



SmartClass™ ORL-55

Optical Return Loss Meter

With the world’s most complete portfolio of more than 150,000 optical handhelds already in use, Viavi Solutions introduces a new line of SmartClass optical handhelds to help your network graduate to the next level of performance. Viavi SmartClass optical handhelds encompass a new, intelligent, and next-level product line for testing all optical signals and systems, including broadband, PONs, Gigabit Ethernet, and CATV.

All Viavi SmartClass optical handhelds provide:

- An extended number of calibration wavelengths for one of the highest performance range in the industry.
- Intuitive graphical user interface for fast, easy, and straightforward operation.
- Intelligent power supply management system.
- Belt bag with neck strap allowing for the use of both hands in the field.
- A USB port for remote operation as well as easy Microsoft® Excel™-based report generation and analysis.
- Traceable measurements to international standards for confidence in accuracy.

The SmartClass ORL-55 (optical return loss meter) is a high-performance, easy-to-use instrument for field, laboratory, and production use. It combines three different functions in one field-optimized instrument, including an optical return loss meter, an optical power meter, and a triple-wavelength laser source.

Key Features

- Three instruments in one: return loss meter, power meter, and laser source
- High-precision ORL testing at two or three wavelengths (single-mode 1310, 1490, 1550, 1625 nm)
- TRIPLEtest function for simultaneous measurements at three wavelengths in real-time
- Auto-zeroing function (patent pending) for increased measurement accuracy
- Internal data storage and PC software enables efficient documentation and accurate reporting
- Built-in, real-time clock
- Visual fault locator option at 635 nm
 - Economical option for fiber tracing, routing, and continuity checking
 - Universal push-pull adapter 2.5 mm (1.25 mm adapter optional)
- Host USB data storage option
 - Unlimited result storage capacity via USB memory sticks
 - Easy and quick data transfer of stored measurement results

Three lasers with built-in optical isolators are combined to the angled physical contact (APC) optical output, providing easy return loss measurements without the need of external normalization. High-precision fiber couplers and an auto-zeroing function guarantee outstanding measurement accuracy.

The Viavi TRIPLEtest function enables measurements at three wavelengths simultaneously by using sophisticated digital signal processing. The results for all three wavelengths are shown

simultaneously on a large illuminated graphical display. This unique functionality reduces test times by up to 70 percent and avoids inaccurate measurements from incorrect instrument settings.

Internal data storage of up to 1000 results, including information about date and time of the measurements, in conjunction with the complimentary Viavi Optical Fiber Assistant Software, provide easy documentation and test-report generation.



