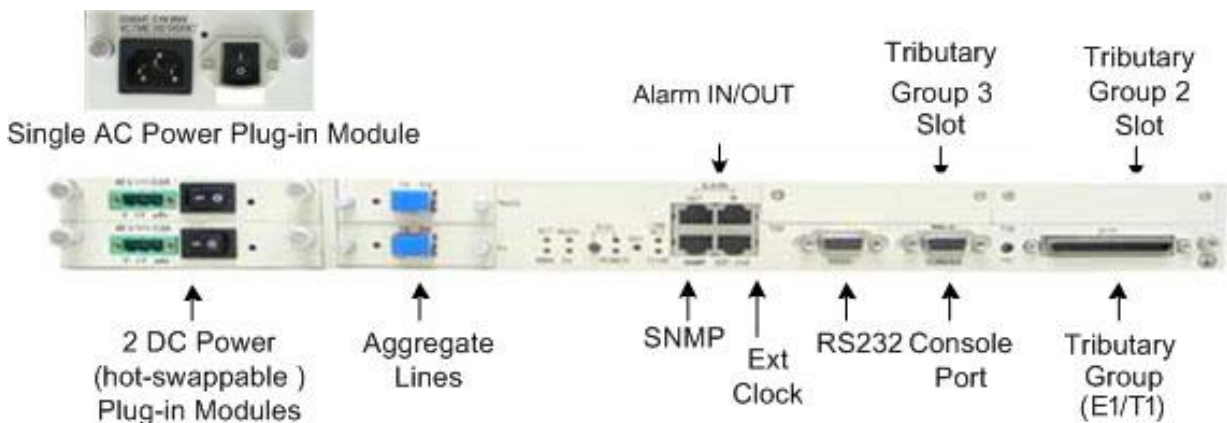
### Element Management System – CXRView

The CXR-View EMS provides a user-friendly Element Management GUI Interface for user to configure CXR SDH products. With CXR-View EMS, the NE-level configuration can be done either locally through the Ethernet interface or remotely through the DCC channel.

### Network Management System – CXR iNMS

The CXR-iNMS provides full-set FCAPS function support on both Loop Transmission SDH and CXR Access Products. With CXR-iNMS, network level management as well as OSS level North-bound interfaces are well supported. The powerful intelligence of CXR-iNMS enables several advanced features, such as end-to-end Circuit Management, Network Timing Synchronization, Circuit based Diagnostics, Performance Reports.

# HX9400-S : TECHNICALS SPECIFICATIONS

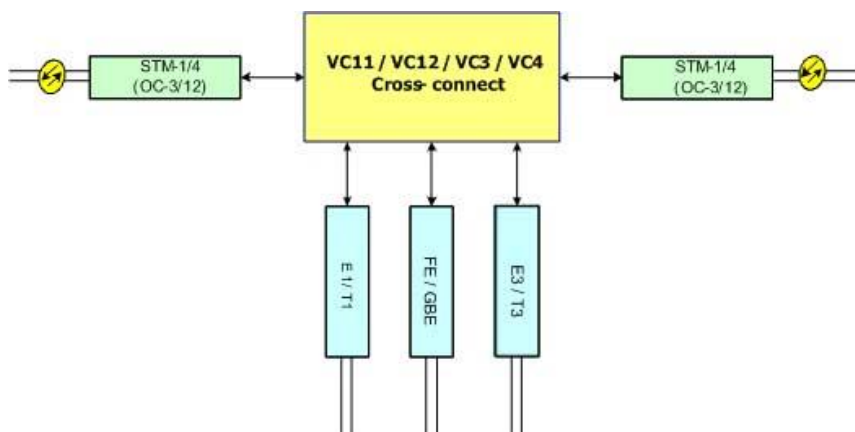


### SDH Mux functioning

The HX9400-S is an SDH/SONET multiplexer with up to two aggregate STM -1/4 (OC-3/12) interfaces utilizing SFP modules. Only on rate is available by device (STM1 or STM4)

