Power Sensors Introduction

Summary of Specifications

Part Number	Description	Wavelength Range (µm)	Power Min.	Power Max.	Power Resolution	Long-Pulse Energy Range (J)	Detector Diameter (mm)	Detector Coating	Detector Type	Calibration Wavelength (nm)	Calibration Uncertainty (±%)	Connector
High-Sensitivity Semiconductor Sensors (to 50 mW)												
1098401	OP-2 UV	0.25 to 0.4	10 nW	30 mW	1 nW	–	6.0	–	Silicon	–	8	OP DB-25
1098313	OP-2 VIS	0.4 to 1.064	10 nW	30 mW	1 nW	–	7.9	–	Silicon	–	5	OP DB-25
1098416	OP-2 IR	0.8 to 1.8	10 nW	10 mW	1 nW	–	5.0	–	Germanium	–	4.5	OP DB-25
1098390	LM-2 UV	0.25 to 0.4	10 nW	30 mW	1 nW	–	6.0	–	Silicon	–	8	LM DB-25
1098298	LM-2 VIS	0.4 to 1.064	10 nW	30 mW	1 nW	–	7.9	–	Silicon	–	5	LM DB-25
1098342	LM-2 IR	0.8 to 1.55	10 nW	10 mW	1 nW	–	5.0	–	Germanium	–	4.5	LM DB-25
High-Sensitivity Thermopile Sensors (to 2W)												
1098350	PS10	0.3 to 11.0	100 µW	1W	10 µW	0.001 to 1	10	Black	–	514	1	PM DB-25
1098400	PS10Q	0.3 to 2.0	100 µW	1W	10 µW	0.001 to 1	10	Black	–	514	1	PM DB-25
1098413	PS19	0.3 to 11.0	100 µW	1W	10 µW	0.001 to 1	19	Black	–	514	1	PM DB-25
1098341	PS19Q	0.3 to 2.0	100 µW	1W	10 µW	0.001 to 1	19	Black	–	514	1	PM DB-25
1098336	PM3	0.3 to 11.0	500 µW	2W	50 µW	–	19	Black	–	514	1	PM DB-25
1098419	PM3Q	0.3 to 2.0	500 µW	2W	50 µW	–	10	Black	–	514	1	PM DB-25
Air-Cooled Thermopile Sensors (to 150W)												
1098329	PM2	0.19 to 11.0	10 mW	2W	1 mW	0.5 to 2	19	Broadband	–	514	1	PM DB-25
1098457	PM2X	0.15 to 1.0	10 mW	2W	1 mW	0.5 to 2	19	UV	–	514	1	PM DB-25
1097901	PM10	0.19 to 11.0	10 mW	10W	1 mW	0.5 to 10	19	Broadband	–	514	1	PM DB-25
1098423	PM10X	0.15 to 1.0	10 mW	10W	1 mW	0.5 to 10	19	UV	–	514	1	PM DB-25
1098314	PM30	0.19 to 11.0	100 mW	30W	10 mW	0.5 to 50	19	Broadband	–	514	1	PM DB-25
1098498	PM30X	0.15 to 1.0	100 mW	30W	10 mW	0.5 to 50	19	UV	–	514	1	PM DB-25
1098483	PM100-19C	0.19 to 11.0	300 mW	100W	30 mW	1 to 100	19	Broadband	–	514	1	PM DB-25
1098407	PM150	0.19 to 11.0	300 mW	150W	30 mW	1 to 150	19	Broadband	–	514	1	PM DB-25
1098398	PM150-50	0.19 to 11.0	300 mW	150W	30 mW	1 to 150	50	Broadband	–	514	1	PM DB-25
1098455	PM150X	0.15 to 1.0	300 mW	150W	30 mW	1 to 150	50	UV	–	514	1	PM DB-25
Water-Cooled Thermopile Sensors (to 300W)												
1098397	PM10-19C	0.19 to 11.0	10 mW	10W	1 mW	0.5 to 10	19	Broadband	–	514	1	PM DB-25
1098444	PM150-19C	0.19 to 11.0	300 mW	150W	30 mW	1 to 150	19	Broadband	–	514	1	PM DB-25
1098412	PM150-50C	0.19 to 11.0	300 mW	150W	30 mW	1 to 150	50	Broadband	–	514	1	PM DB-25
1098443	PM150-50XC	0.15 to 1.0	300 mW	150W	30 mW	1 to 150	50	UV	–	514	1	PM DB-25
1141474	PM300	0.19 to 11.0	1W	300W	0.1W	–	19	Broadband	–	514	1	PM DB-25
Fan-Cooled Thermopile Sensors (to 300W)												
1098480	PM200F-19	0.19 to 11.0	1W	200W	100 mW	1 to 200	19	Broadband	–	514	1	PM DB-25
1098472	PM200F-50	0.19 to 11.0	1W	200W	100 mW	1 to 200	50	Broadband	–	514	1	PM DB-25
1113493	PM200F-50X	0.15 to 1.0	1W	200W	100 mW	1 to 200	50	UV	–	514	1	PM DB-25
1098509	PM300F-19	0.19 to 11.0	1W	300W	100 mW	1 to 300	19	Broadband	–	514	1	PM DB-25
1098417	PM300F-50	0.19 to 11.0	1W	300W	100 mW	1 to 300	50	Broadband	–	514	1	PM DB-25
1098481	PM300F-50X	0.15 to 1.0	1W	300W	100 mW	1 to 300	50	UV	–	514	1	PM DB-25

High-Sensitivity Optical Power Sensors

10 nW to 50 mW, CW

Model OP-2/LM-2

Features

- Si, Ge photodiodes
- Spectral range: 250 nm to 1800 nm
- Fiber-optic connector (optional, see page 38)
- 1000:1 attenuator for measurement to 5W (optional, see page 38)

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

Accessories

1000:1 Attenuator

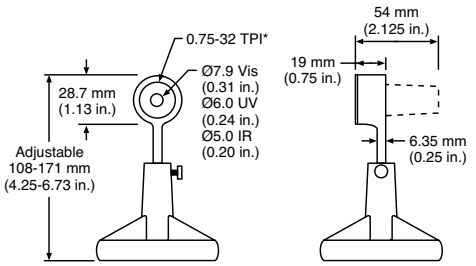
Fiber-Optic Connector Adapters

Device Specifications

Model	OP-2/LM-2 UV	OP-2/LM-2 VIS	OP-2/LM-2 IR
Detector Material	Silicon		Germanium
Wavelength Range (µm)	0.25 to 0.4	0.4 to 1.06	0.8 to 1.80/0.8 to 1.5[1]
Power Range	10 nW to 30 mW	10 nW to 30 mW[2]	10 nW to 10 mW
Resolution (nW)	1		
Active Area Diameter (mm)	6	7.9	5
Dimensions (mm)	Ø29 x 54 (1.1 x 2.1 in.)		
Calibration Uncertainty (%)	±8	±5	±4.5
Calibration Wavelength (nm)	Monochromator calibration across wavelength range		
Cooling Method	Air-cooled		
Connector Type	OP DB-25/LM DB-25		
Cable Length (m)	1.8		
Part Number			
OP-2	1098401	1098313	1098416
LM-2	1098390	1098298	1098342

[1] OP-2 IR and LM-2 IR have different spectral ranges.
[2] Power range is wavelength dependent. See chart below.

OP-2 UV/OP-2 VIS/OP-2 IR
LM-2 UV/LM-2 VIS/LM-2 IR



* Threads Per Inch

Measurable Power vs. Wavelength
OP-2 VIS and LM-2 VIS