

POLARIZATION CONTROLLER PC1000



250 Phillips Blvd., Ste. 255,
Ewing, NJ 08618, USA.

Tel: +1 609 671 9800
Fax: +1 609 671 9801
Email: info@optellios.com
www.optellios.com

Product Data Sheet. Rev. 2.0

THE PRODUCT

Optellios' Polarization Controller, PC1000 is an electrically driven, arbitrary polarization controller that allows light in any input polarization state to be transformed to any other polarization state.

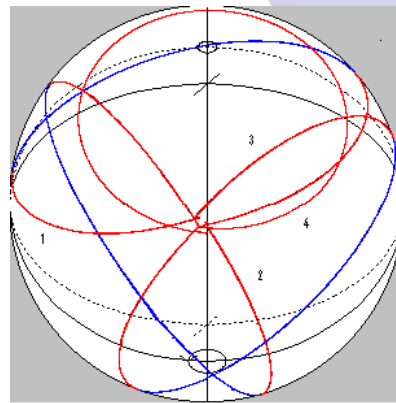
Through active feedback control, the device can be used to lock the output polarization to a fixed state for any input polarization. The device can also be used for PDL measurements, as well as a polarization scrambler.

Using Optellios' patent pending technology enables the production of high performance devices, which offer the lowest power consumption available on the market today. The PC1000 operates from drive voltages as low as 3V and contains no moving parts whatsoever.

The small footprint of these devices allows an easy mounting onto a circuit board. Low control voltage and ultra-low power consumption permit design flexibility in demanding applications. PC1000 is optimized for operation across the entire telecom (S-C-L) band.

The PC1000 is available with a range of optical connectors as standard options.

Optellios can also provide the device in non-standard configurations, please contact us directly to discuss your requirements.



Continuous tuning of the polarization state using the PC1000 Polarization Controller

MAIN FEATURES

- Complete polarization control
- Fast and uniform random tuning
- Operation over S+C+L band
- Ultra-low power consumption
- Small size and footprint
- Low PDL
- Low insertion loss
- Rugged design
- Flexible interface design

The information contained in this publication is for guidance only. Optellios Inc. reserves the right to alter this information at any time, without prior notice.

TECHNICAL SPECIFICATIONS

PERFORMANCE DATA

Parameter	Value	Comment
Insertion Loss	<1.8 dB	Excluding connector or fusion splice loss
Extinction Ratio	>30 dB	The highest possible polarization extinction ratio of the optical output
Return Loss	>50 dB	Measured from input side
PMD	<0.02 ps	
Max. Optical Power	23 dBm	Tested under 26 dBm optical power for 30 min.
Dimensions	44 x 19 x 10 mm	Excluding strain relief boots and base mounting plate
Power Consumption	<1 mW	Lowest compared to all other technologies commercially available
Operating Temp.	0 to +65 °C	Meets all the above specifications within this temperature range
Storage Temp.	-40 to +85 °C	Not recommended for operation unless reduced performance acceptable

POWER REQUIREMENTS

Polarization controller operation requires, in general, simultaneous application of six (6) independent a.c. control signals. Limited operation is possible with fewer control signals. In such cases it is recommended that unused signal inputs are shorted out. No d.c. bias voltage should be applied to the signal inputs of the device at any time.

