



# UP19-W

19 mm Ø, 1 mW - 85 W, 100 kW/cm<sup>2</sup>



## KEY FEATURES

1. **MODULAR CONCEPT**  
Increase the power capability of your detector:  
5 different cooling modules
2. **VERY HIGH DAMAGE THRESHOLD**  
100 kW/cm<sup>2</sup> in average power density
3. **COMPACT DESIGN**  
Only 21 mm thick (15S 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



UP19K-15S-W5  
(15W-Standalone)



UP19K-30H-W5  
(30W-Heatsink)



UP19K-50L-W5  
(50W-Large Heatsink)



UP19K-50F-W5  
(50W-Fan-Cooled)



UP19K-50W-W5  
(50W-Water-Cooled)

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200160)



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



12V Power Supply  
(Model Number: 200130)



Pelican Carrying Case

## SEE ALSO

HOW IT WORKS	202
CALIBRATION	6
TECHNICAL DRAWINGS	98
ABSORPTION CURVES	102
OEM DETECTORS	150
COMPATIBLE DISPLAYS & PC INTERFACES	
MAESTRO	18
TUNER	22
UNO	24
S-LINK	26
P-LINK	28
M-LINK	32
LIST OF ALL ACCESSORIES	206
APPLICATION NOTE	
MEASURING LASER POWER WITH A THERMOPILE DETECTOR: THE BASICS!	202175

## UP19-W



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

	UP19K-15S-W5	UP19K-30H-W5	UP19K-50L-W5	UP19K-50F-W5	UP19K-50W-W5
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	15 W / 30 W	30 W / 60 W	50 W / 85 W	50 W / 85 W	50 W <sup>f</sup> / 85 W <sup>f</sup>
<b>EFFECTIVE APERTURE</b>	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
<b>MEASUREMENT CAPABILITY</b>					
Spectral Range *	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm
Noise Equivalent Power <sup>a</sup>	1 mW	1 mW	1 mW	1 mW	1 mW
Rise Time (nominal) <sup>b</sup>	1.4 sec	1.4 sec	1.4 sec	1.4 sec	1.4 sec
Sensitivity (typ into 100 kΩ load) <sup>c</sup>	0.65 mV/W	0.65 mV/W	0.65 mV/W	0.65 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 %
<b>Energy Mode</b>					
Sensitivity	0.33 mV/J	0.33 mV/J	0.33 mV/J	0.33 mV/J	0.33 mV/J
Maximum Measurable Energy <sup>e</sup>	200 J	200 J	200 J	200 J	200 J
Noise Equivalent Energy <sup>a</sup>	0.02 J	0.02 J	0.02 J	0.02 J	0.02 J
Minimum Repetition Period	5 sec	5 sec	5 sec	5 sec	5 sec
Maximum Pulse Width	133 ms	133 ms	133 ms	133 ms	133 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %	±5 %
<b>DAMAGE THRESHOLDS</b>					
Maximum Average Power Density <sup>g</sup>	100 kW/cm <sup>2</sup>	100 kW/cm <sup>2</sup>	100 kW/cm <sup>2</sup>	100 kW/cm <sup>2</sup>	100 kW/cm <sup>2</sup>
<b>Maximum Energy Density</b>					
1064 nm, 150 µs, 10 Hz	100 J/cm <sup>2</sup>	100 J/cm <sup>2</sup>	100 J/cm <sup>2</sup>	100 J/cm <sup>2</sup>	100 J/cm <sup>2</sup>
1064 nm, 7 ns, 10 Hz	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>
532 nm, 7 ns, 10 Hz	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>	1.1 J/cm <sup>2</sup>
248 nm, 26 ns, 10 Hz	0.7 J/cm <sup>2</sup>	0.7 J/cm <sup>2</sup>	0.7 J/cm <sup>2</sup>	0.7 J/cm <sup>2</sup>	0.7 J/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
Absorber (High Damage Threshold)	W5	W5	W5	W5	W5
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
<b>ORDERING INFORMATION</b>					
Product Name	UP19K-15S-W5-D0	UP19K-30H-W5-D0	UP19K-50L-W5-D0	UP19K-50F-W5-D0	UP19K-50W-W5-D0
Product Number (without stand)	200282	200284	200331	200334	200337
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT
Product Number (without stand)	202633	202635	202637	203047	203049
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR
Product Number (without stand)	203341	203349	203355	203351	203357
Add Extension for BLU	-BLU	-BLU	-BLU	-BLU	-BLU
Product Number (without stand)	203640	203649	203658	203658	203661

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 150 µs pulses. Higher pulse energy possible for long pulses (ms), less for short pulses (ns).

f. Minimum cooling flow 1 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.