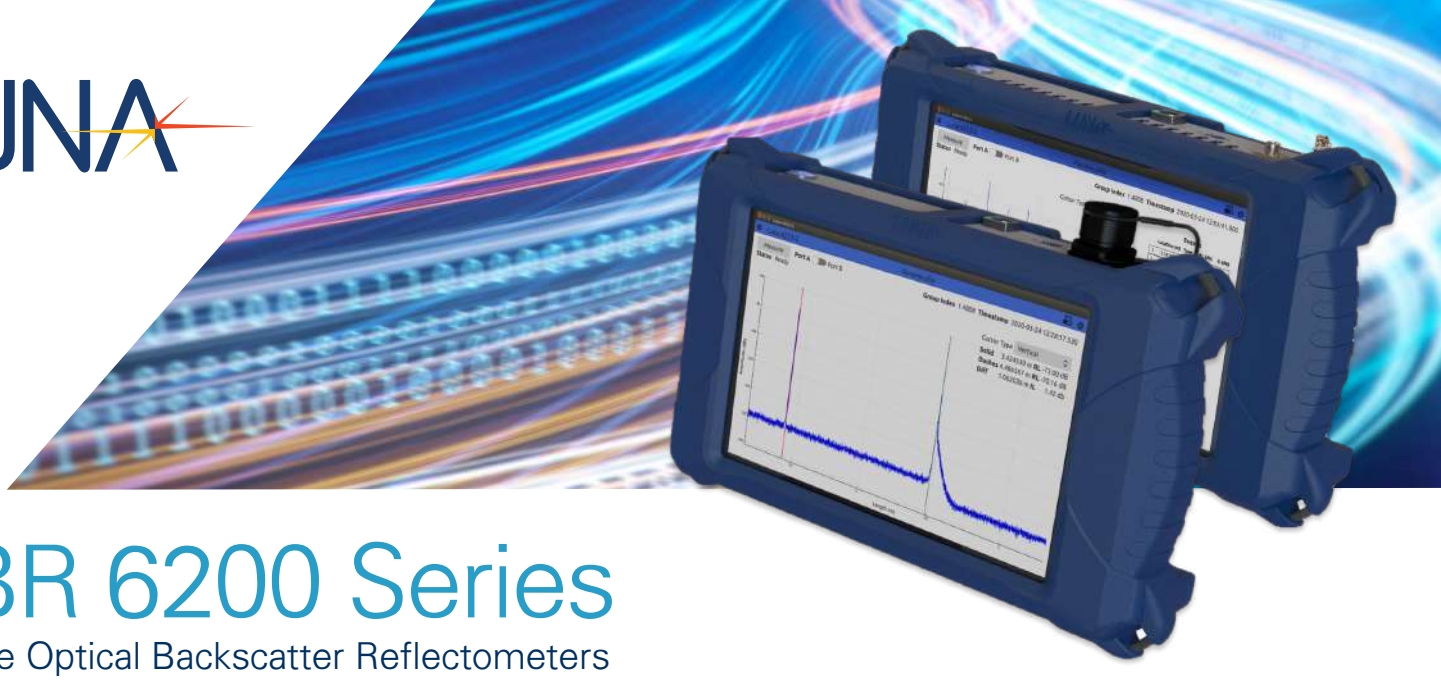


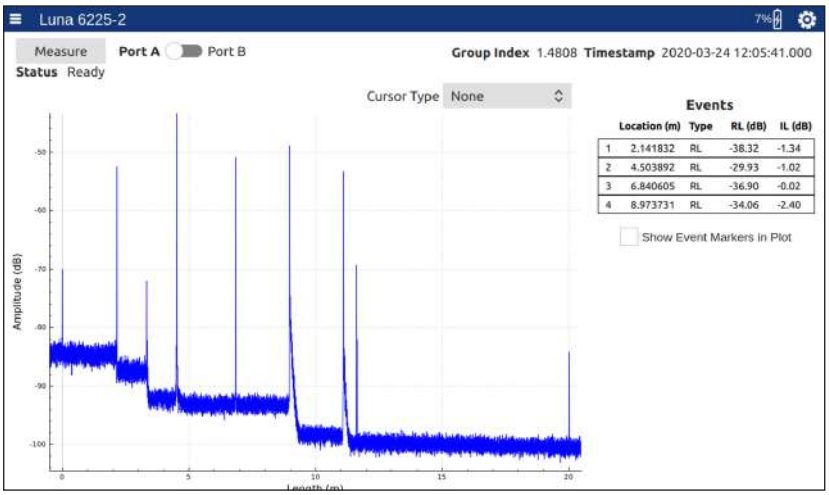
OBR 6200 Series

Portable Optical Backscatter Reflectometers

The Luna OBR 6200 Series is a new line of portable and rugged ultra-high resolution reflectometers with backscatter-level sensitivity for testing fiber optic networks deployed in aerospace, naval, data center and industrial applications.