### Operating modes

- ADM Add and Drop Multiplexer from East (STM1/4) to West (STM1/4)
- TM Terminal Multiplexer East or West (STM1/4)
- TM Terminal (1+1) East or West (STM1/4)
- 2 TM Terminal East or West (STM1/4)



### SDH Supported Protection modes :

- ADM mode support ring protection RING SNCP(SDH) or UPRS (Sonet)
- TM mode with dual fiber support MSP(1+1)

### SDH Cross-Connect :

The HX9400S is able to cross-connect VC11/VC12/VC3/VC4 with 2x4x63VC12 capacity

### Number of tributaries

The HX9400-S is organized into 3 tributaries groups - TG1/2/3

The 1U chassis include 8 or 16 E1-120ohms and T1 or E1-75ohms (TG1)

Slots TG2 and TG3 may contain fixed modules 16E1, 3 E3/T3, Ethernet and Gigabit Ethernet.

We may have a maximum configuration with :

- 48 E1/T1 or
- 16E1/T1 + 6 E3/T3 or
- 16E1/T1+ 8 10/100BaseT or
- 16E1/T1+ 2 Gigabit Ethernet or
- 32E1/T1+ 3x10/100BaseT+1Gigabit Ethernet

Slot Max. Capacity	Tributary Group1 (TG1)	Tributary Group2 (TG2)	Tributary Group3 (TG3)
48E1/T1	16 E1/T1	16 E1/T1	16 E1/T1
6E3/T3	N/A	3E3/T3	3E3/T3
2 GbE	N/A	1 GbE	1 GbE
8FE	N/A	4FE	4FE
1 GBE and 3 FE	N/A	N/A	1 GbE and 3 FE

## AGREGATE INTERFACES – SFP MODULE

SFP modules are ordered separate from the HX941U shelf.

CXR suggest following SFP modules :

- SFP STM1/4 dual uni-directional fiber 1310 /1550nm with analog measurement
- SFP STM1/4 dual uni-directional fiber 1310 /1550nm with numeric measurement DDM (Digital Diagnostic Monitor)
- STM1 Electrical interface
- SFP STM1/4 module single fiber WDM 1310+1550nm (on demand)
- SFP-STM1/4 module Lambda CWDM (on demand)

SFP optical Module STM1 (155 Mbps)	Direction	Wavelength (nm)	Connector	Distance
SFP-STM1-SM2-LC	Dual uni-directional fiber	1310nm	LC	2 Km
SFP-STM1-SM30-LC	Dual uni-directional fiber	1310nm	LC	30 Km
SFP-STM1-SM50-LC	Dual uni-directional fiber	1310nm	LC	50 Km
SFP-STM1-SM100-15-LC	Dual uni-directional fiber	1550nm	LC	100 Km
SFP-STM1-SM120-15-LC	Dual uni-directional fiber	1550nm	LC	120 Km
SFP-STM1-SM30-DMM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	30 Km
SFP-STM1-SM50-DMM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	50 Km
SFP-STM1-SM100-DMM-15-LC	Dual uni-directional fiber	1550nm	LC ( with DDM)	100 Km
SFP-STM1-SM120-DMM-15-LC	Dual uni-directional fiber	1550nm	LC ( with DDM)	120 Km

SFP Modules STM1e (155Mbps)	Type	Connector	Distance
SFP-STM1-EC	Electric	2 Mini-BNC	100 m

SFP optical Module STM4 (622 Mbps)	Direction	Wavelength (nm)	Connector	Distance
SFP-STM4-SM20-LC	Dual uni-directional fiber	1310nm	LC	15-20 Km
SFP-STM4-SM40-LC	Dual uni-directional fiber	1310nm	LC	40 Km
SFP-STM4-SM50-LC	Dual uni-directional fiber	1310nm	LC	50 Km
SFP-STM4-SM80-15-LC	Dual uni-directional fiber	1550nm	LC	80 Km
SFP-STM1/4-SM10LC-DDM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	15 Km
SFP-STM4-SM20-DDM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	15-20 Km
SFP-STM4-SM40-DDM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	40 Km
SFP-STM4-SM50-DDM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	50 Km
SFP-STM4-SM80-15-DDM-LC	Dual uni-directional fiber	1310nm	LC ( with DDM)	80 Km

