

# UP19K-H



19 mm Ø, 1 mW - 190 W



## Key Features

- 1 **Modular Concept**  
Increase the power capability of your detector : 5 different cooling modules
- 2 **High Performance**
  - . Fast Rise Time (0.6 sec)
  - . High Damage Threshold (45 kW/cm<sup>2</sup>)
- 3 **Compact Design**  
Only 21 mm thick (15S model)
- 4 **Energy Mode**  
Measure single shot energy up to 15 J
- 5 **High Quality Stand**  
Post threaded on both sides to allow extension
- 6 **Smart Interface**  
Containing all the calibration data

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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.








» **Isolation Tube for low powers**  
This tube increases the performance of the UP19K detectors in the low mW range.

» **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	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5
					
Max Average Power (continuous)	15 W	30 W	50 W	110 W	150 W <sup>f</sup>
Max Average Power (1 minute)	30 W	60 W	90 W	150 W	190 W <sup>f</sup>

MEASUREMENT CAPABILITY	15S	30H	50L	110F	150W
Spectral Range	0.19 – 20 μm	0.19 – 20 μm	0.19 – 20 μm	0.19 – 20 μm	0.19 – 20 μm
Noise Equivalent Power <sup>a</sup>	1 mW	1 mW	1 mW	3 mW	1 mW
Rise Time (nominal) <sup>b</sup>	0.6 sec	0.6 sec	0.6 sec	1.5 sec	0.6 sec
Sensitivity (typ into 100 kΩ load) <sup>c</sup>	0.65 mV/W	0.65 mV/W	0.65 mV/W	0.23 mV/W	0.65 mV/W
Calibration Uncertainty <sup>d</sup>	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode					
Sensitivity	0.65 mV/J	0.65 mV/J	0.65 mV/J	0.23 mV/J	0.65 mV/J
Maximum Measurable Energy <sup>e</sup>	15 J	15 J	15 J	25 J	15 J
Noise Equivalent Energy <sup>a</sup>	0.02 J	0.02 J	0.02 J	0.06 J	0.02 J
Minimum Repetition Period	4 sec	4 sec	4 sec	4 sec	4 sec
Maximum Pulse Width	88 ms	88 ms	88 ms	88 ms	88 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %	±5 %

## DAMAGE THRESHOLDS

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>	45 kW/cm <sup>2</sup>	36 kW/cm <sup>2</sup>
Pulsed Laser Damage Thresholds	Max Energy Density			Peak Power Density	
1064 nm, 360 μs, 5 Hz	5 J/cm <sup>2</sup> (H5), 9 J/cm <sup>2</sup> (H9)			14 kW/cm <sup>2</sup> (H5), 25 kW/cm <sup>2</sup> (H9)	
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 Diameter	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø
Absorber (High Damage Threshold)	H5	H5	H5	H9	H5
Dimensions	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm	76.2H x 76.2W x 74.7D mm	54.2H x 54.2W x 55.6D mm	50H x 50W x 33D mm
Weight (head only)	0.16 kg	0.21 kg	0.48 kg	0.25 kg	0.24 kg

## ORDERING INFORMATION

Full Product Name	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5
Product Number (including stand)	200173	200174	200175	200996	200177

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 ≤ 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.

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### Calibration Centers

Quebec City, Canada  
Olching (Munich), Germany

### Distributed in the UK by

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