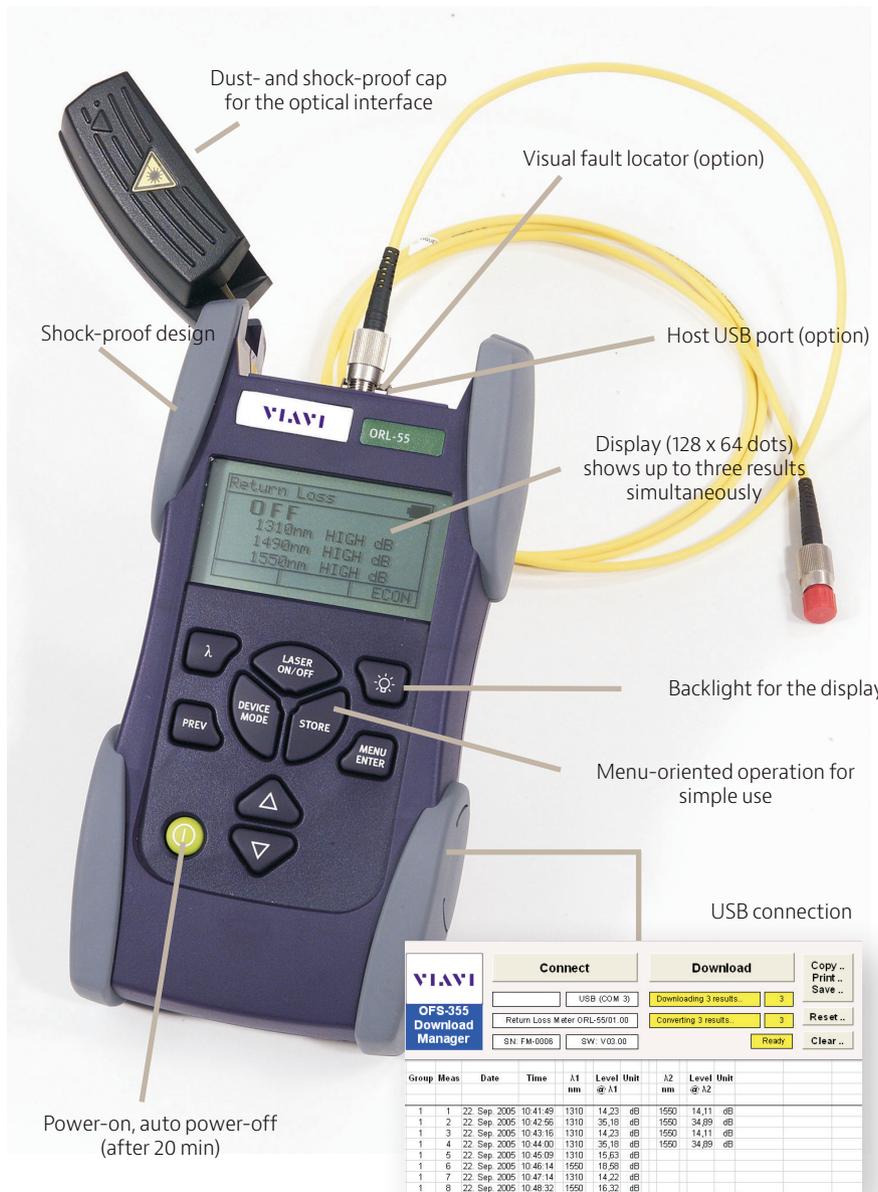
OCK-10 Optical connector cleaning kit (accessory)



Optical adapters (BN 2150) for laser source output



Worldwide-compatible AC adapter (SNT-121A)



Connect		Download		Copy ..	Print ..	Save ..
USB (COM 3)		Downloading 3 results	3			
Return Loss Meter ORL-5501 00		Converting 3 results	3	Reset ..		
SN: FM-0005	SW: V02.00			Ready		Clear ..

Group	Meas	Date	Time	λ1 nm	Level @ λ1	Unit	λ2 nm	Level @ λ2	Unit
1	1	22 Sep 2005	10:41:49	1310	14.23	dB	1550	14.11	dB
1	2	22 Sep 2005	10:42:56	1310	35.18	dB	1550	34.89	dB
1	3	22 Sep 2005	10:43:15	1310	14.23	dB	1550	14.11	dB
1	4	22 Sep 2005	10:44:00	1310	35.18	dB	1550	34.89	dB
1	5	22 Sep 2005	10:45:09	1310	15.63	dB			
1	6	22 Sep 2005	10:46:14	1550	18.98	dB			
1	7	22 Sep 2005	10:47:14	1310	14.22	dB			
1	8	22 Sep 2005	10:48:32	1550	16.32	dB			

OFS-355 Optical Fiber Assistant Software
Free PC documentation software

Specifications

General	
Modes	Return loss, power meter, laser source
TRIPLEtest	Real-time simultaneous testing and display of measurement results at three wavelengths
Data storage	up to 1000 results with date and time info
Built-in real-time clock	
Data readout/remote control via a USB interface	
Modulation detection	270 Hz, 1 kHz, 2 kHz
Auto-lambda (λ) detection ¹	with any Viavi Optical Laser Source
Display	
High visibility, 128 × 64 dots with backlight	
Optical connector	
Optical connector	SM, APC-type
Adapters	interchangeable for LC, SC, FC, ST, DIN
Power supply	
Integrated, fast, battery-charging function (2 hrs)	
Four-way powering mechanism	
AA dry battery	
AA NiMH	
AC	
USB	
Calibration	
Recommended calibration interval	3 yrs
Ambient temperature	
Nominal range of use	-10 to +55°C
Storage and transport	-40 to +70°C
Dimensions and weight	
W × H × D	95 × 60 × 195 mm (3.74 × 2.36 × 7.68 in)
Weight	500 g (1.1 lb)
Memory	
Data memory	1000 measurement results
Data readout remote control (via cable K804)	client USB interface
USB data storage (option)	via host USB interface

