CA9069 Polarization Controller

Technical Specifications v1.00
March, 2011

UC INSTRUMENTS CORP.

www.ucinstruments.com

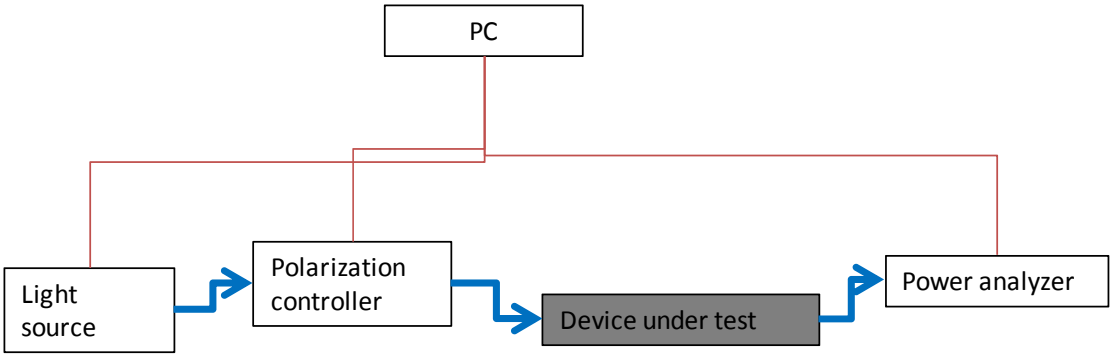
CA9069 Polarization Controller

(High Accuracy 50 GHz/ 100 GHz WSS Automatic Testing Equipment)

UC INSTRUMENTS' CA9069 provides polarization synthesis relative to build-in crystal polarizer. Two electronic birefringence controllers of liquid crystal (LC) create all possible states of polarization. Finely adjusted birefringence of LCs according to individual wavelength and the ambient temperature enables precise setting of state of polarization (SOP), and the high extinct ration of polarization. Specific design and pre-deterministic algorithms enable the transition path between SOPs along orthogonal great circles on the Poincare sphere. Smart software enables insertion loss being calibrated for individual SOP. Mueller method is applied to give quick and precise measurement of PDL for devices.

Flexibility To Match Your Applications Requirement

- Static SOP setting: enable an arbitrarily setting of SOP by inputting a normalized Stockes vector and the wavelength applied such as (1,1,0,0), 1550;
- SOP hopping: enable a random or rapid SOP hopping between a user-set series of states of polarization, a transition routine and SOP durations;
- SOP auto scan: enable continuously sweep over all states of polarization by tuning the SOP across the entire Poincare sphere along orthogonal great circles with a user-set speed;
- Synchronized hopping/scan: a synchronization signal that can be lead in or out the automation software enables three related devices working in phase in the procedure of setting SOP, sweeping wavelength and taking measurement of output power of the device under test (DUT). This function enables fast automatic measurement of PDL for a DUT.



Applications

- Passive optical components and modules PDL automatic testing;
- Active optical components PDL testing;
- Lab R&D PDL testing application

Specifications

Description	CA9069
Operation wavelength range[1)]	1200nm~1650nm
Insertion Loss[1),2)]	<1.5dB
Variation over 1 full vol. shift of LC	<±0.03dB
Variation over wavelength range	<±0.1dB
Polarization Extinction Ration[3)]	>45 dB
Polarization adjustment[4)]	
Resolution	0.1°
Angular adjustment accuracy	±0.1°
Settling time (characteristic)	<200ms
Number of pre-set SOP	UP TO 20
Angular repeatability	±0.1°
Number of scan rate settings	2
Maximum rotation rate	600/s
Maximum Operating Power Limitation	23dBm
Operating Port Return Loss	>60 dB
Power requirement	<1 VA
Weight	<1 lb
Dimension (HxWxD)	

