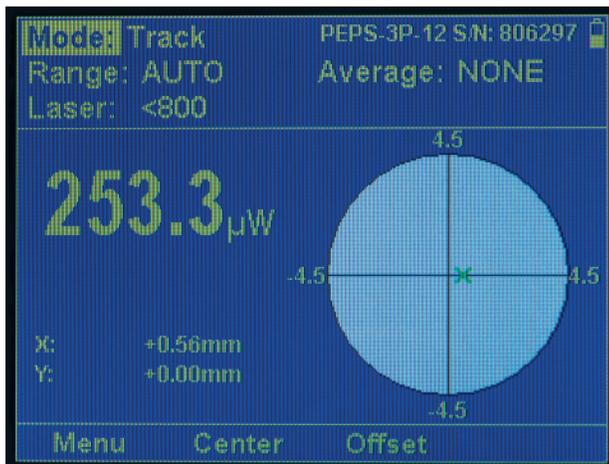


PEPS Series

OPTICAL POWER, ENERGY AND POSITION SENSORS



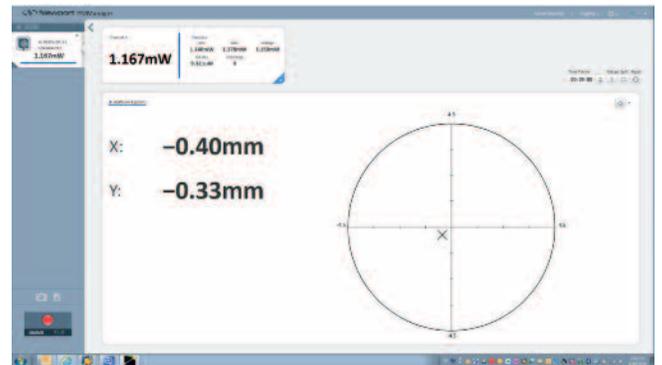
These thermal sensors that measure laser power and single shot energy like standard thermal sensors but in addition they measure laser beam position.



- Accurate tracking of beam position to fractions of a mm
- Laser power measurement
- Single shot energy measurement

Features and benefits

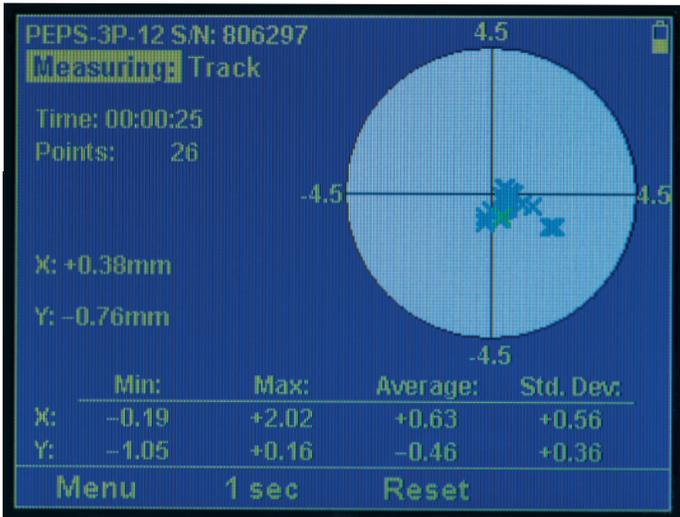
- Accurate tracking of beam position to fractions of a mm
- Laser power measurement
- Single shot energy measurement



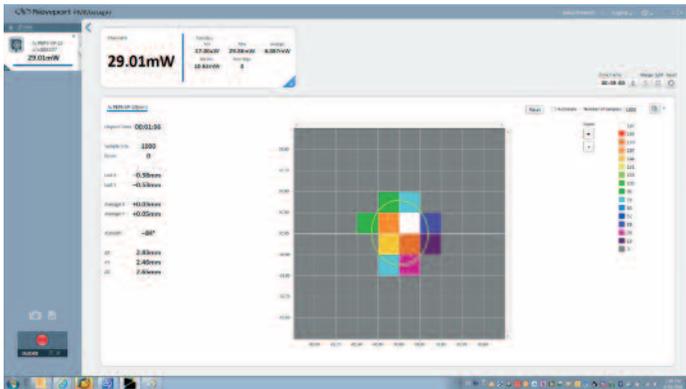
POSITION ACCURACY DOWN TO 0.1 MM

The position information is provided when the detector is connected to one of the Newport power meter models 843-R, 843-R-USB, 1919-R, and 841-PE-USB. The powerful PMManager™ application software program even allows the beam stability measurement.

TRACKING OF THE LASER BEAM



When connected to 1919-R power meter, the detectors also provide the beam tracking information such as the min and max Y/Y positions, average position, and standard deviation.



VISUALIZATION OF BEAM DRIFT

The signal coming from the sensor is divided into 4 quadrants so by measuring and comparing the output from the 4 sections we can determine the position of the center of the beam to a high degree of accuracy.

