



# Large-Area High-Power Water-Cooled USB Thermopile Sensors to 5 kW

Designed to Measure Large Laser  
Diode Stacks and Arrays, and other  
High-Power Divergent Sources

Water-cooling and careful thermal management within these sensors enable them to deliver kW level power handling capacity. They can capably measure industrial diode laser sources and bar arrays at power levels from 100 W up to 5 kW.

USB sensor models plug directly into a PC or industrial controller. Communication with these models can be performed directly via host.

## FEATURES & BENEFITS

- Maximum power from 1 kW to 5 kW
- Minimum power down to 100 W
- Water-cooled
- 0.15  $\mu\text{m}$  to 11  $\mu\text{m}$  spectral range
- 100 mm and 200 mm active area diameters
- Direct USB interface
- RoHS compliant



## Large-Area High-Power Water-Cooled USB Thermopile Sensors to 5 kW Datasheet

SPECIFICATIONS	PM5K-100
Wavelength Range (nm)	0.25 to 10.6
Power Range (W)	100 to 3000
Noise Equivalent Power (mW)	20
Maximum Avg. Power Density <sup>1</sup> (kW/cm <sup>2</sup> )	1 to 2.5
Maximum Pulse Energy Density (mJ/cm <sup>2</sup> )	600
Response Time (sec.) (0% to 95%)	
Speed-up On	4
Speed-up Off	12
Detector Coating	Broadband
Detector Element	Thermopile
Detector Diameter (mm)	100
Calibration Uncertainty (%) (k=2)	±5
Power Linearity (%)	±1
Spectral Compensation Accuracy (%)	±1.5
Calibration Wavelength (nm)	1070
Cooling Method	Water
Cable Type	USB
Cable Length (m)	2.5 (USB)
Part Number <sup>2</sup>	1235755

<sup>1</sup> The damage resistance of the coating is dependent upon the beam size and profile, the average power level, and the water flow rate. Contact Coherent or your local representative for details related to your application.

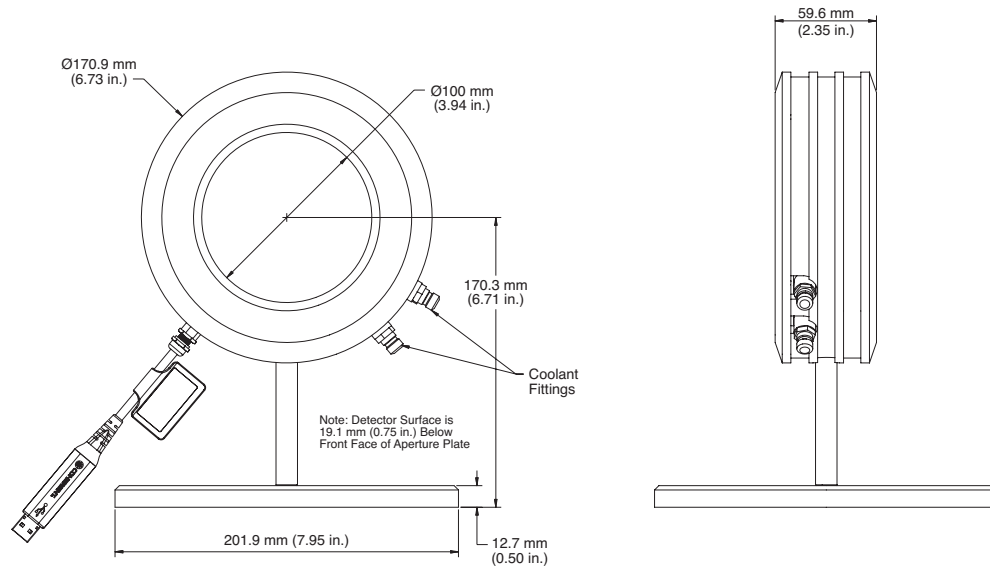
<sup>2</sup> Software, water fittings, and post stand included with kW sensors.



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### MECHANICAL SPECIFICATIONS

#### PM5K-100



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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 Large-Area High-Power Water-Cooled Thermopile Sensors. For full details of this warranty coverage, please refer to the Service section at [www.coherent.com](http://www.coherent.com) or contact your local Sales or Service Representative. MC-XXX-20-0M0320 Copyright ©2020 Coherent, Inc.