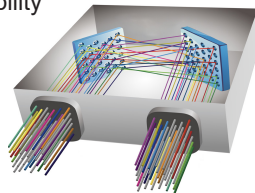# DiCon Fiberoptics, Inc.

MEMS 192X192 OPTICAL MATRIX SWITCH MODULE
SX4 Model, Single Mode Fiber, Standard 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 > 10^9 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

SX4 - T☐ - 9 - ☐ - T - ☐ - N - ☐

Grade

T Standard

Switch Configuration

192x192 192x192
MxN M≤192, N≤192

Fiber Type

9 9/125 µm SMF
Other fiber options available upon request

Test Wavelength

O 1310 nm
C 1550 nm
L 1590 nm
Use "/" to add multiple wavelengths. E.g., O/C or O/C/L

Fiber Jacket

T 900 µm Tight Buffer
Other fiber options available upon request

Connector Type

N None
FC FC/UPC
FC/APC FC/APC
LC LC/UPC
LC/APC LC/APC
SC SC/UPC
SC/APC SC/APC
Other connector types available upon request

Connector Key Orientation

N None

Pigtail Length

1 1 Meter
X Specify X Meters
Tolerance is +/- 0.05 m

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MEMS 192X192 OPTICAL MATRIX SWITCH MODULE
SX4 Model, Single Mode Fiber, Standard Grade

OPTICAL SPECIFICATIONS[1]

Operating Wavelength	1260 to 1675 nm
Insertion Loss[2]	< 1.9 dB
Loss Repeatability[3]	+/- 0.03 dB
Connection Stability[4]	+/- 0.03 dB
PDL	< 0.1 dB
WDL[5]	< 0.3 dB
Crosstalk	< -60 dB
Back Reflection	< -50 dB
Optical Transition Time[6]	< 25 ms
Switch Lifetime	> 1 Billion Cycles
Input Power Range	Dark to +27 dBm

1. Measured separately for each Test Wavelength at 23°C
2. Measured with 3-jumper method or equivalent. See TIA/EIA 526-7
3. Over 100 cycles
4. 1 Hz sampling rate for 15 min
5. Test Wavelength ±20 nm
6. Optical transition time for all ports switching concurrently, not including command processing overhead

ELECTRICAL SPECIFICATIONS

Module Power Consumption	23 W max. Operating 36 W max. Start Up
Supply Voltage	12V DC
Module Interface	16-Pin Samtec
Module Control	USB, RS232, I²C

ENVIRONMENTAL SPECIFICATIONS

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

MECHANICAL SPECIFICATIONS

Module Size	292 mm x 273.2 mm x 126.1 mm
Module Weight (with fibers)	8.65 kg

Dimensions in mm

8X M4X0.7THRU MOUNTING HOLES

DiCon
FIBEROPTICS
192x192 3D MATRIX SWITCH

292.0
262.0
273.2
36.6 50.0 100.0 50.0
15.0

126.1
6.0

MATING CONNECTOR
P/N: TCSD-08-01-F-N
SAMTEC CONNECTOR
P/N: STMM-108-02-G-D