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 ±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

COHERENT®
Superior Reliability & Performance

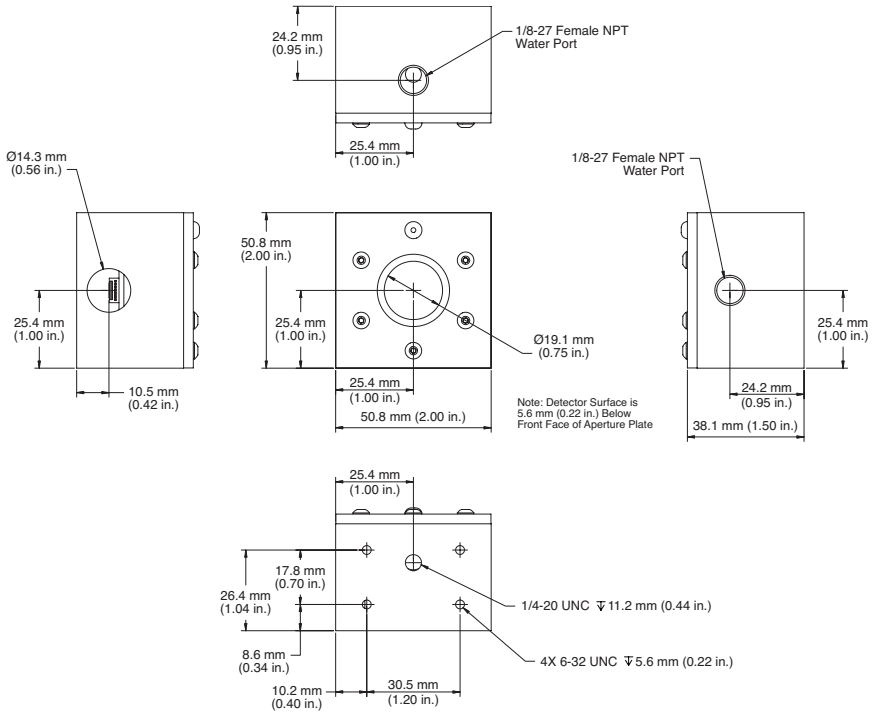
SPECIFICATIONS	PM10-19A	PM10-19B	PM150-19A	PM150-19B	PM150-50A
Wavelength Range (nm)	0.19 to 11				
Resolution (mW)	1	1	30	30	30
Minimum Water Flow (gpm)	0.02	0.02	0.2	0.2	0.2
Maximum Avg. Power (W) Water-Cooled Air-Cooled	 10 5	 10 5	 150 20	 150 20	 150 80
Responsivity (typical)	1 V/W	1 mV/W	40 mV/W	0.4 mV/W	40 mV/W
Maximum Avg. Power Density (kW/cm^2)	6				
Maximum Pulse Energy Density (J/cm^2)	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[1]
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 Air-Cooled	 150 80	 150 80	 1000 40	 1000 –
Responsivity (typical)	0.4 mV/W	0.4 mV/W	0.1 mV/W	–
Maximum Avg. Power Density (kW/cm^2)	6	6	2.5	2.5
Maximum Pulse Energy Density (J/cm^2)	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

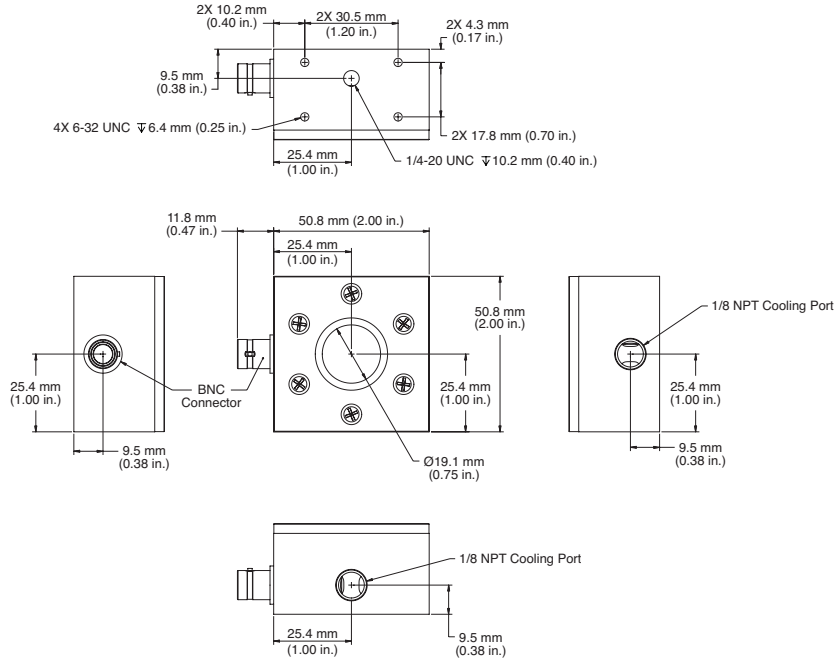
1 BeamFinder incorporates a quadrant thermopile disk that enables the position of the beam to be sensed.

