

# Auto-Tracking Linear Polarization Controller

Optical fiber is known for providing stable optical transmission, but it is also well known that optical fiber can be affected by slight structural shifts and influenced by disturbances, so that the total input and output of a comprehensive combination of optical fibers exhibit wave plate functionality.

The characteristics may vary due to disturbances of temperature changes and vibration in a relatively modest manner.

In addition, although polarization-maintaining fibers which provide stable transmission of polarized waves are also available, they are not cost effective when used to consistently control polarization with various function devices.

This product can be used for automatic linear polarization tracking in the above cases. This product realizes stable linear polarization output, even though polarization input is unstable.

This product is recommended for a wide range of applications, such as optical communications, optical measurement, biotechnology, and other research institutions, etc.

## *Features*

- Low insertion loss, low loss fluctuation and high return loss
- Capability to convert arbitrary polarization to linear polarization
- Capability to specify the angle and control constant speed rotation on the operator panel
- Spatial output capability by connecting a collimate attachment to the output adapter

## **Key Applications**

- Conversion of arbitrary polarization to linear polarization for input into polarization dependent elements
- SHG conversion and wavelength conversion
- Various polarization experiments
- Polarization fluctuation control for optical communication systems



## *Typical Specifications*

Model	ALP05C
Insertion Loss	$\leq 1.5$ dB
Return Loss	$\geq 50$ dB
Optical Input Power *	-12 to 10 dBm (approx. 60 $\mu$ W to 10 mW) @ 1550 nm
Polarization Extinction Ratio	$\geq 20$ dB
Optical Adapter	SC/FC Inter-Exchangeable Type Adapter

\* Input Power: Customizable up to 1 W. However, light sources may need to be borrowed in this case.

## Rating

External Control	USB
Power Source	AC 90-240 V
Power Consumption	≤ 30 [W]
Operating Temperature	10-45 [deg C]
Storage Temperature	0-60 [deg C]
Dimensions (W x H x D)	260 x 99 x 280 [mm]
Weight	5 [kg]

## Ordering Instructions

### +Auto-Tracking Linear Polarization Controller

Order format: **ALP05C- (1) - S / (2) - P / (2)**

Input Output

Order format example: ALP05C-15-S/S-P/S

(λ: 1510nm, Input fiber: SMF, Input connector: SC/SPC, Output fiber: PMF,  
Output Connector: SC/SPC)

(1) Wavelength	15: 1550nm 13: 1310nm
Input Side	S: SMF
Output Side	P: PMF
(2) Types of Polish	F: FC/SPC S: SC/SPC FA: FC/Angled PC SA: SC/Angled PC *When you chose the Angled PC, the adapter is the fixed type.

\* For the exposed pigtails, both input and output sides need to be customized.