

POWER DETECTORS

AVAILABLE WITH *integra*



See page 36 for details

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# UP55-H

55 mm Ø, 5 mW - 500 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. **SMART INTERFACE**  
Containing all the calibration data
6. **integra OPTIONS**
  - Standard: USB Output (-INT)
  - In Option: RS-232 Output (-IDR)

## AVAILABLE MODELS



UP55N-40S-H9  
(40W-Standalone)



UP55N-100H-H9  
(100W-Heatsink)



UP55N-300F-H12  
(300W-Fan-Cooled)



UP55M-500W-H12  
(500W-Water-Cooled)

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200234)



Extension Cables  
(4, 15, 20 or 25 m)



Fiber Adaptors and Connectors  
(FC, SC or SMA)



3-Port Fiber Cylinder with  
Adaptors and Plug



12V Power Supply  
(Model Number: 200130)



Pelican Carrying Case




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# UP55-H



## SPECIFICATIONS

	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	40 W / 80 W	100 W / 200 W	300 W / 300 W	500 W <sup>1</sup> / 500 W <sup>1</sup>
<b>EFFECTIVE APERTURE</b>	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
<b>COOLING METHOD</b>	Convection	Heatsink	Fan-Cooled	Water-Cooled
<b>MEASUREMENT CAPABILITY</b>				
Spectral Range *	0.19 – 20 µm	0.19 – 20 µm	0.19 – 20 µm	0.19 – 20 µm
Noise Equivalent Power <sup>a</sup>	5 mW	5 mW	15 mW	15 mW
Rise Time (nominal) <sup>b</sup>	2 sec	2 sec	2 sec	2 sec
Sensitivity (typ into 100 kΩ load) <sup>c</sup>	0.12 mV/W	0.12 mV/W	0.06 mV/W	0.06 mV/W
Calibration Uncertainty <sup>d</sup>	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %
<b>Energy Mode</b>				
Sensitivity	0.028 mV/J	0.028 mV/J	0.015 mV/J	0.015 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	12 sec
Maximum Pulse Width	433 ms	433 ms	430 ms	430 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %
<b>DAMAGE THRESHOLDS</b>				
<b>Maximum Average Power Density</b>				
1064 nm, 10 W, CW	45 kW/cm <sup>2</sup>	45 kW/cm <sup>2</sup>	45 kW/cm <sup>2</sup>	45 kW/cm <sup>2</sup>
10.6 µm, 10 W, CW	14 kW/cm <sup>2</sup>	14 kW/cm <sup>2</sup>	14 kW/cm <sup>2</sup>	14 kW/cm <sup>2</sup>
<b>Maximum Energy Density</b>				
1064 nm, 360 µs, 5 Hz	9 J/cm <sup>2</sup>	9 J/cm <sup>2</sup>	9 J/cm <sup>2</sup>	9 J/cm <sup>2</sup>
1064 nm, 7 ns, 10 Hz	1 J/cm <sup>2</sup>	1 J/cm <sup>2</sup>	1 J/cm <sup>2</sup>	1 J/cm <sup>2</sup>
532 nm, 7 ns, 10 Hz	0.6 J/cm <sup>2</sup>	0.6 J/cm <sup>2</sup>	0.6 J/cm <sup>2</sup>	0.6 J/cm <sup>2</sup>
266 nm, 7 ns, 10 Hz	0.3 J/cm <sup>2</sup>	0.3 J/cm <sup>2</sup>	0.3 J/cm <sup>2</sup>	0.3 J/cm <sup>2</sup>
<b>PHYSICAL CHARACTERISTICS</b>				
Effective Aperture	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
Absorber (High Damage Threshold)	H9	H9	H12	H12
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 40D mm
Weight (head only)	0.62 kg	0.93 kg	1.41 kg	0.81 kg
<b>ORDERING INFORMATION</b>				
Product Name	UP55N-40S-H9-D0	UP55N-100H-H9-D0	UP55N-300F-H12-D0	UP55M-500W-H12-D0
Product Number (without stand)	200215	200219	201157	201882
 Add Extension for INTEGRA (USB)	-INT / 202627	-INT / 202629	-INT / 202631	-INT / 203069
 Add Extension for INTEGRA (RS-232)	-IDR / 203387	-IDR / 203379	-IDR / 203384	-IDR / 203377
 Add Extension for BLU	-BLU / 203432	-BLU / 203694	-BLU / 203703	-BLU / 203691
Specifications are subject to change without notice // Compatible stand: P/N 200234				

\* For the calibrated spectral range, see the user manual.

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

b. With anticipation.

c. Maximum output voltage = sensitivity x maximum power.

d. Including linearity with power.

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

f. Minimum cooling flow 1.5 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.

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