



# UP12-H

12 mm Ø, 1 mW - 110 W



## KEY FEATURES

1. **MODULAR CONCEPT**  
Increase the power capability of your detector: 3 different cooling modules
2. **HIGH PERFORMANCE**  
Fast Rise Time (0.3 sec)  
High Damage Threshold (36 kW/cm<sup>2</sup>)
3. **COMPACT DESIGN**  
Only 14 mm thick (10S model)
4. **ENERGY MODE**  
Measure single shot energy up to 5 J
5. **SMART INTERFACE**  
Containing all the calibration data

6. **integra OPTIONS**
  - Standard: USB Output (-INT)
  - In Option: RS-232 Output (-IDR)

## AVAILABLE MODELS



UP12E-10S-H5  
(10W-Standalone)



UP12E-20H-H5  
(20W-Heatsink)



UP12E-70W-H5  
(70W-Water-Cooled)

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200160)



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



Fiber Adaptors and Connectors  
(FC, SC or SMA)



Pelican Carrying Case

## SEE ALSO

HOW IT WORKS	<b>202</b>
CALIBRATION	<b>8</b>
TECHNICAL DRAWINGS	<b>90</b>
ABSORPTION CURVES	<b>94</b>
OEM DETECTORS	<b>146</b>
COMPATIBLE DISPLAYS & PC INTERFACES	
MAESTRO	<b>18</b>
TUNER	<b>22</b>
UNO	<b>24</b>
U-LINK	<b>26</b>
S-LINK	<b>28</b>
LIST OF ALL ACCESSORIES	<b>206</b>

APPLICATION NOTE  
MEASURING LASER POWER WITH A  
THERMOPILE DETECTOR: THE BASICS! [202175](#)

DISPLAYS & PC INTERFACES

ENERGY DETECTORS

POWER DETECTORS

HIGH POWER SOLUTIONS

PHOTODETECTORS

THZ DETECTORS

OEM DETECTORS

SPECIAL PRODUCTS

BEAM DIAGNOSTICS

## UP12-H



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

	UP12E-10S-H5	UP12E-20H-H5	UP12E-70W-H5
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	10 W / 20 W	20 W / 40 W	70 W <sup>f</sup> / 110 W <sup>f</sup>
<b>EFFECTIVE APERTURE</b>	12 mm Ø	12 mm Ø	12 mm Ø
<b>COOLING METHOD</b>	Convection	Heatsink	Water-Cooled
<b>MEASUREMENT CAPABILITY</b>			
Spectral Range *	0.19 – 20 µm	0.19 – 20 µm	0.19 – 20 µm
Noise Equivalent Power <sup>a</sup>	1 mW	1 mW	1 mW
Rise Time (nominal) <sup>b</sup>	0.3 sec	0.3 sec	0.3 sec
Sensitivity (typ into 100 kΩ load) <sup>c</sup>	0.53 mV/W	0.53 mV/W	0.53 mV/W
Calibration Uncertainty <sup>d</sup>	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %
<b>Energy Mode</b>			
Sensitivity	0.84 mV/J	0.84 mV/J	0.84 mV/J
Maximum Measurable Energy <sup>e</sup>	5 J	5 J	5 J
Noise Equivalent Energy <sup>a</sup>	0.02 J	0.02 J	0.02 J
Minimum Repetition Period	1.5 sec	1.5 sec	1.5 sec
Maximum Pulse Width	50 ms	50 ms	50 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %
<b>DAMAGE THRESHOLDS</b>			
Maximum Average Power Density <sup>g</sup>	36 kW/cm <sup>2</sup>	36 kW/cm <sup>2</sup>	36 kW/cm <sup>2</sup>
<b>Maximum Energy Density</b>			
1064 nm, 360 µs, 5 Hz	5 J/cm <sup>2</sup>	5 J/cm <sup>2</sup>	5 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>
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>
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>
<b>PHYSICAL CHARACTERISTICS</b>			
Effective Aperture	12 mm Ø	12 mm Ø	12 mm Ø
Absorber (High Damage Threshold)	H5	H5	H5
Dimensions	38H x 38W x 14D mm	38H x 38W x 45D mm	38H x 38W x 32D mm
Weight (head only)	0.13 kg	0.15 kg	0.19 kg
<b>ORDERING INFORMATION</b>			
Product Name	UP12E-10S-H5-D0	UP12E-20H-H5-D0	UP12E-70W-H5-D0
Product Number (without stand)	200383	200385	200389
Add Extension for INTEGRA (USB)	-INT	-INT	-INT
Product Number (without stand)	202613	202615	203037
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR

Specifications are subject to change without notice // Compatible stand: P/N 200160

\* 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 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.