

Compact Photonic Tools

Optical Return Loss Meter (cORL-A1)



Key features

- Provides versatility with optical power, return loss, and light source in single unit
- Operates at four key FT Tx wavelengths (1310, 1490, 1550, and 1625 nm)
- Combines two or three laser versions on a single output
- Dynamic range of 65 dB for return loss measurements

Applications

- Serves as a general purpose lab tool
- Performs return loss testing of FT Tx and passive optical components
- Performs return loss testing of optical connectors and cables
- Monitors back reflection during alignment process

The JDSU Compact Photonic Tools offer a new portfolio of point solutions for fiber optic test applications. The cORL-A1 provides a compact, intuitive Optical Return Loss Meter designed to enable applications ranging from simple continuity verification and return loss testing to integration into process automation equipment designed for automated alignment.

Available in two or three laser versions with the option to select from four key wavelengths: 1310, 1490, 1550, and 1625 nm. The integrated multiplexer and single optical output found in the cORL-A1 greatly simplifies the optical connections and calibrations. The 65 dB dynamic range in return loss enables the measurement of high performance angled physical contact (APC) connectors.

A simple intuitive graphical user interface (GUI) and keypad minimizes training requirements. A universal serial bus (USB) interface may be used for test automation interfacing to a PC. While connected by USB, the cORL-A1 does not require an additional mains connection, reducing cord tangle.

Three Units for the Price of One

The cORL-A1 is actually three units in one. Through the use of the mode key, the unit will operate as a simple fiber-coupled optical power mode (OPM) or as a simple Fabry-Perot Light Source. Full standard commands for programmable instruments (SCPI) for these other modes are supported.

Innovative Features Reduce Test Duration by 3X When Paired with a cOPM-A1

TWIN or TRIPLE Test

Enabling TWIN or TRIPLE test features on the cOPM-A1 dramatically lowers test durations by allowing simultaneous measurement of two or three wavelengths. Accessing this features requires pairing a cOPM-A1 with the cORL-A1. When this feature is enabled on both units, the cOPM-A1 will automatically detect the wavelengths present and display the simultaneous measured output power (or loss) for each. Additionally, with these two units paired together, simultaneous insertion loss and return loss may be measured. Pairing the cORL with the cOPM created the functionality of the historic JDSU RM Series or singlechannel RX Series.



Specifications

Parameter	cORL-A1
ORL Mode	
Peak wavelength	1310, 1490, 1550, 1625 nm
Wavelength accuracy	± 20 nm
Fiber type	SMF-28
Wavelength settings	780 to 1600 nm, step size 1 nm
Spectral width	<5 nm
Return loss range	
Single wavelength	0 to 70 dB
Multi wavelength	0 to 50 dB
Resolution	0.01 dB
Return loss accuracy	± 0.7 dB (0 to 50 dB) ± 0.9 dB (50 to 60 dB)
FPL Mode	
Maximum output power	0 dBm
Attenuation range	7 dB
Attenuation resolution	0.01 dB
Modulation	CW, 270 Hz, 1 kHz, 2 kHz
Stability	± 0.02 dB (15 min)/ ± 0.2 dB (8 hr)
OPM Mode	
Wavelength range	1260 to 1650 nm
Power range	-70 to +6 dBm
Display resolution	0.01 dB/0.001 μW
Fiber type	SMF
Uncertainty at reference condition ¹	± 0.4 dB

General

Connector type	Interchangeable APC adapters (SC, FC, LC, ST, DIN)
Recalibration period	1 year
Warm-up time	5 min
Operating temperature	-10 to +55°C
Humidity	Non-condensing
Dimensions (W x H x D)	250 x 88 x 210 mm (9.84 x 3.46 x 8.27 in)
Weight	1.8 kg (4 lbs)
Remote interface	USB (through virtual com port driver)
Powering options	Auto sensing
Mains	100 to 240 V AC, 50 to 60 Hz
USB	Direct from USB, no main required
Power consumption ²	1.1 W

1. Reference condition: -20 dBm (CW), 1310 ± 1 nm, 23 ± 3°C, to 75% RH, 9 μm

2. When connected to the AC power plug

Ordering Information

Reference	Name / Description
BN 2298/21	DualWavelength Optical Return Loss Meter – 1310, 1550 nm
BN 2298/22	TripleWavelength Optical Return Loss Meter – 1310, 1490, 1550 nm
BN 2298/23	TripleWavelength Optical Return Loss Meter – 1310, 1550, 1625 nm

All versions come with universal APC adapters from BN 215x/00.xx range.

Test & Measurement Regional Sales

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