

1.1.2.8 Calorimetric Power Meters

1.1.2.8.2 Ultra-High Power Water Cooled Calorimetric Sensors

2kW to 100kW

Features

- Ultra-high powers
- Calorimetric
- Up to 70kW CW / 100kW short exposure
- Ø130mm aperture

70K-W



Model	70K-W
Use	High Continuous power (CW) up to 70kW, Short exposure high power up to 100kW
Interfaces	24v power: M12 male RS232: M12 female Ethernet (48V PoE capable ^(a)): M12 female Interlock: M8 male Analog output: BNC
Measurement Type	Calorimetric
Spectral Range μm	0.8-10.6
Aperture mm	Ø130
Reflector Usable Clear Aperture mm	Ø150
Power Range for Calibrated Reading	2kW – 70kW
Typical Power Noise Level	20W
Backscattered Power	<0.5%
Maximum CW/QCW Power Density at Max Power kW/cm ²	2 kW/cm ² for Flat top beam 4 kW/cm ² for Gaussian beam (Equivalent to 65 mm diameter beam at 70 kW)
Beam Divergence and Centering Requirements ^(b)	Collimated beams: Max decenter 5mm, max tilt 5° Diverging beams: Up to 0.22NA
Response Time 0-99% (typical)	45s at flow rate of 35 L/min
Power Accuracy $\pm\%$	Calibration uncertainty 1.9 Accuracy 3
Power from Pulse Mode: Power Range Pulse Width Power Accuracy $\pm\%$	5kW - 100kW 4s-12s ^(c) 5 ^(d)
Linearity with Power $\pm\%$	2
Photodiode Spectral Range μm	0.8-1.6
Photodiode Monitor Responsivity	70mV at 70kW, 1070nm (typical, uncalibrated)
Cooling Requirements	35 liter/min at max power proportionally lower down to 10 L/min. Absolute minimum flowrate 7.5 LPM with additional measurement error >5%
Cooling Water	Tap water, DI water
Water Pressure Drop Across Sensor Beam Absorber	0.3 MPa (3 Bar) at 35 LPM
Water Connections	16mm, 5/8"
Dimensions	467 x 396 x 427 LxWxD mm
Weight kg	42kg dry
Compliance	CE, China RoHS, UKCA
Version	
Part number	7Z07141

Note: (a) Compliant with IEEE803.2af
 Note: (b) Divergent sources (fibers) must be positioned correctly such that the beam does not exceed the usable reflector diameter. Consult Ophir for more information
 Note: (c) Applicable across full power range
 Note: (d) Water flows: ≥ 30 L/min

* For drawings please see page 90B

