



## UP52N-100H-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

106 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-443](#)

## SPECIFICATIONS

### MEASUREMENT CAPABILITIES

|  |                           |
|--|---------------------------|
| Maximum average power (continuous)         | 100 W                     |
| Maximum average power (1 minute)           | 100 W                     |
| Noise equivalent power <sup>1</sup>        | 15 mW                     |
| Spectral range <sup>2</sup>                | 0.266 - 2.5 $\mu\text{m}$ |
| Typical rise time <sup>3</sup>             | 4 s                       |
| Power calibration uncertainty <sup>4</sup> | $\pm 2.5\%$               |
| Repeatability                              | $\pm 0.5\%$               |

1. Nominal value, actual value depends on electrical noise in the measurement system.

2. For the calibrated spectral range, see the user manual.

3. With anticipation.

4. Including linearity with power.

### MEASUREMENT CAPABILITIES (ENERGY MODE)

|   |           |
|---|-----------|
| Maximum measurable energy <sup>1</sup>      | 1000 J    |
| Noise equivalent energy <sup>2</sup>        | 0.25 J    |
| Minimum repetition period                   | 9 s       |
| Maximum pulse width                         | 371 ms    |
| Energy calibration uncertainty <sup>3</sup> | $\pm 5\%$ |

1. For 360  $\mu\text{s}$  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 <sup>1</sup>  | 100 kW/cm <sup>2</sup> |
| Maximum energy density <sup>2</sup>   | 8 J/cm <sup>2</sup>    |
| <p>1. At 1064 nm, 10 W CW. May vary with wavelength and average power.<br/>                 2. At 1064 nm, 7 ns, 10 Hz. May vary with wavelength and pulse width.</p> |                        |

**PHYSICAL CHARACTERISTICS**

|                   |                       |
|-------------------|-----------------------|
| Cooling           | Convection (heatsink) |
| Aperture diameter | 52 mm                 |
| Absorber          | QED                   |
| Dimensions        | 89H x 89W x 106D mm   |
| Weight            | 0.93 kg               |

**ORDERING INFORMATION**

|                       |        |
|-----------------------|--------|
| UP52N-100H-QED-D0     | 203881 |
| UP52N-100H-QED-BLU-D0 | TBD    |
| UP52N-100H-QED-IDR-D0 | 205203 |
| UP52N-100H-QED-INT-D0 | 205196 |

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

**INTERESTED IN THIS PRODUCT?**

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