



# Compact OEM Thermopile Power Sensors

## Covering a Wide Range of Power

Coherent offers a wide variety of off-the-shelf OEM thermopile sensors that cover a wide range of laser operating conditions. The OEM sensors listed here can be operated from 10 mW to 1 kW, from the ultraviolet to far-infrared wavelengths, and with active areas up to 50 mm in diameter. These compact sensors must be water-cooled to achieve the maximum power handling limits. Passive air-cooled power limits are also provided.

Most of the sensors covered in this datasheet are providing a passive signal via a BNC output or an amplified signal via a 4-pin connector. The amplified sensors require  $\pm 10$  to 20 Volt power applied into the 4-pin connector to operate the amplifier. The BeamFinder OEM sensor, a compact 1 kW water-cooled thermopile that includes beam position data, incorporates a DB-25 connector for use with one of our stand-alone meters like the LabMax-Pro SSIM. Many of these sensors also have USB and RS-232 configurations available for directly connecting to a PC or industrial controller.

### FEATURES & BENEFITS

- Small compact design
- Air- or water-cooled
- Cost effective
- 19 mm, 35 mm, and 50 mm apertures
- RoHS Compliant



## Compact OEM Thermopile Power Sensors Datasheet

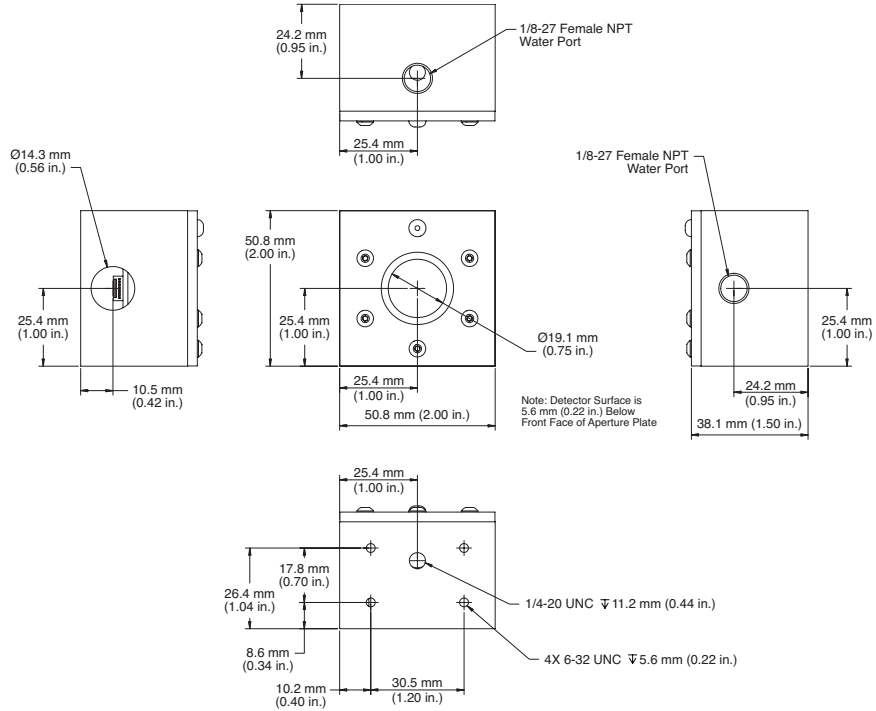
SPECIFICATIONS	PM10-19A	PM10-19B	PM150-19A	PM150-19B	PM150-50A
Wavelength Range (nm)	0.19 to 11				
Resolution (mW)	1	1	30	30	30
Minimum Water Flow (gpm)	0.02	0.02	0.2	0.2	0.2
Maximum Avg. Power (W)					
Water-Cooled	10	10	150	150	150
Air-Cooled	5	5	20	20	80
Responsivity (typical)	1 V/W	1 mV/W	40 mV/W	0.4 mV/W	40 mV/W
Maximum Avg. Power Density (kW/cm <sup>2</sup> )	6				
Maximum Pulse Energy Density (J/cm <sup>2</sup> )	0.6 (10 ns, 1064 nm)				
Response Time (sec.)	1	2	1	2	1
Detector Coating	Broadband				
Active Area Diameter (mm)	19				
Calibration Uncertainty (%) (k=2)	±1				
Calibration Wavelength (nm)	514				
Cooling Method	Water				
Connector Type	4-pin Molex 22-12-2044	BNC- terminated	4-pin Molex 22-12-2044	BNC- terminated	4-pin Molex 22-12-2044
Cable Length (m)	-	-	-	-	-
Part Number	1098334	1098343	1098418	1098321	1098510

