

## 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, 1310 and 1550 nm for multimode meters, and 980, 1310, 1480, 1490, 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 CE requirements plus UL3101-1 and CAN/CSA-C22.2 No. 1010.1

Meets the requirements of Class 1 in standard IEC 60825-1(2002) and complies with 21CFR1040.10 except deviations per Laser Notice No. 50, July 2001.

CLASS 1 LASER PRODUCT  
(IEC 60825-1, 2002)



### 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*

### Applications

- Connector backreflection/loss testing*
- Component testing*
- Installation verification*
- Quality assurance acceptance testing*

# Backreflection Meter

## Specifications

PARAMETER	SINGLE-MODE		MULTIMODE
	(5/125 $\mu\text{m}$ )	(9/125 $\mu\text{m}$ )	(50/125 $\mu\text{m}$ and 62.5/125 $\mu\text{m}$ )
Operating wavelengths	980 $\pm$ 10 nm	1310, 1480, 1490, 1550, 1625, 1650 $\pm$ 10 nm	850, 1310, 1550 $\pm$ 20 nm
Backreflection range	0 to - 65 dB <sup>1</sup>	0 to - 75 dB	0 to - 40 dB <sup>1</sup>
Relative accuracy - backreflection	$\pm$ 0.4 dB <sup>2</sup>		$\pm$ 0.7 dB <sup>3</sup>
Detector type	2 mm InGaAs		3 mm InGaAs
Power range	0 to - 80 dBm		0 to - 60 dBm
Absolute power accuracy	$\pm$ 0.25 dB (typical) at - 10 dB <sup>4,5</sup>		$\pm$ 0.25 dBm (typical) at - 10 dBm <sup>5</sup>
Relative accuracy - power	$\pm$ 0.05 dB (< 5 dB loss), $\pm$ 0.15 dB (> 5 dB loss) <sup>4</sup>		$\pm$ 0.15 dB <sup>5,6</sup>
Remote interface	RS232 (GPIB optional)		
Input voltage	100 - 240 V AC, 50 - 60 Hz		
Power consumption	30 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  $\pm$  0.4 dB for readings between - 60 and - 67 dB. Add  $\pm$  0.8 dB for readings between - 67 and - 72 dB. Add  $\pm$  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  $\pm$  0.1 dB between - 70 and - 80 dBm.
5. Immediately after performing a dark measurement. Not including the 1650 nm source.
6. Add  $\pm$  0.1 dB between 0-3 dBm and between - 35 and - 40 dBm.

## Ordering Information

Indicate your requirements by selecting one option from each configuration table.

Print the corresponding codes in the available boxes to form your part number.

**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
H	1490/1550
J	1490/1625

code	fiber type ( $\mu\text{m}$ )
8	5/125
7	9/125
1	50/125
2	62.5/125

code	connector type
FA	FC/APC
SU	SC/APC

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North America toll-free: 1-800-498-JDSU (5378)

Worldwide toll-free: +1 800-5378-JDSU

[www.jdsu.com](http://www.jdsu.com)

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[instruments@jdsu.com](mailto:instruments@jdsu.com)

