



## OPTICAL BACKSCATTER REFLECTOMETER™ (Model OBR 4200)

### KEY FEATURES AND PRODUCT HIGHLIGHTS

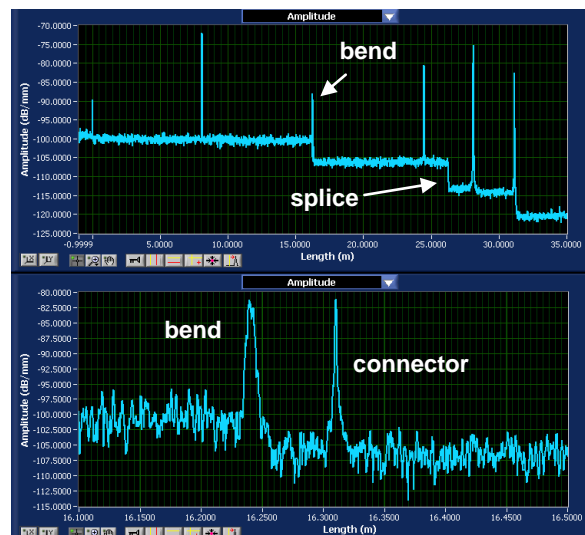
- Verify quality of optical fiber cable assemblies, connectors and short-run networks
- Troubleshoot and distinguish between macro-bends, splices, connectors and breaks
- Locate insertion loss points – save hours of troubleshooting time
- Verify return loss of multiple points in a fiber assembly or harness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

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

The **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 dead-zone 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
- 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 a splice loss

**Bottom:** Easily distinguishable bend loss 7 cm before a connection

**Lambda**  
photometrics

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## OBR 4200

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

- 1 FWHM peak width for 14.5 dB reflection in SMF-28e fiber at 50 m. Peak widths increase with distance and modal dispersion.
- 2 Distance between two sample points along the length axis.
- 3 Scans over ~3 nm centered about this wavelength.
- 4 Range between strongest reflection greater than -30dB and noise floor.
- 5 Measured with 2 m integration width.
- 6 Two way loss that can be tolerated before scatter reaches the noise floor and IL measurements are no longer possible.
- 7 For laptop battery life and charge time, see laptop data sheet.

CLASS 1 LASER PRODUCT

