

1.1.2.5 Medium Power Large Aperture Thermal Sensors – Apertures to 65mm

300mW to 300W

Features

- Thin profile
- CW to 50W, intermittent to 300W
- Pulse energies up to 4,000 Joules
- Measure high power lasers by 0.5-4s exposures

L50(250)A-BB-50

L50(300)A



Model	L50(250)A-BB-50	L50(300)A
Use	General purpose	General purpose
Absorber Type	Broadband	Broadband
Spectral Range μm	0.19 - 20	0.19 - 20
Absorption	~88%	~88%
Aperture mm	\varnothing 50mm	\varnothing 65mm
Power Mode		
Power Range	300mW - 250W ^(a)	400mW - 300W
Maximum Intermittent Power	250W for 1.5min, 150W for 3min, 80W for 6min, 50W continuous ^(a)	300W for 2min, 150W for 4.5min, 50W continuous
Power Scales	250W / 30W	300W / 30W
Power Noise Level	15mW	20mW
Maximum Average Power Density kW/cm ²	10 at 250W 17 at 50W	9.5 at 300W 17 at 50W
Response Time with Meter (0-95%) typ. s	2.5	3
Calibration Uncertainty $\pm\%$	1.9	1.9
Power Accuracy $\pm\%$	3	3
Linearity with Power $\pm\%$	1	1
Beam Size Dependence	<1% for beams up to 35mm diameter	NA
Energy Mode		
Energy Range	100mJ - 4000J	200mJ - 300J
Energy Scales	4kJ / 400J / 40J / 4J	300J / 60J / 6J
Minimum Energy mJ	100	200
Maximum Energy Density J/cm ²		
<100ns	0.3	0.3
1 μ s	0.4	0.4
0.5ms	5	5
2ms	10	10
10ms	30	30
>300ms	See below ^(a, b)	NA
Cooling	convection	convection
Fiber Adapters Available (see page 93)	ST, FC, SMA, SC	NA
Weight Kg	0.6	0.9
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Part Number	7Z02796	7Z02658

Notes: (a) Long pulses (0.5 – 4s) can be used to measure power of high power lasers by measuring the energy of a short exposure. The StarBright, Juno, Juno+, Juno-RS and Centauri meters have a Pulsed Power mode where the user may specify the pulse width and get a reading directly in units of power for this short exposure energy measurement. See also page 85

Notes: (b) Recommended exposure times and 1/e ² Gaussian beam diameters for very long pulses. Total energy for a series of measurements should not exceed 20kJ. Cooling down time before another 20kJ series, 10min. Recommended time between shots 12s.	Laser power W	Recommended Exposure s	Number of shots before cooling down	Min 1/e ² beam dia. mm
	500	2	20	14
	1000	1	20	14
	2000	1	10	21
	4000	1	5	32
	5000	1	4	NA
	10000	0.3	4	NA

