

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 - 20	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	10 - 30Hz
<100ns	0.3	10	1
0.5ms	5	10	1
2ms	10	10	1
10ms	30	10	1
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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