1.1.2.12 Short Exposure High Power Sensors

1.1.2.12.4 Comet Power Pucks

20W to 10kW

Features

- Comet power pucks measure heat rise from 10s exposure to laser
- Accurate, built in temperature compensation algorithm
- Up to 10kW
- Up to 100mm apertures

Comet 1K

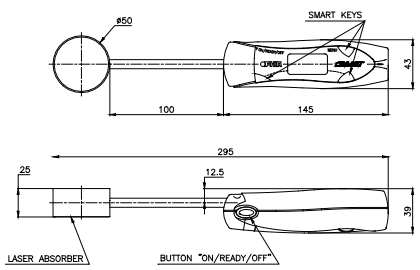
Comet 10K

Comet 10K-HD

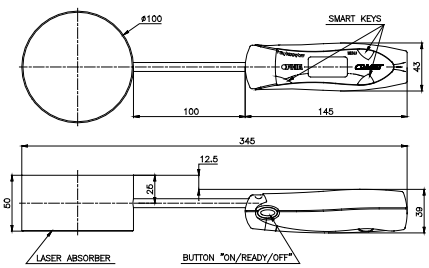
Model	Comet 1K [a]	Comet 10K [a]	Comet 10K-HD [a]
Use	**For powers to 1kW**	**For powers to 10kW**	**For high power density beams**
Absorber Type	Broadband	Broadband	Broadband with reflective cone beam spreader
Spectral Range µm	0.2 - 20	0.98-1.07 and 10.6	0.98-1.07 and 10.6
Aperture mm	Ø50mm	Ø100mm	Ø55mm
Power Mode			
Power Range	20W to 1kW	200W to 10kW	200W to 10kW
Repeatability	±1% for same initial temperature	±1% for same initial temperature	±1% for same initial temperature
Maximum Average Power Density kW/cm²	Power Damage Threshold	Power Damage Threshold	Power Damage Threshold
			Beam dia <40 Beam dia >40
	100W 10	1kW 3.5	1kW 10 7
	200W 8	2kW 2.8	2kW 10 6
	300W 6	3kW 2.5	3kW 8 5
	500W 5	5kW 1.5	5kW 6 3
	1kW 4	10kW 1	10kW 4 2
Power Accuracy ±%	5	5	5
Linearity with Power ±%	±2% ±1W from 20W to 1kW	±2% from 1kW to 10kW	±2% from 1kW to 10kW
Number of readings before probe must be cooled (for 25°C starting temp.)	100W 4	1kW 4	1kW 4
	300W 3	3kW 3	3kW 3
	400W 2	4kW 2	4kW 2
	1kW 1	10kW 1	10kW 1
Maximum Energy Density J/cm²			
<100ns	0.3	0.3	1
10µs	0.8	0.8	3
1ms	10	10	30
10ms	50	50	150
Time to Reading	Initial reading 10s after exposure, final reading 20s after exposure	Initial reading 20s after exposure, final reading 40s after exposure	Initial reading 30s after exposure, final reading 70s after exposure
Temperature Compensation	Temperature compensated to give accurate readings independent of starting probe temperature		
Maximum Permitted Probe Temperature	70°C before measurement, 140°C after measurement		
Display	2x8 character LCD. Character height 5mm. CE Approved.		
Operation Mode	AUTO: Automatic measurement with laser set to 10s timed exposure. Unit senses temperature rise and measures automatically. MANUAL: User places probe in front of beam for 10s. Unit beeps to indicate start and stop measurement points. History: Stores last three readings. Calibration: Can be recalibrated by user.		
Battery	2 x AA. Lifetime in normal use approximately 1 year.		
Weight kg	0.3	1.2	1.2
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS	CE, UKCA, China RoHS
Version		V1	V2
Part number	**7Z02702**	**7Z02705**	**7Z02706**

Notes: (a) The Comet 1K, Comet 10K & Comet 10K-HD sensors are not under ISO/IEC 17025:2017 accreditation.

Comet 1K



Comet 10K



Comet 10K-HD