SPECIFICATIONS	PM150-50B	PM150-50XB	PM1K-36B	BeamFinder <sup>1</sup>
Wavelength Range (nm)	0.19 to 11	0.15 to 1	0.19 to 11	0.3 to 10.6
Resolution (mW)	30	30	1000	1000
Minimum Water Flow (gpm)	0.2	0.2	1.0	1.0
Maximum Avg. Power (W)				
Water-Cooled	150	150	1000	1000
Air-Cooled	80	80	40	-
Responsivity (typical)	0.4 mV/W	0.4 mV/W	0.1 mV/W	-
Maximum Avg. Power Density (kW/cm <sup>2</sup> )	6	6	2.5	2.5
Maximum Pulse Energy Density (J/cm <sup>2</sup> )	0.6 (10 ns, 1064 nm)			0.5 (10 ns, 1064 nm)
Response Time (sec.)	5	5	5	10
Detector Coating	Broadband	UV	Broadband	H
Active Area Diameter (mm)	50	50	36	35
Calibration Uncertainty (%) (k=2)	±1	±1	±3	±5
Calibration Wavelength (nm)	514	514	1070	10,600
Cooling Method	Water			
Connector Type	BNC-terminated			LM DB-25
Cable Length (m)	-	-	-	6
Part Number (RoHS)	1098415	1098441	1098333	1098427

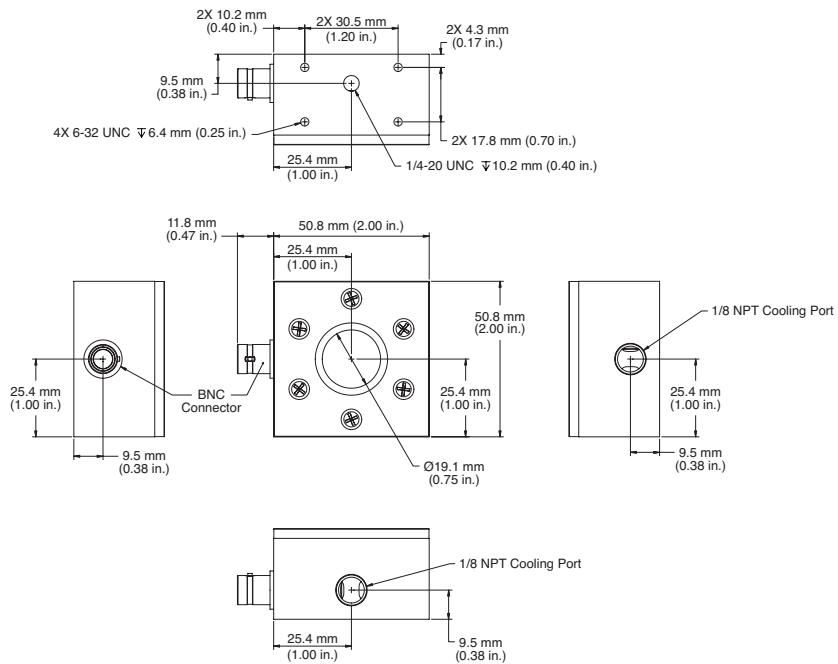
<sup>1</sup> BeamFinder incorporates a quadrant thermopile disk that enables the position of the beam to be sensed.

