

# Power Sensors

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## High-Peak-Power Thermopile Sensors\*

Models PM10V1, PM30V1 and PM30V1Q are designed for use with high-peak-power Q-switched Nd:YAG lasers with repetition rates ranging from 5 to 50 Hz. These sensors are primarily used for 1064 and 532 nm, but can also be used at additional YAG harmonics down to 355 and 266 nm. The sensor disk contains a volume-absorbing substrate that allows the laser energy to be absorbed in the bulk of the material as opposed to the front surface. This results in a damage threshold approaching 5 J/cm<sup>2</sup>.

We designed these sensors with a removable front aperture to allow easy replacement of the volume-absorbing substrate by the user, should the substrate be damaged.

SPECIFICATIONS	PM10V1	PM30V1	PM30V1Q
Wavelength Range (µm)	0.25 - 3	0.25 - 3	0.25 - 3
Power Range	10 mW - 10W	100 mW - 30W	100 mW - 30W
Max. Intermittent Power (<5 min.) (W)	15	50	50
Resolution (mW)	1	10	10
Max. Avg. Power Density (W/cm <sup>2</sup> )	50	50	50
Max. Pulse Energy Density (J/cm <sup>2</sup> , 10 ns pulse)	2	2	5
Response Time (sec.)	3	3	3
Detector Coating	Glass Absorber	Glass Absorber	Glass Absorber
Detector Diameter (mm)	19	19	19
Dimensions (mm)	∅ 63 x 36	∅ 101 x 56	∅ 101 x 56
Calibration Uncertainty	±1%	±1%	±1%
Calibration Wavelength (nm)	514	514	514 <sup>1</sup>
Cooling Method	Air	Air	Air
Connector Type	PM DB-25	PM DB-25	PM DB-25
Cable Length (m)	2	2	2
Part Number	0012-2090	0012-2120	0012-3765

<sup>1</sup> Diffuser transmission calibrated at 266 nm, 355 nm, 532 nm and 1064 nm.



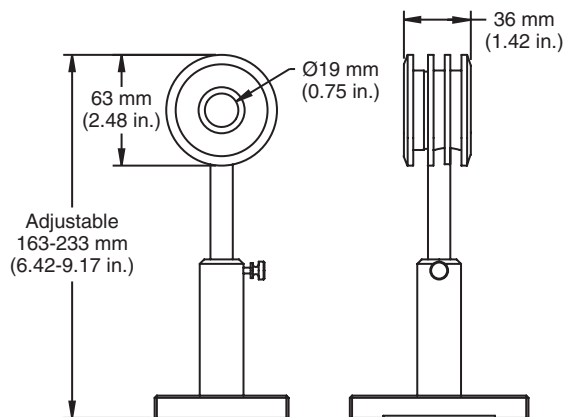
MODEL PM30V1

- Air-cooled volume absorbers
- 0.25 to 3.0 µm spectral range
- Damage threshold to 5.0 J/cm<sup>2</sup> @ 1064 nm

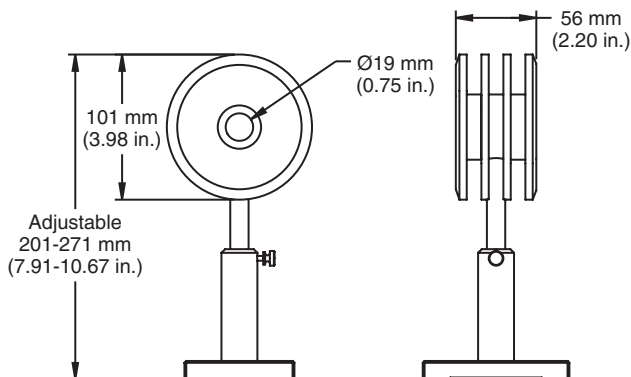
\* See the Power and Energy Sensor Compatibility Charts on page 11 for compatibility with meters.



## High-Peak-Power Thermopile Sensors



Part Number	Description
0012-2090	PM10V1



Part Number	Description
0012-2120	PM30V1
0012-3765	PM30V1Q

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