## HX9400S TRIBUTARY SPECIFICATIONS

### TDM Interfaces

#### E1 Interface

Line rate	2.048 M bps $\pm$ 50 ppm	Output mask	ETS 300 689 Sec.4.2.1.2 ITU G.703
Line code	AMI/HDB3	Jitter	ITU G.823
Input signal	ITU G.703	Framing	Unframed
Output signal	ITU G.703	Impedance	75 ohms coax or 120 ohms RJ45
		Connector	One SCSI-II 68-pin

#### T1 Interface

Line rate	1.544 M bps $\pm$ 32 ppm	Output mask	Bellcore GR-499-core
Line code	AMI/B8ZS	Jitter	ITU G.824
Input signal	DSX-1 0dB to -6dB w/ALBO	Framing	Unframed
Output signal	DSX-1 w/short haul (0-133, 133-266,266-399, 399-533, 533-655 feet)	Impedance	100 ohms
		Connector	One SCSI-II 68-pin

#### E3 Interface

Line rate	34.368 M bps $\pm$ 20ppm	Output mask	ETS 300 689 Sec.4.2.1.2 ITU G.703
Line code	AMI/HDB3	Jitter	ITU G.823
Input signal	ITU G.703	Framing	Unframed
Output signal	ITU G.703	Impedance	BNC
		Connector	75 ohms coax

#### T3 Interface

Line rate	44.736 M bps $\pm$ 20ppm	Output mask	Bellcore GR-499-core
Line code	AMI/B3ZS	Jitter	ITU G.824
Input signal	ITU G.703	Framing	Unframed
Output signal	ITU G.703	Impedance	BNC
		Connector	75 ohms coax

#### RS232 Interface

Data rate	Asynchronous up to 19,2kbps	Connector DB9F	2 RS232 ports
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## Ethernet and Gigabit Ethernet Interfaces card

### Fast Ethernet (FE) interface HX941U-4TTX in tributary group 2 or/and 3

Line rate	4 x 10/100Mbps	Mapping per FE	VC-4 or 3*VC-3 or 63*VC-12
Mode	E-Line	Connector	4 RJ45 ports
Process protocol	VCAT, GFP, LAPS, and LCAS	MTU	9000 bytes

### Gigabit Ethernet (GBE) interface HX941U-GTX in tributary group 2 or/and 3

Line rate	1 x 1000Mbps	Mapping	4 x VC4, 12 x VC3 or x VC12
Mode	E-Line	Connector	1 RJ45 ports
Process protocol	VCAT, GFP, LAPS, and LCAS	MTU	9000 bytes

### Gigabit Ethernet (1 GBE) and Fast Ethernet (3 FE) interfaces with switch HX941U-SW1GTX-3TTX-6

Line rate	3 x 10/100Mbps and 1 x 10/100/1000Mbps	Mapping	1 WAN of maximum 622Mbps
Mode	E-Line or E-LAN	Connector	4 RJ45 ports
Layer 2 Protocol	MSTP, RSTP, VLAN, IGMP	MTU	9000 bytes
QoS			
Process protocol	VCAT, GFP, LAPS, and LCAS	or	BCP-PPP RFC2615

### Gigabit Ethernet (1 GBE) and Fast Ethernet (3 FE) interfaces with switch HX941U-SW1GTX-3TTX-1

Line rate	3 x 10/100Mbps and 1 x 10/100/1000Mbps	Mapping	4 WAN of maximum 155Mbps
Mode	E-Line or E-LAN	Connector	1 RJ45 ports
Layer 2 Protocol	MSTP, RSTP, VLAN, IGMP	MTU	9000 bytes
QoS			
Process protocol	VCAT, GFP, LAPS, and LCAS	or	BCP-PPP RFC2615

## HX9400S GENERALS SPECIFICATIONS

### System Clock

Clock Source	Internal clock 4 aggregate lines clocks (STM-1/4 (OC-3/12)) 6 tributary clocks 2 external input and output clocks (2.048 MHz of ITU-T G.703 or E1 for STM-1/4, T1 for OC-3/12)
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### Management

