



# Air-Cooled Thermopile Sensors to 150 W

## Convection, Air-Cooled Thermopile Sensors for Measuring Laser Power to 150 W

These air-cooled, surface absorbing sensors are intended for measurement of low to medium power pulsed and CW lasers from the 10 mW to 150 W power range.

Convection cooling makes them simple to operate as well as mechanically compact. Product numbers ending in "X" are specifically optimized for use with excimer lasers operating in the ultraviolet (150 nm to 400 nm).

USB and RS-232 sensor models plug directly into a PC or industrial controller. Communication with these models can be performed directly via host.

### FEATURES

- Maximum powers from 2 W to 150 W
- Minimum power down to 10 mW
- Broadband and Excimer coatings
- Convective air-cooled
- 0.15  $\mu\text{m}$  to 11  $\mu\text{m}$  spectral range
- 19 mm and 50 mm diameter active areas
- USB and RS-232 models
- RoHS Compliant

### APPLICATIONS

- Medical
- Scientific
- Industrial
- General Laser Power Measurement from mW to 150 W

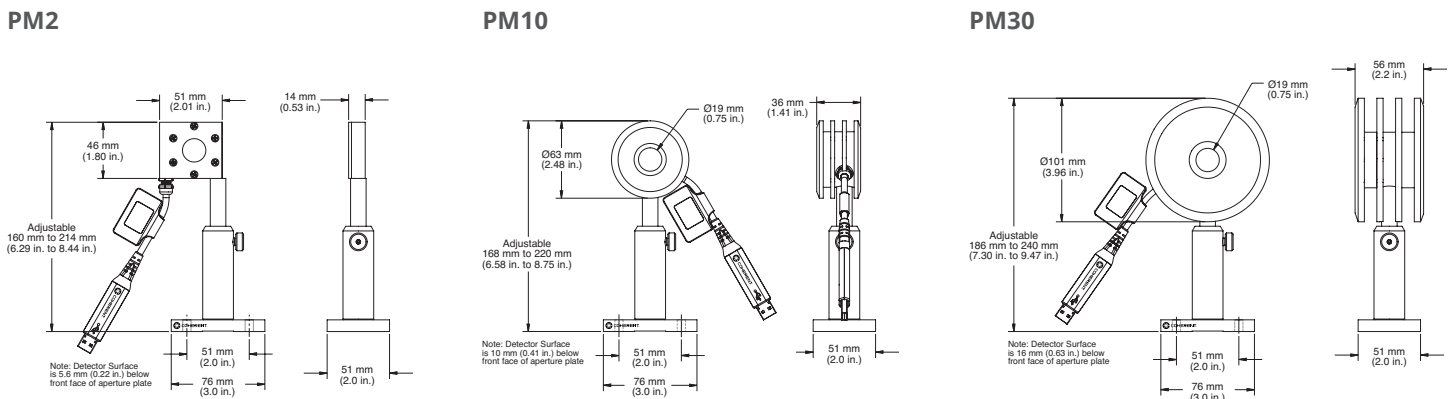


SPECIFICATIONS	PM2	PM10	PM30
Wavelength Range (μm)	0.19 to 11		
Power Range	5 mW to 2 W	5 mW to 10 W	100 mW to 30 W
Long-Pulse Joules Range (J)	0.5 to 2	0.5 to 10	0.5 to 50
Maximum Intermittent Power (<5 min.) (W)	5	30	50
Noise Equivalent Power (mW)	0.2	0.2	0.5
Maximum Power Density (kW/cm <sup>2</sup> )	6		
Maximum Energy Density (mJ/cm <sup>2</sup> )	600 (10 ns, 1064 nm)		
Response Time (sec.) (0 to 95%)			
Speed-up On	2	2	3
Speed-up Off	4	4	4
Detector Coating	Broadband		
Detector Element	Thermopile		
Optic	None		
Detector Diameter (mm)	19		
Calibration Uncertainty (%) (k=2)	±2		
Power Linearity (%)	±1		
Spectral Compensation Accuracy (%)	±1.5		
Long-Pulse Joules Accuracy (%)	±3		
Calibration Wavelength (nm)	10,600		
Cooling Method	Air		
Cable Type	USB and RS		
Cable Length (m)	2.5 (USB)/0.3 (RS)		
Part Number <sup>1</sup>	1174264 (USB)	1174262 (USB) <sup>2</sup>	1174257 (USB) <sup>2</sup> 1174258 (RS)

<sup>1</sup> Software and post stand included.

<sup>2</sup> C24 Quick Ship program: eligible for next business day shipment.

