



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/cm²)
3. **COMPACT DESIGN**
Only 20.6 mm thick (15S model)
4. **ENERGY MODE**
Measure single shot energy up to 25 J
5. **SMART INTERFACE**
Containing all the calibration data

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

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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MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS!	202175

UP19-H



*Also traceable to NRC-CNRC

SPECIFICATIONS

	UP19K-15S-H5	UP19K-30H-H5	UP19K-50L-H5	UP19K-110F-H9	UP19K-150W-H5	UP19K-200W-H9
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	15 W / 30 W	30 W / 60 W	50 W / 90 W	110 W / 150 W	150 W [†] / 190 W [†]	200 W [†] / 200 W [†]
EFFECTIVE APERTURE	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø	19 mm Ø
COOLING METHOD	Convection	Heatsink	Large Heatsink	Fan-Cooled	Water-Cooled	Water-Cooled
MEASUREMENT CAPABILITY						
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 ^a	1 mW	1 mW	1 mW	3 mW	1 mW	3 mW
Rise Time (nominal) ^b	0.6 sec	0.6 sec	0.6 sec	1.5 sec	0.6 sec	1.5 sec
Sensitivity (typ into 100 kΩ load) ^c	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 ^d	±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 ^e	15 J	15 J	15 J	25 J	15 J	25 J
Noise Equivalent Energy ^a	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 %
DAMAGE THRESHOLDS						
Maximum Average Power Density ^g	36 kW/cm ²	36 kW/cm ²	36 kW/cm ²	45 kW/cm ²	36 kW/cm ²	45 kW/cm ²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density			
1064 nm, 360 µs, 5 Hz	5 J/cm ² (H5), 9 J/cm ² (H9)		14 kW/cm ² (H5), 25 kW/cm ² (H9)			
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	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
ORDERING INFORMATION						
Product Name	UP19K-15S-H5-D0	UP19K-30H-H5-D0	UP19K-50L-H5-D0	UP19K-110F-H9-D0	UP19K-150W-H5-D0	UP19K-200W-H9-D0
Product Number (without stand)	200142	200143	200164	200994	200144	200582
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT	-INT
Product Number (without stand)	202617	202619	202621	202623	202625	203045
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR	-IDR
Add Extension for BLU	-BLU	-BLU		-BLU	-BLU	-BLU
Product Number (without stand)	203433	203643		203631	203634	203655

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 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.