MECHANICAL SPECIFICATIONS

PM10-19A

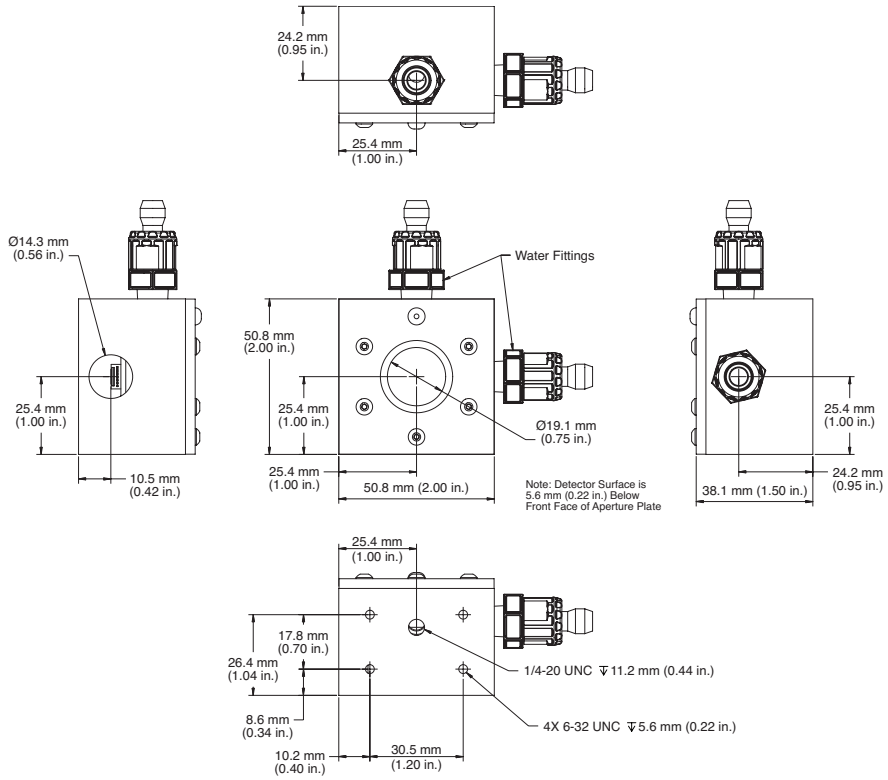


PM10-19B

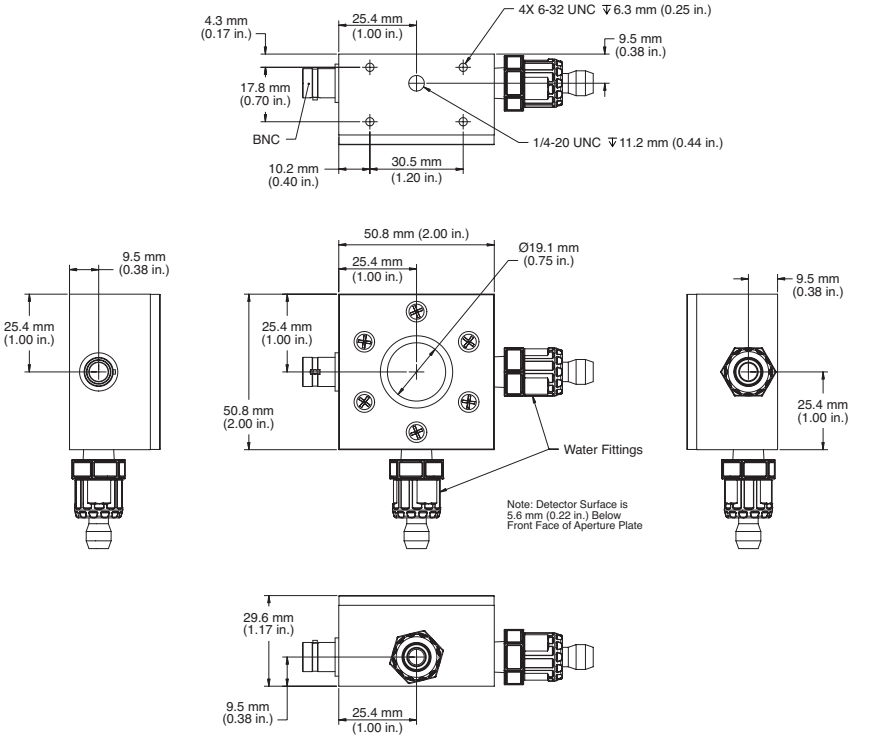


MECHANICAL SPECIFICATIONS

