

# MEMS 1xN OPTICAL SWITCH

DiCon's MEMS 1xN Optical Switch is a compact, single mode, fiber optic switch configurable for port counts up to 1x48. It utilizes DiCon's proprietary MEMS technology to achieve reliable optical performance and excellent durability; DiCon's optical switches have been shown to last for over 1 billion switch cycles and are qualified to Telcordia GR-1221 environmental standards.

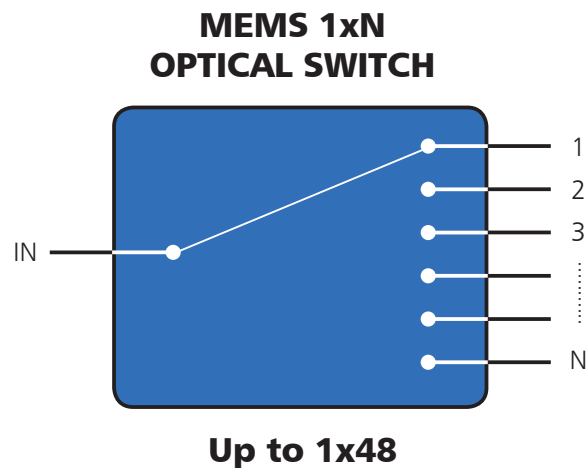


## FEATURES

- Reliable Optical Performance
- Excellent Durability
- Compact Form Factor
- Low Power Consumption

## APPLICATIONS

- Optical Communications
- Fiber Optic Sensing
- Bio-medical Instrumentation
- RF Distribution over Fiber



# MEMS 1xN OPTICAL SWITCH

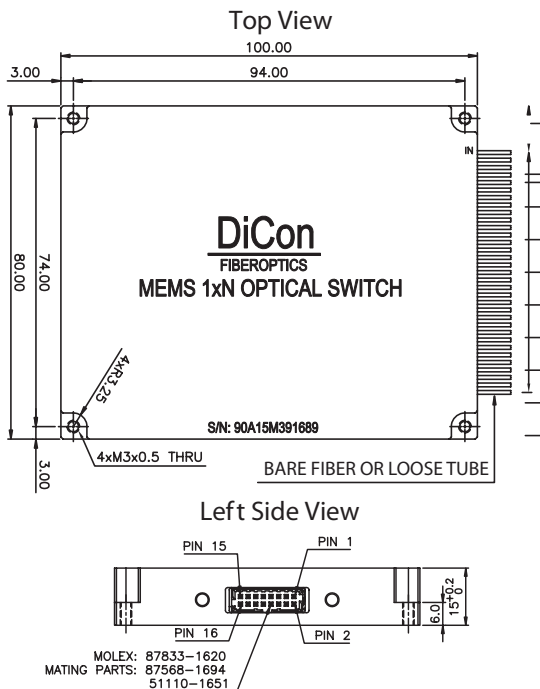
## OPTICAL SPECIFICATIONS <sup>1,2</sup>

PARAMETER		RATING
Insertion Loss <sup>3,4</sup>	25 ≤ N ≤ 32	0.8 dB typ. / 1.2 dB max.
	33 ≤ N ≤ 48	0.8 dB typ. / 1.2 dB max.
Crosstalk		-50 dB max.
Back Reflection		-50 dB max.
Switching Time		30 ms max.
TDL		0.40 dB max.
WDL <sup>5</sup>	25 ≤ N ≤ 32	0.30 dB max.
	33 ≤ N ≤ 48	0.40 dB max.
PDL <sup>6</sup>		0.10 dB max.
Repeatability <sup>7</sup>		0.04 dB max.
Optical Power		500 mW max.
Durability		10 <sup>9</sup> cycles min.
Operating Temperature		-5 to 70 °C
Storage Temperature		-40 to 85°C
Fiber Type		9/125 um Singlemode

1. Specifications are without connectors.
2. Specifications only guaranteed in defined switch states.
3. IL is measured at CWL, 23°C.
4. IL is for single-band. Dual-band adds 0.3 dB.
5. WDL is measured in a +/- 20nm range at 23°C.
6. PDL is for single-band. Dual-band adds 0.05 dB.
7. Repeatability is defined after 100 cycles.

## MECHANICAL SPECIFICATIONS

Dimensions in mm



## ORDERING INFORMATION

**MS3** - □ - □ - □ - □ - □ - □ - □

### Product Code

**MS3** MEMS Switch

### Switch Configuration

**1xN** 1xN, Specify N ≤ 48

### Control Interface

**I2C** I<sup>2</sup>C  
**RS2** RS232  
**TTL** TTL

### Wavelength Range

**13** 1290 - 1330 nm  
**15** 1530 - 1570 nm  
**16** 1570 - 1610 nm  
**13/15** 1290 - 1330 & 1530 - 1570 nm  
**15/16** 1530 - 1570 & 1570 - 1610 nm

### Fiber and Jacket Type

**9/BF** Corning SMF-28, Bare fiber  
**9/LT** Corning SMF-28, Loose-tube  
*Or other equivalent 9 um Singlemode fiber*

### Connector Type

**FC/SPC** FC/SPC  
**FC/APC** FC/APC  
**N** NONE

*Also Available: SC, SC/UPC, SC/APC, ST, ST/UPC, LC*

### Pigtail Length

**1** 1 Meter  
**X** Specify X Meter

*Tolerance is +/- 0.05 m*

## ELECTRICAL SPECIFICATIONS

PARAMETER		RATING
Latching Type		non-latching
Control Type		I <sup>2</sup> C, RS232 or TTL
Vcc Voltage	I <sup>2</sup> C, RS232	12 VDC
	TTL	5 VDC
Power Consumption	I <sup>2</sup> C, RS232	700 mW max.
	TTL	1.5 W max.
Connector Type		Molex 87833-1620