Return Loss Meter	
Selectable wavelength options ²	1310/1550 nm 1310/1490/1550 nm 1310/1550/1625 nm 1310/1490/1625 nm
Spectral width (RMS)	<5 nm
Display range	0 to 70 dB
Measurement range	0 to 60 dB
Measurement accuracy ³	±0.7 dB (0 to 50 dB) ±0.9 dB (50 to 60 dB)
Resolution	0.01 dB
Power meter	
Wavelength range	1260 to 1650 nm
Factory-calibrated wavelengths	1310/1550/1625 nm
User-calibrated wavelengths	in 1 nm intervals from 1260 to 1650 nm
Photo detector	InGaAs
Display modes	dB/dBm/W
Display range ⁴	-70 to +6 dBm
Maximum input level	+6 dBm
Resolution	0.01 dB, 0.001 μ W
Measurement accuracy ⁵	± 0.4 dB
Laser Source	
Selectable wavelength options ²	1310/1550 nm 1310/1490/1550 nm 1310/1550/1625 nm 1310/1490/1625 nm
Spectral width (RMS)	<5 nm
Maximum output power ⁶	-3 dBm
Adjustable attenuation	0 to 7 dB
Stability ⁷	±0.02 dB
Operating modes	Continuous Wave (CW), modulation 270 Hz, 1 kHz, 2 kHz, Auto-lambda (λ) ¹

1. Signal coding for automatic wavelength detection (only available with Viavi power meters)

2. ± 20 nm typically, at maximum output power

3. At ambient temperature range 20°C ± 3 K, 0 to 50 dB

4. -50 dBm in multi-wavelength mode

5. At -20 dBm CW at factory-calibrated wavelengths, with DIN connector, 23°C ± 3K

6. CW signal, T = 23°C ± 3 K, at 1490 nm = -6 dBm. For modulated signals, average output level reduced by 3 dB.

7. Temperature range -10 to +55°C, Δ T = ± 0.3 K, within 15 min

Ordering Information

Description	Part Number
SmartClass ORL-55 Optical Return Loss Meter 1310/1550 nm	BN 2287/21
1310/1490/1550 nm	BN 2287/22
1310/1550/1625 nm	BN 2287/23
1310/1490/1625 nm	BN 2287/24
Option	
Visual fault locator	BN 2252/90.10
USB Data Storage (memory stick not in scope of delivery)	BN 2277/90.06
Accessories	
Optical adapter DIN, FC, SC, ST, LC types	BN 2150/00.xx
OCK-10 optical connector cleaning kit	BN 2229/90.21
Optical cleaning tape	BN 2229/90.07
Spare tape for optical cleaning tape	BN 2229/90.08
NiMH cells, Mignon (AA) 1.2 V (4 required per instrument)	BN 2237/90.02
SNT-121A universally compatible AC adapter	BN 2277/90.01
USB connection cable	K804
MT-1S belt bag for one instrument	BN 2277/90.02
MT-2S soft bag for two instruments	BN 2126/03
MT-3S soft bag for three instruments	BN 2126/04
MK-3S hard case for three instruments	BN 2093/31
Calibration report	BN 2287/90.01

Accessories for Visual Fault Locator Option	Part Number
Adapter for 1.25 mm UPP 	BN 2252/02
Adapter from 2.5 mm UPP to LC (1.25 mm) 	S3122
OFS-355 Optical Fiber Assistant Software	
Free documentation software (available from www.viavisolutions.com)	



Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the Viavi office nearest you,
visit viavisolutions.com/contacts.

© 2015 Viavi Solutions, Inc.
Product specifications and descriptions in this
document are subject to change without notice.
orl-55-ds-fop-tm-ae
30137211 905 0811