MECHANICAL SPECIFICATIONS

PM10-19A

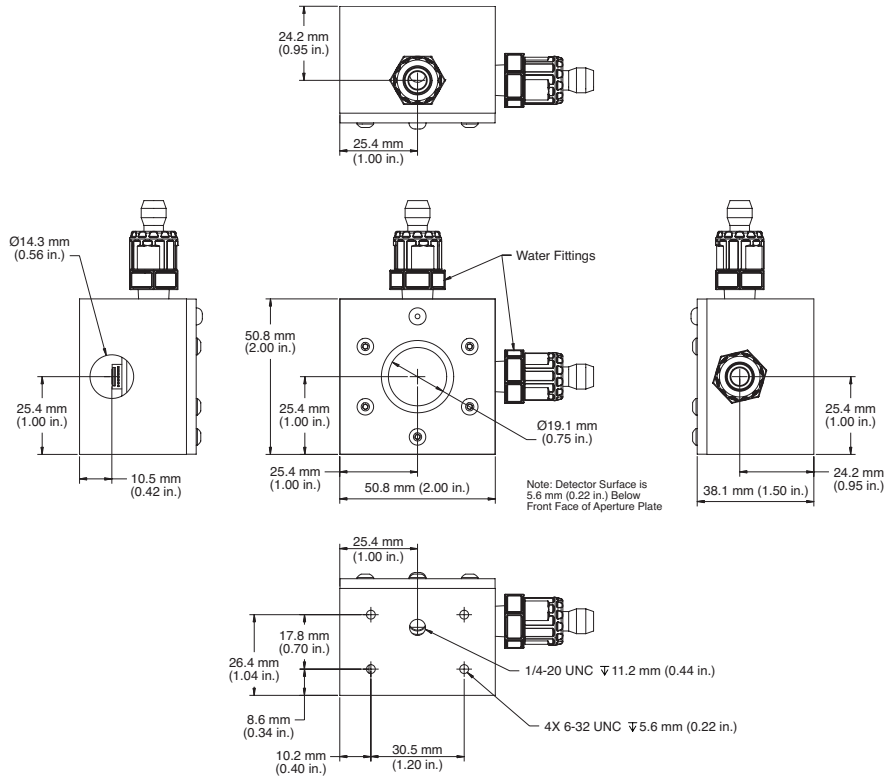


PM10-19B

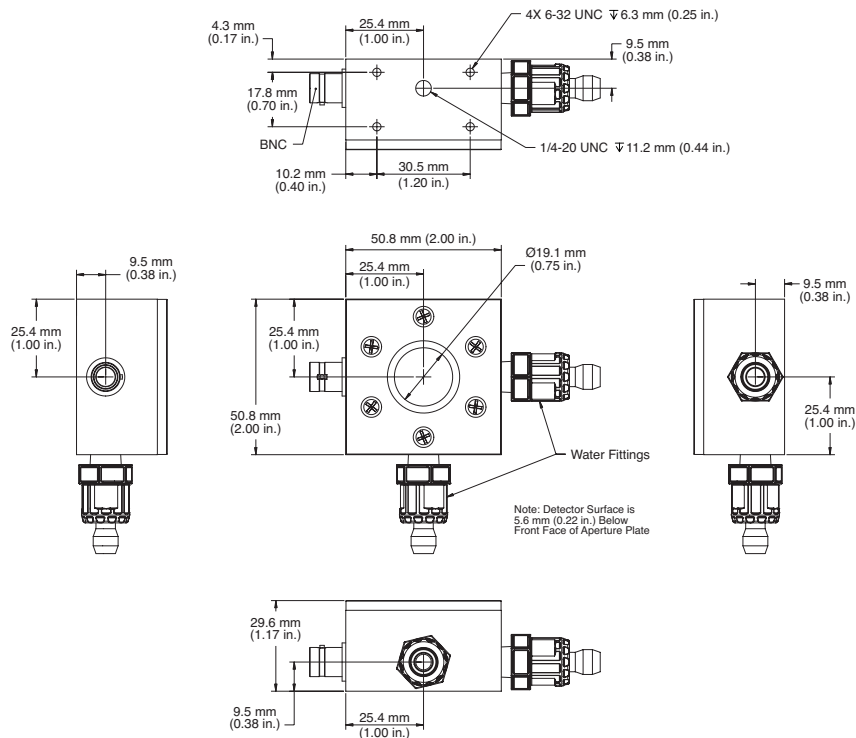


MECHANICAL SPECIFICATIONS

PM150-19A

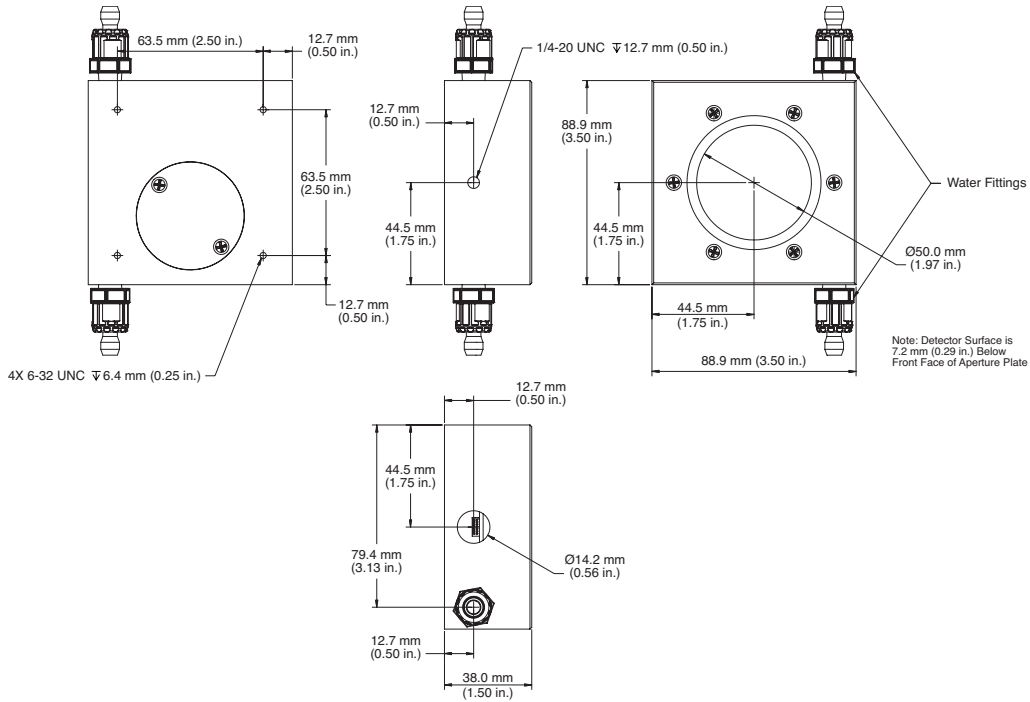


