

UP55N



55 mm Ø, 5 mW - 400 W



Key Features

- 1 **Modular Concept**
Increase the power capability of your detector : 4 different cooling modules
- 2 **High Performance**
 - . Fast Rise Time (2 sec)
 - . High Damage Threshold (45 kW/cm²)
- 3 **Compact Design**
Only 32 mm thick (40S model)
- 4 **Energy Mode**
Measure single shot energy up to 200 J
- 5 **High Quality Stand**
Post threaded on both sides to allow extension
- 6 **Smart Interface**
Containing all the calibration data



UP55N-400W-H9

UP55N-300F-H9



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- . OEM Custom detectors80
- . Compatible monitors
 - SOLO 220
 - UNO22
 - S-LINK-224
 - P-LINK26

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.



SPECIFICATIONS

Models	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55N-400W-H9
				
Max Average Power (continuous)	40 W	100 W	300 W	400 W ^f
Max Average Power (1 minute)	80 W	200 W	300 W	400 W ^f

MEASUREMENT CAPABILITY	40S	100H	300F	400W
Spectral Range	0.19 – 20 μm	0.19 – 20 μm	0.19 – 20 μm	0.19 – 20 μm
Noise Equivalent Power ^a	5 mW	5 mW	15 mW	5 mW
Rise Time (nominal) ^b	2 sec	2 sec	2 sec	2 sec
Sensitivity (typ into 100 k Ω load) ^c	0.12 mV/W	0.12 mV/W	0.06 mV/W	0.12 mV/W
Calibration Uncertainty ^d	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$
Repeatability	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Energy Mode				
Sensitivity	0.028 mV/J	0.028 mV/J	0.015 mV/J	0.028 mV/J
Maximum Measurable Energy ^e	200 J	200 J	200 J	200 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	12 sec	11.1 sec
Maximum Pulse Width	433 ms	433 ms	430 ms	433 ms
Accuracy with energy calibration option	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$

DAMAGE THRESHOLDS

Maximum Average Power Density ^g	45 kW/cm ²	45 kW/cm ²	45 kW/cm ²	45 kW/cm ²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 360 μs , 5 Hz	9 J/cm ²		25 kW/cm ²	
1064 nm, 7 ns, 10 Hz	1 J/cm ²		143 MW/cm ²	
532 nm, 7 ns, 10 Hz	0.6 J/cm ²		86 MW/cm ²	
266 nm, 7 ns, 10 Hz	0.3 J/cm ²		43 MW/cm ²	

PHYSICAL CHARACTERISTICS

Effective Aperture Diameters	55 mm \emptyset	55 mm \emptyset	55 mm \emptyset	55 mm \emptyset
Absorber (High Damage Threshold)	H9	H9	H12	H9
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	1.41 kg	0.84 kg

ORDERING INFORMATION

Full Product Name (55 mm \emptyset)	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55N-400W-H9
Product Number (including stand)	200218	200222	201160	200230

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 $\leq 22^\circ\text{C}$, 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.

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