LED	Multi colors
Console	Electrical: RS232, DCE, Connector: DB9, female, User interface: Menu driven VT-100
Telnet	VT100 menu type
SNMP	SNMPv1, RFC1213
OSS interface	10/100BaseT FE (IEEE 802.3u )
NE/NE interface	DCC/HDLC/PPP/Ethernet type II, In-band E1

### Tests

Loopback Test	Local loopback, payload loopback, line loopback
BERT Test	Optical interface Direction: to optical lines



## HX9400-S GENERALES SPECIFICATIONS

### Performances monitor

Performance Reports	Performance Parameters: Error Block (EB), Background Block Error (BBE), Error Second (ES), Burst Error Second (BES), Severe Error Second (SES), Unavailable Second (UAS)			
Alarm History	System Alarm	Alarm Cut Off, Power Loss, TS Sync Loss, SNCP Switch, MSP Switch, Login/Logout, FOM Equip/Unequip, SFP Tx Fail, SFP Rx Fail, SFP Temperature		
	SDH/SONET Line Alarm	SDH	Line	PI-LOS, RS-LOF, RS-TIM, RS-BIP UAS, MS-SD, MS-SF, MS-AIS, MS-RDI, MS-BIP UAS, MS-REI UAS,
			Ho-Path	AU-LOP, AU-AIS, HP-SD, HP-SF, HP-TIM, HP-UNEQ, HP-PLM, HP-RDI-S, HP-RDI-C, HP-RDI-P, HP-BIP UAS, HP-REI UAS, LOM
			Lo-Path	TU-LOP, TU-AIS, LP-SD, LP-SF,
	SONET	Line	Line	LOS-PI, LOF-S, TIM-S, BIP-S UAS, SD-L, SF-L, AIS-L, RDI-L, BIP-L UAS, REI-L UAS
			STS-Path	LOP-P, AIS-P, SD-P, SF-P, TIM-P, UNEQ-P, PLM-P, RDI-S-P, RDI-C-P, RDI-P-P, BIP-P UAS, REI-P UAS, LOM
VT-Path			LOP-V, AIS-V, SD-V, SF-V	
Alarm Queue	Contains up to 200 alarm records of latest alarm types, alarm severity, date and time.			

### Power Supply

AC Module	90 to 240 Vac, 50/60Hz - 1 maximum
DC Module	-48 Vdc (-36 to -75V) - 2 module redundant maximum
Consummation	18.9 Watts

### Physical and Environmental

Dimensions 1u	(W x H x D) 432 x 44 x 240 mm / 17 x 1.7 x 9.5 "
Temperature	0 to 50°C / 32 to 122 °F
Humidity	0-95%RH (non-condensing)
Mounting	Table, rack 19" et 23" , Wall-mount

### Standards compliance

ITU	G.664, G.707, G.7041, G.7042, G.775, G.783, G.806, G.823, G.747, X.86
ANSI	T1.105, T1.107
IEEE	802.1q (VLAN), 802.1w (RSTP), 802.1s (MSTP), 802.1ad (stack VLAN), 802.3x (flow control), 802.1p (QoS)

### Certifications

EMC	EN55024
EMI	EN55022 Class A, FCC Part 15 Class A, EN55024
Safety	EN60950-1, IEC60950-1



## HX9400-S ORDER NUMBER

**Attention HX9400S configuration must include**  
**- one chassis with 8 or 16E1/T1 (in Trib1 group),**  
**- optional card in Trib2 and Trib3 (be care to the impossibilities)**  
**1 or 2 HX941U-STM4-SFP, this card is provide w one slot for SFP SDH module**  
**- 1 or 2 power supply**

