

1.1.2.2 High Sensitivity Thermal Sensors

8µW to 3W

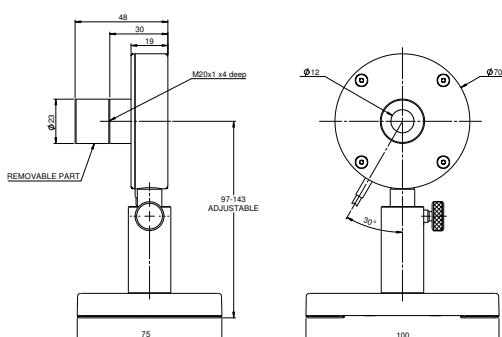
Features

- Very low noise and drift to measure very low powers and energies
- Broadband and P absorbers for CW and short pulses
- Up to 3W
- Version for Terahertz

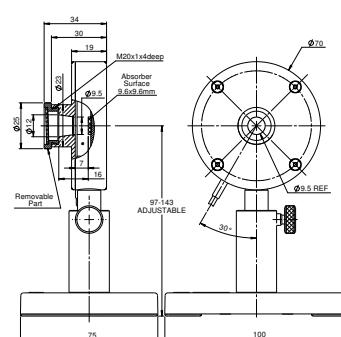


Model	3A-P-THz	3A-BB-FS-10	3A-P-FS-12
Use	Calibrated for Terahertz radiation	With removable window	For divergent beams, window blocks infrared
Absorber Type	P type	Broadband + F.S. window	P type + F.S. window
Spectral Range µm	0.1THz - 30THz ^(c)	0.19 - 20 ^(b)	0.22 - 2.1
Aperture mm	Ø12mm	Ø9.5mm	Ø12mm
Maximum Beam Divergence	NA	NA	±40 degrees
Power Mode			
Power Range ^(f)	15µW - 3W	8µW - 3W	15µW - 3W
Power Scales	3W to 300µW	3W to 300µW	3W to 300µW
Power Noise Level	4µW ^(d)	2µW	6µW
Thermal Drift (30min) ^(a)	5 - 30µW	2 - 10µW	20 - 40µW
Maximum Average Power Density kW/cm ²	0.05	1	0.05
Response Time with Meter (0-95%) typ. s	2.5	1.8	2.5
Calibration Uncertainty ±%	1.9	1.9	1.9
Power Accuracy ±%	8 ^(c)	3	3
Linearity with Power ±%	1	1	1
Energy Mode			
Energy Range	20µJ - 2J	15µJ - 2J	20µJ - 2J
Energy Scales	2J to 200µJ	2J to 200µJ	2J to 200µJ
Minimum Energy	20µJ	15µJ	20µJ
Maximum Energy Density J/cm ² ^(e)			
<100ns	1	0.3	1
0.5ms	1	1	1
2ms	1	2	1
10ms	1	4	1
Cooling	Convection	Convection	Convection
Weight kg	0.2	0.2	0.15
Fiber Adapters Available (see page 126)	ST, FC, SMA, SC	ST, FC, SMA, SC	NA
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version		V1	
Part number	7Z02742	7Z07156	7Z02687
Note: (a)	Depending on room airflow and temperature variations		
Note: (b)	Remove window for measurement beyond 2.2µm		
Note: (c)	2 sigma standard lab traceable calibration for 0.6THz - 10THz. For 0.3 - 0.5THz add 4% to error. Outside this region the sensor will measure but is not calibrated.		
Note: (d)	Back reflections from meter can sometimes cause interference effects with source. Unit should be tilted ~10° in this case		
Note: (e)	For BB and P types and shorter wavelengths derate maximum energy density as follows:		
	Wavelength	P Type	Low Power Broadband (BB) Type
	1064nm	Derate to value	Below 400 nm derate to 30% of the above value
	532nm	Not derated	
	355nm	Not derated	
	266nm	40% of stated value	
	193nm	5% of stated value	
		10% of stated value	
Note: (f)	Lowest measurable powers are achieved by thermally quiet room conditions, using removable snout, averaging and offset subtraction		

3A-P-THz



3A-BB-FS-10



3A-P-FS-12

