

UP19K-W5

17 mm Ø, 1 mW - 85 W, 100 kW/cm²



KEY FEATURES

- 1 Modular Concept**
Increase the power capability of your detector:
5 different cooling modules
- 2 Very High Damage Threshold**
100 kW/cm² 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

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



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



12V Power Supply
(for Fan-Cooled version)



Pelican Carrying Case

SEE ALSO

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| HOW IT WORKS | 12 |
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MONITORS
ENERGY DETECTORS
POWER DETECTORS
OPTICAL DETECTORS
THZ DETECTORS
OEM DETECTORS
CALORIMETERS
DIFFRACTIVE OPTICS
BEAM DIAGNOSTICS

UP19K-W5

SPECIFICATIONS



*Also traceable to NRC-CNRC

| MODELS | UP19K-15S-W5 | UP19K-30H-W5 | UP19K-50L-W5 | UP19K-50F-W5 | UP19K-50W-W5 |
|--|--------------|--------------|----------------|--------------|---------------------------------------|
| MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE) | 15 W / 30 W | 30 W / 60 W | 50 W / 85 W | 50 W / 85 W | 50 W ^f / 85 W ^f |
| EFFECTIVE APERTURE | 17 mm Ø | 17 mm Ø | 17 mm Ø | 17 mm Ø | 17 mm Ø |
| COOLING METHOD | Convection | Heatsink | Large Heatsink | Fan-Cooled | Water-Cooled |

MEASUREMENT CAPABILITY

| | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|
| Spectral Range | 0.19 – 10 µm | 0.19 – 10 µm | 0.19 – 10 µm | 0.19 – 10 µm | 0.19 – 10 µm |
| Noise Equivalent Power ^a | 1 mW | 1 mW | 1 mW | 1 mW | 1 mW |
| Rise Time (nominal) ^b | 1.4 sec | 1.4 sec | 1.4 sec | 1.4 sec | 1.4 sec |
| Sensitivity (typ into 100 kΩ load) ^c | 0.65 mV/W | 0.65 mV/W | 0.65 mV/W | 0.65 mV/W | 0.65 mV/W |
| Calibration Uncertainty ^d | ±2.5 % | ±2.5 % | ±2.5 % | ±2.5 % | ±2.5 % |
| Repeatability | ±0.5 % | ±0.5 % | ±0.5 % | ±0.5 % | ±0.5 % |
| Energy Mode | | | | | |
| Sensitivity | 0.33 mV/J | 0.33 mV/J | 0.33 mV/J | 0.33 mV/J | 0.33 mV/J |
| Maximum Measurable Energy ^e | 200 J | 200 J | 200 J | 200 J | 200 J |
| Noise Equivalent Energy ^a | 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 % |

DAMAGE THRESHOLDS

| | | | | | |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|
| Maximum Average Power Density ^g | 100 kW/cm ² | 100 kW/cm ² | 100 kW/cm ² | 100 kW/cm ² | 100 kW/cm ² |
| Pulsed Laser Damage Thresholds | Max Energy Density | | Peak Power Density | | |
| 1064 nm, 150 µs, 10 Hz | 100 J/cm ² | | 667 kW/cm ² | | |
| 1064 nm, 7 ns, 10 Hz | 1.1 J/cm ² | | 157 MW/cm ² | | |
| 532 nm, 7 ns, 10 Hz | 1.1 J/cm ² | | 157 MW/cm ² | | |
| 248 nm, 26 ns, 10 Hz | 0.7 J/cm ² | | 27 MW/cm ² | | |

PHYSICAL CHARACTERISTICS

| | | | | | |
|----------------------------------|-------------------------|-------------------------|-----------------------------|-----------------------------|-----------------------|
| Effective Aperture Diameter | 17 mm Ø | 17 mm Ø | 17 mm Ø | 17 mm Ø | 17 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 |

ORDERING INFORMATION

| | | | | | |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|
| Full Product Name | UP19K-15S-W5 | UP19K-30H-W5 | UP19K-50L-W5 | UP19K-50F-W5 | UP19K-50W-W5 |
| Product Number (Including stand) | 200295 | 200296 | 200297 | 200299 | 200300 |

a. Nominal value, actual value depends on electrical noise in the measurement system.
 b. With Gentec-EO MAESTRO, UNO, P-LINK and S-LINK-2 monitors.
 c. Maximum output voltage = sensitivity x maximum power.
 d. Including linearity with power.

e. For 150 µs pulses. Higher pulse energy possible when customized 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.

Specifications are subject to change without notice