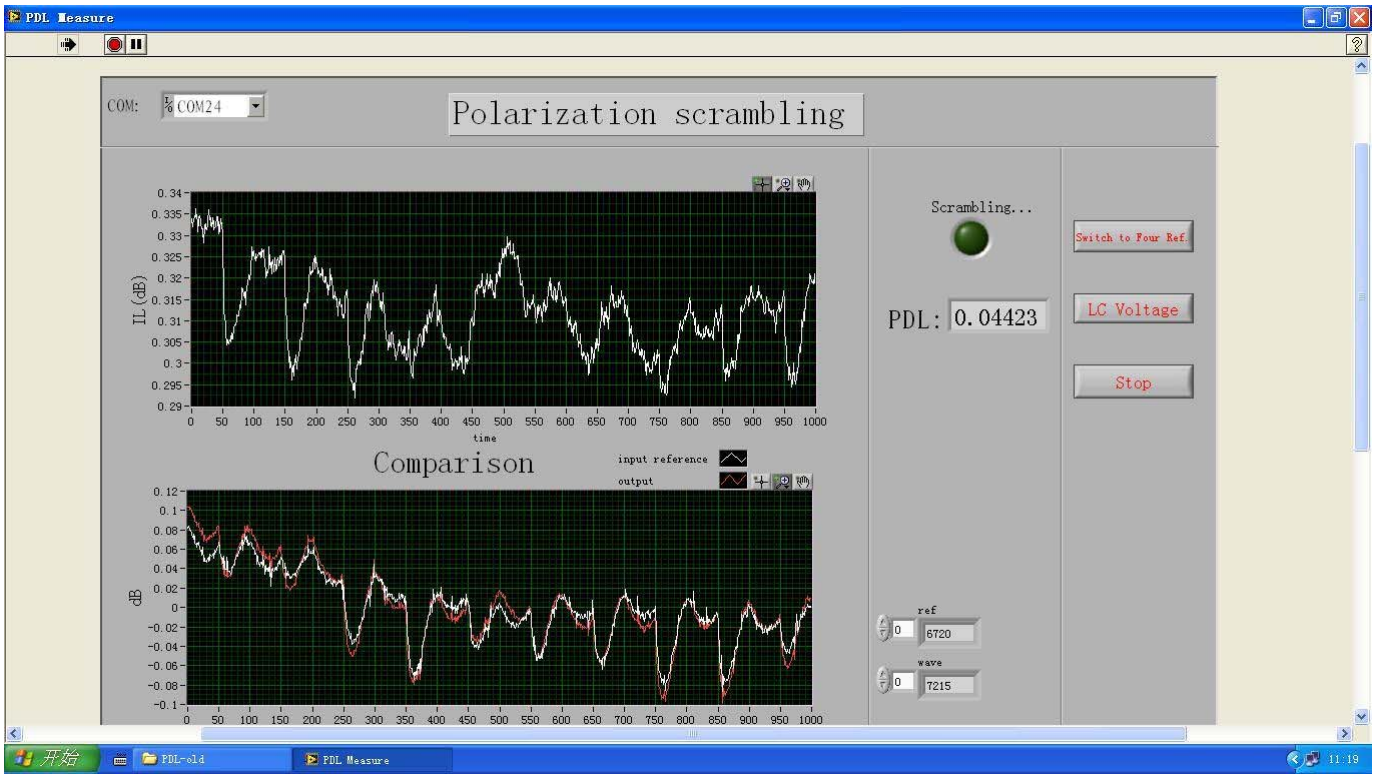
[1)] Guaranteed over a wavelength range from 1470 nm to 1570 nm; characteristic for a wavelength range from 1200 nm to 1650 nm

[2)]Insertion loss is measured with input polarization along the pass direction of build in polarizer.