<b>HX9400S-1U-8E1T1</b>	SDH STM1/4 ADM multiplexor, 1U 19", with 8E1/120ohms or T1, 1 or 2 fiber optic STM1/4 and 1 or 2 power supplies. Please add 1 ou 2 HX941U-STM4-SFP, IX-PAN-16E1T1-RJ45 and SCSI cable. Factory optional order (2 of HX941U-16E1T1, -E3T3, -1GTX, -4TTX or 1 HX941U-SW1GTX-3TTX-x).
<b>HX9400S-1U-8E1-75</b>	SDH STM1/4 ADM multiplexor, 1U 19", with 8E1/75ohms, 1 or 2 fiber optic STM1/4 and 1 or 2 power supplies. Please add 1 ou 2 HX941U-STM4-SFP, IX-PAN-16E1-BNC and SCSI cable. Factory optional order (2 of HX941U-16E1T1, -E3T3, -1GTX, -4TTX or 1 HX941U-SW1GTX-3TTX-x).
<b>HX9400S-1U-16E1T1</b>	SDH STM1/4 ADM multiplexor, 1U 19", with 16E1/120ohms or T1, 1 or 2 fiber optic STM1/4 and 1 or 2 power supplies. Please add 1 ou 2 HX941U-STM4-SFP, IX-PAN-16E1T1-RJ45 and SCSI cable. Factory optional order (2 of HX941U-16E1T1, -E3T3, -1GTX, -4TTX or 1 HX941U-SW1GTX-3TTX-x).
<b>HX9400S-1U-16E1-75</b>	SDH STM1/4 ADM multiplexor, 1U 19", with 16E1/75ohms, 1 or 2 fiber optic STM1/4 and 1 or 2 power supplies. Please add 1 ou 2 HX941U-STM4-SFP, IX-PAN-16E1-BNC and SCSI cable. Factory optional order (2 of HX941U-16E1T1, -E3T3, -1GTX, -4TTX or 1 HX941U-SW1GTX-3TTX-x).
<b>HX9400S-1U-VC4-8E1T1</b>	SDH STM1 ADM multiplexor, 1U 19", with 8E1/120ohms or T1, 1 or 2 fiber optic STM1 and 1 or 2 power supplies. Please add 1 ou 2 HX941U-STM4-SFP, IX-PAN-16E1T1-RJ45 and SCSI cable. Factory optional order (2 of HX941U-16E1T1, -1GTX, -4TTX only).
<b>HX9400S-1U-VC4-16E1T</b>	SDH STM1 ADM multiplexor, 1U 19", with 16E1/120ohms or T1, 1 or 2 fiber optic STM1 and 1 or 2 power supplies. Please add 1 ou 2 HX941U-STM4-SFP, IX-PAN-16E1T1-RJ45 and SCSI cable. Factory optional order (2 of HX941U-16E1T1, -1GTX, -4TTX only).
<b>HX941U-STM4-SFP</b>	Module optical module SFP for STM1 or STM4 , minimum 1 - maximum 2
<b>HX941U-16E1T1</b>	HX9400S-1U factory option 16E1 120ohms or T1 100ohms , please order IX-PAN-16E1T1-RJ45 and SCSI cable
<b>HX941U-16E1-75</b>	HX9400S-1U factory option 16E1 75 ohms, please order IX-PAN-16E1-BNC and SCSI cable
<b>HX941U-E3T3</b>	HX9400S-1U factory option 3 E3 or DS3 75ohms
<b>HX941U-1GTX</b>	HX9400S-1U factory option bridge 1 x 1000BaseT, single 8 WAN of maximum 622Mbps, E-Line only
<b>HX941U-4TTX</b>	HX9400S-1U factory option bridge 4 x 10/100BaseT, maximum 155Mbps per WAN, E-Line only
<b>HX941U-SW1GTX-3TTX-1</b>	EOL
<b>HX941U-SW1GTX-3TTX-6</b>	EOL
<b>HX941U-SA</b>	AC power supply for HX9400S-1U, 100/240V, maximum 1. ATTENTION: this power supply is not compatible with HX941U-SW1GTX-3TTX-x card and compatible with only one card HX941U-1GTX or one HX941U-4TTX.
<b>HX941U-48</b>	DC power supply for HX9400S-1U, - 48v, maximum 2.
<b>HX9400S-MANUEL-F</b>	HX9400S French manual
<b>HX9400S-MANUAL-E</b>	HX9400S English manual

