

# MEMS M x M Fiber Optical Switch (Non-Blocking, Bidirectional)

(Protected by U.S. patents 7224860, 6757101, 6577430 and pending patents)

## Product Description

The Agiltron MEMS Matrix M x M optical fiber switch is a leading solution to manage and monitor large optical networks intelligently and remotely, establishing optical signal paths in milliseconds. The switch system is supported by a robust software and control algorithms making the management of live traffic resilient to the effects of time, vibration and temperature. Their unique capabilities enable the dynamic selection and distribution of optical signals for analysis and storage. The passive switch is bit rate independent, supporting all data rates.

**Monitoring Applications** - access signals for analysis in real time without disrupting traffic.

**Reconfigure Applications** – select, duplicate, and distribute optical signals to one or many locations.



## Performance Specifications

MEMS M x M Switch	Min	Typical	Max	Unit
Operation Wavelength		1260-1650		nm
Insertion Loss <sup>1</sup>	0.5	1	1.2	dB
Cross Talk	50			dB
Switch Speed (Rise, Fall)		5	10	ms
Durability	10 <sup>8</sup>			cycle
Polarization Dependent Loss		0.04	0.2	dB
Wavelength Dependence Loss <sup>2</sup>		0.1	0.3	dB
Return Loss	45			dB
Repeatability		0.3	0.5	dB
Operating Temperature <sup>3</sup>	-5		65	°C
Optical Power Handling <sup>4</sup>		300	500	mW
Storage Temperature	-40		85	°C
Electrical Power Consumption			80	W
Switch type	Non-Latching/Latching			
Package Dimension	1RU / 2RU / 3RU / 4RU			

1. Measured without connectors
2. Within 50nm bandwidth
3. -25 °C-75°C version is also available.
4. High power version available

## Features

- Low Cost
- High Reliability
- Low Insertion Loss
- Broad Band
- Compact Design
- Low Voltage

## Applications

- Optical Signal Routing
- Network Protection
- Wavelength Management
- Signal Monitoring
- Instrumentation

# MEMS M x M Fiber Optical Switch

## Switching Module Mechanical Dimensions (mm)

The switch module is mounted inside a standard rack box with front fiberoptic connectors of customer choice and back electrical power input and control interfaces. The height of the box is determined by the port count.

\*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

## Electrical Specification

- RS 232/ RS 485
- Ethernet 10/100 with definable IP address
- CLI
- GUI
- Dual 48V/120-220V Power Input
- USB
- SNMPv3

## Graphic Interface

Per customer request

## Ordering Information

MEMS-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Switch Type	Package	Fiber Type	Power Monitor	Connector	
8x8=008	1060=1	Symmetric=1	1RU=1	SMF-28 =1	Input=1	None=1	
Dual 8x8 =208	1310=3	Special=0	2RU=2	MM 50/125=2	Output=2	FC/PC=2	
12x12=012	1410=4		3RU=3	MM 62.5/125=3	Input/output=3	FC/APC=3	
Dual 12x12 =212	1550=5		4RU=4	Panda=5	None =0	SC/PC=4	
16x16=016	1310/1550=2		Special=0	Special=0		SC/APC=5	
24x24=024	650=6					ST/PC=6	
32x32=032	780=7					LC=7	
48x48=048	850=8					Duplex LC=8	
64x64=064	Special=0					Special=0	
128x128=128							
144x144=144							
192x192=192							
256x256=256							
Special=000							

# MEMS 1x1, 1x2, ..., Dual 2x2 Fiber Optical Switch

(\*SM & MM: 1x1, 1x2, 2x2, Dual 1x1, Dual 1x2, Dual 2x2, Quad 1x1. \*PM: 1x1, 1x2)

## 10<sup>9</sup> Switching Cycle Test

We have tested MEMS 1x2 switch at the resonant frequency ~300Hz for more than 40 days, as shown in the attachment, which corresponding over 10<sup>9</sup> switching cycles. The measurements show little changes in Insertion loss, Cross Talk, Return loss ect, all parameters are within our specs.

