Data Sheet

HUBER+SUHNER

POLATIS® Series 6000i
Instrument Optical Switch Module (OSM)

Description

- Non-blocking single-sided 16, 32 & 48 port "any-to-any" switch module
- Compact Design
- Protocol and bit rate agnostic
- Able to switch and hold dark fiber connections
- Fully bidirectional optics
- Simple, robust SCPI command interface
- Ideal for OEM applications and integrated systems



The POLATIS Series 6000i NxCC all-optical switch module is a compact, high-performance and ultra-low power fully non-blocking all-optical “any-to-any” matrix switch module with up to 48 ports. This unique customer configurable single-sided switch design allows any of the up to 48 ports to be connected to any other ports enabling new interconnection architectures not possible with traditional symmetric NxN switch matrixes. The ultracompact size and low-power usage make this an ideal choice for OEM applications.

Technical data

Optical Performance

Description	Values	
Switch Size (Ports)	16 & 32 Ports with any-to-any connectivity	48 Ports with any-to-any connectivity
Typical Insertion Loss	0.6dB	1.0dB
Maximum Insertion Loss[1]	1.0dB	2.3dB
Loss Repeatability[2]	+/-0.1dB	+/-0.1dB
Connection Stability[2]	+/-0.1dB	+/-0.1dB
Dark Fiber Switching	Yes	Yes
Bi-Direction Optics	Yes	Yes
Maximum Switching Time	35ms	35ms
Polarization Dependent Loss (PDL)	<0.1dB (C+L Bands)	<0.1dB (C+L Bands)
Crosstalk	<-50dB	<-50dB
Operating Wavelength Range	1260-1675nm	1260-1675nm
Wavelength Dependent Loss (WDL)	<0.3dB (C+L Band)	<0.3dB (C+L Band)
Return Loss (with APC connectors)	>50dB	>50dB
Maximum Optical Input Power	+27dBm	+27dBm
Switch Lifetime	>10^9 Cycles	>10^9 Cycles

Electrical & Mechanical data

Characteristics	Values
Fiber Type	Single Mode
Fiber Connectors	LC, FC, SC (UPC/APC) plus MTP-12 Elite Array
Input Voltage	12VDC (Minimum 11VDC to Maximum 24VDC)
Peak Inrush Current	2.5A at 12VDC
Nominal current draw	0.42A at 12VDC
Nominal Electrical Power dissipation	5W
Control Language	SCPI over RS-232 Serial

Notes:

1. *Measured using the 3 patch-cord method as defined in ANSI/TIA/EIA-526-7-1998*
2. *Stability and repeatability are measured at maximum transmission*

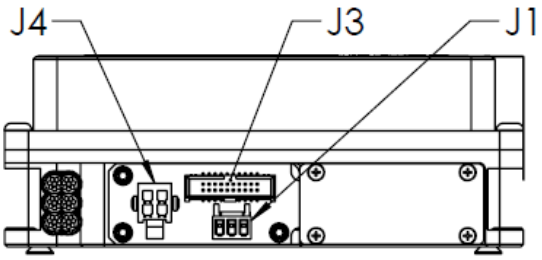
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Environmental data

Characteristics	Conditions	Values
Normal temperature range	In service In storage	+5°C up to +45°C <85% RH non-condensing -40°C up to +70°C <40% RH non-condensing
Extended temperature range	In service In storage	-5°C up to +55°C <90% RH non-condensing -40°C up to +70°C <95% RH non-condensing

Electrical Connections

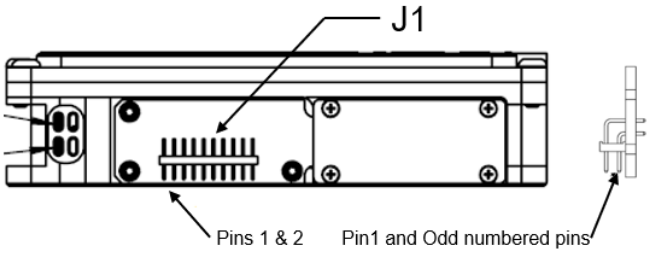
Module Comms Connector Option – S (RS232 with 3 pin Serial & 4 pin Power Connectors)



- J1. 3 pin Serial RS-232 connector.
  - Pin 1 (right pin): RXD
  - Pin 2 (center pin): TXD
  - Pin 3 (left pin): Ground
- J4. 4 way power cable.
  - Pins 1, 2 (top two pins): Ground
  - Pins 3, 4 (bottom 2 pins): +12 VDC
- J3. NOT USED

Details of mating OSM Serial Cable Part A-1000-10071-B and Power Cable Part A-1000-10068-A are available on request.

