

UP50N-W9



50 mm Ø, 5 mW - 85 W, 100 kW/cm²



Key Features

- 1 **Modular Concept**
Increase the power capability of your detector : 4 different cooling modules
- 2 **Very High Damage Threshold**
100 kW/cm² in average power density
- 3 **Very Large Aperture**
50 mm effective aperture diameter, perfect for the largest beams.
- 4 **Highest Energy Readings in the Series**
Measure single shot energy up to 500 J
- 5 **High Quality Stand**
Post threaded on both sides to allow extension
- 6 **Smart Interface**
Containing all the calibration data



UP50N-40S-W9



See also

. How it works	14
. Calibration	6
. Detailed dimensions	77
. Spectral absorption	107
. OEM Custom detectors	80
. Compatible monitors	
SOLO 2	20
UNO	22
S-LINK-2	24
P-LINK	26

Accessories

» Fiber Optic Adapters (FC, SMA, SC)

Variety of fiber adapter options to give you the most flexibility in using our power detectors with your fiber coupled lasers.



» Extension Cables (4, 15, 20 and 25 m)

For some OEM, manufacturing and laboratory applications.







» Pelican Carrying Case

We offer a robust hard shell polymer carrying case.



UP50N-W9

SPECIFICATIONS

Models	UP50N-40S-W9	UP50N-50H-W9	UP50N-50F-W9	UP50N-50W-W9
				
Max Average Power (continuous)	40 W	50 W	50 W	50 W ^f
Max Average Power (1 minute)	80 W	85 W	85 W	85 W ^f

MEASUREMENT CAPABILITY	40S	50H	50F	50W
Spectral Range	0.19 – 10 μm	0.19 – 10 μm	0.19 – 10 μm	0.19 – 10 μm
Noise Equivalent Power ^a	5 mW	5 mW	5 mW	5 mW
Rise Time (nominal) ^b	3.5 sec	3.5 sec	3.5 sec	3.5 sec
Sensitivity (typ into 100 kΩ load) ^c	0.12 mV/W	0.12 mV/W	0.12 mV/W	0.12 mV/W
Calibration Uncertainty ^d	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode				
Sensitivity	0.02 mV/J	0.02 mV/J	0.02 mV/J	0.02 mV/J
Maximum Measurable Energy ^e	500 J	500 J	500 J	500 J
Noise Equivalent Energy ^a	0.25 J	0.25 J	0.25 J	0.25 J
Minimum Repetition Period	11.1 sec	11.1 sec	11.1 sec	11.1 sec
Maximum Pulse Width	467 ms	467 ms	467 ms	467 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %

DAMAGE THRESHOLDS

Maximum Average Power Density ^g	100 kW/cm ²	100 kW/cm ²	100 kW/cm ²	100 kW/cm ²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 360 μs, 5 Hz	100 J/cm ²		667 kW/cm ²	
1064 nm, 7 ns, 10 Hz	1.1 J/cm ²		157 MW/cm ²	
532 nm, 7 ns, 10 Hz	1.1 J/cm ²		157 MW/cm ²	
266 nm, 7 ns, 10 Hz	0.7 J/cm ²		27 MW/cm ²	

PHYSICAL CHARACTERISTICS

Effective Aperture Diameter	50 mm Ø	50 mm Ø	50 mm Ø	50 mm Ø
Absorber (High Damage Threshold)	W9	W9	W9	W9
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 44D mm
Weight (head only)	0.62 kg	0.93 kg	1.38 kg	0.84 kg

ORDERING INFORMATION

Full Product Name	UP50N-40S-W9	UP50N-50H-W9	UP50N-50F-W9	UP50N-50W-W9
Product Number (including stand)	200896	200897	200898	200899

a. Nominal value, actual value depends on electrical noise in the measurement system.

b. With Gentec-EO SOLO, UNO, P-LINK and S-LINK-2 monitors.

c. Maximum output voltage = sensitivity x maximum power.

d. Including linearity with power.

e. For 360 μs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).

f. Minimum cooling flow 0.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.

g. At 1064 nm, 10 W CW.

Specifications are subject to change without notice