



# UP16-QED

16 mm Ø, 4 mW - 100 W, Volume Absorber



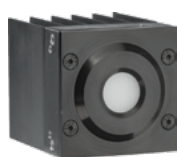
## KEY FEATURES

- 1. MODULAR CONCEPT**  
Increase the power capability of your detector:  
3 different cooling modules
- 2. HIGH PEAK POWER VOLUME ABSORBER**  
Perfect for pulsed beams with high energy density
- 3. COMPACT DESIGN**  
Only 24 mm thick (15S model)
- 4. ENERGY MODE**  
Measure single shot energy up to 500 J
- 5. SMART INTERFACE**  
Containing all the calibration data
- 6. integra OPTIONS**
  - Standard: USB Output (-INT)
  - In Option: RS-232 Output (-IDR)

## AVAILABLE MODELS



UP16K-15S-QED  
(15W-Standalone)



UP16K-30H-QED  
(30W-Heatsink)



UP16K-100W-QED  
(100W-Water-Cooled)

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200160)



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



Pelican Carrying Case

## SEE ALSO

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## APPLICATION NOTE

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

DISPLAYS & PC INTERFACES  
ENERGY DETECTORS  
POWER DETECTORS  
HIGH POWER SOLUTIONS  
PHOTODETECTORS  
THZ DETECTORS  
OEM DETECTORS  
SPECIAL PRODUCTS  
BEAM DIAGNOSTICS

## UP16-QED



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

	UP16K-15S-QED	UP16K-30H-QED	UP16K-100W-QED
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	15 W / 20 W	30 W / 35 W	100 W / 100 W
<b>EFFECTIVE APERTURE</b>	16 mm Ø	16 mm Ø	16 mm Ø
<b>COOLING METHOD</b>	Convection	Heatsink	Water-Cooled
<b>MEASUREMENT CAPABILITY</b>			
Spectral Range <sup>*a</sup>	0.3 – 2.5 µm	0.3 – 2.5 µm	0.3 – 2.5 µm
Noise Equivalent Power <sup>b</sup>	4 mW	4 mW	4 mW
Rise Time (nominal) <sup>c</sup>	2.5 sec	2.5 sec	2.5 sec
Sensitivity (typ into 100 kΩ load) <sup>d</sup>	0.11 mV/W	0.11 mV/W	0.11 mV/W
Calibration Uncertainty <sup>e</sup>	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %
<b>Energy Mode</b>			
Sensitivity	0.1 mV/J	0.1 mV/J	0.1 mV/J
Maximum Measurable Energy <sup>f</sup>	500 J	500J	500 J
Noise Equivalent Energy <sup>b</sup>	60 mJ	60 mJ	60 mJ
Minimum Repetition Period	4 sec	4 sec	4 sec
Maximum Pulse Width	61 ms	61 ms	61 ms
Accuracy with energy calibration option	±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>
<b>Maximum Energy Density</b>			
1064 nm, 360 µs, 5 Hz	300 J/cm <sup>2</sup>	300 J/cm <sup>2</sup>	300 J/cm <sup>2</sup>
1064 nm, 7 ns, 10 Hz	8 J/cm <sup>2</sup>	8 J/cm <sup>2</sup>	8 J/cm <sup>2</sup>
532 nm, 7 ns, 10 Hz	6 J/cm <sup>2</sup>	6 J/cm <sup>2</sup>	6 J/cm <sup>2</sup>
266 nm, 7 ns, 10 Hz	1 J/cm <sup>2</sup>	1 J/cm <sup>2</sup>	1 J/cm <sup>2</sup>
<b>PHYSICAL CHARACTERISTICS</b>			
Effective Aperture	16 mm Ø	16 mm Ø	16 mm Ø
Absorber (Volume Absorber)	QED	QED	QED
Dimensions	50H x 50W x 23.6D mm	50H x 50W x 59.3D mm	50H x 50W x 36D
Weight (head only)	0.16 kg	0.21 kg	0.24 kg
<b>ORDERING INFORMATION</b>			
Product Name	UP16K-15S-QED	UP16K-30H-QED	UP16K-100W-QED
Product Number (without stand)	203876	203877	203879
Add Extension for INTEGRA (USB)	-INT	-INT	-INT
Product Number (without stand)	205182	205193	205194
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR
Product Number (without stand)	205199	205200	205201
Add Extension for BLU	-BLU	-BLU	-BLU
Product Number (without stand)	Call	Call	Call

Specifications are subject to change without notice // Compatible stand: P/N 200160

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

- a. Adjustment multipliers for wavelengths under 532 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 for long pulses (ms), less for short pulses (ns).  
 g. At 1064 nm, 10 W CW.