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Find the *Newport 818P-030-17W* at our website: ***Click HERE***

NEW

Thermopile Detector, 818P Series



- **Very high sensitivity to power**
- **Broadband flat spectral response from 0.19–10.6 μm**
- **NIST-traceable calibration included**
- **Insensitive to beam position**
- **1.8 m long cable allows easy access to test systems**

Newport's 818P Series High Power Thermopile Detectors provide a full range of the highest quality detectors to meet most laser power measurement needs. These thermal detectors offer broadband, spectrally flat power detectors for general use. High peak power pulse damage resistance in specific UV and IR bands are also available. Maximum power range up to 500 Watts. Higher maximum power ratings require heatsink, fan, or water-cooled operation. Standard apertures of 12, 19, 25 and 55 mm are available. Volume absorber versions with an 18mm aperture are also available. Typical applications include measurements of CW or pulsed Ion, Nd:YAG, Ti:Sapphire, CO_2, Holmium lasers, high-power laser diodes and Excimer laser measurements in the UV range.

Each 818P thermopile detector include a DB15 connector and internal EEPROM for storing factory calibration data, making them compatible with Newport's optical meters. When using with Newport's legacy 1835-C and 2835-C Series Optical Meters, use the adaptor cable 818P-DIN (ordered separately).

All 12mm aperture thermal sensor heads have a 8-32 tapped hole and all other detectors have a 1/4-20 tapped hole for post or plate mounting.

Calibration of the thermopile detectors is required annually to assure NIST traceability. Newport's recalibration services are geared to provide fast turnaround to meet your tight schedule.

For Gaussian beams multiply power and energy density by a factor of 2 when comparing to online damage threshold specifications. For beams with hot spots multiply power and energy density by a factor of 3 when comparing to online damage threshold specifications.

818P Specifications (12 & 17 mm Aperture versions)

Model		818P-010-12	818P-020-12	818P-070-12	818P-015-17W	818P-030-17W	818P-050-17W
Spectral Range (μm)			0.190 - 10.6			0.190 - 10	
Max. Measurable Power (W)		10	20	70	15	30	50
Power Noise Level (mW)[1]				1			
Rise Time (s)[2]			0.3			1.4	
Responsivity, Approximate (mV/W)			0.53			0.65	
Calibration Uncertainty (nm)				±2.5 % @ 1064			
Repeatability (%)				±0.5			
Resolution (%)				±0.5			
Beam Size Dependence (%)			±0.7			±0.5	
Maximum Average Power (W)	(continuous)	10	20	70	15	30	50
	(2 minutes)	15	30	90	23	45	75
Power Density, Maximum Average (kW/cm²) (1064 nm, CW)			36			100	
Pulse Energy Density, Maximum (J/cm²) (1064nm, 7 nS, 10 Hz)			1.0			1.1	
Active Diameter (mm)			12			17	
Active Area (cm²)			1.13			2.27	
Cooling Method		Air	Heat Sink	Water	Air	Heat Sink	Heat Sink
Dimensions (L x W x D) [in. (mm)]		1.50 x 1.50 x 0.55 (38 x 38 x 14)	1.50 x 1.50 x 1.77 (38 x 38 x 45)	1.50 x 1.50 x 1.77 (38 x 38 x 32)	1.97 x 1.97 x 0.81 (50 x 50 x 20.6)	1.97 x 1.97 x 2.22 (50 x 50 x 56.3)	3.0 x 3.0 x 2.94 (76.2 x 76.2 x 74.7)
Weight [lb (kg)]		0.29 (0.13)	0.33 (0.15)	0.42 (0.19)	0.35 (0.16)	0.46 (0.21)	1.1 (0.48)
Operating Temperature				15 to 28°C, RH < 80%			

[1] See Tech Note 4 - Minimum Measurable Power of Power Meters
[2] Typical rise time with anticipation setting turned on.

Please check out Newport's website for the application notes library at www.Newport.com.

