

## In-line Fiber Polarization Controllers

The PLC-900 Polarization Controller is ideal for applications that require a stable, compact, manual controller. Due to its compact design, the PLC-900 is the chosen polarization controller for our Swept Source OCT Imaging Systems. It is designed to be used with Ø900 µm jacketed single mode fiber. One knob is adjusted to squeeze the fiber and rotate it, allowing one to convert an arbitrary input state of polarization into any other state of polarization. A separate knob is used to lock the controller into position.



PLC-900

### Features

- Ideal for Optical Coherence Tomography Systems
- For Ø900 µm Jacketed Fiber
- Insensitive to Wavelength Variations

Specifications	
Operating Wavelength	780-1550 nm
Insertion Loss	<0.05 dB
Return Loss	>65 dB
Extinction Ratio	>40 dB
Dimensions (W x H x L)	0.05" x 0.84" x 3.00" (1.3 mm x 21.3 mm x 76.2 mm)

ITEM#	\$	£	€	RMB	DESCRIPTION
PLC-900	\$ 510.00	£ 353.60	€ 452.80	¥ 4,306.50	Inline Fiber Polarization Controller for Ø900 µm Fiber Jacket

## Fiber Polarization Controllers

Corning ClearCurve Fiber is Compatible with SMF-28e



If your application includes single mode fiber and requires linearly polarized light, the FPC Series of Polarization Controllers can be easily implemented to convert elliptically polarized light in a single mode fiber into another state of polarization, including linearly polarized light. This polarization conversion is achieved by loading the paddles with a prescribed number of fiber loops and adjusting their positions to control the output polarization state.

These polarization controllers utilize stress-induced birefringence to create three independent fractional wave plates to alter the polarization of the transmitted light in the single mode fiber by looping the fiber into three independent spools. The new Miniature FPC020 achieves the same results with just two paddles. Please check our website for detailed operating theory.

The amount of birefringence induced in the fiber is a function of the fiber cladding

diameter, the spool diameter (fixed), the number of fiber loops per spool, and the wavelength of the light. The fast axis of the fiber, which is in the plane of the spool, is adjusted with respect to the transmitted polarization vector by manually rotating the paddles. The FPC031, FPC032, FPC561, and FPC562 fiber polarization controllers come preloaded with fiber.

NOTE: The FPC030 and FPC020 work well with most of our single mode fibers. For fibers with higher bend loss (e.g., Corning's SMF-28e), use model FPC560.

ITEM#	Loop Diameter	Paddle Rotation	Footprint	Operating Wavelength	Connectors	Bend Loss
FPC020	0.71" (18 mm)	±286°	3.06" x 0.50" (77.7 x 12.7 mm)	N/A	N/A	N/A
FPC030	1.06" (27 mm)	±117.5°	8.50" x 1.00" (215.9 x 25.4 mm)	N/A	N/A	N/A
FPC031	1.06" (27 mm)	±117.5°	8.50" x 1.00" (215.9 x 25.4 mm)	1310-1550 nm	FC/PC	≤0.1 dB
FPC032	1.06" (27 mm)	±117.5°	8.50" x 1.00" (215.9 x 25.4 mm)	1310-1550 nm	FC/APC	≤0.1 dB
FPC560	2.2" (56 mm)	±117.5°	12.50" x 1.00" (317.5 x 25.4 mm)	N/A	N/A	N/A
FPC561	2.2" (56 mm)	±117.5°	12.50" x 1.00" (317.5 x 25.4 mm)	1310-1550 nm	FC/PC	≤0.1 dB
FPC562	2.2" (56 mm)	±117.5°	12.50" x 1.00" (317.5 x 25.4 mm)	1310-1550 nm	FC/APC	≤0.1 dB

ITEM#	\$	£	€	RMB	DESCRIPTION
FPC020	\$ 169.40	£ 117.50	€ 150.40	¥ 1,430.50	Miniature 2-Paddle Fiber Polarization Controller
FPC030	\$ 190.00	£ 131.80	€ 168.70	¥ 1,604.40	3-Paddle Fiber Polarization Controller, 1.06" (26.9 mm) Loop Diameter
FPC031	\$ 232.40	£ 161.20	€ 206.40	¥ 1,962.40	3-Paddle Fiber Polarization Controller, FC/PC Connectors, Corning ClearCurve Fiber
FPC032	\$ 291.80	£ 202.30	€ 259.10	¥ 2,464.00	3-Paddle Fiber Polarization Controller, FC/APC Connectors, Corning ClearCurve Fiber
FPC560	\$ 211.20	£ 146.50	€ 187.60	¥ 1,783.40	3-Paddle Fiber Polarization Controller, 2.2" (55.9 mm) Loop Diameter
FPC561	\$ 253.60	£ 175.90	€ 225.20	¥ 2,141.50	3-Paddle Fiber Polarization Controller, FC/PC Connectors, Corning SMF-28e Fiber
FPC562	\$ 313.00	£ 217.00	€ 277.90	¥ 2,643.00	3-Paddle Fiber Polarization Controller, FC/APC Connectors, Corning SMF-28e Fiber