# MBR5

## Multi-Channel Backreflection Meter


## Product Description

The MBR5 Multi-Channel Backreflection Meter is an instrument developed with extremely stable optics for precise measurement of backreflection, insertion loss and power. Available with 4, 12, 24, 48 or 72, output channels, the MBR5 is a practical choice for both single fiber and multi fiber testing.

The MBR5 features up to four built-in laser sources at wavelengths of 850, 1300, 1310, 1490, 1550, 1625 and 1650 nm (depending on fiber type), and can be configured for single-mode or multimode measurements.

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 MBR5 achieves ultra-stable backreflection measurements at very low values with accuracy typically at ±0.4 dB and measurement sensitivity is to –80dB. In addition, the cavity option is particularly useful for multi-fiber connectors with large fiber counts. The MBR5 can be used with our GMS software to help automate short and long term testing. All our MBR5 meters come standard with our GMS Software at no additional cost. The multimode option of the MBR5 meets IEC-61280-4-1 Encircled Flux Standard.

*USB interface via-USB-DB9 adapter

### KEY FEATURES

- Stable BR measurements at low values
- Up to 72 output channels
- IL and BR measurements
- Up to 4 internal lasers

### APPLICATIONS

- Component testing
- Ribbon fiber testing
- Simultaneous testing with multiple connector types
- Incoming inspection
- QA testing

### COMPLIANCE

- MM meets IEC 61280-4-1 Encircled Flux Standard
- UL/CSA 61010
- IEC 61010
- IEC 60825-1 Class 1
- FCC Part 15 (Class A)
- EN 61326 (Class A)

### IN THE BOX

- MBR5 Meter
- AC power cord
- Calibration Certificate
- Calibrated Jumper
- Hybrid Test Jumper
- Detector Cap
- FC Detector Adapter
- MW3 Mandrel Wrap

## Ordering Scheme

### Single-Mode Version

MBR5-□□-□□□□-□-09FA□

| OUTPUT CHANNELS | |
|---|---|
| 4-channel | 04 |
| 12-channel | 12 |
| 24-channel | 24 |
| 48-channel | 48 |
| 72-channel | 72 |

| LASER 1 | |
|---|---|
| No Laser | 0 |
| 1310 nm | 3 |

| LASER 2 | |
|---|---|
| No Laser | 0 |
| 1490 nm | 4 |

| LASER 3 | |
|---|---|
| No Laser | 0 |
| 1550 nm | 5 |

| LASER 4 | |
|---|---|
| No Laser | 0 |
| 1625 nm | 6 |
| 1650 nm | 7 |

| DETECTOR TYPE | |
|---|---|
| 2mm InGaAs | 2 |
| 5 mm Ge | 5 |
| Cavity | C |

| DETECTOR | |
|---|---|
| Front Panel Leave Blank | |
| Remote Head | R |

- Up to four lasers may be selected for the single-mode version

### Multimode Version

MBR5-□□-8300-□-□□□□□

| OUTPUT CHANNELS | |
|---|---|
| 4-channel | 04 |
| 12-channel | 12 |
| 24-channel | 24 |
| 48-channel | 48 |
| 72-channel | 72 |

| DETECTOR TYPE | |
|---|---|
| 5 mm Ge | 5 |
| Cavity | C |

| FIBER TYPE | |
|---|---|
| 50/125 µm | 50 |
| 62.5/125 µm | 62 |

| CONNECTOR TYPE | |
|---|---|
| FC/APC | FA |

| DETECTOR | |
|---|---|
| Front Panel Leave Blank | |
| Remote Head | R |

- The standard multimode version contains two lasers at 850 and 1300 nm Other wavelengths are available upon request

### Short Wavelength Single-Mode Version

MBR5-01-□□□-3-FA□

| LASER 1 | |
|---|---|
| 4 | 450nm 3/125 µm |
| 7 | 780nm 5/125 µm |

| LASER 3 | |
|---|---|
| 6 | 650nm 3/125 µm |
| 1 | 1060nm 5/125 µm |

| LASER 2 | |
|---|---|
| 5 | 520nm 3/125 µm |
| 9 | 940nm 5/125 µm |

| DETECTOR | |
|---|---|
| | Front Panel Leave Blank |
| R | Remote Head |

- Up to 3 wavelengths may be selected of the same core size.


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# Specifications

| OPTICAL / ELECTRICAL SPECIFICATIONS | | | | | |
|---|---|---|---|---|---|
| Parameter | Specification | | | | |
| | Single-mode | Short Wavelength Single-mode | | Multimode | |
| Fiber Type (µm) | 9/125 | 3/125 | 5/125 | 50/125 | 62.5/125 |
| Encircled Flux Standard | N/A | | | IEC-61280-4-1 | |
| Operating Wavelengths (nm) | 1310 / 1490 / 1550 / 1625 / 1650 | 450 / 520 / 650 | 780 / 940 / 1060 | 850 / 1300 | |
| Backreflection Range (dB) | 0 to –80 | 0 to –60 | | 0 to –60 | |
| Backreflection Accuracy (dB) [1,2] | ± 0.4 | | | | |
| Detector Type | 2 mm InGaAs / 3mm Si / 5mm Ge / Cavity | | | | |
| Power Range (dBm) | 0 to –80 | 0 to -60 | 0 to –60 | 0 to –40 | |
| Absolute Power Accuracy (dB) [3] | ± 0.25 | | | | |
| Relative Power Accuracy (dB) | ± 0.05 (< 5 dB loss) | | | | |
| | ± 0.15 (> 5 dB loss) | | | | |
| Remote Interface | GPIB / RS232 / USB[4] | | | | |
| Input Voltage | 100 - 240 V AC, 50 - 60 Hz | | | | |
| Power Consumption (VA) | 80 maximum | | | | |
| Display | 4 lines, 16 character per line, LCD | | | | |

*Notes:*
1. *Add 0.1 dB to the spec for every 1dB below -60dB (single-mode).*
2. *Add 0.1dB to the spec for every 1dB below -45dB (multimode).*
3. *Measured at -10 dBm.*
4. *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) | 7 |
| Total Shipment Weight (kg) | 8 |
| Operating Temperature (°C) | 0 to 40 |
| Storage Temperature (°C) | –40 to 60 |
| Humidity (Non-condensing) | Maximum 95% RH from 0 to 40 |


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