## MECHANICAL SPECIFICATIONS

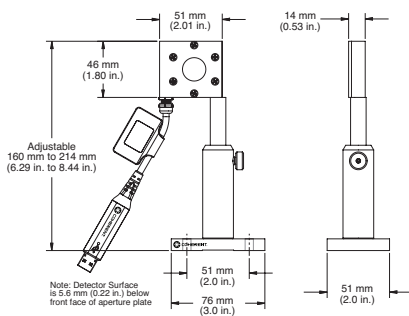


SPECIFICATIONS	PM2X	PM10X	PM30X
Wavelength Range (μm)	0.15 to 1		
Power Range	5 mW to 2 W	5 mW to 10 W	10 mW to 30 W
Long-Pulse Joules Range (J)	0.5 to 2	0.5 to 10	0.5 to 50
Maximum Intermittent Power (<5 min.) (W)	5	30	50
Noise Equivalent Power (mW)	0.2	0.2	0.5
Maximum Power Density (kW/cm <sup>2</sup> )	6		
Maximum Energy Density (mJ/cm <sup>2</sup> )	600 (10 ns, 1064 nm)		
Response Time (sec.) (0 to 95%)			
Speed-up On	2	2	3
Speed-up Off	4	4	4
Detector Coating	UV		
Detector Element	Thermopile		
Optic	None		
Detector Diameter (mm)	19		
Calibration Uncertainty (%) (k=2)	±1		
Power Linearity (%)	±1		
Spectral Compensation Accuracy (%)	±1.5		
Long-Pulse Joules Accuracy (%)	±3		
Calibration Wavelength (nm)	514		
Cooling Method	Air		
Cable Type	USB and RS		
Cable Length (m)	2.5 (USB)/0.3 (RS)		
Part Number <sup>1</sup>	1257617 (USB) 1230323 (RS)	1184874 (USB) 1236447 (RS)	1263294 (USB) 1174259 (RS)

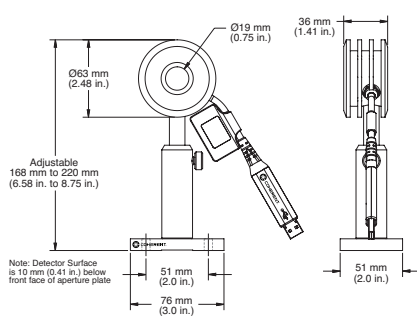
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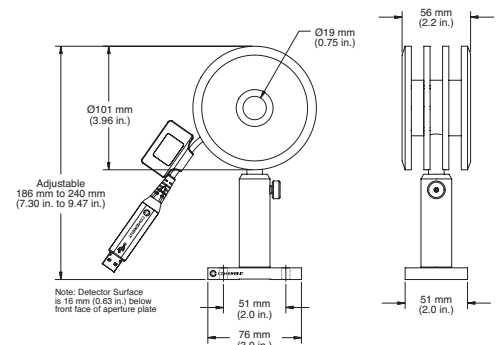
### PM2



### PM10



### PM30



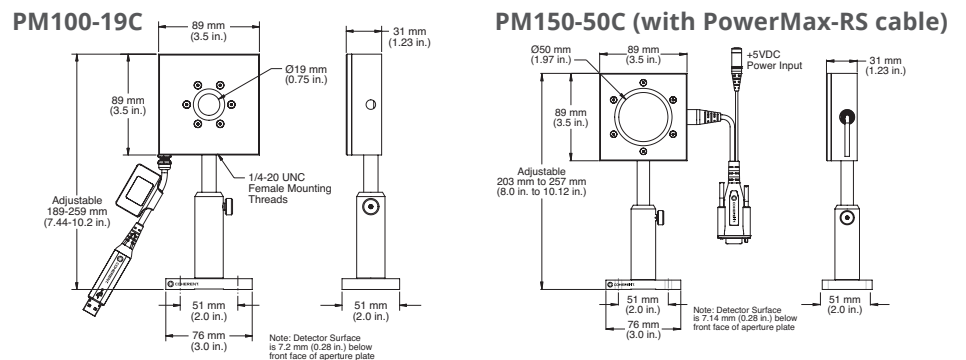


## Air-Cooled Thermopile Sensors to 150 W Datasheet

SPECIFICATIONS	PM100-19C	PM150-50C
Wavelength Range (µm)	0.19 to 11	
Power Range (water-cooled)	300 mW to 100 W	300 mW to 150 W
Long-Pulse Joules Range (J)	1 to 100	1 to 150
Maximum Intermittent Power (<5 min.) (W)	100	80 (air-cooled)
Noise Equivalent Power (mW)	1	
Maximum Power Density (kW/cm <sup>2</sup> )	6	
Maximum Energy Density (mJ/cm <sup>2</sup> )	600 (10 ns, 1064 nm)	
Response Time (sec.) (0 to 95%)		
Speed-up On	2	3
Speed-up Off	4	12
Detector Coating	Broadband	
Detector Element	Thermopile	
Optic	None	
Detector Diameter (mm)	19	50
Calibration Uncertainty (%) (k=2)	±2	
Power Linearity (%)	±1	
Spectral Compensation Accuracy (%)	±1.5	
Long-Pulse Joules Accuracy (%)	±3	
Calibration Wavelength (nm)	10,600	
Cooling Method	Water/Air (intermittent)	
Cable Type	USB and RS	
Cable Length (m)	2.5 (USB)/0.3 (RS)	
Part Number	1288940 (USB)	1168348 (USB) <sup>1</sup> 1168349 (RS) <sup>1</sup>

<sup>1</sup> C24 Quick Ship program; eligible for next business day shipment.

### MECHANICAL SPECIFICATIONS



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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 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.  
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