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700 Series

781RL-13/15

1310nm/1550nm Single-Mode Return Loss Meter

Features

- Dual wavelength single-mode return loss measurements
- +20dB to +65dB return loss measurement range
- ±0.5dB measurement accuracy between +30dB and +60dB
- Incorporates proven Optical Reflection Discrimination (ORD) technology
- No mandrel wraps for fibers > 2 meters
- Continuous wave output mode for insertion loss measurements with an optical power meter
- Backlit multi-functional LCD display
- Capable of remote operation via the GPIB/IEEE-488 compliant RIFOCS 700R system controller
- Performs automated measurements using ***fiber***WORKS™ Component Test System (CTS) software
- Full manual control using front panel keypad
- Fixed high performance FC-APC interface



Key Specifications

Measurement range	+20dB to +65dB
Accuracy, +30dB to +65dB	±0.5dB
Compatible fiber	SMF-28
Resolution	0.01dB
Output wavelengths	1310nm/1550nm
Source stability[1]	< ±0.05dB
RMS spectral width	< 10nm

[1] At 21°C over 12 hours with 1 hour warm-up.

Applications

Single-Mode Return Loss Measurements

The 781RL-13/15 single-mode return loss meter is ideal for component qualification and manufacturing tests in high volume production environments.

Incorporating a stable 1310nm/1550nm dual laser source, the 781RL-13/15 return loss meter is particularly suited for testing cables, components and assemblies used in telecommunications systems and other long-haul fiber optic networks.

The 781RL-13/15 return loss meter is based on proven Optical Reflection Discrimination (ORD) technology pioneered by RIFOCS Corp., which eliminates the need for time-consuming mandrel wraps when testing cables longer than two meters. By reducing the number of manual operations necessary during testing, the 781RL-13/15 return loss meter makes product qualification more efficient and convenient.

The 781RL-13/15 features a pulsed output mode for return loss measurements within a range of +20dB to +60dB. The unit is also capable of continuous wave output, permitting convenient insertion loss measurements when used with an optical power meter. A backlit multi-functional display summarizes measurement information and parameters.

When installed in a modular test system with a 700R controller module, the 781RL-13/15 can perform automated return loss measurements using ***fiber***WORKS™ Component Test System (CTS) software. The 781RL-13/15 return loss meter can also be operated using simple commands sent from a remote PC-compatible workstation via the GPIB/IEEE-488 interface incorporated in the 700R controller.

The 781RL-13/15 is fitted with a fixed FC-APC interface for maximum measurement accuracy and repeatability. This interface can be easily cleaned to ensure optimal performance.

RIFOCS Corporation
Fiber Optic Instruments & Components

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700 Series

781RL-13/15
1310nm/1550nm Single-Mode Return Loss Meter

Ordering Information

One 5900 Series single-mode reference cable (FC-APC to customer-specified termination) is included with the 781RL 13/15 return loss meter. Please specify the desired cable type when ordering using the table below. Additional 5900 Series reference cables may also be ordered separately.

Part No.	Description
781RL 13/15	Return loss meter module

5900 Series Reference Cables

Part No.	Description
5926	Diamond FC-PC
5928	Diamond FC-APC (wide key)
592J	FC-APC ceramic narrow key
592K	FC-PC ceramic
592W	FC-APC ceramic wide key
5936	Diamond ST-PC
593K	ST-PC ceramic
5961	Diamond SC-APC
5966	Diamond SC-PC
596J	SC-APC ceramic
596K	SC-PC ceramic
59E2	Diamond E2000-PC
59E8	Diamond E2000-APC

Specifications[1]

Subject to change without notice

Source wavelength, typical	1310nm/1550nm
Source wavelength, range:	
1310nm nominal	1270nm to 1330nm
1550nm nominal	1510nm to 1580nm
RMS spectral width	< 10nm
Average source output power:	
Pulse mode, minimum	-13dBm
Pulse mode, typical	-11dBm
CW mode, minimum	-1dBm
CW mode, typical	0dBm
Peak power, approximate	> 20mW
Source stability at 21°C, over 12 hrs. with 1 hr. warm-up	±0.05dB
Modulation:	
Pulse width	Approx. 10 nanoseconds
PRF	Approx. 400kHz
Connector interface	FC-APC
Compatible fiber	SMF-28
Return loss range, ±0.5dB accuracy:	
High reflections	> 30dB
Low reflections	> 65dB
Return loss range, ±1dB accuracy:	
High reflections	> 20dB
Low reflections	> 65dB
Resolution	0.01dB
Reference cable length	> 2 meters
Environmental:	
Operating temp.	0°C to +50°C
Storage temp.	-15°C to +70°C
Humidity	0 to 95% RH, non-condensing
Weight	1.04 kg (2.28 lbs.)
Dimensions	12.9 x 9.14 x 22.86 cm (5 x 3.6 x 9 in), two slots in RIFOCS 700 Series rack

[1] Within specified ambient environment of +20°C to +25°C.

RIFOCS Corporation
Fiber Optic Instruments & Components
ISO 9001
DS-M781RL-13/15 Rev. X1

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