



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

Note: (f)

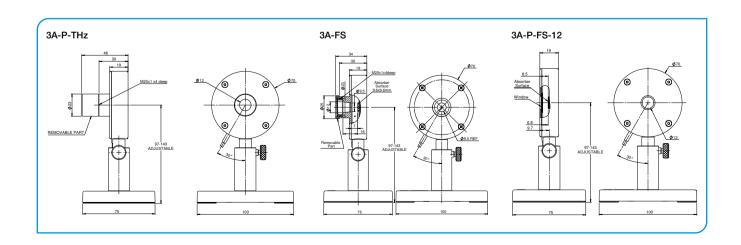
Version for Terahertz







Model	3A-P-THz	3A-FS	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 ®	15µW - 3W	8µW - 3W	15µW - 3W
Power Scales	3W to 300µW	3W to 300µW	3W to 300µW
Power Noise Level	4uW ^(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	20uJ - 2J	15uJ - 2J	20uJ - 2J
Energy Scales	2J to 200µJ	2J to 200µJ	2J to 200µJ
Minimum Energy	20µJ	15µJ	20µJ
Maximum Energy Density J/cm ^{2 (e)}		ТОРО	
<100ns	1	0.3	1
0.5ms	1	1	1
2ms	- '	<u>·</u>	<u> </u>
10ms	1	4	<u> </u>
Cooling	Convection	Convection	Convection
Weight ka	0.2	0.2	0.15
Fiber Adapters Available (see page 93)	ST, FC, SMA, SC	ST, FC, SMA, SC	NA
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version	OL, ONOA, OHIHA HOHO	OL, OROA, OHIHA HOHO	OL, ONOA, OHINATIONS
Part number	7Z02742	7Z02628	7Z02687
Note: (a)	Depending on room airflow and tempera		1202001
Note: (b)	Remove window for measurement beyond 2.2um		
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 P type and shorter wavelengths derate maximum energy density as follows:	Wavelength Derate to value 1064nm Not derated 532nm Not derated 355nm 40% of stated value 266nm 5% of stated value 193nm 10% of stated value	ue	



Lowest measurable powers are achieved by thermally quiet room conditions, using removable snout, averaging and offset subtraction