DATA LOGGING FOR FURTHER ANALYSIS

```

;Channel A:1919-R Thermopile PEPS-3P-12 (s/n:806297) NI1.30 (s/n:811104)
;Channel A:Details
;Name:PEPS-3P-12
;Graph Type:Stability
;Sample Count:1000
;Graph Color:RGB(14,104,168)
;Units:W
;Settings:Measuring:Track w/ Power
;Settings:Laser:<800
;Settings:Range:AUTO
;BeamTrack:Max x:4.5mm
;BeamTrack:Max y:4.5mm
;Subchannel X:
;Subchannel Y:

;Channel A:Statistics
;Min:28.67mW
;Max:28.92mW
;Average:28.81mW
;Std.Dev.:73.25uW
;Overrange:0
;Stability:Elapsed Time:00:00:06
;Stability:Sample Size:100
;Stability:Errors:0
;Stability:Average X:+0.27mm
;Stability:Average Y:+0.16mm
;Stability:Azimuth:-2 deg
;Stability:Delta X:762um
;Stability:Delta Y:15um
;Stability:Delta S:539um
;-----

```

```

;First Pulse Arrived : 10/08/2016 at 14:59:07.408975
Timestamp      Channel A      A.X      A.Y
0.000          2.881e-002    3.000e-002  1.600e-001
0.067          2.881e-002    3.000e-002  1.600e-001
0.133          2.881e-002    3.000e-002  1.600e-001
0.200          2.881e-002    3.000e-002  1.600e-001
0.267          2.880e-002    3.000e-002  1.600e-001

```

The PMManager™ program allows to download the logged data of the X and the Y position as well as the optical power for further analysis and recording purposes.

SMART SENSOR DESIGN

The signal coming from the sensor is divided into 4 quadrants so by measuring and comparing the output from the 4 sections we can determine the position of the center of the beam to a high degree of accuracy.

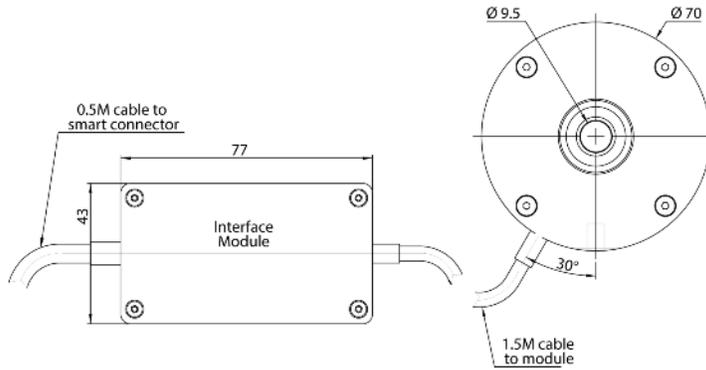
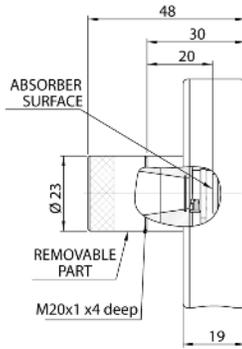
SPECIFICATIONS

	PEPS-3-9.5	PEPS-3P-12
Absorber Type	Broadband	P type
Spectral Range	0.19 - 20 μm	0.15 – 8 μm
Aperture	\varnothing 9.5 mm	\varnothing 12 mm
Power Range	100 μW – 3 W	160 μW – 3 W
Power Scales	3 W to 300 μW	3 W to 300 μW
Power Noise Level	5 μW	10 μW
Thermal Drift (30min)	10 – 40 μW	10 - 40 μW
Maximum Average Power Density	1 kW/cm ²	0.05 kW/cm ²
Response Time with Meter (0-95%)	1.8 sec	2.5 sec
Power Accuracy	+/-3 %	+/-3 %
Linearity with Power	+/-1 %	+/-1 %
Energy Range	20 μJ – 2 J	30 μJ – 2 J
Energy Scales	2 J to 200 μJ	2 J to 200 μJ
Minimum Energy	20 μJ	30 μJ
Maximum Energy Density (J/cm ²)		
<100ns	0.3	1
0.5ms	1	1
2ms	2	1
10ms	4	1
Beam Position Accuracy	0.15 mm	0.15 mm
Beam Position Resolution	0.02 mm	0.02 mm
Min Power for Position Measurement	300 μW	400 μW
Cooling	convection	convection
Weight	0.66 lb	0.66 lb

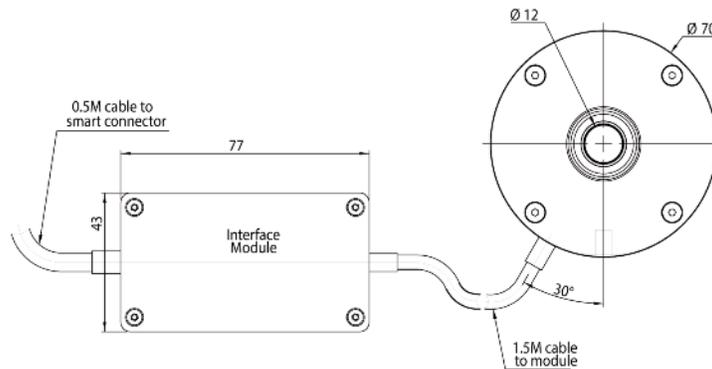
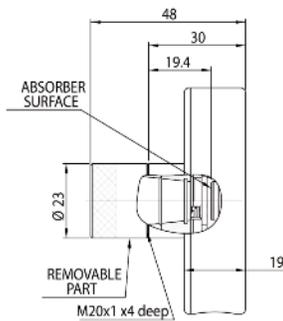
ORDERING INFORMATION

Compare	Model	Availability
PEPS-3-9.5	New Laser Position Sensor, 3 W, 9.5 mm Thermopile Sensor, 3 W, 10 mm, 0.19-10.6 μm	In Stock
PEPS-3P-12	New PEPS-3P-12 Laser Position Sensor, 3 W, 12 mm Thermopile Sensor, 3 W, 10 mm, 0.19-10.6 μm	1 week

DIMENSIONS



PEPS-3-9.5



PEPS-3P-12



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