

CMA5000 PMD

SPECIFICATIONS

Polarisation Mode Dispersion Analyser



The CMA5000 PMD application increases revenue through complete PMD characterization, to optimize high data rate networks. By utilizing the CMA5000's PMD application to characterize the data rate capability of each fiber and transmitting at each fiber's maximum data rate, the negative effects of PMD may be minimized. As a result, installers, carriers and system providers can release the full potential of high data rate optical networks.

Increase revenue through accurate PMD characterization:

- Patented interferometric technique based on a pi-shifted Michelson interferometer
- Comply to EIA/TIA FOTP-124 and IEC-61941
- No auto-correlation peak for accurate characterization of all necessary PMD parameters: PMD, length PMD coefficient and second order PMD value

Added value through performance:

- Multiple test modes simplify and automate tests for several applications including multiple scans and long term PMD testing.
- All band testing through a large choice of light sources
- Highest dynamic range on the market: 55 dB with standard light source and more than 64 dB with the high power source.

Reduced cost of measurement:

- Fast measurement time: less than 8 seconds.
- Test through multiple EDFAs
- Easy to use touch screen interface combined with an innovative parameter set-up scheme
- Professional, comprehensive reporting of all settings and test results in a standard .pdf format at the press of a button

PMD Module/Optical Sources/PMD Artifact

PMD module

It is a double deep module which operates in a CMA5000 MBA or LBA. The PMD measurement range is up to 160 ps for a birefringent fibre and 80 ps for telecom fibre. Reference: 5400-001-PMD

Optical sources

All sources listed below come with a soft bag, a universal fibre optic PC connector and can provide battery or AC operation.

Standard 1550 nm wavelength source

This is the standard source offering 1550 nm operation. It will provide very high dynamic range and is suitable for most optical fibre and optical cable PMD characterization tests. It provides more than +2 dBm output power at 1550 nm, giving more than 55 dB dynamic range at 1550 nm for 1 ps PMD and more than 47 dB at 1550 nm for 10 ps PMD when used with the CMA5000 PMD module. Reference: 5403-003-PMD

Dual 1310 nm & 1550 nm wavelength source

This is the dual wavelength source offering 1310 nm & 1550 nm operation. It provides more than -1 dBm output power at 1550 nm, giving more than 52 dB dynamic range at 1550 nm for 1 ps PMD and more than 44 dB at 1550 nm for 10 ps PMD when used with the CMA5000 PMD module. Reference: 5403-004-PMD

Dual 1550 nm & 1625 nm wavelength source

This is the dual wavelength source offering 1550 nm & 1625 nm operation. It provides more than -2 dBm output power at 1550 nm, giving more than 51 dB dynamic range at 1550 nm for 1 ps PMD and more than 43 dB at 1550 nm for 10 ps PMD when used with the CMA5000 PMD module. Reference: 5403-006-PMD

1550 nm C+L wavelength source

This is the ultra-broadband wavelength source offering 1550 nm operation and a minimum PMD measurable of 0,035 ps. It is targeted for very low PMD measurement. It provides more than -10 dBm output power at 1550 nm, giving more than 43 dB dynamic range at 1550 nm for 1 ps PMD and more than 35 dB at 1550 nm for 10 ps PMD when used with the CMA5000 PMD module. Reference: 5403-005-PMD

1550 nm High Power source

This is the ultra high power source offering 1550 nm operation and the highest dynamic range. It is designed for very long fiber PMD measurements that can test lengths over 300 km. It provides more than +11 dBm output power at 1550 nm, giving more than 64 dB dynamic range at 1550 nm for 1 ps PMD and more than 56dB at 1550 nm for 10 ps PMD when used with the CMA5000 PMD module. Reference: 5403-010-PMD

PMD Artifact

This is a piece of birefringent fiber with 1 ps PMD. Reference: 5402-000-PMD

CMA5000 PMD	
Polarization Mode Dispersion Module Specifications	
Operating wavelengths	1250 nm to 1650
Random PMD Measurement Range ¹	80 ps
Deterministic Measurement Range ²	160 ps
Dynamic Range ³	See below
Accuracy	1% ±0.06 ps (for weakly coupled fiber)
Repeatability	1% ±0.06 ps (for strongly coupled fiber)
Measurement Time for 45 ps Scanning Range	8 seconds
Measurement Time for 160 ps Scanning Range	20 seconds
Test through EDFA	Yes
Battery Operation ⁴	Yes

Notes

- ¹ Typical Telecommunication fibers
- ² Polarization Maintaining fiber or artifact measurement
- ³ Dynamic range depends of the output power of associated light source.
- ⁴ Inside CMA5000 MBA platform

Polarization Mode Dispersion Source Specifications					
	1550	1550 HP	1310 & 1550	1550 & 1625	1550 C+L
Output power	+2 dBm	+11 dBm	-1 dBm	-2 dBm	-10 dBm
Related dynamic range ⁵	55 dB	64 dB	52 dB	51 dB	43 dB
Minimum Measurable PMD	0,06 ps	0,08 ps	0,06 ps	0,065 ps	0,035 ps
Battery operation	Yes, 9h autonomy (30h typ.)				

Notes

- ⁵ For 1 ps PMD. Subtract 8 dB from this value for 10 ps PMD.

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