Measu-
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Devices

MAP Polarization Controller

(mPCS-A1)

The Multiple Application Platform (MAP) Polarization Controller (mPCS-A1) is optimized for the industry-leading Viavi Solutions™ MAP-200 platform. Based on the previous-generation Multiple Application Platform (MAP), the MAP-200 is the first photonic layer lab and manufacturing platform that is LAN Extensions for Instrumentation (LXI)-compliant by conforming to the required physical attributes, Ethernet connectivity, and interchangeable virtual instrument (IVI) drivers. The MAP-200 platform is optimized for density and maximum configurability to meet specific application requirements in the smallest possible foot print.

The mPCS-A1 provides an efficient and precise way of creating any state of polarization. It can also be used as part of a polarization state analyzer. The mPCS-A1 is comprised of three rotating elements: a high extinction ratio polarizer, a quarter-wave plate and a half-wave plate. The controller configuration can be offered with a single-mode (SM) or a polarization maintaining fiber (PMF) input.

The polarization controllers can be combined with other instruments to complete measurement test systems such as erbium-doped fiber amplifier (EDFA) or passive component test sets.

Key Features

- Complete polarization control
- Designed to meet IEEE Std. 802.3ae 10 GbE testing requirements
- Designed to perform fast polarization dependent loss (PDL) measurements (4-state Mueller method)
- Compact single width cassette
- Very high angular accuracy and absolute fast axis alignment accuracy
- Can be automated when used with MAP-200 LXI-compliant interfaces and IVI drivers

Applications

- Passive component PDL and polarization mode dispersion (PMD) measurements
- EDFA noise and polarization dependent gain (PDG) measurements
- 10 GbE transceiver worst-case relative intensity noise and dispersion penalty measurements
- Optical signal to noise ratio (OSNR) and extinction ratio (ER) measurements

Safety Information

- The MAP Polarization Controller, when installed in a MAP chassis, complies with CE, CSA/UL/ IEC61010-1, plus LXI Class C requirements.

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Specifications

Parameter	1550 nm	1310 nm
Wavelength range	1420 to 1630 nm	1260 to 1360 nm
Insertion loss (IL)[1, 2]	<1.5 dB	<1.5 dB
IL variation with wavelength[1, 2]	±0.1 dB	±0.1 dB
IL variation with rotation[1, 2, 4]	±0.05 dB	±0.05 dB
Return loss (RL)	>45 dB	>45 dB
Extinction ratio[3]	>40 dB	
Fast axis alignment accuracy	<± 0.5°	
Angular accuracy	±0.1°	
Rotational resolution	0.075°	
Maximum rotational speed per element	900°/s	
Maximum optical input power	100 mW	
Calibration	2 years	
Operating temperature	10 to 40°C	
Storage temperature	–30 to 60°C	
Humidity	Maximum 95% RH from 10 to 40°C noncondensing	
Dimensions (W x H x D)	4.06 x 13.26 x 37.03 cm (1.6 x 5.22 x 14.58 in)	
Weight	1.6 kg (3.5 lb)	

1. From 1520 to 1630 nm for the 1550 nm version
2. At 23°C 5°C
3. Measured with a >45 dB polarized narrow spectral line source
4. IL variation using an incoherent (broadband) source with both waveplates rotating at differing rates

Ordering Information

Product Code	Description
Base Options (Required, select one)	
MPCS-A1300	Polarization controller, 1260 to 1360 nm
MPCS-A1500	Polarization controller, 1420 to 1630 nm
Fiber Type Options (Required, select one)	
M100	9/125 fiber type
M103	PMF fiber type
Connector Options (Required, select one)	
MFP	FC/PC connector type
MFA	FC/APC connector type
MSC	SC/PC connector type
MSU	SC/APC connector type

mappcs-ds-lab-tm-ae
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