

Product Features

Measures optical power from
400 to 1600nm

NIST traceable calibration

Integrating sphere-based
measurements

Free-space and fiber-coupled
measurements

The OMH-6700B Power Only Measurement Heads provide the flexibility to easily and accurately measure the optical power of laser sources from 400 nm to 1600nm. These products are integrating, sphere-based power measurement heads for either free-space or fiber coupled measurements. The OMH-6703B Silicon Power Head measures from 400 to 1000nm while the OMH-6708B uses an InGaAs detector to measure from 800 to 1600nm.

The OMH-6703B and the OMH-6708B are intended for use with the ILX Lightwave OMM-6810B power meter. With the 6703B and 6708B, the OMM-6810B measures the optical power of short and long wavelength semiconductor lasers. In addition to precision power measurements, the OMM-6810B offers features such as log/linear display modes, auto ranging, user calibration, and reference measurement capability. With an IEEE standard GPIB interface, these features combine to make this instrument a cost-effective laser diode development or production test tool.

OMH 6700B

Power Only
Measurement Head



 **ILX Lightwave®**
A Newport Corporation Brand

OMH 6700B

Power Only Measurement Heads

Simplify Optical Measurements

Integrating spheres simplify optical power measurements of laser diodes and LEDs by eliminating measurement problems related to detector saturation, alignment beam profile, polarization, and back reflection. Integrating spheres are inherently insensitive to beam profiles, providing you with more flexibility in laser type and launch conditions. Detectors on the interior of the sphere receive an equal distribution of incident light, ensuring the calibration and resultant measurement accuracy are independent of the beam profile.

Measure with Confidence

The OMH-6700B Power Only Measurement Heads are calibrated to NIST traceable standards in ILX's own calibration laboratory, where accuracy

and traceability are its primary concerns. ILX's documented quality system ensures conformance to continuous traceability and ultimately your confidence in the power measurements.

Measurement Flexibility

Each measurement head can be configured for free-space or fiber-coupled measurements. A choice of adapters for fiber coupled measurements is available for FC, SC, ST, and DIN connectors. Bare fiber measurements are also possible with a bare fiber adapter. Configuration of the measurement heads with the desired adapter is simple.

Each head can be ordered with a head mounting kit that comes with an adjustable mounting post so the head integrates easily into your measurement setup.

Specifications

POWER MEASUREMENT

| | |
|--------------------------|--------------------------------|
| Wavelength Range: | 400 to 1100nm |
| Power Range: | -40 to +30dBm |
| Damage Threshold | +42dBm |
| Accuracy ³ : | ±5.0% ⁴ |
| Entrance Aperture: | 6mm |
| Sensor Type: | Silicon |
| Noise: | 1nW p-p (typical) ⁵ |
| Temperature Coefficient: | 0.1%/°C (typical) |

OMH-6703B

OMH-6708B

| |
|--------------------------------|
| 800 to 1600nm |
| -50 to +20dBm ² |
| +42dBm |
| ±5.0% |
| 6mm |
| InGaAs |
| 1nW p-p (typical) ⁶ |
| 0.1%/°C (typical) |

GENERAL

| | |
|-----------------------------|--|
| Operating Temperature: | -10°C to +40°C |
| Storage Temperature: | -20°C to +60°C |
| Humidity: | <85% RH, non-condensing |
| Compatible Connector Types: | FC/PC, FC/APC, SC, ST, DIN, Bare Fiber |
| Dimensions: | 69mm (dia) x 28mm (thick) |
| Weight: | 13.3 ounces |

| |
|--|
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NOTES

Typical values provide supplemental information beyond guaranteed specification limits.

1. Unless otherwise noted, all specifications measured at 23°C ±3°C after one hour warm up period. Fiber optic head specifications applicable for 9/125 to 110/140µm fiber, NA = 0.3.
2. Minimum sensitivity -40dBm from 800 to 1100nm.
3. Includes traceability to NIST. Calibrated to 21°C ±3°C at 10nm intervals. Uncertainty evaluated according to NIST Technical Note #1297: "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results." Accuracy specification are verified with the wavelength entered manually (instrument not in auto-wavelength mode).
4. Add ±0.5% for <440nm and >1000nm.
5. Measured over one minute, in gain range seven, medium filter mode.
6. At 980nm.

ORDERING INFORMATION

| | |
|----------------|--|
| OMM-6810B-120V | Optical Multimeter (includes GPIB), 120V |
| OMM-6810B-240V | Optical Multimeter (includes GPIB), 240V |
| OMM-6810B-220V | Optical Multimeter (includes GPIB), 220V |
| OMM-6810B-100V | Optical Multimeter (includes GPIB), 100V |
| OMH-6703B | Silicon Power Head |
| OMH-6708B | InGaAs Power Head |

ACCESSORIES

| | |
|--------|------------------------------------|
| AO271 | FC Adapter Assembly |
| AO273 | ST Adapter Assembly |
| AO120 | Bare Fiber Adapter Ring |
| BF-820 | Bare Fiber Holder (requires AO120) |



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