



Laser Power Sensors

# Position Sensing Air-Cooled Thermopile USB/RS Sensors to 200 W

## Low- to Medium-Power Pulsed and CW Lasers from 10 mW to 200 W

These unique position sensing thermopiles display the position of the incident beam on the sensor disk, in addition to measuring power when used with the LabMax and LabMax-Pro meters. This information allows the user to safely and precisely align the sensor and the beam being measured. This is particularly useful for non-visible beams.

These air-cooled, surface absorbing sensors are intended for measurement of low to medium power pulsed and CW lasers from the 10 mW to 200 W power range. Convection cooling makes them simple to operate as well as mechanically compact.



### FEATURES

- 10 mW to 200 W range
- Broadband coatings
- 0.25 to 10.6  $\mu\text{m}$  spectral range
- Convective air-cooled

### APPLICATIONS

- Medical
- Scientific
- Industrial
- General Laser Power
- Measurement to 200 W

## Position Sensing Air-Cooled Thermopile USB/RS Sensors to 200 W

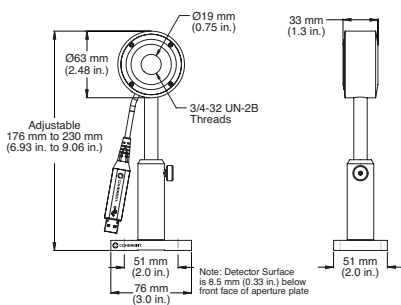
Specifications	LM-3	LM-10	LM-45
Wavelength Range ( $\mu\text{m}$ )	0.25 to 10.6		
Power Range	10 mW to 3 W	10 mW to 10 W	100 mW to 25 W
Maximum Intermittent Power (W) (<5 min.)	10	12	45
Long-Pulse Joules (J)	0.5 to 10	0.5 to 10	0.5 to 50
Noise Equivalent Power (mW)	0.4	0.4	2
Maximum Power Density ( $\text{kW}/\text{cm}^2$ )	6		
Maximum Energy Density ( $\text{mJ}/\text{cm}^2$ )	600, 1064 nm, 10 ns		
Response Time (sec.) (0% to 95%)			
Speed-up On	2	2	3
Speed-up Off	4	4	4
Detector Coating	Broadband		
Detector Element	Thermopile		
Optic	None		
Detector Diameter (mm)	19	16	19
Calibration Uncertainty (%) (k=2)	$\pm 2$		
Power Linearity (%)	$\pm 1$		
Spectral Compensation Accuracy (%)	$\pm 1.5$		
Long-Pulse Joules Accuracy (%)	$\pm 3$		
Calibration Wavelength (nm)	10,600		
Cooling Method	Air		
Cable Type	USB and RS		
Cable Length (m)	2.5 (USB)/0.3 (RS)		
Part Number <sup>1</sup>			
USB	1168339	1168340 <sup>2</sup>	1168342 <sup>2</sup>
RS-232	1363752	1168341 <sup>2</sup>	1211474

**Notes:**

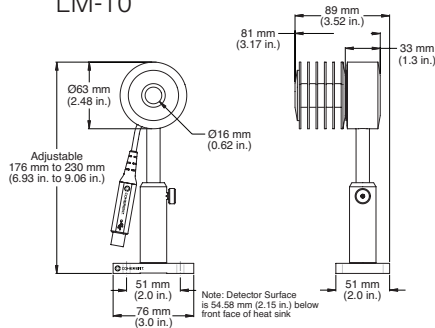
1. Software and post stand included.
2. 1 Day Ship program: eligible for next business day shipment.

