



High-Sensitivity Optical Sensors

Semiconductor Photodiode Sensors Provide a Highly Sensitive, Low Power Sensor with a Fast Response Time

Semiconductor (photodiode) sensors convert incident photons into current, providing a highly sensitive power sensor. These high-sensitivity semiconductor sensors are ideal for CW laser measurements in the nW to low mW level. They typically saturate in the 10 to 50 mW level, depending upon the model. Light shield is removable.

For linear operation up to a maximum of 5 Watts, an optional 1000:1 attenuator is used.

LM-2 and OP-2 Series sensors offer four photodiode detector choices, a silicon model for 400 to 1064 nm (VIS), a UV-enhanced silicon model for 250 to 400 nm (UV) and a germanium model for 800 to 1800 nm in the infrared (IR).

FEATURES & BENEFITS

- Si, Ge photodiodes
- Spectral range: 250 nm to 1800 nm
- Fiber-optic connector (optional, see datasheet accessories page)
- 1000:1 attenuator for measurement to 5 W (optional, see datasheet accessories page)

APPLICATIONS

- Scientific
- Manufacturing
- Quality Control
- Tuning and Peaking Lasers



1 OP-2 IR and LM-2 IR have different spectral ranges.
2 Power range is wavelength dependent. See chart below.
3 $\pm 12\%$ uncertainty is for the 440 nm to 445 nm spectral range. $\pm 5\%$ uncertainty is for the 450 nm to 1100 nm spectral range.
4 C24 Quick Ship program: eligible for next business day shipment.

Figure 1 is a line graph showing Power (mW) on the Y-axis (logarithmic scale, ranging from 0.001 to 1000) versus Wavelength (nm) on the X-axis (linear scale, ranging from 0 to 1200). The graph compares the power output of two UV-VIS spectrometers: Wand and Standard.

The legend indicates four data series:

- Wand UV-VIS Saturation Power (Solid blue line)
- Wand UV-VIS Minimum Power (Solid red line)
- Standard UV-VIS Saturation Power (Dotted blue line)
- Standard UV-VIS Minimum Power (Dotted red line)

The Wand UV-VIS Saturation Power curve is consistently higher than the Standard UV-VIS Saturation Power curve, indicating higher power levels across the measured wavelength range. Similarly, the Wand UV-VIS Minimum Power curve is consistently higher than the Standard UV-VIS Minimum Power curve, indicating higher minimum power levels.

Light Shield



POWER SENSOR ACCESSORIES

Thermal SmartSensor Adapter

Part Number: 1056827¹

The Thermal SmartSensor Adapter converts LM-model position-sensing thermopiles and LM-2 optical sensors for use with FieldMaxII and FieldMate meters.

Designed for use with multiple sensors, this adapter can read the sensor EEPROM contents and program itself when powered up via the meterconnection.

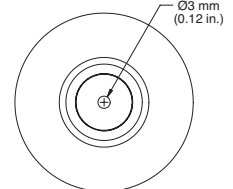
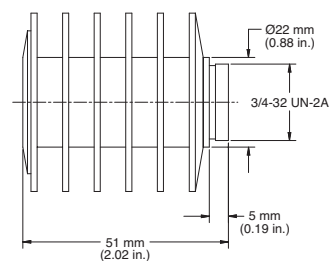
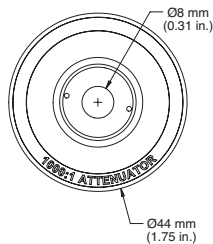
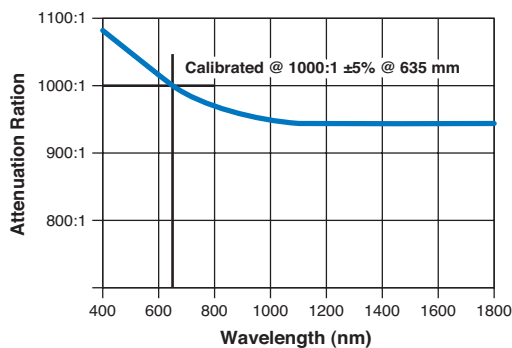
Note: Beam position information is not available when using these meters.



1000:1 Attenuator

Part Number: 1098318¹

This attenuator is used with OP-2 VIS, LM-2 VIS, OP-2 IR and LM-2 IR sensors to allow operation up to 5 W in the visible and 3W in the infrared regions. The attenuator threads into the sensor in place of the light shield to provide from 1100:1 to 950:1 attenuation. Each attenuator is calibrated for 1000:1 $\pm 5\%$ at 635 nm and is supplied with a calibration certificate. The useful spectral range is 400 to 1800 nm. The clear input aperture is 0.312" (7.9 mm) in diameter.





High-Sensitivity Optical Sensors Datasheet

POWER SENSOR ACCESSORIES (continued)

Fiber-Optic Connector Adapters

Part Number: 1098589 (SMA-Type Connector)
 1098339¹ (FC/PC-Type Connector)

The following fiber-optic adapters can be mounted directly onto the 3/4-32 threads on the front of LM-2, OP-2, LM-3, LM-10, and LM-150FS sensors.



Post and Stand

Part Number: 1257607 (2-inch Height Post/Stand Assembly with 2-inch Delrin Post)
 1097917 (4-inch Height Post/Stand Assembly with 4-inch Delrin Post (included with most Power Sensors, as pictured))
 1257605 (2-inch Delrin Post)
 0010-1220 (4-inch Delrin Post)



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all High-Sensitivity Optical Sensors. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. MC-050-19-0M1119 Copyright ©2019 Coherent, Inc.