

MEMS Mini 4x4 Fiber Optical Switch

(Non-Latching Type, Bidirectional, SM, PM)

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

Product Description

The MEMS 4x4 Series Fiber Optic switch redirects incoming optical signals into 4 selected output fibers. It is a true nonblocking device that accommodates all possible light paths. This is achieved using a patented MEMS configuration and activated via an electrical control signal. It uniquely features highly reliable thermally activated micro-mirror, and no drift over time. Light path is bidirectional and nonblocking. The mini version substantially reduce the loss and increase reliability. The switch is available in both device format and integrated with driving electronics.



Performance Specifications

MEMS Mini 4x4 Non-Latching 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]}		1.0	1.5	dB
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
Response Time		10		ms
Repetition Rate		5		Hz
Repeatability			±0.05	dB
Durability	10 ⁹			Cycle
Operating Temperature ^[3]	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300		mW
Fiber Type	SM	SMF-28 or equivalent		
	PM	Panda 250 PM or equivalent		
Standard Package Dimension		25 x 25 x 6.5		mm

1. Within operating temperature and SOP.
2. Excluding connectors.

Features

- Reliable
- Compact
- No Drift
- Low Loss

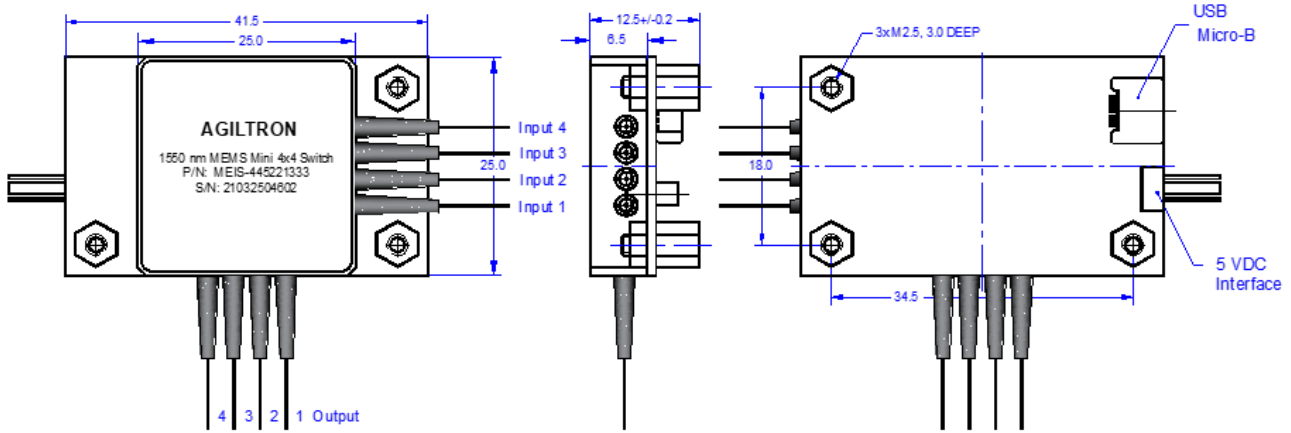


Revised on 9/22/21

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Mechanical Dimensions (Unit: mm)



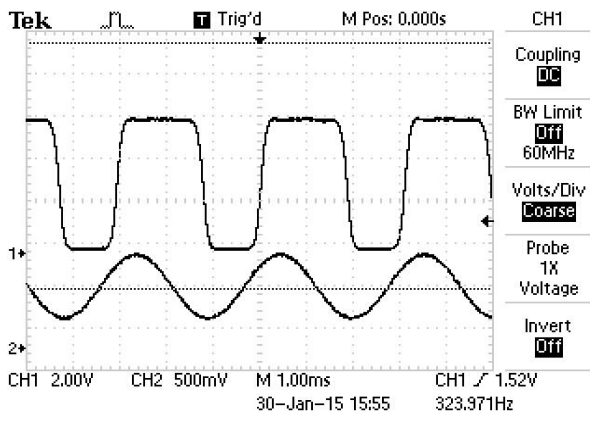
* Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Control Interface Information

The control interface is Micro-USB with GUI and/or command list. RS232 can be an alternative option with the adaption cable of converter, but USB and RS232 can't be implement on same driver.

10⁹ Switching Cycle Test

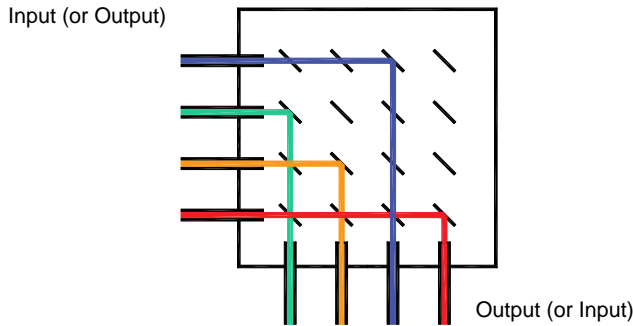
We have tested MEMS 1x2 switch at the resonant frequency ~300Hz for more than 40 days, as shown in the attachment, which corresponding over 10⁹ switching cycles. The measurements show little changes in Insertion loss, Cross Talk, Return loss ect, all parameters are within our specs.



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Functional Diagram



Ordering Information

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
MEIS ^[1] MEIP ^[2]	2x4=24 3x4=34 4x4=44 Special=00	1260-1620=B C+L=2 1310=3 1550=5 780=7 850=8 1310 & 1550=9 Special=0	Non-Latching=2	Standard =2 (With E-Driver)	SMF-28=1 PM 1550/250=B PM 1300/250=D PM 980/250=E PM 850/250=F Special=0	900 um 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]. **MEIS**: MEMS MINI 4x4 **SM** Switch

[2]. **MEIP**: MEMS MINI 4x4 **PM** Switch