PM150-19B

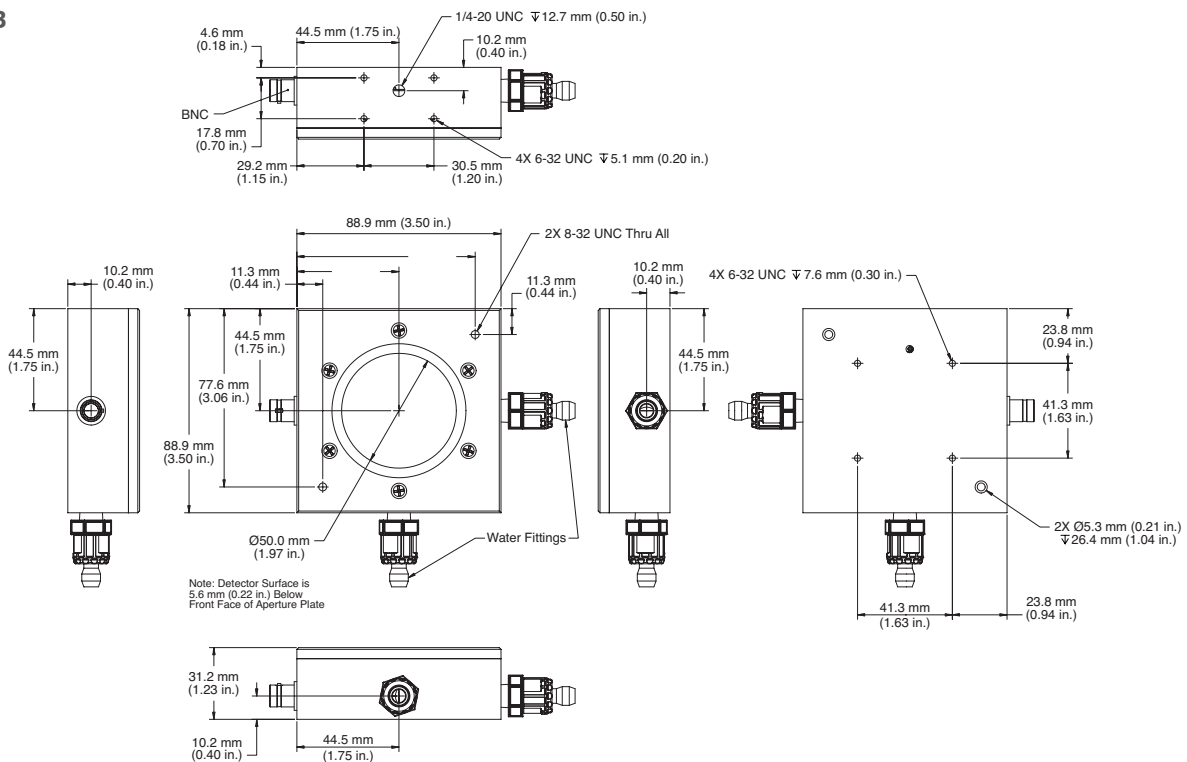


MECHANICAL SPECIFICATIONS

PM150-50A

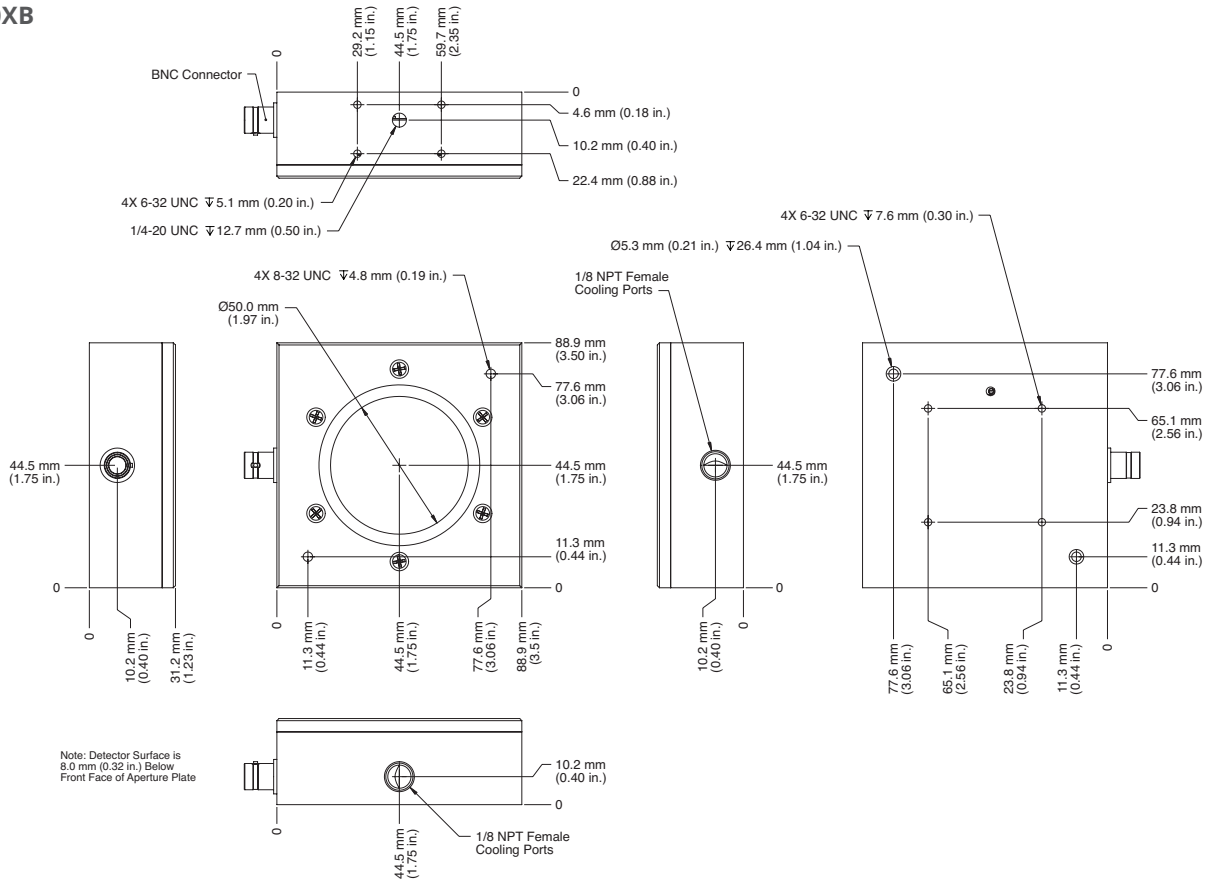


PM150-50B

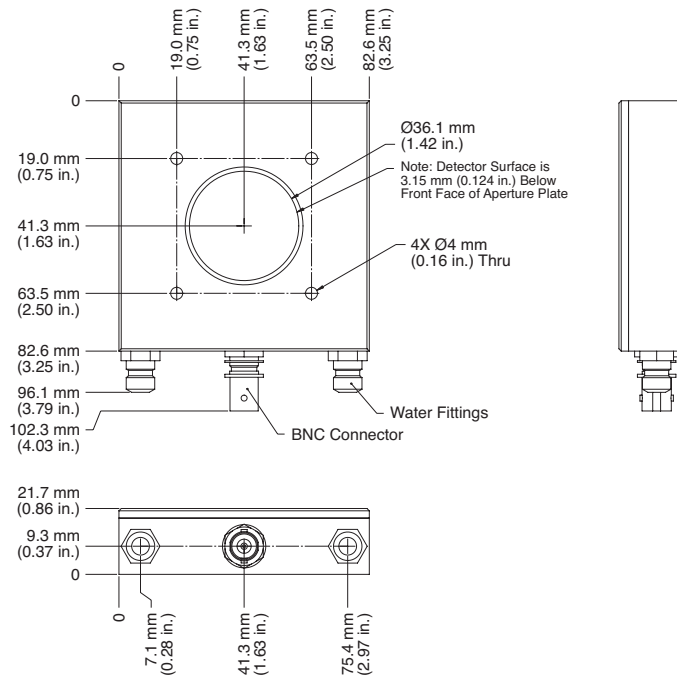


