

# 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/cm<sup>2</sup>)
- 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-300F-H9

UP55N-400W-H9



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## 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 <sup>f</sup>
Max Average Power (1 minute)	80 W	200 W	300 W	400 W <sup>f</sup>

MEASUREMENT CAPABILITY	40S	100H	300F	400W
Spectral Range	0.19 – 20 $\mu\text{m}$	0.19 – 20 $\mu\text{m}$	0.19 – 20 $\mu\text{m}$	0.19 – 20 $\mu\text{m}$
Noise Equivalent Power <sup>a</sup>	5 mW	5 mW	15 mW	5 mW
Rise Time (nominal) <sup>b</sup>	2 sec	2 sec	2 sec	2 sec
Sensitivity (typ into 100 k $\Omega$ load) <sup>c</sup>	0.12 mV/W	0.12 mV/W	0.06 mV/W	0.12 mV/W
Calibration Uncertainty <sup>d</sup>	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$
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 <sup>e</sup>	200 J	200 J	200 J	200 J
Noise Equivalent Energy <sup>a</sup>	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 <sup>g</sup>	45 kW/cm <sup>2</sup>	45 kW/cm <sup>2</sup>	45 kW/cm <sup>2</sup>	45 kW/cm <sup>2</sup>
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 360 $\mu\text{s}$ , 5 Hz	9 J/cm <sup>2</sup>		25 kW/cm <sup>2</sup>	
1064 nm, 7 ns, 10 Hz	1 J/cm <sup>2</sup>		143 MW/cm <sup>2</sup>	
532 nm, 7 ns, 10 Hz	0.6 J/cm <sup>2</sup>		86 MW/cm <sup>2</sup>	
266 nm, 7 ns, 10 Hz	0.3 J/cm <sup>2</sup>		43 MW/cm <sup>2</sup>	

## 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  $\mu\text{s}$  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.