SmartClass™ ORL-55
Optical Return Loss Meter

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

With the world's most complete portfolio of more than 150,000 optical handhelds already in use, JDSU introduces a new line of SmartClass optical handhelds to help your network graduate to the next level of performance. JDSU 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 JDSU 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.

2

Accessories

OCK-10 Optical connector cleaning kit (accessory)

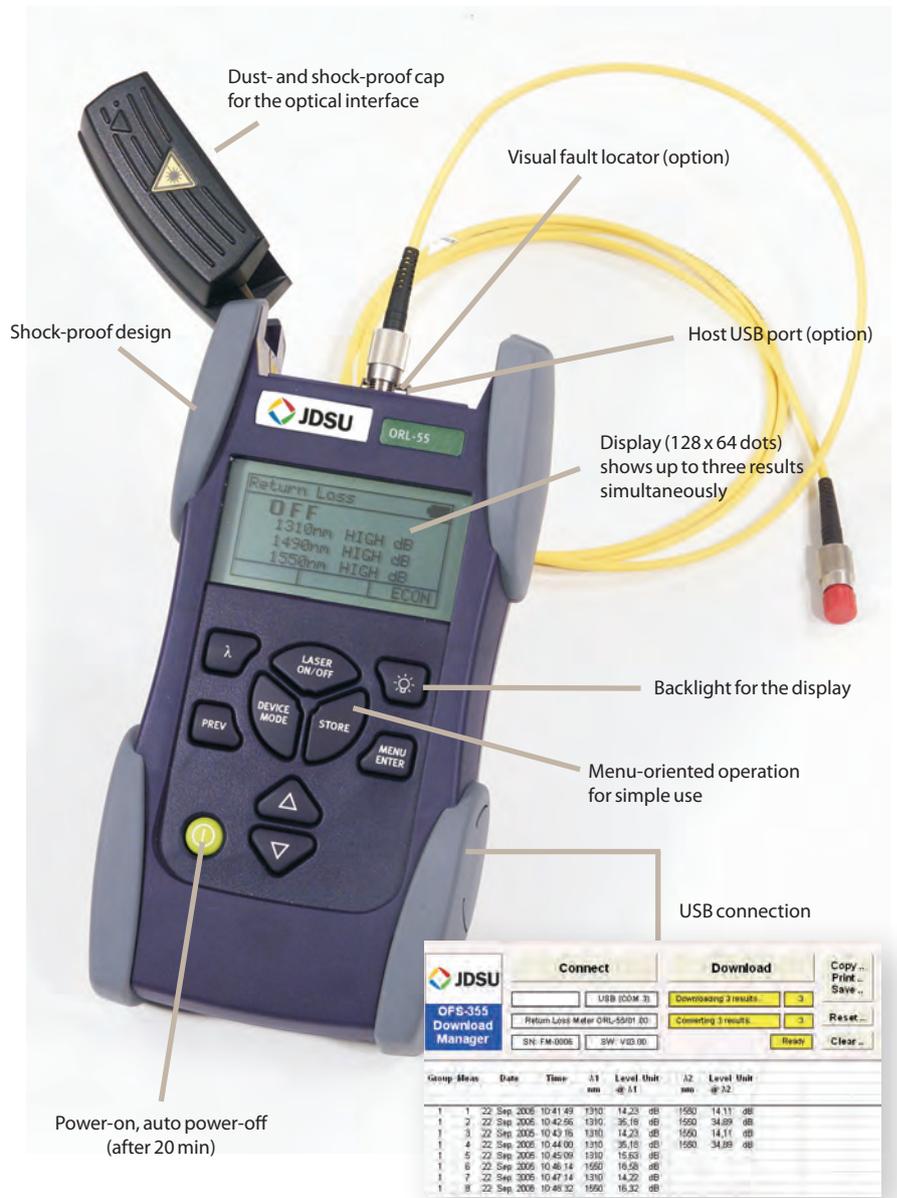Optical adapters (BN 2150) for laser source output

Worldwide-compatible AC adapter (SNT-121A)

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 (patent pending) guarantee outstanding measurement accuracy.

The JDSU 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 JDSU Optical Fiber Assistant Software, provide easy documentation and test-report generation.

Dust- and shock-proof cap for the optical interface

Visual fault locator (option)

Shock-proof design

Host USB port (option)

Display (128 x 64 dots) shows up to three results simultaneously

Backlight for the display

Menu-oriented operation for simple use

USB connection

Power-on, auto power-off (after 20 min)

OFS-355 Optical Fiber Assistant Software
Free PC documentation software

3

Specifications

General Specifications

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 JDSU 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 µW
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]

Accessories for Visual Fault Locator Option

BN 2252/02	Adapter for 1.25 mm UPP
S3122	Adapter from 2.5 mm UPP to LC (1.25 mm)

Detailed information regarding test adapters, cables, and fiber-optic sleeves can be found in a separate data sheet entitled *JDSU Fiber-Optic Test Adapters and Cables*.

(1) Signal coding for automatic wavelength detection (only available with JDSU 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, ΔT = ± 0.3 K, within 15 min

Order information

Order Number	Instrument
BN 2287/21	SmartClass ORL-55 Optical Return Loss Meter 1310/1550 nm
BN 2287/22	1310/1490/1550 nm
BN 2287/23	1310/1550/1625 nm
BN 2287/24	1310/1490/1625 nm

Order Number	Option
BN 2252/90.10	Visual fault locator
BN 2277/90.06	USB Data Storage (memory stick not in scope of delivery)

OFS-355 Optical Fiber Assistant Software
Free documentation software (available from www.jdsu.com)

Order Number	Accessories
BN 2150/00.xx	Optical adapter DIN, FC, SC, ST, LC types
BN 2229/90.21	OCK-10 optical connector cleaning kit
BN 2229/90.07	Optical cleaning tape
BN 2229/90.08	Spare tape for optical cleaning tape
BN 2237/90.02	NiMH cells, Mignon (AA) 1.2 V (4 required per instrument)
BN 2277/90.01	SNT-121A universally compatible AC adapter
K804	USB connection cable
BN 2277/90.02	MT-1S belt bag for one instrument
BN 2126/03	MT-2S soft bag for two instruments
BN 2126/04	MT-3S soft bag for three instruments
BN 2093/31	MK-3S hard case for three instruments
BN 2287/90.01	Calibration report

Test & Measurement Regional Sales