

# PDL5 | PDL/ IL/ BR Multimeter



## Product Description

The PDL5 PDL/IL/BR Multimeter is built on top of stable and proven MBR5 meter technology and is taken to the next level. Improved source isolation, electronics, optics, and continuous laser power referencing enhance the performance to allow for repeatable and stable measurements. The meter is capable of providing facilities with the PDL, IL and average loss with up to 0.001 dB as well as a backreflection resolution of 0.1 dB.

The PDL5 is a practical choice for many types of fiber optical component testing. It is available with up to 4 internal sources (1310/1490/1550/1625/1650 nm), calibrated external inputs, or multiple detectors.

An intuitive display and keypad simplifies the collection and management of measurement data allowing quick access to the test results from various channels. The meter may be controlled through remote interface (GPIB, RS232, or USB\*) or locally via the user-friendly front panel keypad and display. The PDL5 and GMS Software can be used paired with an SX8 switch. All our PDL5 meters come standard with our GMS Software at no additional cost.

\*USB interface via-USB-DB9 adapter

## KEY FEATURES

- Ultra Stable and Accurate PDL, IL ave. loss and BR measurements
- Up to 4 Internal Lasers
- Up to 2 Output Channels or 4 Detectors
- 4 or 6 states Mueller matrix methods
- Resolution down to 0.001 dB
- ~1 second PDL Measurements

## APPLICATIONS

- Optical Component Testing
- Incoming Inspection
- QA Testing

## COMPLIANCE

- UL/CSA 61010
- IEC 61010
- IEC 60825-1 Class 1
- FCC Part 15 (Class A)
- EN 61326 (Class A)

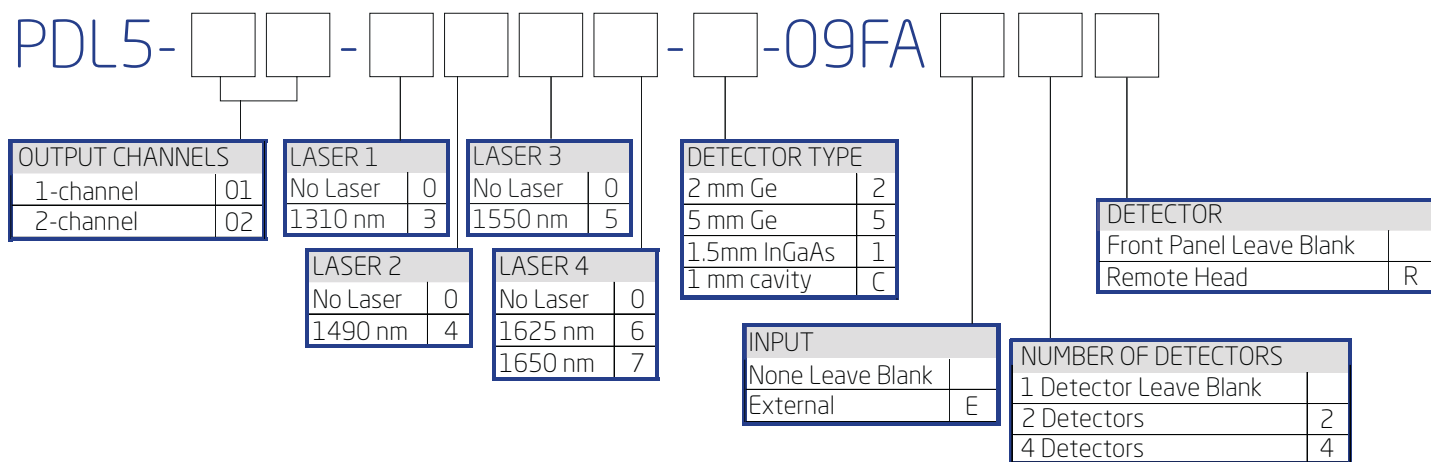
## IN THE BOX

- PDL5 Meter
- AC Power Cord
- Calibration Certificate
- Calibrated Jumper
- Hybrid Test Jumper
- Detector Cap
- FC Detector Cap
- MW3 Mandrel Wrap

The PDL5 meter achieves typical PDL accuracy down to  $\pm 0.004$  dB and average loss and IL accuracy down to  $\pm 0.020$  dB. The meter achieves ultra-stable backreflection measurements at very low values. Accuracy is typically  $\pm 0.4$  dB and measurement sensitivity is to  $-80$  dB.