PM150-19A

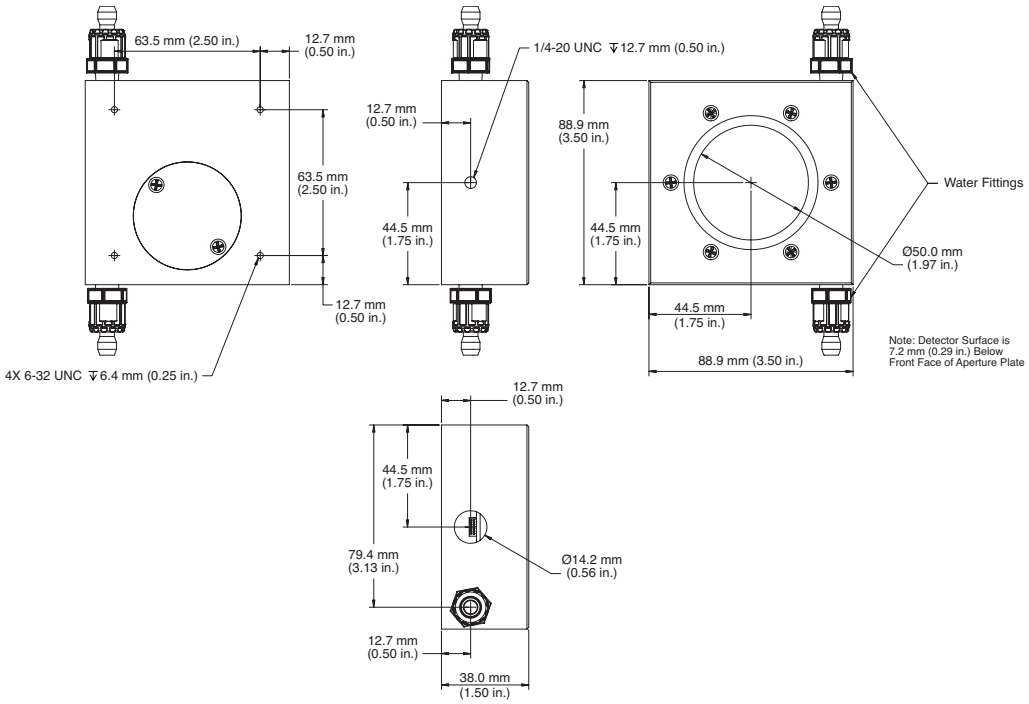


PM150-19B

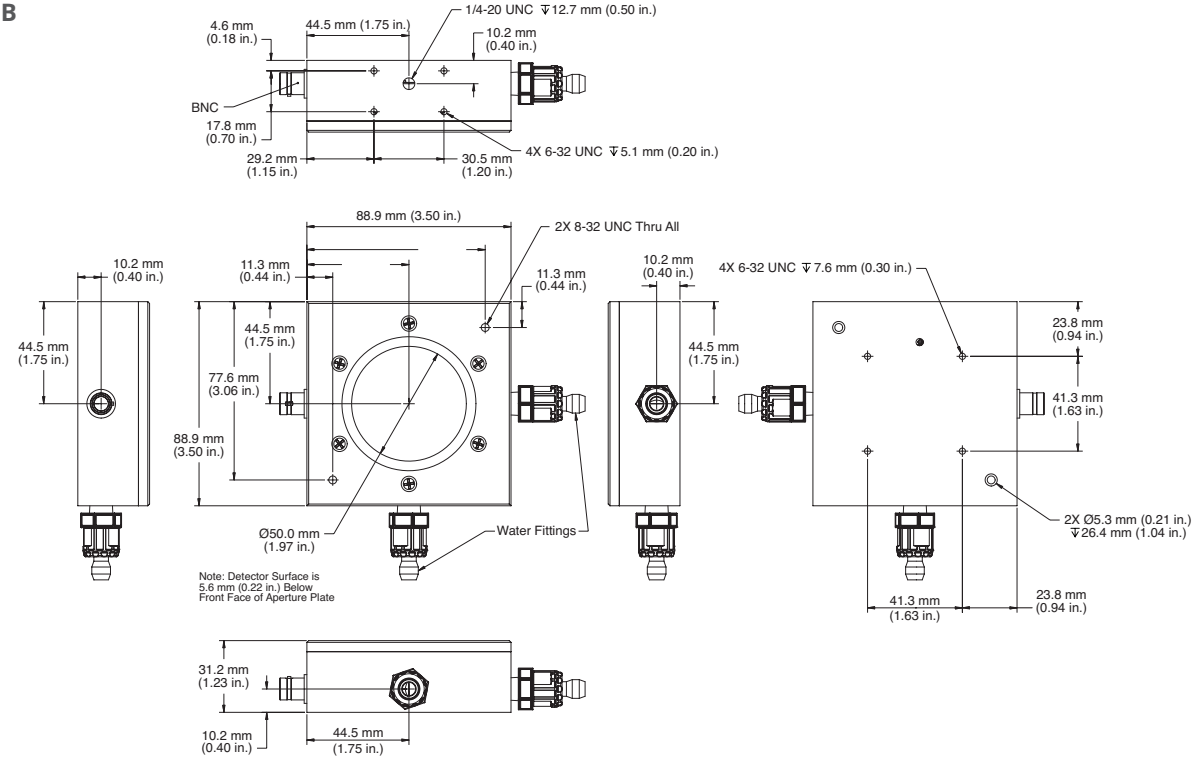


MECHANICAL SPECIFICATIONS

PM150-50A



PM150-50B



