LUNA

OPTICAL BACKSCATTER REFLECTOMETER[™] (Model OBR 4200)



The Luna OBR 4200 offers unprecedented, field-portable diagnostics capabilities to manufacturers and installers of fiber optic modules and short-run networks.

KEY FEATURES AND PRODUCT HIGHLIGHTS

- Verify quality of optical fiber cable assemblies, connectors and short-run networks
- Troubleshoot and distinguish between macro-bends, splices, connectors and breaks
- Locate insertion loss points save hours of troubleshooting time
- Verify return loss of multiple points in a fiber assembly or harness simultaneously
- Verify and maintain aircraft and shipboard networks
- Customize GUI for automated pass/fail verification of your fiber assembly using software development kit

The Luna **OBR 4200** is the industry's only portable, ultra-high resolution reflectometer with backscatter-level sensitivity designed to test short networks. In a small, rugged, easily transportable platform, the OBR 4200 provides the capability to "see" any event in a fiber assembly or network out to 500 meters with no deadzone and millimeter resolution. With industry-leading sensitivity and resolution in a portable platform, the OBR 4200 is the ultimate tool for manufacturing and on-site inspection and troubleshooting of your fiber optic network.

MEASUREMENT PERFORMANCE HIGHLIGHTS

- < 3 mm spatial resolution</p>
- 500 m length range with no dead-zone
- -120 dB sensitivity
- 0.1 dB insertion loss resolution



Top: OBR 4200 measurement of an optical fiber harness with a bend loss and splice loss **Bottom**: Easily distinguishable bend loss 7 cm before a connection



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PARAMETER	SPECIFICATION		UNITS
Maximum Device Length:			
Device length	0 to 500		m
Spatial Resolution:	Low Resolution	High Resolution	
Event resolution ¹	< 50	< 3	mm
Sampling resolution ²	5	0.3	mm
Center Wavelength ³ :			
	1542 ± 2		nm
Integrated Return Loss Characteristics:			
Dynamic range ⁴	50		dB
Total range	-10 to -120		dB
Sensitivity	-120		dB
Resolution ⁵	±0.2		dB
Accuracy⁵	±0.4		dB
Integrated Insertion Loss Characteristics:			
Dynamic range ⁶	16		dB
Resolution ⁵	±0.1		dB
Accuracy⁵	±0.2		dB
Measurement Timing	Low Resolution	High Resolution	
2.6 second overhead per scan plus	0.01	0.12	s/m
Optical Output			
Connector type	FC/APC		-
Output power	10		mW
Launch condition	Single-mode output standard. Multimode output available with Mode-Conditioner accessory.		-
Environmental			
Operating temperature	0 to +40		С
Storage temperature	-20 to +60		С
Power ⁷			
Battery life	5		hr
Battery charging time	5		hr
Dimensions and Weight (including Toughbook $^{\textcircled{8}}$)			
Size	8.5(L) x 10.7(W) x 3.85(H)		in
Weight	9.8		lbs

Notes:

Specifications are for single-mode operation. Multimode measurements can be made with Mode-Conditioner accessory.

Panasonic Toughbook-19 specifications found at http://www.panasonic.com/business/toughbook/toughbook-products.asp#/19

FWHM peak width for 14.5 dB reflection in SMF-28e fiber at 50 m. Peak widths increase with distance and modal dispersion. 1

Distance between two sample points along the length axis. 2

3 Scans over ~3 nm centered about this wavelength.

4 Range between strongest reflection greater than -30 dB and noise floor.

5 Measured with 2 m integration width.

6 7 Two way loss that can be tolerated before scatter reaches the noise floor and IL measurements are no longer possible. For laptop battery life and charge time, see laptop data sheet.