### Mechanical Specifications

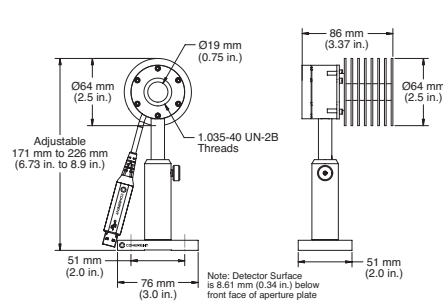
LM-3



LM-10



LM-45



# Position Sensing Air-Cooled Thermopile USB/RS Sensors to 200 W

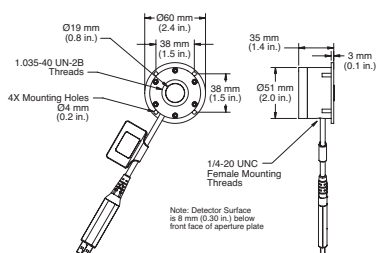
Specifications	LM-20	LM-100	LM-150 LS
Wavelength Range ( $\mu\text{m}$ )	0.25 to 10.6		
Power Range	100 mW to 20 W	100 mW to 100 W	100 mW to 150 W
Long-Pulse Joules (J)	0.5 to 10		
Noise Equivalent Power (mW)	3	5	3
Maximum Power Density ( $\text{kW}/\text{cm}^2$ )	6		
Maximum Energy Density ( $\text{mJ}/\text{cm}^2$ )	600 (10 ns, 1064 nm)		
Detector Coating	Broadband		
Detector Element	Thermopile		
Optic	None		
Detector Diameter (mm)	19		
Calibration Uncertainty (%) (k=2)	$\pm 2$	$\pm 2$	$\pm 5$
Power Linearity (%)	$\pm 1$		
Spectral Compensation Accuracy (%)	$\pm 1.5$		
Long-Pulse Joules Accuracy (%)	$\pm 3$		
Calibration Wavelength (nm)	10,600		
Cooling Method	Air		
Cable Type	USB and RS		
Cable Length (m)	2.5 (USB)/0.3 (RS)		
Part Number <sup>1</sup>			
USB	1174270	1193300	1275678
RS-232	1344001		1212246

Notes:

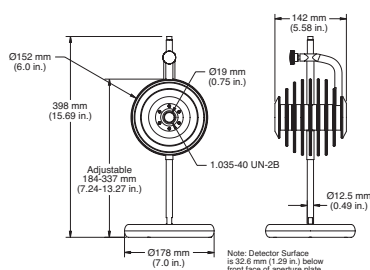
1. Software and post stand included.

## Mechanical Specifications

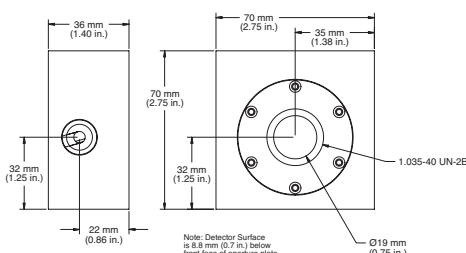
LM-20



LM-100



LM-150 LS





## Position Sensing Air-Cooled Thermopile USB/RS Sensors to 200 W

Specifications	LM-200
Wavelength Range (μm)	0.25 to 10.6
Power Range without fan with fan	100 mW to 50 W 1 W to 200 W
Noise Equivalent Power (mW) without fan with fan	5 100
Maximum Power Density (kW/cm <sup>2</sup> )	6
Maximum Energy Density (mJ/cm <sup>2</sup> )	600 (10 ns, 1064 nm)
Detector Coating	Broadband
Detector Element	Thermopile
Optic	None
Detector Diameter (mm)	19
Calibration Uncertainty (%) (k=2)	±5
Power Linearity (%)	±1
Spectral Compensation Accuracy (%)	±1.5
Long-Pulse Joules Accuracy (%)	±3
Calibration Wavelength (nm)	10,600
Cooling Method	Fan
Cable Type	USB/RS
Cable Length (m) USB RS-232	2.5 3.0
Part Number <sup>1</sup> USB RS-232	2290746 (12 VDC) <sup>2</sup> 2290747 (12 VDC) <sup>2</sup>

Notes:

1. Software and post stand included.
2. 12 VDC power supply and cord included.

### Mechanical Specifications

LM-200