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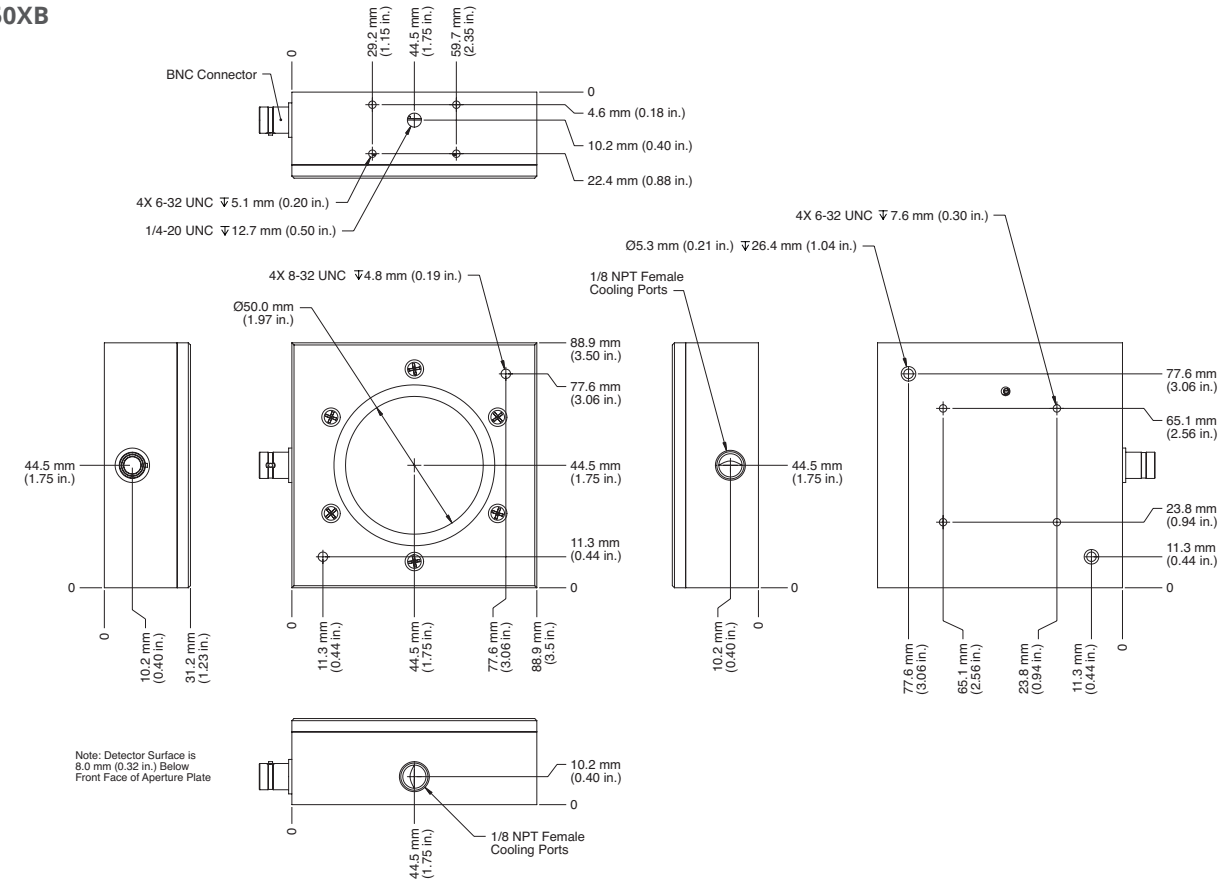
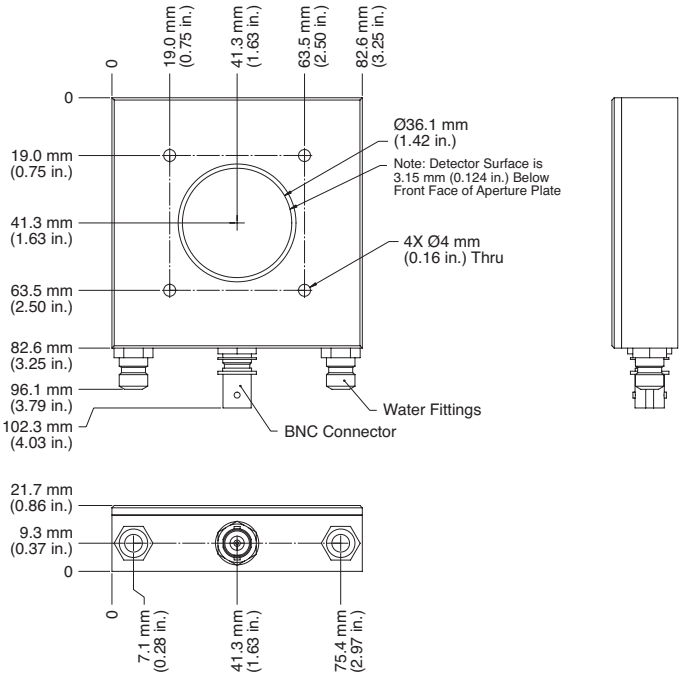
MECHANICAL SPECIFICATIONS

