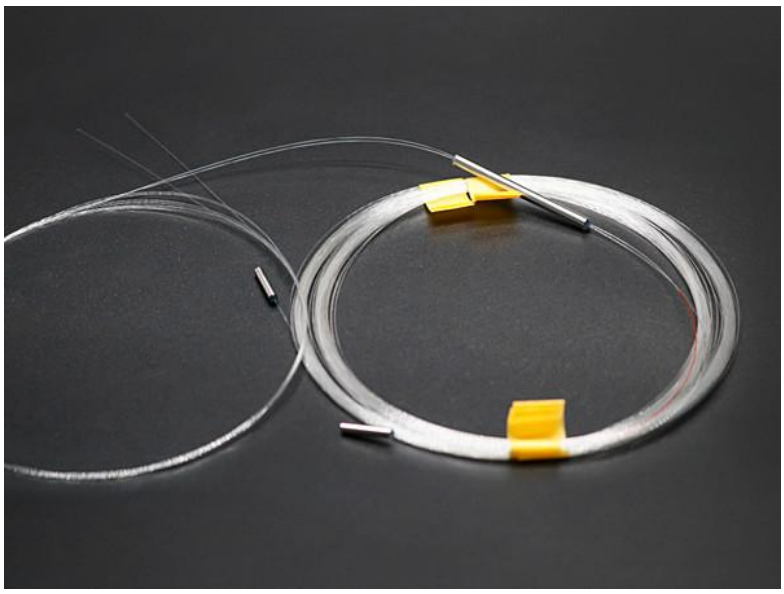
1310nm Faraday Rotator Michelson Interferometer 2X2



Product Description

The Faraday Rotator Mirror (FRM) method is an important solution for suppressing polarization-induced signal fading in interferometric fiber optic sensing systems. In theory, it can completely eliminate polarization fading, but since the rotation angle of the selected FRM is not exactly 45°, residual polarization-induced phase noise will appear in the system. The Faraday Rotator Mirror Michelson interferometer used in the hydrophone can control the difference in length of the two arms to within 1 mm, achieving a low-cost miniaturized design

Product features

Moisture resistant、 Pressure resistant、 Miniature、 Specially designed for hydrophones simplifies optical design

Part Number

MP-MIM-1310-22-1-SA

Application area

Fiber optic sensing、 Fiber optic hydrophone

Core parameters

Working Wavelength	Working Bandwidth	Operating Power
1310nm	±20nm	500mW

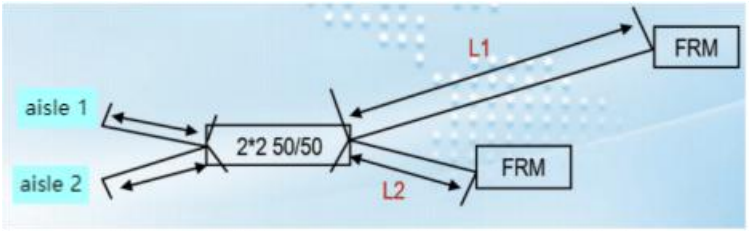
General Parameters

Parameter

Structure	Unit	1X2/2X2
Working wavelength	nm	1310/1550
Working bandwidth	nm	±20nm
Operating power	mW	500
Insertion loss	dB	3.8
Polarization loss	dB	0.1

Split ratio deviation	%	3
Rotation angle	Deg	45
Arm length difference error	mm	1
Fiber model		SMF-28E+
Fiber diameter	um	9/125
Package size	mm	2.4X25-2.4x12

Interference optical path



High temperature storage	Temperature: +85P ±3,0	5000 hours
Low temperature storage	Temperature: -55X) ±3t	5000 hours
High temperature and high humidity	Temperature: +85P ±2t, humidity 2=85%	2000 hours
Local low temperature cycle	Temperature range: -40P ~ +85Q, temperature change rate N 5t) /min Hot-keeping time: @-40,0, @85: 30min	1000 cycles
Temperature shock	Temperature range: -551~ +85*0	10 times

	Hot-keeping time (@-55*0, @85*0): 30min, high temperature and low temperature conversion time w 5min	
Mechanical shock test	Waveform: half sine wave, test direction: 6 directions (3 axes) Peak acceleration: 1500g, pulse duration: 6 ~ 8ms	5 times in each direction
Mechanical vibration test	Waveform: sine wave, test direction: horizontal and vertical Acceleration peak: 20g Frequency range: 20 ~ 2000Hz Duration: 4min/time	4 times in each direction
Air tightness check	Initial pressure: 0.2MPa, hydrogen tracer gas: 95% ~ 100% Pressure time: 2hrs	Leak rate w 1.0x lO^Pa ・m^3/s
High and low temperature online test	Temperature range: -40 ~ +85P Insulation time (@-40*0, @257, @85*0): 5min	0.002dBTO

Ordering Information

MP-□□□□-XX-L□□

W□ □□□: wavelength

1310: 1310nm

1550:1550nm

□□: structure

12：1×2

22：2×2

XX: fiber and connector type

SN=SMF-28E Fiber + None

SA=SMF-28E Fiber + FC/APC

SP=SMF-28E Fiber + FC/PC

PP=PM Fiber Fiber + FC/PC

PA=PM Fiber Fiber + FC/APC

L□□:

1=1cm

10=10cm