**MECHANICAL SPECIFICATIONS**

**PM150-50XB**

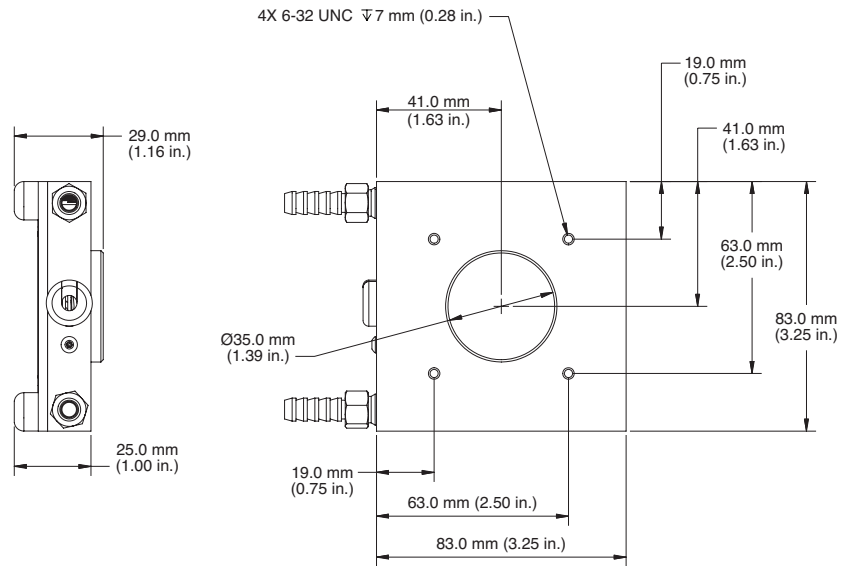


**PM1K-36B**



## MECHANICAL SPECIFICATIONS

### BeamFinder



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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 Compact OEM Thermopile Power 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-016-20-0M0420 Copyright ©2020 Coherent, Inc.