

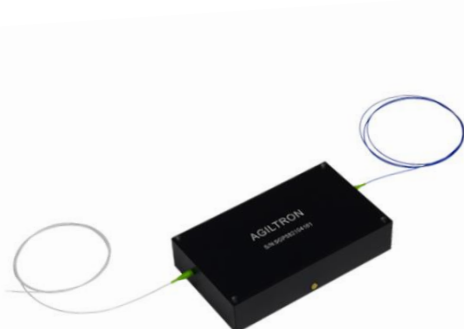
Automatic Polarization Controller



Converting any input states into one polarized output

DATASHEET

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Features

- Maintain a Fixed Output Polarization
- Large Phase Change
- Low Insertion Loss
- Compact Size
- High Optical Power Handling

Applications

- Polarisation Sélection
- Polarisation Maintaining
- Polarisation Management
- Polarisation Mode Dispersion Compensation
- Instrumentation

The Polarization Controller (POLC) converts incoming light with any polarization state into a fixed, stable polarization state with low loss, maintaining this state against input variations. This plug-and-play, two-port fiber module consists of four piezoelectric fiber-squeezing plates arranged at 45-degree intervals and SOP (State of Polarization) detectors integrated with an intelligent control circuit. Operation requires only connection to the provided power supply. Designed for low loss, fast response, and continuous operation, this polarization controller offers a precise, automated solution for polarization control. Please note: this module is not suitable for randomly polarized input light. For alternative solutions, please contact us.

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	400		2650	nm
Insertion Loss ^[1]	0.1	0.5	0.8	dB
Output Polarization Direction/Alignment		Slow Axis		
Polarization Mode Dispersion			0.05	ps
Return Loss	65			dB
Response Time Rise/Fall	30			μs
Operating Optical Power		0.5	1	W
Operation Frequency	DC		100	kHz
Polarization Rotation ^[2]	0		4	π
Control Voltage ^[2]	0	35	40	V
Operating Temperature		-30 ~ 60		°C
Storage Temperature		-40 ~ 85		°C

Notes:

[1]. Excluding connectors. Connectors add 0.3dB.

[2]. @1550nm

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Mechanical Dimensions (mm)

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

Operation Instruction

1. Input laser into the POLC
2. Plug the accompanied Power Supply
3. The unit will function as designed

Ordering Information (Part Number) System

Prefix	Type	Wavelength	# Plates	Input Fiber	Output Fiber	Fiber Cover	Fiber Length	Connector ^[1]
POLC-		1550 nm = 5 1310nm = 3 1060nm = 1 980nm = 9 850nm = 8 Special = 0	4 = 4 3 = 3	SMF-28 = 1 Hi1060 = 2 SM980 = 9 SM850 = 8 780HP = 3 SM1950 = 4 Special = 0	PM1550 = 5 PM1310 = 3 PM980 = 9 PM850 = 8 PM780 = 7 PM1950 = 2 Special = 0	Bare fiber = 1 0.9mm loose tube = 3 Special = 0	0.25m = 1 0.5m = 2 1.0 m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 LC/PC = L Special = 0

[1]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber 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 may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.