

Fiber Optic Michelson Interferometer - OCT

850, 1310nm, 20/100/300 MHz



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The FMIM Series Fiber Optical Michelson Interferometer utilizes a fiber optic coupler to split incoming light into two optical paths, which are then recombined to generate an interference pattern for precise measurement applications. Engineered for a flat wavelength response and exceptionally low polarization-dependent coupling ratio change (PDCR), the FMIM delivers output signals that are virtually unaffected by input polarization variations. Optimized for both swept-source Fourier domain and time-domain OCT systems, it features dual optical outputs functioning as the reference and sample arms, with interference fringes captured by an integrated balanced detector. An optional aiming laser input is available to simplify sample alignment.

Features

- Non-Mechanical High Reliability
- Accurate and Reproducible Position Control
- Fast Scan Speeds

Applications

- Laser Display
- Micromachining
- Laser Tweezers
- Optical Inspection
- Heterodyne Interferometer



Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

Rev 04/23/26

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength Range	1250		1350	nm
	780		925	
Typical Max. Responsivity			1.0	A/W
Insertion Loss ^[1]	1300nm IN	< 4	5	dB
	850nm IN	< 5	6.5	
	660nm IN	< 3	4.5	
Path Length Difference		< 0.1	0.2	mm
Input Power	20 ^[2]		250	mW
OUTPUT Bandwidth (3dB)	model 20MHz	DC – 20		MHz
	model 100MHz	DC – 100		
Transimpedance Gain	model 20MHz	51*10 ³		V/A
	model 100MHz	100.000		
Saturation Power	model 20MHz	70		μW
	model 100MHz	35		
Electrical Outputs, Impedance		SMA, 50		Ω
DC-offset Electrical Outputs	model 20MHz	< ±5		mV
	model 100MHz	< ±10		
Power Supply		±12V, 250mA		

Notes:

[1]. Includes connector losses, measured at center wavelength

[2]. Referred to SAMPLE ARM and REFERENCE ARM port in this case

* All accuracy data are valid at 23 ± 5°C and 45 ±15% humidity

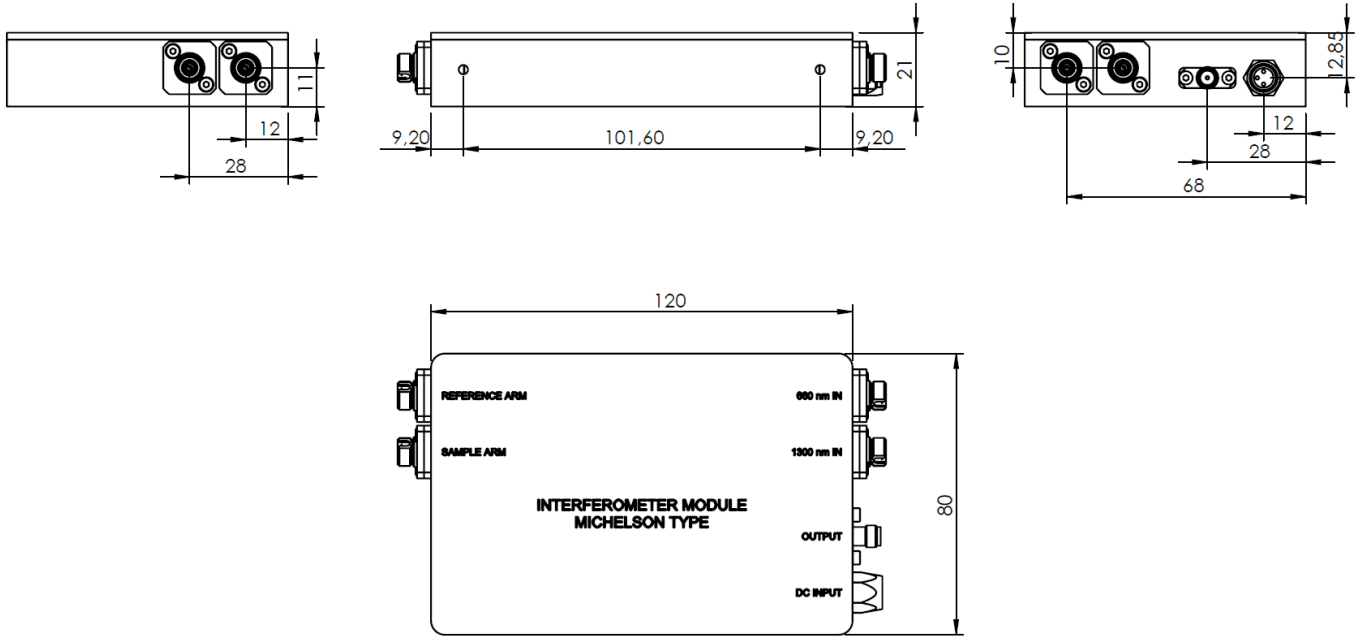
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Mechanical Dimensions (mm)



