Polarization Controller

DATASHEET

BUY NOW

Agiltron polarization controller converts any input state of polarization to any selectable output state of polarization by applying a set of electrical driving signals. It consists 4 fast-speed electro-optical birefringence phase retardation plates. It is intended for customers to further incorporate sensors and auto-control firmware, to achieve endless polarization controlling, maintaining a constant output polarization without the need for resetting. The polarization controller is designed to meet the operation requirements of fast response and continuous operation to provide an ultimate solution for polarization selection.

Features

- No Moving Parts
- High Reliability
- Solid-State High Speed
- Low Insertion Loss
- Compact Size
- Low Power Consumption

Applications

- Polarization Scrambler
- Polarization Management
- Polarization Mode dispersion compensation
- Instrumentation

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	1250		1650	nm
Insertion Loss [1]		1.8	3	dB
Polarization Dependent Loss			0.2	dB
Return Loss	45	50		dB
Response Time	0.3		1	µs
Operating Optical Power			500	mW
Operation Frequency	DC		100	kHz
Polarization Rotation	0		180	degree
Control Voltage	0		5	V
Operating Temperature		-50 ~ 70		°C
Storage Temperature		-40 ~ 85		°C
Input Fiber Type		SMF-28		
Output Fiber Type		PMF		

Notes:

[1]. Excluding connectors.

Rev 12/19/23

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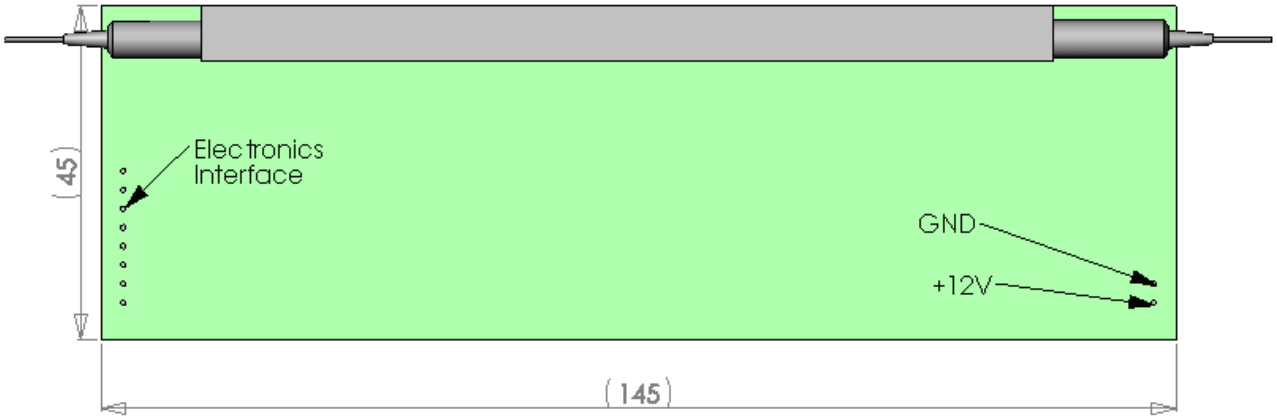
Mechanical Dimensions (mm)



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

Electrical Driver Inputs

Control Signal	**0-5V**
Power Supply	**12V, 0.3A**

Ordering Information

	1 1	☐	1	1	1	☐	☐	☐
Prefix	**Type**	**Wavelength**	**State**	**Package**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**
NOPC-		1310 = 3 1550 = 5 Special = 0			SMF-28 = 1 Special = 0	Bare fiber = 1 900um 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 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/UPC = U Special = 0

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Q & A

Q: The polarization controller (PC) comes with a driver (4 inputs). We only need to have a 4-channel control signal (with SMA adapters?

A: Correct, you just need 4 controlling signals to the drivers through SMA.

Q: How much bandwidth can the drive signal be modulated? Is the driver board DC or AC coupled?

A: DC to 100kHz.

Q: The control signal is 0-5V. Does it accept negative voltage? If not, I assume we need bias tees to convert the control signal to a unipolar one.

A: Positive signal only.

Q: How much birefringence (the phase change of a retardation plate in one stage) is for the maximum control voltage at 5V?

A: > π