



High Power Water-Cooled Thermopile Sensors to 5 kW

Measure Industrial CO₂ and Nd:YAG Lasers at Power Levels up to 5 kW

Water-cooling and careful thermal management within these sensors enable them to deliver kW level power handling capacity. They can capably measure industrial CO₂ and Nd:YAG lasers at power levels from 100 W up to 5 kW.

FEATURES & BENEFITS

- Maximum power from 1 kW to 5 kW
- Minimum power down to 100 W
- Water-cooled
- 0.15 μm to 11 μm spectral range
- 50 mm aperture
- RoHS compliant



High Power Water-Cooled Thermopile Sensors to 5 kW - DB-25 Datasheet

| SPECIFICATIONS | PM1K | PM3K | PM5K |
|--|----------------------|----------------------|----------------------|
| Wavelength Range (μm) | 0.25 to 11 | | |
| Power Range (W) | 100 to 1000 | 100 to 3000 | 100 to 5000 |
| Max. Intermittent Power ¹ (<5 min.) (W) | 1000 | 3000 | 5000 |
| Resolution (W) | 1 | | |
| Maximum Power Density ² (kW/cm^2) | 1 to 2.5 | | |
| Maximum Energy Density (mJ/cm^2) | 600 | | |
| Response Time (sec.) | 30 | | |
| Detector Coating | Broadband | | |
| Active Area Diameter (mm) | 50 | | |
| Calibration Uncertainty (%) (k=2) | ± 3 | | |
| Calibration Wavelength (nm) | 1070 | | |
| Cooling Method | Water | | |
| Cable Type | PM DB-25 | | |
| Cable Length (m) | 2 | | |
| Part Number | 1098392 ³ | 1098462 ³ | 1098454 ³ |

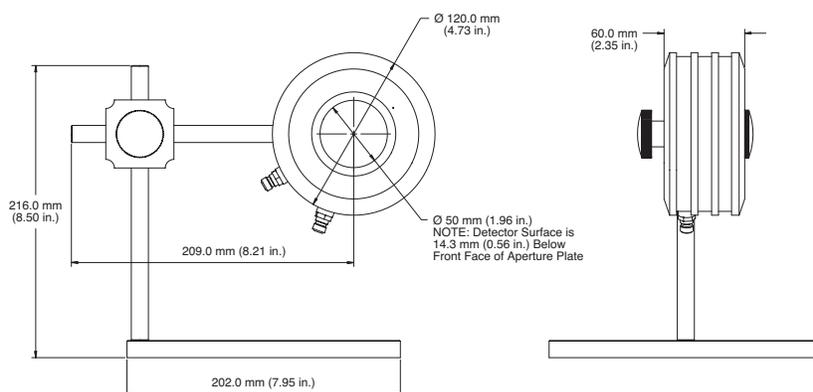
¹ Intermittent power levels may be sustainable for longer than 5 minutes when used with lasers with large diameter, non-Gaussian beam profiles. Monitor closely for coating damage if used longer than five minutes at higher powers.

² 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.

³ C24 Quick Ship program: eligible for next business day shipment.

MECHANICAL SPECIFICATIONS

PM1K/PM3K/PM5K





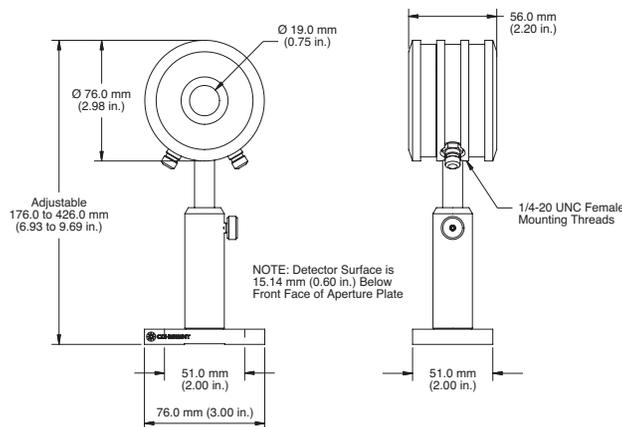
High Power Water-Cooled Thermopile Sensors to 5 kW - DB-25 Datasheet

| SPECIFICATIONS | PM300 |
|--|---------------------|
| Wavelength Range (μm) | 0.25 to 11 |
| Power Range (W) | 1 to 300 |
| Max. Intermittent Power ¹ (<5 min.) (W) | 450 |
| Resolution (mW) | 100 |
| Maximum Power Density ² (kW/cm ²) | 6 |
| Maximum Energy Density (mJ/cm ²) | 600, 1064 nm, 10 ns |
| Response Time (sec.) | 5 |
| Detector Coating | Broadband |
| Active Area Diameter (mm) | 19 |
| Calibration Uncertainty (%) (k=2) | ±1 |
| Calibration Wavelength (nm) | 514 |
| Cooling Method | Water |
| Cable Type | PM DB-25 |
| Cable Length (m) | 2 |
| Part Number | 1141474 |

¹ Intermittent power levels may be sustainable for longer than 5 minutes when used with lasers with large diameter, non-Gaussian beam profiles. Monitor closely for coating damage if used longer than five minutes at higher powers.
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MECHANICAL SPECIFICATIONS

PM300



Coherent, Inc.,
 5100 Patrick Henry Drive Santa Clara, CA 95054
 p. (800) 527-3786 | (408) 764-4983
 f. (408) 764-4646

tech.sales@coherent.com www.coherent.com

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 Power Water-Cooled Thermopile 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-048-19-0M1221 Rev.B Copyright ©2021 Coherent, Inc.