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Backreflection Meter

The JDS Uniphase Backreflection Meter is a portable, direct-display instrument used for the convenient measurement of backreflection, insertion loss, and power of connectors, components, and systems. With a single output port, the meter is ideal for jumper manufacturers.

The meter can be equipped with one or two built-in laser sources. Sources available are: 850 and 1310 nm for multimode meters, and 980, 1310, 1480, 1550, 1625, and 1650 nm for single-mode meters.

The use of an FC/APC ultra-low backreflection connector on the output port enables the use of hybrid jumpers to accommodate measurements with various connector types without compromising the backreflection measurement range. When a device under test (DUT) is connected to the jumper and the DUT output is terminated, the backreflection of the DUT is displayed. The meter's superior optics are very stable at low backreflection levels. Insertion loss and power can be measured to - 80 dBm.

Other features include compensation for extraneous backreflection, user-adjustable calibration, an internal rechargeable battery for field portability, a transit carrying case, and a convenient foot pedal for data logging to a computer or serial printer via the instrument's serial port.

Safety Information

Complies to FDA 21CFR 1040.10 for Class I Lasers

CLASS 1
LASER PRODUCT



Key Features & Benefits

Wide wavelength range

Insertion loss and backreflection capability

Typical backreflection power sensitivity of - 75 dB

Insertion loss and power measurements to - 80 dBm

Convenient foot pedal for data logging

Multiple connector test system (MCTS) application software

Direct display of measured backreflection, power, or insertion loss

Compensation for extraneous backreflection for accurate backreflection measurements

Calibration can be verified using calibrated reference jumpers

User-calibration mode

Transit case for safer and easier portability

Optional RS232 to GPIB converter

CE compliant

Applications

Connector backreflection/loss testing

Component testing

Installation verification

Quality assurance acceptance testing

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Specifications

PARAMETER	SINGLE-MODE		MULTIMODE
	(5/125 µm)	(9/125 µm)	(50/125 µm and 62.5/125 µm)
Operating wavelengths	980 ± 10 nm	1310, 1480, 1550, 1625, 1650 ± 10 nm	850, 1310, 1550 ± 20 nm
Backreflection range	0 to - 65 dB[1]	0 to - 75 dB	0 to - 40 dB[1]
Relative accuracy backreflection	± 0.4 dB[2]		± 0.7 dB[3]
Detector type	2 mm InGaAs		3 mm InGaAs
Power range	0 to - 80 dBm		0 to - 60 dBm
Absolute power accuracy	± 0.25 dB (typical) at - 10 dB[4, 5]		± 0.25 dBm (typical) at - 10 dBm[5]
Relative accuracy power	± 0.05 dB (< 5 dB loss),± 0.15 dB (> 5 dB loss)[4]		± 0.15 dB[5,6]
Remote interface	RS232 (GPIB optional)		
Input voltage	100-240 V AC, 50-60 Hz		
Power consumption	25 VA maximum		
Display	16 character LCD		
Dimensions W x H x D	26 x 11 x 26 cm		
Weight	4 kg		
Operating temperature	0 to 40 °C		
Storage temperature	- 40 to 70 °C		
Humidity	Maximum 95% RH from 0 to 40 °C		

1. Reduced backreflection accuracy in the last 10 dB of range based on termination effectiveness. Depending on the measurement setup, measurements with lower levels are possible at reduced accuracy.
2. For a typical application add ± 0.4 dB for readings between - 60 and - 67 dB. Add ± 0.8 dB for readings between - 67 and - 72 dB. Add ± 1.5 dB for readings between - 72 and - 75 dB.
3. Following the user-calibration procedure at the recommended interval. For simple reflections, such as flat-end connectors.
4. Add ± 0.1 dB between - 70 and - 80 dBm.
5. Immediately after performing a dark measurement. Not including the 1650 nm source.
6. Add ± 0.1 dB between 0-3 dBm and between - 35 and - 40 dBm.

Sample Order: RM3750+1FA7

RM3 ☐ 50+1 ☐ ☐ ☐

code	light source wavelength (nm)
1	850
2	980
3	1310
4	1480
5	1550
6	1625
8	1650
9	850/1310
7	1310/1550
A	1550/1625
B	1550/1650
C	1480/1550

code	fiber type (µm)
8	5/125
7	9/125
1	50/125
2	62.5/125

code	connector type
FA	FC/APC
SU	SC/APC

Optional Accessories

See Accessories document/section for available detector adapters.

Part Number	Description
ED018090-A-00	RS232-to-GPIB converter, 120 V
ED018090-A-01	RS232-to-GPIB converter, 240 V

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