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818P Specifications (18 & 19 mm Aperture versions)

Model		818P-015-19	818P-030-19	818P-110-19	818P-150-19	818P-015-18HP	818P-030-18HP
Spectral Range (µm)		0.190 - 10.6				0.190 - 2.5	
Max. Measurable Power (W)		15	30	110	150	15	30
Power Noise Level (mW)[1]		1		3	1	2	
Rise Time (s)[3]		0.6		1.5	0.6	2.5	
Responsivity, Approximate (mV/W)		0.65		0.23	0.65	0.34	
Calibration Uncertainty (%)		±2.5				±2.5	
Repeatability (%)		±0.5				±0.5	
Resolution (%)		±0.5				±0.5	
Beam Size Dependence (%)		±0.5				±0.5	
Maximum Average Power (W)	(continuous)	15	30	110	150	15	30
	(2 minutes)	23	45	135	170	20	35
Power Density, Maximum Average (kW/cm²) (1064 nm, CW)		36		45	36	700 W/cm²	
Pulse Energy Density, Maximum (J/cm²) (1064nm, 7 nS, 10 Hz)[2]		1.0				6	
Active Diameter (mm)		19				18	
Active Area (cm²)		2.84				2.54	
Cooling Method		Air	Heat Sink	Fan	Water	Air	Heat Sink
Dimensions (L x W x D) [in. (mm)]		1.97 x 1.97 x 0.81 (50 x 50 x 20.6)	1.97 x 1.97 x 2.2 (50 x 50 x 56)	2.13 x 2.13 x 2.20 (54 x 54 x 56)	1.97 x 1.97 x 1.30 (50 x 50 x 33)	1.97 x 1.97 x 0.81 (50 x 50 x 20.6)	1.97 x 1.97 x 2.22 (50 x 50 x 56.3)
Weight [lb (kg)]		0.35 (0.16)	0.46 (0.21)	0.55 (0.25)		0.53 (0.26)	0.46 (0.21)
Operating Temperature		15 to 28ºC, RH < 80%					

[1] See Tech Note 4 - Minimum Measurable Power of Power Meters
[2] See online 818P manual for additional specifications.
[3] Typical rise time with anticipation setting turned on.

818P Specifications (25 & 50 mm Aperture versions)

Model		818P-040-25	818P-100-25	818P-250-25	818P-300-25	818P-040-50W
Spectral Range (µm)		0.190 - 10.6				0.190 - 10
Max. Measurable Power (W)		40	100	250	300	40
Power Noise Level (mW)[1]		3	3	10	3	5
Rise Time (s)[3]		1.3				3.5
Responsivity, Approximate (mV/W)		0.23		0.1	0.23	0.12
Calibration Uncertainty (%)		±2.5				±2.5
Repeatability (%)		±0.5				±0.5
Resolution (%)		±0.5				±0.5
Beam Size Dependence (%)		±0.5				±0.5
Maximum Average Power (W)	(continuous)	40	100	250	300	40
	(2 minutes)	60	150	300	300	60
Power Density, Maximum Average (kW/cm²) (1064 nm, CW)		45				100
Active Diameter (mm)		25				50
Pulse Energy Density, Maximum (J/cm²) (1064nm, 7 nS, 10 Hz)[2]		1.0				1.1
Active Area (cm²)		4.9				19.6
Cooling Method		Air	Heat Sink	Fan	Water	Air
Dimensions (L x W x D) [in. (mm)]		3.5 x 3.5 x 1.3 (89 x 89 x 32)	3.5 x 3.5 x 4.2 (89 x 89 x 106)	3.5 x 3.5 x 4.5 (89 x 89 x 115)	3.5 x 3.5 x 1.7 (89 x 89 x 44)	3.5 x 3.5 x 1.3 (89 x 89 x 32)
Weight [lb (kg)]		1.5 (0.68)	2.2 (0.99)	3.17 (1.44)	2.0 (0.90)	1.37 (0.62)
Operating Temperature		15 to 28ºC, RH < 80%				

[1] See Tech Note 4 - Minimum Measurable Power of Power Meters
[2] See online 818P manual for additional specifications.
[3] Typical rise time with anticipation setting turned on.

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