gentec-eo
PARTNERS for ACCURACY

UP16K-100W-QED-D0

Thermal detector for laser power measurement up to 100 W.

PRODUCT FAMILY KEY FEATURES

MODULAR CONCEPT

Increase the power capability of your detector: 4 different cooling modules

HIGH PEAK POWER DIFFUSING ABSORBER

Perfect for pulsed beams with high energy density

COMPACT DESIGN

36 mm thick

HIGH AVERAGE POWER

Measure up to 100 W of continuous power

SMART INTERFACE

Containing all the calibration data

AWARD-WINNING TECHNOLOGY

The UP-QED laser power detectors for extremely high density lasers were recognized among the most innovative photonics technologies for the 2021 Laser Focus World Innovators Awards, as a Gold honoree.

COMPATIBLE STAND

STAND-S-233

SPECIFICATIONS

MEASUREMENT CAPABILITIES

Maximum average power (continuous)[1]	100 W
Maximum average power (1 minute)[2]	100 W
Noise equivalent power[3]	4 mW
Spectral range[4]	0.266 - 2.5 µm
Typical rise time[5]	2.5 s
Power calibration uncertainty[6]	±2.5 %
Repeatability	±0.5 %

1. 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.
2. 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.
3. Nominal value, actual value depends on electrical noise in the measurement system.
4. For the calibrated spectral range, see the user manual.
5. With anticipation.
6. Including linearity with power.

MEASUREMENT CAPABILITIES (ENERGY MODE)

Maximum measurable energy[1]	500 J
Noise equivalent energy[2]	0.06 J
Minimum repetition period	4 s
Maximum pulse width	61 ms
Energy calibration uncertainty[3]	±5 %

1. For 360 µs pulses. Higher pulse energy possible for long pulses (ms), less for short pulses (ns).

2. Nominal value, actual value depends on electrical noise in the measurement system.
3. When single-shot energy calibration is purchased

DAMAGE THRESHOLDS

Maximum average power density[1]	100 kW/cm²
Maximum energy density[2]	8 J/cm²

1. At 1064 nm, 10 W CW. May vary with wavelength and average power.
2. At 1064 nm, 7 ns, 10 Hz. May vary with wavelength and pulse width.

PHYSICAL CHARACTERISTICS

Cooling	Water
Aperture diameter	16 mm
Absorber	QED
Dimensions	50H x 50W x 38D mm
Weight	0.24 kg

ORDERING INFORMATION

UP16K-100W-QED-D0	203879
UP16K-100W-QED-BLU-D0	TBD
UP16K-100W-QED-IDR-D0	205201
UP16K-100W-QED-INT-D0	205194

Specifications are subject to change without notice. Refer to the user manual for complete specifications.