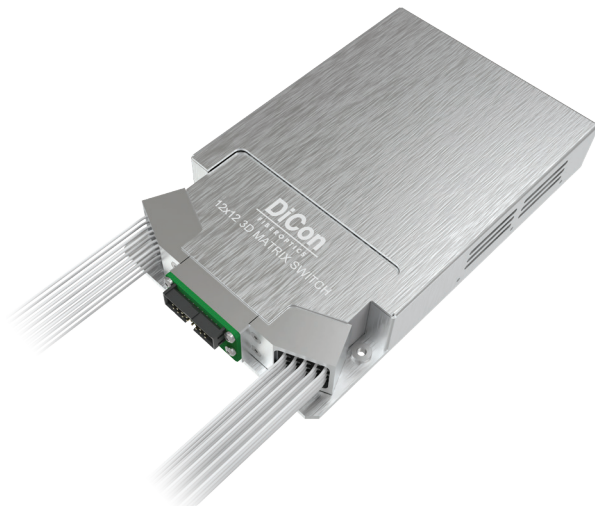


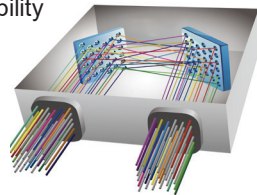
# MEMS 12X12 OPTICAL MATRIX SWITCH MODULE

## SX1 Model, PM Fiber, Performance Grade



**MEMS Optical Matrix Switch Module** is built with DiCon's proprietary MEMS technology. Each module contains 2 sets of MEMS mirrors for making 1-to-1 connections between input and output ports. The MEMS mirrors are held in position using precisely calibrated voltages and require no feedback control. This unique quality enables the switch to maintain stable connections and allows the device to function when there is no light in the fiber. This innovative platform has an outstanding track record and delivers best-in-class optical performance

- Proven MEMS technology
- Lifetime > 10<sup>9</sup> switch cycles
- No dithering or active alignment artifacts
- Switches and holds dark fiber connections
- Low insertion loss with excellent stability
- Compact and lightweight
- Asymmetric MxN available



### About DiCon

- Headquartered in California since 1986
- US based in-house MEMS fab
- Over 3 million MEMS mirrors produced since 1999
- Manufactures TAA compliant products

## ORDERING INFORMATION

SX1 - P□ - □ - □ - □ - □ - □ - □ - □

### Grade

**P** Performance

### Switch Configuration

**12x12** 12x12

**MxN** M≤12, N≤12

### Fiber Type

**PM13** Corning PM 1300 Fiber

**PM15** Corning PM 1550 Fiber

*\*Other fiber options available upon request*

### Selectable Wavelength Ranges

**O** 1260-1360 nm

**E** 1360-1460 nm

**S** 1460-1530 nm

**C** 1530-1570 nm

**L** 1570-1625 nm

**U** 1625-1675 nm

*\*Multiple wavelength ranges can be supported.*

*Use "/" to add multiple ranges.*

*For example: For 1260 - 1360 nm & 1530 - 1570nm use O/C, for 1260 to 1675 nm use O/E/S/C/L/U*

### Fiber Jacket

**L** 900 μm Loose Tube Fiber

**B** 250 μm Bare Fiber

*\*Other fiber options available upon request*

### Connector Type

**N** None

**FC** FC/UPC

**FC/APC** FC/APC

*\*Other connector types available upon request*

### Connector Key Orientation

**N** None

**S** Slow Axis

**F** Fast Axis

### Pigtail Length

**1** 1 Meter

**X** Specify X Meters

*\*Tolerance is +/- 0.1 m*

# MEMS 12X12 OPTICAL MATRIX SWITCH MODULE

## SX1 Model, PM Fiber, Performance Grade

### OPTICAL SPECIFICATIONS

Wavelength Range	1260 to 1675 nm
Insertion Loss <sup>1</sup>	< 0.8 dB
Loss Repeatability <sup>2</sup>	+/- 0.01 dB
Connection Stability <sup>3</sup>	+/- 0.01 dB
Connection Stability (Short Term) <sup>4</sup>	+/- 0.005 dB
Polarization Extinction Ratio (PER) <sup>5</sup>	> 18 dB
WDL, C+L Band (1530-1625 nm)	< 0.3 dB
Crosstalk	< -70 dB
Back Reflection	< -50 dB
Switching Time, All Channels	< 25 ms
Switch Lifetime	> 1 Billion Cycles
Input Power Range	Dark to +27 dBm

1. Measured at optimized  $\lambda$  (e.g. 1550 nm), 25°C, excluding connectors (Each pair of connectors will add extra 0.2 dB loss.)

2. Over 100 cycles

3. 1 Hz sampling rate for 15 min

4. 10 KHz sampling rate for 10 Sec

5. PER with connectors is 18 dB typical, 16 dB minimum

### ELECTRICAL SPECIFICATIONS

Module Power Consumption	3.8 W max. Operating 6.5 W max. Start Up
Supply Voltage	12V DC
Module Interface	16-Pin Samtec
Module Control	USB, RS232, I <sup>2</sup> C

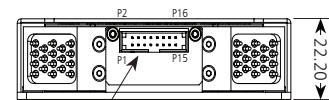
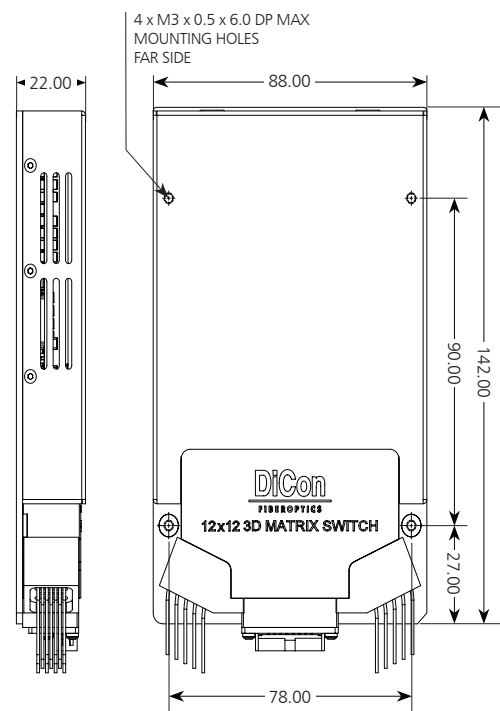
### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	0 to 50°C, < 85% RH
Storage Temperature	-40 to 70°C, < 40% RH

### MECHANICAL SPECIFICATIONS

Module Size	142 mm x 88 mm x 22 mm
Module Weight (with fibers)	0.42 kg

Dimensions in mm



MATING CONNECTOR  
P/N: TCSD-08-01-F-N

SAMTEC CONNECTOR  
P/N: STMM-108-02-G-D