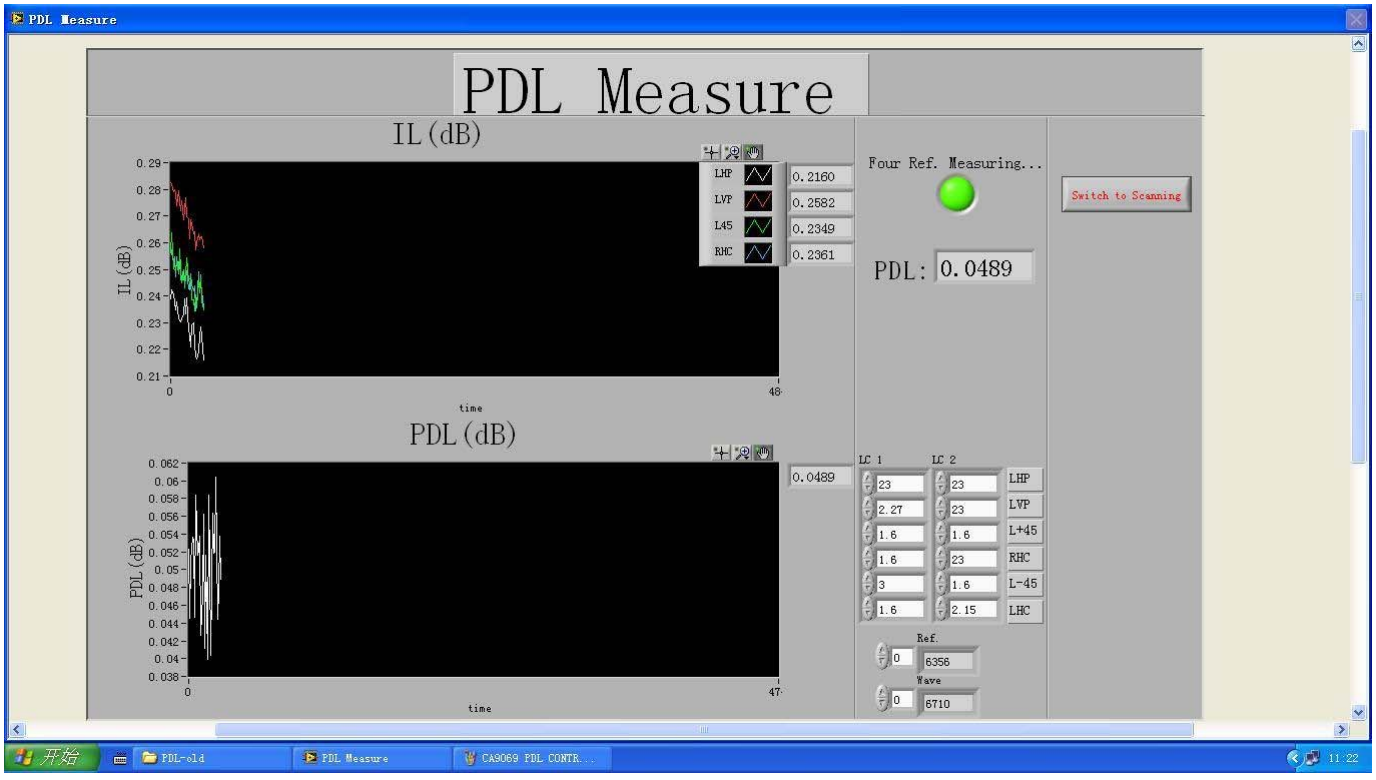
[3)]Extinction ration only refer to the polarized portion of the optical signal and under wavelength adjustment.

[4)]Angles denote pointing of SOP on the Poincare sphere .

Software Interface:



PDL Scrambling Mode



Miler Metric Model PDL Testing

UC INSTRUMENTS’ Test and Measurement Support, Services and Assistance

UC INSTRUMENTS provides high performance, high value, low cost, affordable test and measurement instruments solution for our customers. Our extensive support sources can help you choose right UC INSTRUMENTS’ products for your application and apply them successfully. Every instruments and system we sell a global warranty. All of our instruments with at least 18 months factory warranty.

Our Promise

All of UC INSTRUMENTS’ test and measurement instruments and system will met its advertised performance and functionality. When you select UC INSTRUMENTS’ products, we can verify if it is work properly, help with products operation, and provides the basic measurement assistance for the use of special capabilities.

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May, 2010

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