Module Comms Connector Option – R (RS232 with 20 way edge connector)



Pin No.	Description	Pin No.	Description	Pin No.	Description	Pin No.	Description
1	Not Used	6	Not Used	11	**GND**	16	**RS232 TXD (OUT)**
2	Not Used	7	Not Used	12	**GND**	17	GND
3	Not Used	8	Not Used	13	Not Used	18	GND
4	Not Used	9	Not Used	14	Not Used	19	**PWR IN, +12V**
5	Not Used	10	Not Used	15	**RS232 RXD (IN)**	20	**PWR IN, +12V**

Mating Connector: Samtec Part No. MMS-110-02-L-DV

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Ordering information

Order Code: I - OSM - NN x CC - X X 1 - X S D X S

Ports
16, **32** or **48**

Connectors
L = LC
F = FC
C = SC
N = MTP-12

Connector Polish
U = UPC
A = APC
Q = QSFP format for MTP-12 only

Fiber Type
1 = Single Mode 9/125um

Comms Connector
S = RS232 with 3pin Serial & 4pin Power Connectors
R = RS232 with 20way edge Connector

Protocol
S = SCPI

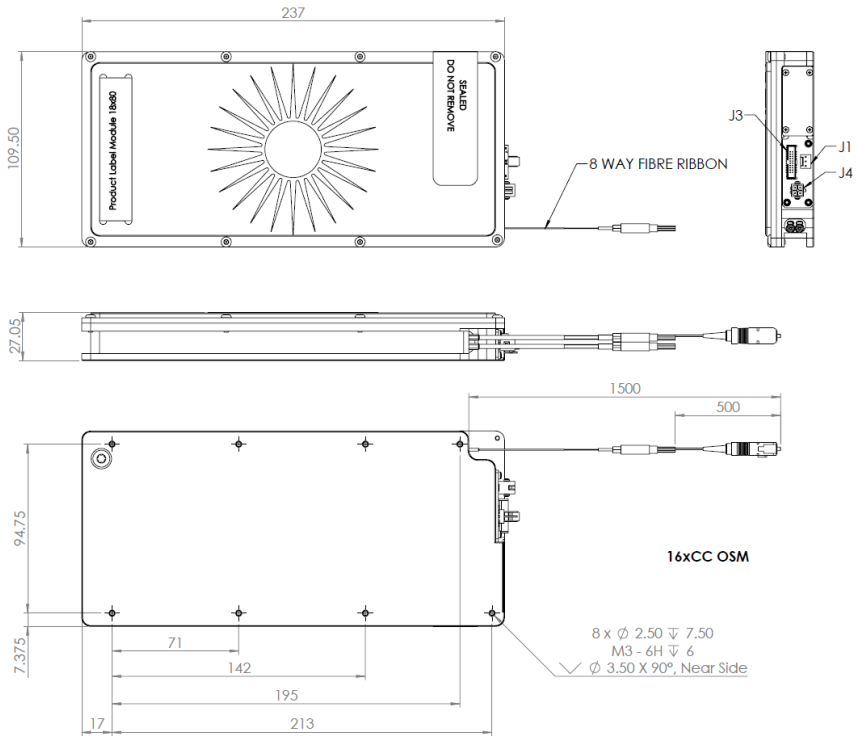
Power
D = 12v DC

Environmental
N = Normal
E = Extended

Customisation
S = Standard

Dimensions in mm

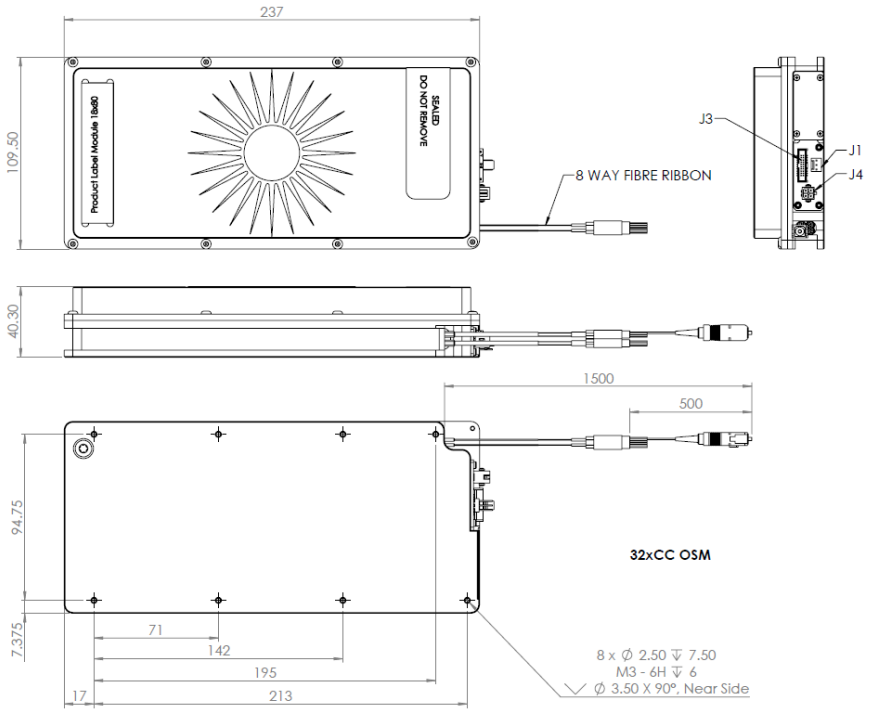
16xCC OSM



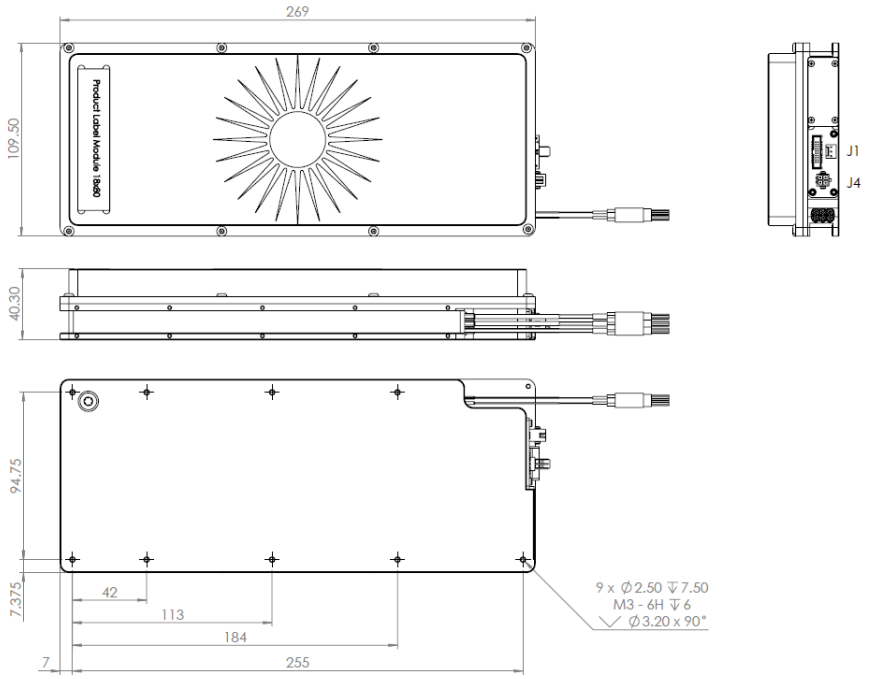
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32xCC OSM



48xCC OSM



Related documents

Please refer to User Manual 7001-005-X, POLATIS 16 to 48 Port Optical Switch Module Installation and Commissioning Guide for further details