MEMS 4x4 and Dual 4x4 Fiber Optical Switch

(Latching and Non-latching Series, SM, PM, MM)

(Protected by U.S. patent 8,203,775, 20170184840A1, and other patents pending)

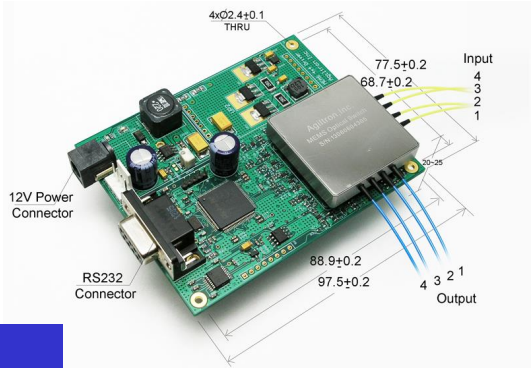
Features

- Reliable
- Compact
- No Drift
- Latching

Product Description

The MEMS 4x4 Series Fiber Optic switch redirects incoming optical signals into 4 selected output fibers with blocking. This is achieved using a patented MEMS configuration and activated via an electrical control signal. It uniquely features highly reliable thermally activated micro-mirror, latches to preserve the selected optical path after the drive signal has been removed, and no drift over time. Light path is bidirectional and non-blocking. Is has a dual 4x4 and ad/drop optional configurations.

This novel design offers unprecedented long term high stability as well as fault-safe latching reliability. The switch is available in both device format and integrated with driving electronics.



Performance Specifications

MEMS 4x4 Switch	Min	Typical	Max	Unit
Operation Wavelength	Singe Band	1260~1360 or 1510~1610		nm
	Dual Band	1260~1360 and 1510~1610		
	Broad Band	1260~1620		
Insertion Loss [1], [2]		1.2	2.0	dB
Response Time		5	10	ms
Repetition Rate		5		Hz
Wavelength Dependent Loss		0.2	0.3	dB
Polarization Dependent Loss (SM)			0.2	dB
Extinction Ratio (PM)	18	25		dB
Return Loss [1], [2]	50			dB
Cross Talk [1], [2]	50			dB
Repeatability			±0.05	dB
Durability	10^9			Cycle
Operating Temperature[3]	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300		mW

1. Within operating temperature and SOP. For single mode only, multimode depend on laser
2. Excluding connectors.
3. -40 C version is available

RoHS Compliant

Revision: 3-27-20

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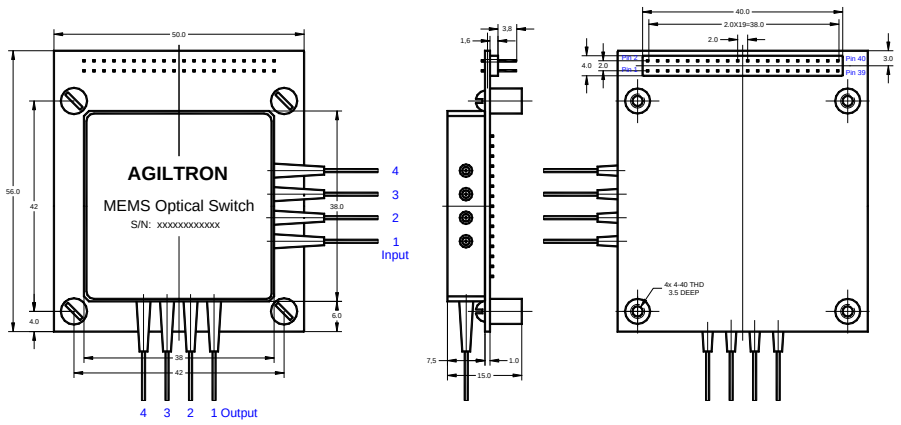
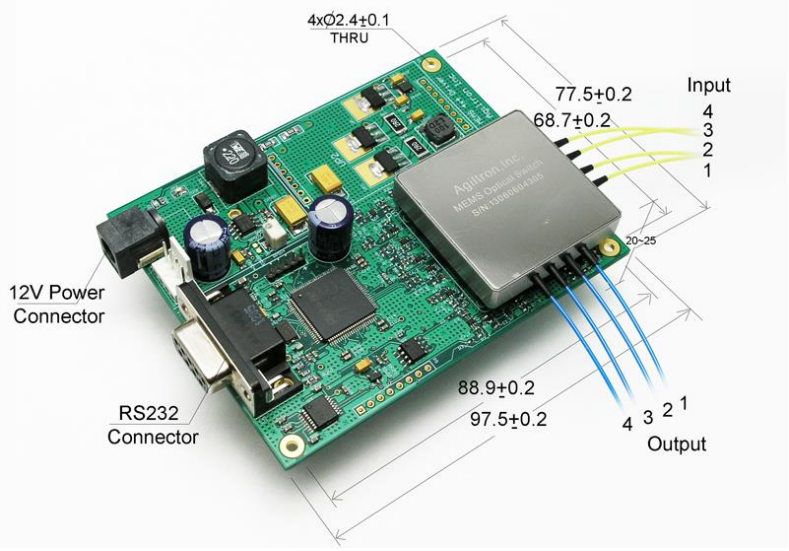
Mechanical Dimensions (Unit: mm)

