

1.1.2.2 High Sensitivity Thermal Sensors

2mW to 12W

Features

- Very low noise and drift to measure very low powers and energies
- Broadband and P absorbers for CW and short pulses
- Up to 12W
- Spectrally flat

12A / 12A-P



Model	12A	12A-P
Use	General purpose	Short pulses
Absorber Type	Broadband	P type
Spectral Range μm	0.19 - 11	0.15 - 8
Aperture mm	$\varnothing 16\text{mm}$	$\varnothing 16\text{mm}$
Power Mode		
Power Range	2mW - 12W	2mW - 12W
Power Scales	12W to 20mW	12W to 20mW
Power Noise Level	50 μW	50 μW
Thermal Drift (30min) ^(a)	40 - 150 μW	40 - 150 μW
Maximum Average Power Density kW/cm^2	25	0.05
Response Time with Meter (0-95%) typ. s	3	3.5
Calibration Uncertainty $\pm\%$	1.9	1.9
Power Accuracy $\pm\%$	3	3
Linearity with Power $\pm\%$	1.5	1.5
Energy Mode		
Energy Range	1mJ - 30J	1mJ - 30J
Energy Scales ^(b)	30J to 30mJ	30J to 30mJ
Minimum Energy mJ	1	1
Maximum Energy Density J/cm^2 ^(c)		
Pulse rate:		Single
7ns	0.3	10
0.5ms	5	10
2ms	10	10
10ms	30	10
Cooling	convection	convection
Fiber Adapters Available (see page 126)	ST, FC, SMA, SC	ST, FC, SMA, SC
Weight kg	0.35	0.35
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version	V1	
Part number: Standard Sensor	7Z02638 (1.5m cable)	7Z02624
Sensor with different cable length	7Z02638B (5m cable)	
Note: (a)	Depending on room airflow and temperature variations	
Note: (b)	For the 30mJ energy scale measurements it is recommended to use the screw on barrel supplied with the sensor to protect from direct air flow	
Note: (c) For P type and shorter wavelengths derate maximum energy density as follows:	Wavelength 1064nm 532nm 355nm 266nm 193nm	Derate to value Not derated Not derated 40% of stated value 10% of stated value 10% of stated value

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