



# UP19-VR

18 mm Ø, 2 mW - 35 W, Volume Absorber



## KEY FEATURES

- 1. MODULAR CONCEPT**  
Increase the power capability of your detector: 2 different cooling modules
- 2. HIGH PEAK POWER VOLUME ABSORBER**
  - Perfect for high density beams
  - Average power density of 700 W/cm<sup>2</sup> prevents degradation caused by repetitive pulses
- 3. COMPACT DESIGN**  
Only 21 mm thick (15S model)
- 4. ENERGY MODE**  
Measure single shot energy up to 40 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-VR  
(15W-Standalone)



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

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200160)



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



Pelican Carrying Case

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## APPLICATION NOTE

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

## UP19-VR



## SPECIFICATIONS

	UP19K-15S-VR	UP19K-30H-VR
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	15 W / 20 W	30 W / 35 W
<b>EFFECTIVE APERTURE</b>	18 mm Ø	18 mm Ø
<b>COOLING METHOD</b>	Convection	Heatsink
<b>MEASUREMENT CAPABILITY</b>		
Spectral Range *a	0.3 – 2.5 µm	0.3 – 2.5 µm
Noise Equivalent Power <sup>b</sup>	2 mW	2 mW
Rise Time (nominal) <sup>c</sup>	2.5 sec	2.5 sec
Sensitivity (typ into 100 kΩ load) <sup>d</sup>	0.34 mV/W	0.34 mV/W
Calibration Uncertainty <sup>e</sup>	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %
<b>Energy Mode</b>		
Sensitivity	0.1 mV/J	0.1 mV/J
Maximum Measurable Energy <sup>f</sup>	40 J	40 J
Noise Equivalent Energy <sup>b</sup>	0.02 J	0.02 J
Minimum Repetition Period	4.5 sec	4.5 sec
Maximum Pulse Width	90 ms	90 ms
Accuracy with energy calibration option	±5 %	±5 %
<b>DAMAGE THRESHOLDS</b>		
Maximum Average Power Density <sup>g</sup>	700 W/cm <sup>2</sup>	700 W/cm <sup>2</sup>
Pulsed Laser Damage Thresholds	Max Energy Density	Peak Power Density
1064 nm, 360 µs, 10 Hz	40 J/cm <sup>2</sup>	111 kW/cm <sup>2</sup>
1064 nm, 7 ns, 10 Hz	6 J/cm <sup>2</sup>	860 MW/cm <sup>2</sup>
532 nm, 7 ns, 10 Hz	4 J/cm <sup>2</sup>	570 MW/cm <sup>2</sup>
266 nm, 7 ns, 10 Hz	1 J/cm <sup>2</sup>	143 MW/cm <sup>2</sup>
<b>PHYSICAL CHARACTERISTICS</b>		
Effective Aperture	18 mm Ø	18 mm Ø
Absorber (Volume Absorber)	VR	VR
Dimensions	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm
Weight (head only)	0.16 kg	0.21 kg
<b>ORDERING INFORMATION</b>		
Product Name	UP19K-15S-VR	UP19K-30H-VR
Product Number (Including stand)	201149	201150
Add Extension for INTEGRA (USB)	-INT	-INT
Product Number (Including stand)	202638	202640
Add Extension for INTEGRA (RS-232)	-IDR	-IDR

Specifications are subject to change without notice

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

- a. Adjustment multipliers for wavelengths under 300 nm are not traceable.  
 b. Nominal value, actual value depends on electrical noise in the measurement system.  
 c. With anticipation.  
 d. Maximum output voltage = sensitivity x maximum power.

- e. Including linearity with power.  
 f. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).  
 g. At 1064 nm, 10 W CW.