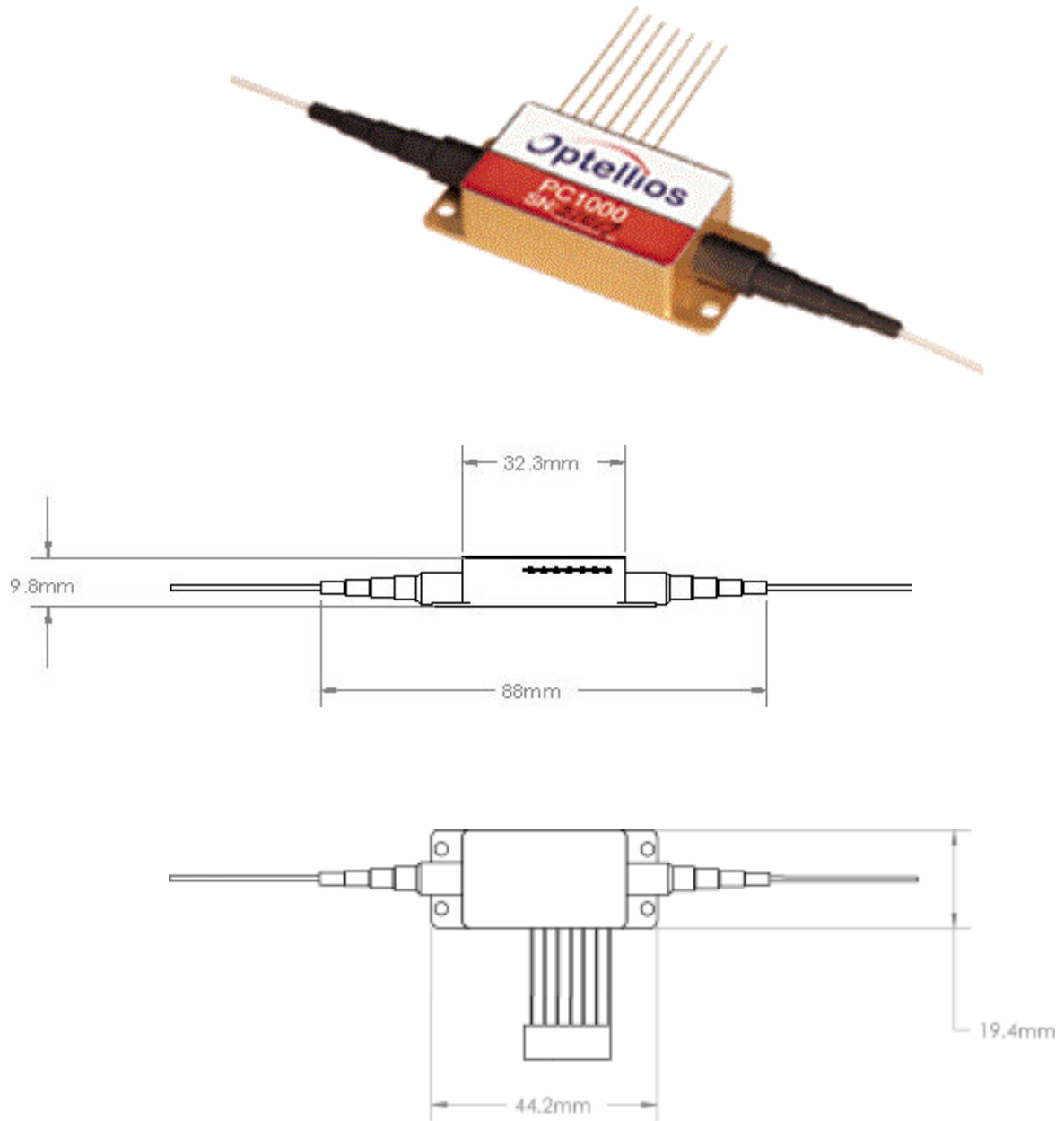
Following is a summary control signal requirements:

Parameter	Value
Signal Channel Count (tuning)	4 (Manual); 6 (Random)
Signal Waveform	Square or Sine
Frequency	1 kHz (recommended)
Amplitude	1-3V (Manual); 0-5V (Random)
Maximum Amplitude	10V

* Signal amplitude specified for square wave, infinite load impedance

The information contained in this publication is for guidance only. Optellios Inc. reserves the right to alter this information at any time, without prior notice.

TECHNICAL DESIGN



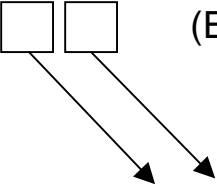
The information contained in this publication is for guidance only. Optellios Inc. reserves the right to alter this information at any time, without prior notice.

ORDERING INFORMATION

The PC1000 is available with a range of optical connectors, please specify when ordering using the part number information below:

PART NUMBER

PC1000 - (E.g.: PC1000-FC)



Part No. Ends	Connector Option
FC	FC/PC Both Ends
FA	FCA/PC Both Ends
SC	SC/PC Both Ends
SA	SCA/PC Both Ends
Blank	No Connector

EVALUATION KIT

We also offer an evaluation kit, which represents the quickest way to get started analyzing and testing the PC1000 polarization controller. The Kit contains everything needed to drive the device from a laptop or PC with a PCMCIA interface, including DAQ Card, Software and Cables.

Please Specify Part Number OPTE1000-PC when ordering

CONTACT US:

250 Phillips Blvd., Ste. 255,
Ewing, NJ 08618, USA.
Tel: +1 609 671 9800
Fax: +1 609 671 9801
Email: info@optellios.com
www.optellios.com