

BUY NOW 

MEMS 1x8 Mini Latching Series Fiber Optic Switch

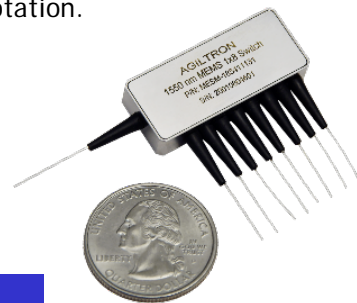
(Bidirectional, SM, PM)

(Protected by U.S. pending patents)

Product Description

The MEMS 1x8 Latching Type Series Fiber Optic Switch connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patent pending MEMS configuration and activated via an electrical control signal. It uniquely features rugged thermal activated micro-mirror movement instead of rotation.

This novel design significantly reduces packaging requirement and simplifies driving electronics, offering unprecedented high stability as well as an unmatched low cost.



Features

- High reliability
- Intrinsic tolerance to ESD

Performance Specifications

MEMS 1x4 Latching Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band	850±40, 1310±40 or 1510±40		
	Dual Band	850±40 and 1310±40 1310±40 and 1510±40		nm
	Broad Band	1260-1620		
Insertion Loss ^[1]		0.7	1.2 (1.4 ^[2])	dB
Wavelength Dependent Loss		0.15	0.3 ^[2]	dB
PDL (SM)			0.1	dB
Extinction Ratio (PM)	18			dB
Cross Talk ^[1]	50			dB
Return Loss ^[1]	50			dB
Switching Time		5	10	ms
Repeatability			±0.05	dB
Repetition Rate		5		Hz
Durability	10 ⁹			Cycle
Switching Type		Latching		
Operating Temperature	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300		mW
Fiber Type	SM	SMF-28, or equivalent		
	PM	Panda 250, or equivalent		

[1]. Exclude connectors.

[2]. Dual and Broad band.

Applications

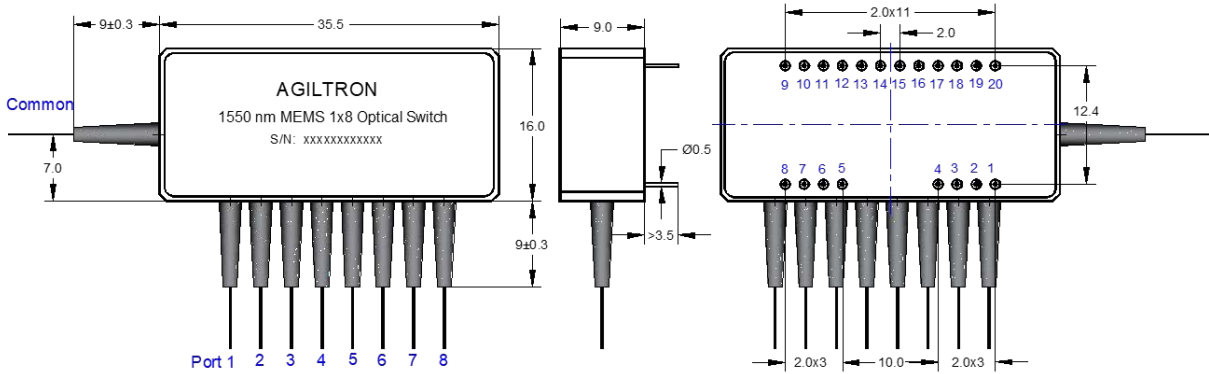
- Channel Blocking
- Configurable Add/Drop
- System Monitoring
- Instrumentation



Revised on 10/7/21
(Click here for latest revision)

MEMS 1x8 Mini Latching Series Fiber Optical Switch

Mechanical Dimensions (Unit: mm)



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

Electronic Control Requirements

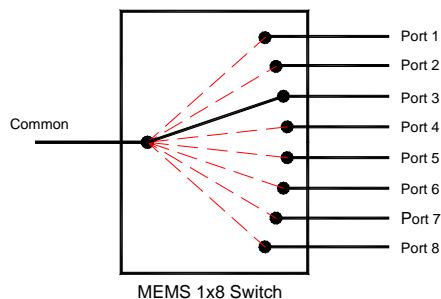
Optical Path	Pine Number																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
C ↔ P1 ^[1]	5 VDC ^[2]				0				0	0	0	0	0	0	0	0	0	0	0	H ³	0									
C ↔ P2									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H	0	0	H			
C ↔ P3									0	0	0	0	0	0	0	0	0	0	0	0	0	H	0	0	H	0	H			
C ↔ P4									0	0	0	0	0	0	0	0	0	H	0	0	H	0	H	0	H	0	H			
C ↔ P5									0	0	0	0	0	0	0	0	0	0	H	0	0	H	0	H	0	H	0	H		
C ↔ P6									0	0	0	0	0	0	0	H	0	0	H	0	H	0	H	0	H	0	H	0	H	
C ↔ P7									0	0	H	0	0	H	0	H	0	H	0	H	0	H	0	H	0	H	0	H	0	H
C ↔ P8									H ^[3]	0	0	H	0	H	0	H	0	H	0	H	0	H	0	H	0	H	0	H	0	H

[1]. C: Common Port; P1: Port 1.

[2]. 5VDC: 5.0±02 V. Static 3mA; During Pulse Current is 100 mA. The switch will remain in its previous light path state, if this voltage is removed (latching).

[3]. 5V Pulse: 5.0±02 V. Pulse width is 40±5 ms. .

Functional Diagram



MEMS 1x8 Mini Latching Series Fiber Optic Switch

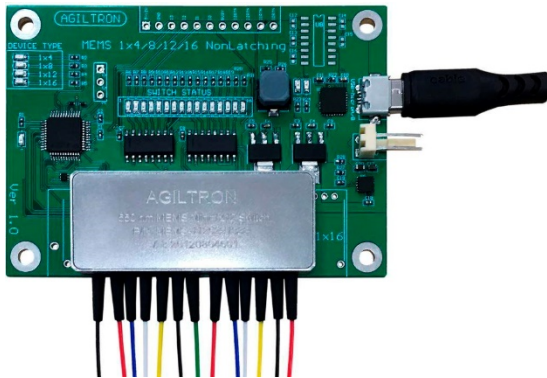
Ordering Information

	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector
MESM ^[1] MEMP ^[2]	1x5=15 1x6=16 1x7=17 1x8=18 Special=00	1260~1620=B 1060=1 C+L=2 1310=3 1550=5 780=7 850=8 1310/1550=9 Special=0	Latching=1	Standard=1	SMF-28=1 PM 1550/250=B Pm 1310/250=D Special=0	Bare fiber=1 900um 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]. **MESM**: MEMS 1x8 **SM** Mini Switch.
- [2]. **MEMP**: MEMS 1x8 **PM** Mini Switch.

Demo Driver

USB RS232/GUI, Pushbutton/LED Channel Indicators (\$255)



10⁹ 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 10⁹ switching cycles. The measurements show little changes in Insertion loss, Cross Talk, Return loss ect, all parameters are within our specs.