MEMS 4x4 Switch and MEMS dual 4x4 Switch on adaption board



MEMS 4x4 Switch and MEMS dual 4x4 Switch with the Driving Electronics.



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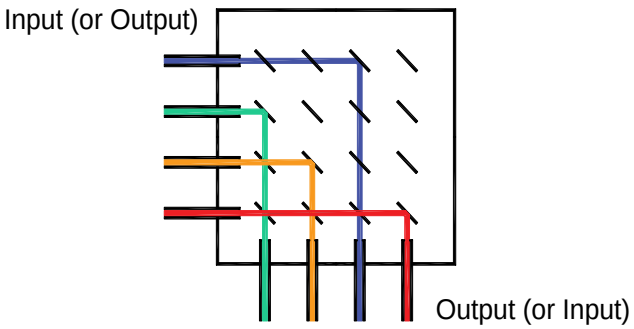
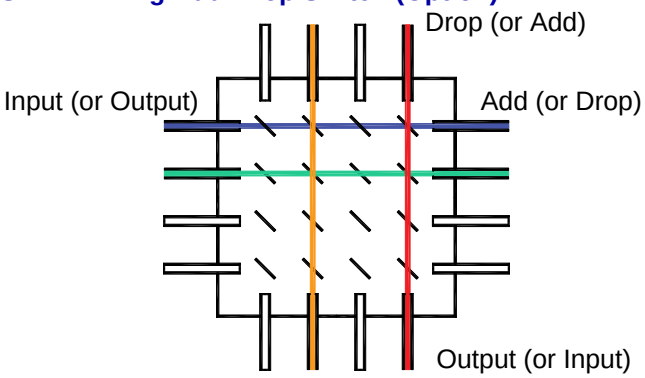
Functional Diagram

MEMS 4x4 Switch



MEMS 4x4 2-Wing Add-Drop Switch (Option)



Ordering Information

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	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
MEMS	2x4=24 3x4=34 4x4=44 N [1] x4 Add-Drop=ND Special=00	C+L=2 1310=3 1550=5 780=7 850=8 1310 & 1550=9 1260~1620=B Special=0	Latching =1 Non-Latching=2	With electronics [4] =1 Without electronics=2 Special=0	SMF-28=1 PM 400=B PM 250=A Special=0	Bare fiber=1 900um loose tube=3 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Duplex LC=8 Special=0

1]. Dual 4x4 = D4, Add-Drop =A4

4]. The driving electronics has RS232 or USB control and 12 VDC power supply interfaces. The more detail is available upon purchase.

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Direct Driving Information

Each mirror inside the MEMS 4x4 and Dual 4x4 Latching Switch is actuated by a pulse of less than 5V though the underneath pins. Demon driver and reference driving circuit are available

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