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

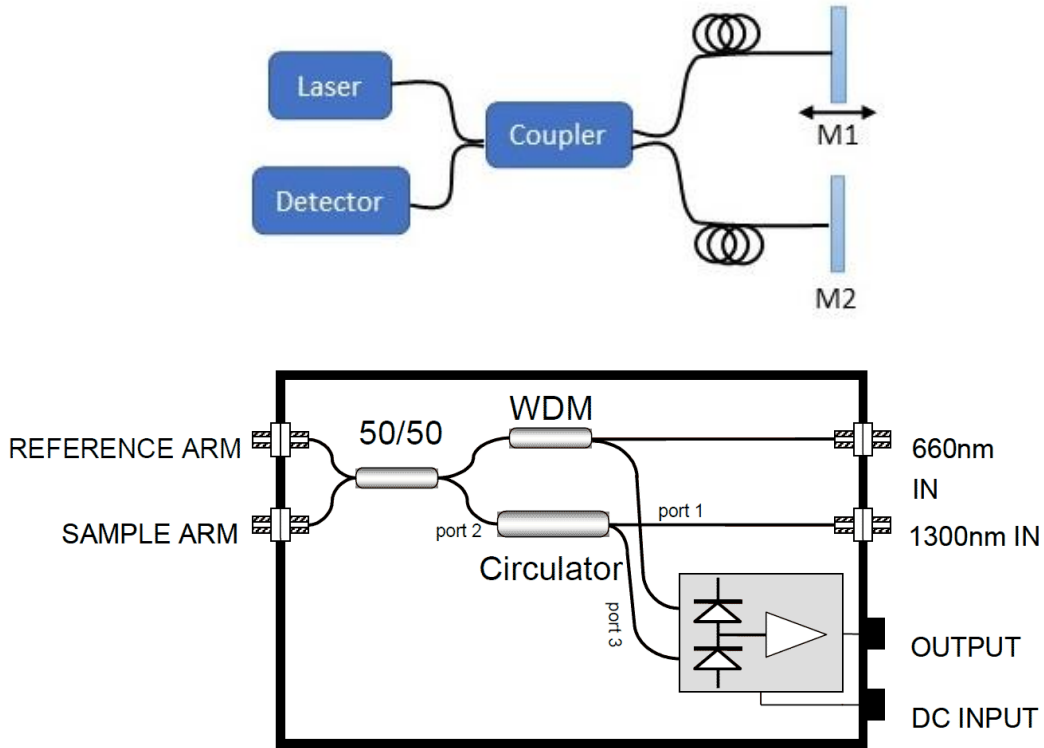
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Functional Diagram



Ordering Information (Part Number)

Prefix	Configuration	Wavelength	Detector Bandwidth	Fiber Type	Connector ^[1]	Aiming Laser
FMIM-	Standard = 1	1225-1375nm = 1 780-925nm = 2 1550nm = 5 Special = 0	No Detector = NN 20MHz = 02 100MHz = 10 200MHz = 20 300MHz = 30 400MHz = 40 Special = 00	SM28 = 1 780HP = 7 Special = 0	FC/APC = 1	Non = 1 Only Input Port = 2 Include laser = 3

[1]. The connector cannot be installed directly onto bare fiber, as it is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer can remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.

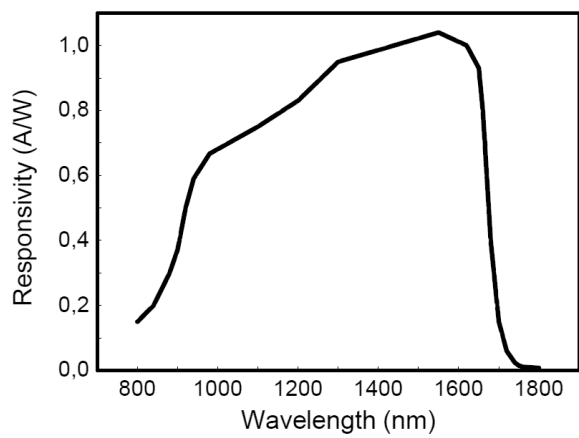
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Typical Response



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