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PHOENIX DATACOM
NETWORK PERFORMANCE AND SECURITY

Optical Switch Module OSM

Optical Switch Module

The Polatis OSM family is a series of high performance, fully non-blocking optical switch modules. Designed for OEM integration, the OSM is an ideal product where small size and superior optical performance are required. All drive and control electronics are provided, with options for either serial RS-232 or a high speed interface.

Easily integrated onto standard telecom blades, the small form-factor OSM forms the key element of a reconfigurable optical core. Whether used for hybrid OEO/OOO network switches, IP over optical or client-side switching, the OSM provides fast and reliable reconfiguration, with absolute minimal impact on pre-engineered loss budgets. The OSM is also well suited to integrated test systems and for component & module manufacturing test.

The OSM is available in both symmetric (NxN) and asymmetric (MxN) port configurations, with package options allowing for either Normal or Extended operating environments.

DirectLight® Technology

All Polatis products are based on the patented DirectLight beam-steering technology, setting the benchmark for reliable, high performance switching.

Polatis also offers multimode OSM and Reconfigurable single mode OSM products, as well as a range of rack-mount optical switch systems and standard backplane optical cards.

KEY FEATURES

- Compact size, easy to integrate
- Fully integrated drive/control electronics
- Extended environmental range
- Ultra-low insertion loss
- High signal stability
- Low polarization dependent loss
- Fast switching speed
- High power handling
- Dark fiber switching
- Fully non-blocking
- Bi-directional operation
- RS232 interface

APPLICATIONS

- Hybrid OEO/OOO network switches
- Network OEM system integration
- ROADM
- Automated manufacturing test
- Client-side OOO switching
- Remote network monitoring & test access
- Network IP over optical routing
- Automated component test
- High power laser switching
- RF over fiber
- Shipboard communications
- Secure communication networks

High performance optical switch solutions

PERFORMANCE SPECIFICATIONS

Fiber Count Designator	C	D
Insertion Loss [1]	<1.0dB	<1.4dB
Polarization Dependent Loss	<0.05dB	<0.1dB
Crosstalk	<-70dB	<-60dB
Operating Wavelength Range	1260-1625nm	
Wavelength Dependent Loss	<0.3dB (C+L Band)	
Repeatability	<±0.05dB	
Return Loss [2]	>55dB	
Switching Time	<17ms	
Maximum Optical Power [3]	+27dBm	
Switch Lifetime	10^8 cycles	
Operating Temp (Normal)	+ 5° to +45°C, <85% RH non-condensing	
Operating Temp (Extended)	-10° to +60°C, <90% RH non-condensing	
Storage Temp (Normal)	-40° to +70°C, <40% RH non-condensing	
Storage Temp (Extended)	-40° to +70°C, <95% RH non-condensing	
Qualification (Normal)	Designed to meet EN60950	
Qualification (Extended)	Designed to meet Telcordia GR1073 EN60950	

All parameters are measured excluding connectors at 1550nm and 20°C with an unpolarized source after thermal equalization unless stated.
1. Measured using a 3 patch-cord method as defined in TIA/EIA-526-14A.
2. With APC connectors return loss >70dB without connectors.
3. Switch will operate on dark fiber.

The performance characteristics of the switch modules vary according to the fiber count.

Fiber Count	04	08	12	16	20	24	28	32	CC
04	C	C	C	C	D	D	D	D	-
08	C	C	C	C	D	D	D	D	D
12	C	C	C	C	D	D	D	D	D
16	C	C	C	C	D	D	D	D	D
20	D	D	D	D	D	D	D	D	D
24	D	D	D	D	D	D	D	D	D
28	D	D	D	D	D	D	D	D	D
32	D	D	D	D	D	D	D	D	D

Packaging Information

Fiber Count	Environment	Module Dimensions (mm)			Power Dissipation
8-32	Normal	273	178	38	15W
	Extended	260	170	38	
33-64	Normal	310	230	120	25W
	Extended	290	309	100	

Ordering Information

The part numbering scheme for Polatis products is as follows:

OSM - ___x___ - __ __ 1 - R __ D __ __

- Fibers
  - 4-32 Input
  - 8-32 Reconfigurable
- Fibers
  - 4-32 Output
  - CC = Reconfigurable
- Connector
  - L = LC
  - F = FC
  - C = SC
  - T = ST
  - U = MU
- Polish
  - U = UPC
  - A = APC
- Fiber
  - 1 = Single mode 9/125µm
- Interface
  - R = RS232
- Protocol
  - S = SCPI
  - C = Command Line Interface
- Power
  - D = DC
- Environmental
  - N = Normal
  - E = Extended
- Customization
  - S = Standard
  - V = Non-standard Variant

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