

1.1.2.4 Low - Medium Power Thermal Sensors - Apertures to 17.5mm

100mW to 200W

Features

- High repetition rate pulsed lasers for material processing
- Air and fan cooled
- CW to 80W, intermittent to 200W

F80(120)A-CM-17 /
F150(200)A-CM-16



30(150)A-SV-17



Model	F80(120)A-CM-17	F150(200)A-CM-16	30(150)A-SV-17
Use	High repetition rate pulsed lasers for material processing	High repetition rate pulsed lasers for material processing	High repetition rate pulsed lasers for material processing
Absorber Type	CM	CM	SV
Spectral Range μm	0.248 – 9.4 ^(b)	0.248 – 9.4 ^(b)	0.19 - 11
Aperture mm	Ø17.5mm	Ø16mm	Ø17mm
Power Mode			
Power Range	100mW - 120W	300mW - 200W	100mW - 150W
Maximum Intermittent Power W	120W for 1min, 80W continuous	200W for 1 min, 150W continuous	150W for 1.5min, 100W for 2.2min, 30W continuous
Power Scales	120W / 80W / 8W	200W / 80W / 8W	150W / 30W / 3W
Power Noise Level	5mW	15mW	5mW
CW Maximum Power Density kW/cm^2	7 at 80W (& at 120W for 1 min), 100 at 10W ^(c)	2 at 200W, 3 at 150W, 7 at 80W, 100 at 10W ^(c)	60 at 150W
Pulsed Maximum Average Power Density kW/cm^2 ^(d)	35 at 25W for ns pulses 7 at 20W for ps pulses	35 at 25W for ns pulses 7 at 20W for ps pulses	100 at 25W for ns pulses 20 at 20W for ps pulses
Response Time with Meter (0-95%) typ. s	2	3	1.7
Calibration Uncertainty $\pm\%$	1.9	1.9	1.9
Power Accuracy $\pm\%$	3	3	3
Linearity with Power $\pm\%$	1.5	1.5 ^(e)	1
Energy Mode			
Energy Range	50mJ – 200J	50mJ – 200J	50mJ - 300J
Energy Scales	200J / 30J / 3J	200J / 30J / 3J	300J / 30J / 3J
Minimum Energy mJ	50	50	50
Maximum Energy Density J/cm^2	Pulse width ^(a)	Pulse width ^(a)	Pulse width ^(a)
	<100ns 0.7	<100ns 0.7	<100ns 1
	0.5ms 16	0.5ms 16	0.5ms 20
	2ms 45	2ms 45	2ms 50
Cooling	Fan	Fan	Convection
Fiber Adapters Available (see page 119)	NA	NA	ST, FC, SMA, SC
Weight kg	0.54	0.54	0.3
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version			
Part number	7Z07103	7Z07107	7Z02724

Notes:

(a) At 1064nm. For shorter wavelengths derate maximum energy density to:
355nm 50% of above values
266nm 50% of above values (for CM type 30% of above values)
193nm 10% of above values

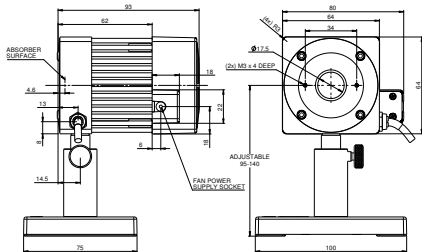
(b) The sensor is only calibrated in the spectral range 0.25-2.2 μm

(c) At 1064nm

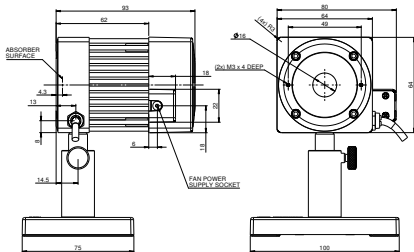
(d) For repetition rates $\geq 100\text{kHz}$

(e) at 200W add additional linearity error of $\pm 0.5\%$

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