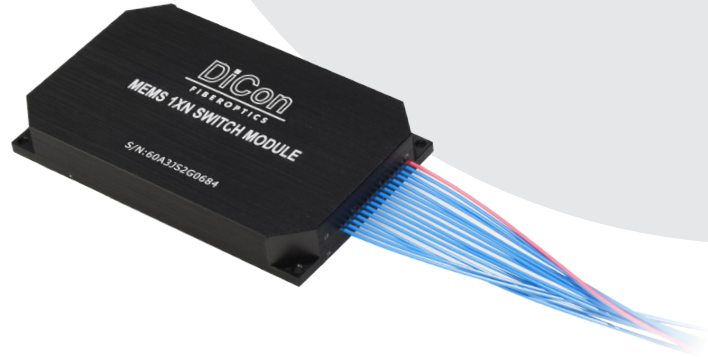


# MEMS 1xN OPTICAL SWITCH

DiCon's MEMS 1xN Optical Switch is an industry proven fiber optic switch with excellent durability and reliability. It allows channel selection between a single input fiber and N output fibers, and the module allows for up to five MEMS switch components to be copackaged with the option of switching synchronously. In addition, this optical switch is bi-directional and can be used in either a 1xN or Nx1 direction.

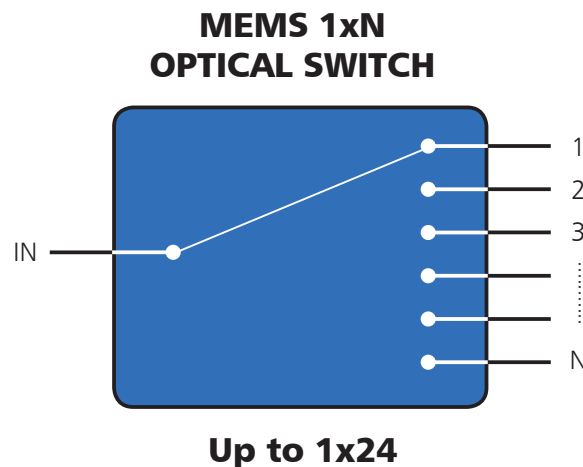


## FEATURES

- Proven MEMS Durability and Reliability
- Compact Form Factor
- Fast Switching Time

## APPLICATIONS

- Optical Communications
- Fiber Sensing
- Bio-medical Instrumentation
- Video Distribution



# MEMS 1xN OPTICAL SWITCH

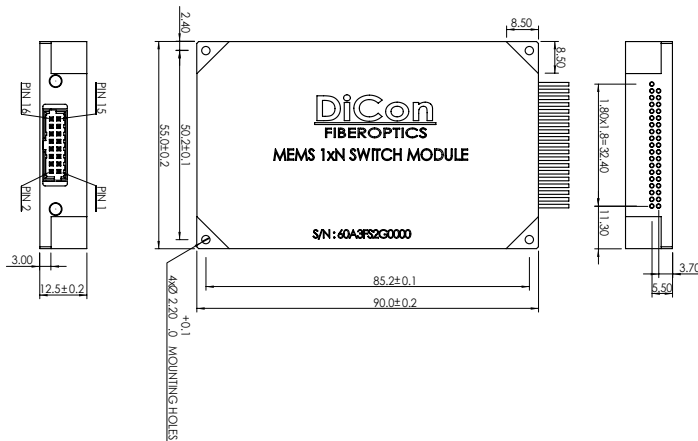
## OPTICAL SPECIFICATIONS <sup>1</sup>

PARAMETER		RATING
Insertion Loss <sup>2,3</sup>	1x2, 1x4	0.4 dB typ. / 0.6 dB max.
	1x8	0.4 dB typ. / 0.7 dB max.
	1x12	0.4 dB typ. / 0.8 dB max.
	1x16, 1x24	0.8 dB typ. / 1.2 dB max.
Crosstalk <sup>4</sup>		-50 dB max.
Back Reflection		-50 dB max.
Switching Time <sup>5</sup>	Up to 1x8	15 ms max.
	Up to 1x24	20 ms max.
Array Switching Time <sup>6,7</sup>		30 ms max.
TDL		0.40 dB max.
WDL <sup>8,9</sup>		0.30 dB max.
PDL <sup>10</sup>		0.10 dB max.
Repeatability <sup>11</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

- Specifications are without connectors.
- IL is measured at CWL, at room temp.
- IL is for single-band. Dual-band adds 0.3 dB.
- Power off isolation is same as crosstalk.
- Faster 1xN switching time version (10 ms max) available as a special request.
- Max switching time for all switches to the same state.
- Faster array switching time version (15 ms max) available as a special request.
- WDL is measured in a +/- 20nm range at room temp.
- WDL is N/A for the 1625 nm and 1650 nm wavelength range options.
- PDL is for single-band. Dual-band adds 0.05 dB.
- Repeatability is defined after 100 cycles.

## MECHANICAL SPECIFICATIONS

Dimensions in mm



## ORDERING INFORMATION

**MS2** - □ - □ - □ - □ - □ - □ - □

### Product Code

**MS2** MEMS Switch

### Switch Configuration

**1xN** 1xN, Specify N ≤ 24  
**M/1xN** M = # of 1xN Switches  
 1x2: M = 1 to 5  
 1x4: M = 1 to 5  
 1x8: M = 1 to 3  
 1x12: M = 1 to 2

### 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  
**1625** 1625 nm  
**1650** 1650 nm

*Custom Wavelength Ranges Available*

### Fiber and Jacket Type

**9/BF** Corning SMF-28, Bare fiber  
**9/LT** Corning SMF-28, Loose-tube

*Or other equivalent 9 um Singlemode*

### Connector Type

**FC** FC/UPC  
**FC/APC** FC/APC  
**LC** LC/SPC  
**LC/APC** LC/APC  
**N** None

*Also Available: MTP, MPO, SC, SCUPC, SC/APC, ST, LCUPC, FCUPC*

### 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	1.0 W typ., 1.3 W max.
	TTL	0.4 W typ., 0.7 W max.
Connector Type		Molex 87833-1620