

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/cm²)
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

SEE ALSO

HOW IT WORKS	14
CALIBRATION	6
TECHNICAL DRAWINGS	92
ABSORPTION CURVES	96
OEM DETECTORS	146
COMPATIBLE MONITORS	
MAESTRO	20
TUNER	24
UNO	26
S-LINK	28
P-LINK	30
M-LINK	32
LIST OF ALL ACCESSORIES	196
APPLICATION NOTE	
MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS!	202175

MONITORS

ENERGY DETECTORS

POWER DETECTORS

HIGH POWER SOLUTIONS

PHOTO DETECTORS

THZ DETECTORS

OEM DETECTORS

SPECIAL PRODUCTS

BEAM DIAGNOSTICS

UP55-H



*Also traceable to NRC-CNRC

SPECIFICATIONS

	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	40 W / 80 W	100 W / 200 W	300 W / 300 W	500 W † / 500 W †
EFFECTIVE APERTURE	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-Cooled	Water-Cooled
MEASUREMENT CAPABILITY				
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	15 mW
Rise Time (nominal) ^b	2 sec	2 sec	2 sec	2 sec
Sensitivity (typ into 100 kΩ load) ^c	0.12 mV/W	0.12 mV/W	0.06 mV/W	0.06 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	0.028 mV/J	0.028 mV/J	0.015 mV/J	0.015 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	12 sec
Maximum Pulse Width	433 ms	433 ms	430 ms	430 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS				
Maximum Average Power Density				
1064 nm, 10 W, CW	45 kW/cm ²	45 kW/cm ²	45 kW/cm ²	45 kW/cm ²
10.6 µm, 10 W, CW	14 kW/cm ²	14 kW/cm ²	14 kW/cm ²	14 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	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
ORDERING INFORMATION				
Product Name	UP55N-40S-H9	UP55N-100H-H9	UP55N-300F-H12	UP55M-500W-H12
Product Number (Including stand)	200218	200222	201160	201883
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Product Number (Including stand)	202626	202628	202630	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR

Specifications are subject to change without notice

* 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 when customized 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.