\*USB interface via USB-DB9 adapter

## Ordering Scheme



\*Additional options may be available upon request

## Specifications

OPTICAL / ELECTRICAL SPECIFICATIONS				
Parameter	Specification			
Fiber Type (µm)	SMF-28e (9/125)			
Operating Wavelengths (nm)	1310 / 1490 / 1550 / 1625 / 1650 / Ext <sup>1</sup>			
Detector Type	Low PDL Ge		Low PDL InGaAs	Low PDL InGaAs
	2 mm	5 mm	1.5 mm	1 mm
Power Range (dBm)	5 to -65	5 to -60	5 to -80	5 to -50
PDL Accuracy <sup>2</sup>				
1310/1490/1550 nm	± (0.004 + 2% of PDL) typ		± (0.020 + 2% of PDL) typ	± (0.006 + 2% of PDL) typ
	± (0.010 + 5% of PDL) max		± (0.025 + 5% of PDL) max	± (0.010 + 5% of PDL) max
1625 nm	± (0.010 + 2% of PDL) typ		± (0.025 + 2% of PDL) typ	± (0.006 + 2% of PDL) typ
	± (0.015 + 5% of PDL) max		± (0.030 + 5% of PDL) max	± (0.010 + 5% of PDL) max
1650 nm	± (0.015 + 2% of PDL) typ		N/A	± (0.006 + 2% of PDL) typ
	± (0.020 + 5% of PDL) max		N/A	± (0.010 + 5% of PDL) max
PDL calculation method	4- or 6-state Mueller Matrix Method			
PDL Dynamic Range (dB)	> 3			
Absolute Power Accuracy (dB) <sup>3,4</sup>	± 0.25			
Relative Power Accuracy IL or IL <sub>ave</sub> (dB) <sup>5</sup>	±(0.020 + 2% of IL or IL <sub>ave</sub> ) typical			
IL, IL <sub>ave</sub> and PDL Resolution(dB)	0.01 or 0.001			
IL <sub>ave</sub> /PDL Measurement time (s), typ <sup>6</sup>	0.7 (4-states, 0.01 res.) / 1.2 (6-states, 0.001 res)			
Backreflection Range (dB)	0 to -80			
Backreflection Accuracy (dB) <sup>4</sup>	± 0.4 <sup>4,7</sup>			
Backreflection Resolution (dB)	0.1			
Remote Interface	GPIB / RS232 / USB <sup>8</sup>			
Input Voltage	100 - 240 V AC, 50 - 60 Hz			
Power Consumption (VA)	80 maximum			
Display	4 lines, 16 character per line, LCD			

**Notes:**

<sup>1</sup> Low coherence length source (FP, SLED) with isolation is recommended to meet the specs.

<sup>2</sup> For PDL values below 0.5 dB, 6 states method, 0.001 dB resolution, non-angled connector. Higher PDL values may reduce the measurement accuracy.

<sup>3</sup> Measured at -10 dBm.

<sup>4</sup> At calibrated discrete wavelengths.

<sup>5</sup> Referenced and measured with a non-angled connector with the same detector adapter and detector.

<sup>6</sup> For low PDL (<0.5 dB) and IL (<15dB) values. Certain other conditions (eg. fiber movement) may also increase measurement times.

<sup>7</sup> Add 0.1 dB to the spec for every 1dB below -60dB.

<sup>8</sup> USB interface via USB-DB9 adapter.

## MECHANICAL / ENVIRONMENTAL SPECIFICATIONS

Parameter	Specification
Unit Dimensions W x H x D (cm)	36 x 15 x 34
Shipping Box Dimensions W x H x D (cm)	43 x 27 x 47
Unit Weight (kg)	9
Total Shipment Weight (kg)	10
Operating Temperature (°C)	0 to 40
Storage Temperature (°C)	-40 to 60
Humidity (Non-condensing) (°C)	Maximum 95% RH from 0 to 40

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