PM150-50XB

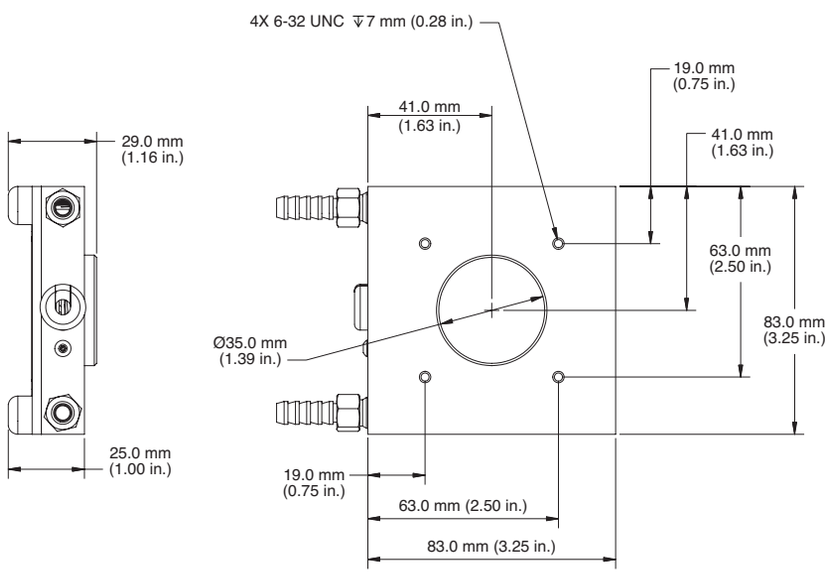


PM1K-36B



MECHANICAL SPECIFICATIONS

BeamFinder



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