



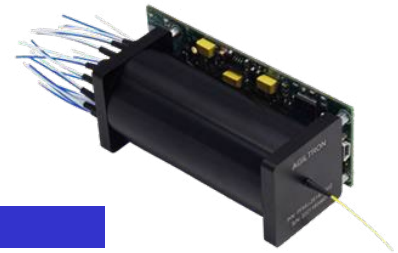
Fiber-Fiber™ 1xN Mini Optical Switch

(Large core fiber, Broad, Bidirectional, High power)

Product Description

The Fiber-Fiber™ Series 1xN Optical Switch connects optical channels by directly aligning a pair of fibers. This achieved by using a precision mini motor. Latching capability preserves the selected optical path after the drive signal has been removed. The compact FF series switches has passed space application qualification. Agiltron unique design offers low insertion loss covering an ultrabroad spectral band from 300 to 5000 nm with various fiber core size from 100µm to 1500µm. The switch is ideal for sensor and spectroscopy applications with bidirectionality.

The driving PCB has interfaces with a computer through USB or RS232.



Features

- Unmatched Low Cost
- Very Broad Spectral Range
- High Isolation
- High Reliability
- Epoxy-Free Optical Path

Performance Specifications

FF 1xN Mini Switch	Min	Typical	Max	Unit
Operation Wavelength	300		5000	nm
Insertion Loss ^[1]		0.5	1.0	dB
Wavelength Dependent Loss ^[2]		0.05	0.3	dB
Polarization Dependent Loss		0.03	0.10	dB
Return Loss ^[5]	35			dB
Cross Talk	60			dB
Operating Voltage		5	5.5	VDC
Power Consumption			2	W
Switching Type		Latching		
Switching Time ^[3]		0.8		s
Durability	10 ⁷			Cycle
Operating Temperature	0		70	°C
Optical Power Handling ^[4]		500		mW
Storage Temperature	-40		85	°C
Fiber Type	≥ Ø100 µm core fiber			
Package Dimension	See Mechanical Dimensions			

Note:

[1]. Exclude connectors.

[2]. Within 100 nm bandwidth

[3]. Defined for speed between the adjacent channels.

[4]. High power version available.

[5]. For 50 µm core. Larger core will reduce the value, index matching fluid version increase the return loss

Applications

- Signal management
- Sensor
- Spectroscopy
- High Power Laser
- Instrumentation

Revised on 04/18/23

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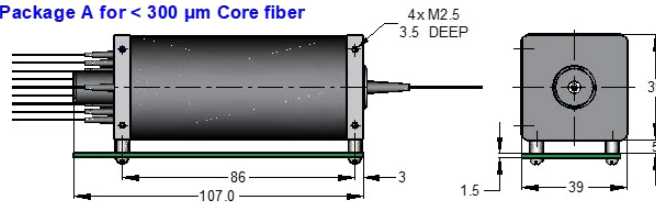
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Electrical Driving Requirement

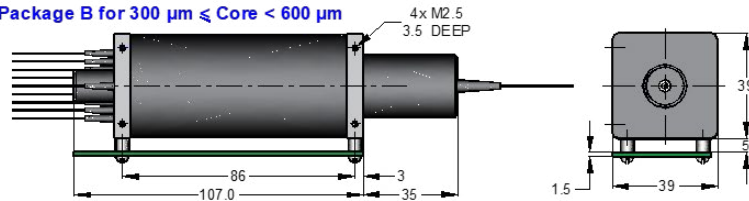
Computer controlling kit with USB or RS232 interfaces and Windows™ GUI.

Mechanical Dimensions (Unit: mm)

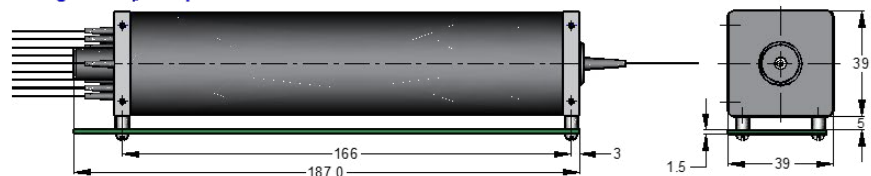
Package A for <math>< 300 \mu\text{m}</math> Core fiber



Package B for <math>300 \mu\text{m} \leq \text{Core} < 600 \mu\text{m}</math>



Package C for $\geq 600 \mu\text{m}$ Core fiber



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

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Ordering Information

Prefix	Type	Wavelength	Configuration	Optical Power	Fiber Core	Fiber Cover	Fiber Length	Connector
FFMU- ^[1]	1x2 = 02	800-1100 =1	Single = S	0.5 W = 1	50/NA.22 = 5	Bare fiber=1	0.25 m =1	None=1
FFMR- ^[2]	1x3 = 03	1500-1700=2	Dual = D	2 W = 2	62.5/NA.22 = 6	2 mm Jacket=2	0.5 m =2	FC/PC=2
FFMT- ^[3]	1x4 = 04	300-600 = 6	Special = 0	5 W = 3	105/NA.15 = E	900 um tube=3	1.0 m =3	FC/APC=3
	...	600-800 = 8		10 W = 4	200/NA.22 = F	Special=0	Special =0	SC/PC=4
	...	1100-1600=B		Special = 0	300/NA.22 = G			SC/APC=5
	...	Special=0			400/NA.22 = H			ST/PC=6
	1x42 = 42				600/NA.22 = J			LC/PC=7
	2x2 = 2A				800/NA.22 = H			LC/APC=8
	2x2Bypass =2B				Special = 0			SMA905=9
	Special = 00							Special= 0

Note: Red is special order

[1]. FFMU: Fiber-Fiber 1xN Mini Switch with USB driver.

[2]. FFMR: Fiber-Fiber 1xN Mini Switch with RS232 driver.

[3]. FFMT: Fiber-Fiber 1xN Mini Switch with TTL driver.

[4]. Package A is for < 300 µm core fiber. Package B is for ≥ 300 µm core fiber. Package C is for ≥ 600 µm core fiber.