

## 1.1.2.6 Medium - High Power Fan Cooled Thermal Sensors

100mW to 500W

### Features

- High powers and energies, large apertures
- Fan cooled
- Up to 500W
- Ø50mm aperture

FL250A-BB-50 /  
FL400A-BB-50



FL400A-LP2-50



Model	FL250A-BB-50	FL400A-BB-50	FL400A-LP2-50
Use	General purpose	General purpose	High power densities and long pulses
Absorber Type	Broadband	Broadband	LP2
Spectral Range $\mu\text{m}$	0.19 – 11	0.19 – 11	0.35 - 2.2, 10.6 <sup>(b)</sup>
Absorption	~88%	~88%	>96% from 0.35 to 1.1 $\mu\text{m}$ , 75% for 10.6 $\mu\text{m}$
Aperture mm	Ø50mm	Ø50mm	Ø50mm
Power Mode			
Power Range <sup>(a)</sup>	150mW - 250W	300mW - 500W	100mW - 500W
Maximum Intermittent Power	NA	500W for 1 min, 400W continuous	500W for 1 min, 400W continuous
Power Scales	250W / 30W	500W / 50W	500W / 50W
Power Noise Level <sup>(a)</sup>	10mW	40mW	15mW
Maximum Average Power Density kW/cm <sup>2</sup>	10 at 250W 12 at 150W	8.5 at 400W 12 at 150W	10 at 400W 20 at 150W
Response Time with Meter (0-95%) typ. s	2.5	4	4
Calibration Uncertainty $\pm\%$	1.9	1.9	1.9
Power Accuracy $\pm\%$	3 <sup>(c)</sup>	3	3 <sup>(b)</sup>
Linearity with Power $\pm\%$	1	1.5	1.5
Energy Mode			
Energy Range	80mJ - 300J	75mJ - 600J	250mJ - 600J
Energy Scales	300J / 30J / 3J	600J / 60J / 6J	600J / 60J / 6J
Minimum Energy mJ <sup>(a)</sup>	80	75	250
Maximum Energy Density J/cm <sup>2</sup>			
<100ns	0.3	0.3	0.07
1 $\mu\text{s}$	0.4	0.4	0.6
0.5ms	5	5	35
2ms	10	10	90
10ms	30	30	270
Cooling	fan	fan	fan
Fiber Adapters Available (see page 126)	ST, FC, SMA, SC	ST, FC, SMA, SC	ST, FC, SMA, SC
Optional Protective Cover Accessory (see page 116A)	FL250A-50 Protective Cover (P/N 1G05449)	NA	NA
Weight kg	0.8	0.9	0.9
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version	V1		
Part number: Standard Sensor	<b>7Z07116 (1.5m cable)</b>	<b>7Z02734 (1.5m cable)</b>	<b>7Z02778</b>
BeamTrack Sensor: Beam Position & Size (p. 80)	<b>7Z07902</b>		
Sensor with different cable length	<b>7Z07116B (5m cable)</b>	<b>7Z02734B (5m cable)</b>	

Notes: (a) For lower powers up to 30W it is recommended to work with the fan off and then the noise level is ~5 times lower. It is also recommended to measure energy with the fan off.  
Notes: (b) This LP2 sensor is calibrated for 0.35-1.1 $\mu\text{m}$  and 10.6 $\mu\text{m}$ . For other wavelengths in the spectral range 1100 – 2200nm there is an additional calibration uncertainty of up to 1%.  
Notes: (c)  $\pm 4\%$ . For wavelengths <240nm

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