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# UP19-H

19 mm Ø, 1 mW - 200 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 20.6 mm thick (155 model)
- 4. ENERGY MODE**  
Measure single shot energy up to 15 J
- 5. SMART INTERFACE**  
Containing all the calibration data

## AVAILABLE MODELS



UP19K-15S-H5  
(15W-Standalone)



UP19K-30H-H5  
(30W-Heatsink)



UP19K-50L-H5  
(50W-Large Heatsink)



UP19K-110F-H9  
(110W-Fan-Cooled)



UP19K-150W-H5  
(150W-Water-Cooled)



UP19K-200W-H9  
(200W-Water-Cooled)

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200160)



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



Isolation Tube  
(Model Number: 202376)



Fiber Adaptors and Connectors  
(FC, SC or SMA)



12V Power Supply  
(Model Number: 200130)



Pelican Carrying Case

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# UP19-H

## SPECIFICATIONS



\*Also traceable to NRC-CNRC

	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5	UP19K-200W-H9
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	15 W / 30 W	30 W / 60 W	50 W / 90 W	110 W / 150 W	150 W <sup>f</sup> / 190 W <sup>f</sup>	200 W <sup>f</sup> / 200 W <sup>f</sup>
<b>EFFECTIVE APERTURE</b>	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø
<b>COOLING METHOD</b>	Convection	Heatsink	Large Heatsink	Fan-Cooled	Water-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	0.19 – 20 µm	0.19 – 20 µm
Noise Equivalent Power <sup>a</sup>	1 mW	1 mW	1 mW	3 mW	1 mW	3 mW
Rise Time (nominal) <sup>b</sup>	0.6 sec	0.6 sec	0.6 sec	1.5 sec	0.6 sec	1.5 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	0.23 mV/W
Calibration Uncertainty <sup>d</sup>	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±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	0.23 mV/J
Maximum Measurable Energy <sup>e</sup>	15 J	15 J	15 J	25 J	15 J	25 J
Noise Equivalent Energy <sup>a</sup>	0.02 J	0.02 J	0.02 J	0.06 J	0.02 J	0.06 J
Minimum Repetition Period	4 sec	4 sec	4 sec	4 sec	4 sec	4 sec
Maximum Pulse Width	88 ms	88 ms	88 ms	88 ms	88 ms	88 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±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>	45 kW/cm <sup>2</sup>	36 kW/cm <sup>2</sup>	45 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>		
<b>PHYSICAL CHARACTERISTICS</b>						
Effective Aperture	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø
Absorber (High Damage Threshold)	H5	H5	H5	H9	H5	H9
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	50H x 50W x 33D mm
Weight (head only)	0.16 kg	0.21 kg	0.48 kg	0.25 kg	0.24 kg	0.24 kg
<b>ORDERING INFORMATION</b>						
Product Name	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5	UP19K-200W-H9
Product Number (Including stand)	200173	200174	200175	200996	200177	200583
INTEGRA Product Name	UP19K-15S-H5-INT	UP19K-30H-H5-INT	UP19K-50L-H5-INT	UP19K-110F-H9-INT	UP19K-150W-H5-INT	

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

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

b. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK 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.

Specifications are subject to change without notice