Automatic Polarization Controller
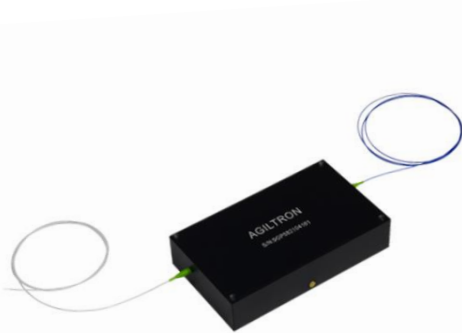
Converting any input states into one polarized output

DATASHEET

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.

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

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 ad 0.3dB.
[2]. @1550nm

Rev 11/03/24

Automatic Polarization Controller

Converting any input states into one polarized output

Mechanical Dimensions (mm)

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

Operation Instruction

- Plug in the accompanied power supply
- Connect an input light

Ordering Information

	1 1	☐	☐	☐	☐	☐	☐	☐
Prefix	**Type**	**Wavelength**	**# Plates**	**Input Fiber**	**Output Fiber**	**Fiber Cover**	**Fiber Length**	**Connector**
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