The OBR 6200 Series utilizes optical frequency domain reflectometry (OFDR) technology to measure distributed return loss (RL) and insertion loss (IL) with sub-millimeter spatial resolution, high precision and high dynamic range. The OBR 6200 is a rugged battery powered integrated system with an intuitive touchscreen user interface, making it ideal for field maintenance applications.

The OBR 6225 models are ideal for short fiber optic networks found in aerospace, naval, transportation and industrial applications.



The OBR 6225 maps reflection versus length with high resolution, automatically detecting RL reflection events and IL sites that exceed user defined thresholds

Portable high-resolution reflectometry for field and maintenance applications

KEY FEATURES

- Fully portable and rugged OBR
- Track and analyze return loss (RL) and insertion loss (IL) versus length
- Spatial sampling resolution down to 80 µm
- Detect and precisely locate reflective events
- Measure optical path length with high precision
- Automatic event detection
- One or two optical channels
- Available with IP65 and MIL-STD certifications

APPLICATIONS

- Troubleshoot fiber assemblies in the field
- Precisely locate IL sites, high RL connections, fiber breaks, etc.
- Maintain avionics, aerospace, naval and industrial networks
- Verify fiber lengths of data center interconnects
- Troubleshoot fiber optic sensing systems

PERFORMANCE

PARAMETER		SPECIFICATIONS			UNITS
Measurement					
Number of optical ports	OBR 6225-1	1 port			–
	OBR 6225-2	2 ports			–
Measurement length modes		20	50	100	m
Sampling resolution (two-point)[1]		0.080	0.100	0.200	mm
Length measurement accuracy[2]		<1	<2	<4	mm
Wavelength scan range		10	8	4	nm
Center wavelength		1546.7			nm
Measurement time		10			s
Return Loss Measurement					
RL dynamic range[3]		70			dB
Total range[4]		0 to -129			dB
Sensitivity[4]		-129			dB
Resolution[5]		± 0.1			dB
Accuracy[5]		± 0.5			dB
Insertion Loss Measurement					
IL dynamic range, in reflection mode[6]		15			dB
Resolution[7]		± 0.1			dB
Accuracy[7]		± 0.2			dB
General					
Optical output power		4			mW
Battery life		3			h
Battery charge time		2			h
Touchscreen display		10.1", 1280 x 800 resolution			–
Data I/O ports		USB-C, RJ45 Ethernet			–
Optical connector	OBR 6225-1	FC/APC (SC/APC or FC/APC adapter patch cord)			–
	OBR 6225-2	Sealed duplex FC/APC (FC/APC adapter patch cord)			–
Weight		10.1 (4.6)			lb (kg)
Case size		13.4 x 8.7 x 2.8 (34 x 22 x 7)			in (cm)
Environmental					
Military certification (OBR 6225-2)		MIL-STD-810G			–
Ingress protection (OBR 6225-2)		IP65			–
Electromagnetic compatibility (OBR 6225-2)		MIL-STD-461G			–
Operating temperature		-20 to 35 (0 to 35 charging)			°C
Storage temperature		-20 to 60			°C
Operating altitude		0 to 2500			m
Storage altitude		0 to 3000			m
Certifications					

NOTES

1. Distance between two sample points in SMF-28.
2. Does not include errors associated with user-supplied group index of refraction.
3. Range between strongest reflection greater than -60 dB and noise floor.
4. Noise floor return loss at half of maximum length.
5. Measured with 1 cm integration width.
6. Two way loss before backscatter reaches noise floor and IL measurements are no longer possible.
7. Measured with 10 cm integration width.

ORDERING

Product	Description	Includes
OBR 6225-1	Portable OBR	OBR 6225-1 single-channel system, adapter cables with FC/APC and SC/APC connectors, accessory kit, power supply/charger and ruggedized shipping case
OBR 6225-2	Portable Dual-Channel OBR with IP65 Rating	OBR 6225-2 dual-channel system, adapter cable with 2 FC/APC connectors, accessory kit, power supply/charger and ruggedized shipping case

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*Specifications subject to change without notice.