<b>IX-PAN-16E1T1-RJ45</b>	19" pannel without SCSI cable and 16 E1/T1 RJ45 120ohms for HX9400
<b>IX-PAN-16E1-BNC</b>	19" pannel without SCSI cable and 16 E1 BNC 75ohms for HX9400
<b>IX-PAN-16E1T1-WR</b>	19" pannel without SCSI cable and 16 E1/T1 wire for HX9400
<b>Y-BOX-PAN-16E1-RJ45</b>	Y-Box with 1U 19" pannel without SCSI cable, 2 SCSI toward 16 E1/T1 RJ45 120ohms for HX9400
<b>CA-SCSI-M-2</b>	SCSI cable: 2 m

<b>100FX, STM1-OC3 SFP MODULE, support E1/E3 of CXR FO and MX devices, with DDM, Standard range -5 to +70°C</b>	
<b>SFP-STM1-SM30D</b>	SFP module 100FX, STM1 - OC3 single mode 1310 for 30km, LC, with DDM
<b>SFP-STM1-SM50D</b>	SFP module 100FX, STM1 - OC3 single mode 1310 for 50km, LC, with DDM
<b>SFP-STM1-SM100-15D</b>	SFP module 100FX, STM1 - OC3 single mode 1550 for 100km, LC, with DDM
<b>SFP-STM1-SM120-15D</b>	SFP module 100FX, STM1 - OC3 single mode 1550 for 120km, LC, with DDM
<b>SFP-STM1-SM160-15D</b>	SFP module 100FX, STM1 - OC3 single mode 1550 for 160km, LC, with DDM, L-4.2
<b>SFP-STM1-SM200-15D</b>	SFP module 100FX, STM1 - OC3 single mode 1550 for 200km, LC, with DDM, L-4.2
<b>SFP-STM1-SM240-15D</b>	SFP module 100FX, STM1 - OC3 single mode 1550 for 260km, LC, with DDM, L-4.2
<b>SFP-STM1-SM80-CxxD</b>	SFP module 100FX w DD, CWDM lambda au choix de 1430 to 1610nm, budget 29 dB for 80km, connector LC
<b>100FX, STM1/STM4-OC3/OC13 SFP MODULE, Standard range -5 to +70°C</b>	
<b>SFP-STM1/4-SM10</b>	SFP module 100FX, STM1/STM4 -OC3/OC12 single mode for 10km LC
<b>SFP-STM1/4-SM20</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 20km LC
<b>SFP-STM1/4-SM50</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 50km LC
<b>SFP-STM1/4-SM80-15</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 80km 1550nm LC
<b>100FX, STM1/STM4-OC3/OC13 SFP MODULE, with DDM Standard range -5 to +70°C</b>	
<b>SFP-STM1/4-SM20D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 20km LC, with DDM
<b>SFP-STM1/4-SM40D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 40km LC, with DDM
<b>SFP-STM1/4-SM50D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 50km LC, with DDM
<b>SFP-STM1/4-SM80-15D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 80km LC, with DDM
<b>SFP-STM1/4-SM100-15D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 100km LC, with DDM
<b>SFP-STM1/4-SM120-15D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 120km LC, with DDM
<b>SFP-STM1/4-SM160-15D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 160km LC, with DDM
<b>SFP-STM1/4-SM200-15D</b>	SFP module 100FX, STM1/STM4 -OC3/OC13 single mode for 200km LC, with DDM
<b>STM16/OC48, GE, 2GE SFP MODULE, with DDM Standard range -5 to +70°C</b>	
<b>SFP-STM16-SM15D</b>	SFP module STM16/OC48 single mode 1310 DBF for 15km, LC, with DDM
<b>SFP-STM16-SM40D</b>	SFP module STM16/OC48 single mode 1550 DBF for 40km, LC, with DDM
<b>SFP-STM16-SM80-15D</b>	SFP module STM16/OC48 single mode 1550 DBF for 40km, LC, with DDM
<b>SFP-STM16-SM40-CxxD</b>	SFP module STM16/OC48 single mode, CWDM Cxx, DBF for 40km, LC, with DDM
<b>SFP-STM16-SM120DWxxD</b>	SFP module STM16/OC48 single mode, DWDM Cxx, DBF for 120km, LC, with DDM



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