

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.



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]		0.5		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

Features

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

Applications

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

Fiber-Fiber™ 1xN Mini Optical Switch

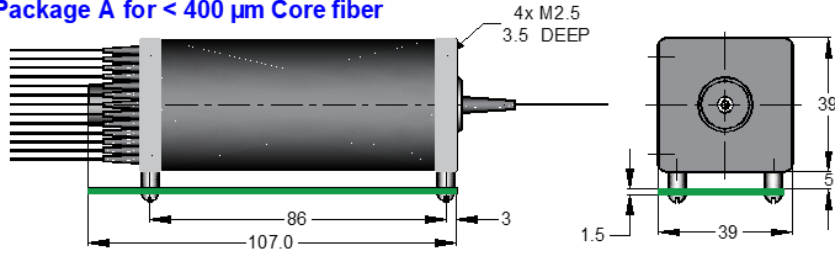
(Large core fiber, Broad, Bidirectional, High power)

Electrical Driving Requirement

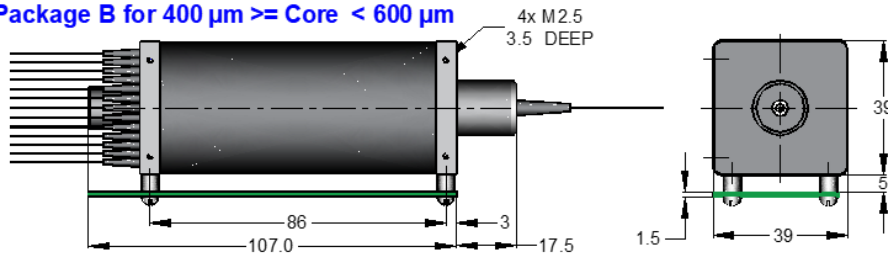
Computer controlling kit with USB or RS232 interfaces and Windows™ GUI.

Mechanical Dimensions (Unit: mm)

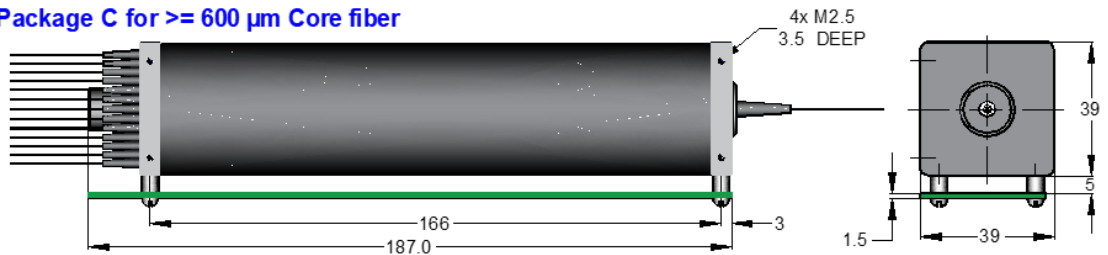
Package A for < 400 μm Core fiber



Package B for 400 μm ≥ Core < 600 μm



Package C for ≥ 600 μm Core fiber



Ordering Information

Type	Wavelength	Configuration	Optical Power	Fiber Type ^[5]	Fiber Length	Connector
FFMU ^[1]	800~1100 =1	Single =S	0.5 W =1	MM50/125=5	0.25 m =1	None=1
FFMR ^[2]	1500~1700= 2	Dual =D	2 W =2	MM62.5/125=6	0.5 m =2	FC/PC=2
FFMT ^[3]	300~600 = 6	Special=0	5 W =3	100um core=E	1.0 m =3	FC/APC=3
...	600 ~ 800 = 8		10 W =4	200um core=F	Special =0	SC/PC=4
...	1100~1600=B		Special=0	300um core=G		SC/APC=5
...	Special=0			400um core=H		ST/PC=6
1x42=42				500um core=I		LC/PC=7
...				600um core=J		LC/APC=8
Special=00				Special=0		SMA905=9
						Special= 0

[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 ≤ 400 μm core fiber. Package B is for ≤ 400 μm core fiber. Package C is for > 600 μm core fiber.