



# QE25

25 x 25 mm, 2  $\mu$ J - 23 J



## KEY FEATURES

- MODULAR CONCEPT**  
Increase the power capability of your detector:  
2 different cooling modules
- LOW NOISE LEVEL**  
2  $\mu$ J for the MT coating
- QED ATTENUATOR AVAILABLE**
  - Measure up to 5X higher energies
  - Available with optional calibration, all wavelengths between 532 & 1064 nm, or single wavelength
- HIGH REPETITION RATE OPTIONS**
  - QE-MB: 300 Hz (Standard)
  - QE-MB: 1 000 Hz (Upon Request)
  - QE-MT: 6 000 Hz (Standard)
- TEST TARGET INCLUDED**  
With the MB models
- SMART INTERFACE**  
Containing all the calibration data

## AVAILABLE MODELS



QE25LP-S-MB  
(Broadband-Convection)



QE25LP-H-MB  
(Broadband-Heatsink)



QE25SP-S-MT  
(Metallic-Convection)



QE25SP-H-MT  
(Metallic-Heatsink)

## ACCESSORIES



Stand with Delrin Post  
(Model Number: 200428)



DB-15 to BNC Adaptor  
(Model Number: 200036)



QE25 Attenuator  
(Model Number: 201199)



Pelican Carrying Case

## SEE ALSO

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| LONG PULSE JOULEMETER<br>IN BURST MODE | 202153 |
| QEAS: UV ATTENUATOR                    | 202185 |

## QE25

## SPECIFICATIONS

|                                                                                                               | QE25LP-S-MB                |                              | QE25LP-H-MB                       |                              | QE25SP-S-MT             |                              | QE25SP-H-MT                       |                              |
|---------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------|-----------------------------------|------------------------------|-------------------------|------------------------------|-----------------------------------|------------------------------|
| MAX MEASURABLE ENERGY (WITH ATTENUATOR)                                                                       | 23 J                       |                              | 23 J                              |                              | 10 J                    |                              | 10 J                              |                              |
| MAX REPETITION FREQUENCY                                                                                      | 300 Hz                     |                              | 300 Hz                            |                              | 6000 Hz                 |                              | 6000 Hz                           |                              |
| EFFECTIVE APERTURE                                                                                            | 25 x 25 mm                 |                              | 25 x 25 mm                        |                              | 25 x 25 mm              |                              | 25 x 25 mm                        |                              |
| MEASUREMENT CAPABILITY                                                                                        |                            |                              |                                   |                              |                         |                              |                                   |                              |
| Spectral Range *                                                                                              | Alone                      | Attenuator                   | Alone                             | Attenuator                   | Alone                   | Attenuator                   | Alone                             | Attenuator                   |
|                                                                                                               | 0.19–20 μm                 | 0.3- 2.1 μm <sup>a</sup>     | 0.19–20 μm                        | 0.3- 2.1 μm <sup>a</sup>     | 0.19–20 μm <sup>b</sup> | 0.3 - 2.1 μm <sup>a</sup>    | 0.19–20 μm <sup>b</sup>           | 0.3 - 2.1 μm <sup>a</sup>    |
| Maximum Measurable Energy <sup>c</sup>                                                                        | Alone                      | Attenuator                   | Alone                             | Attenuator                   | Alone                   | Attenuator                   | Alone                             | Attenuator                   |
| 1064 nm, 7 ns, 10 Hz <sup>d</sup>                                                                             | 3.8 J                      | 23 J                         | 3.8 J                             | 23 J                         | 3.0 J                   | 10 J                         | 3.0 J                             | 10 J                         |
| 266 nm, 7 ns, 10 Hz                                                                                           | 3.1 J                      | 4.8 J                        | 3.1 J                             | 4.8 J                        | 0.44 J                  | 1.45 J                       | 0.44 J                            | 1.45 J                       |
| Noise Equivalent Energy <sup>e</sup>                                                                          | 4 μJ                       |                              | 4 μJ                              |                              | 2 μJ                    |                              | 2 μJ                              |                              |
| Sensitivity <sup>f, g</sup>                                                                                   | 10 V/J                     |                              | 10 V/J                            |                              | 20 V/J                  |                              | 20 V/J                            |                              |
| Max Repetition Frequency                                                                                      | 300 Hz (1000 Hz in option) |                              | 300 Hz (1000 Hz in option)        |                              | 6000 Hz <sup>h</sup>    |                              | 6000 Hz <sup>h</sup>              |                              |
| Maximum Pulse Width (typical)                                                                                 | 400 μs <sup>**</sup>       |                              | 400 μs <sup>**</sup>              |                              | 10 μs                   |                              | 10 μs                             |                              |
| Rise Time (typical 0-100 %)                                                                                   | 550 μs                     |                              | 550 μs                            |                              | 20 μs                   |                              | 20 μs                             |                              |
| Calibration Uncertainty <sup>i</sup>                                                                          | ±3 %                       |                              | ±3 %                              |                              | ±3 %                    |                              | ±3 %                              |                              |
| Repeatability                                                                                                 | <0.5 %                     |                              | <0.5 %                            |                              | <0.5 %                  |                              | <0.5 %                            |                              |
| DAMAGE THRESHOLDS                                                                                             |                            |                              |                                   |                              |                         |                              |                                   |                              |
| Maximum Average Power                                                                                         | Alone                      | Attenuator                   | Alone                             | Attenuator                   | Alone                   | Attenuator                   | Alone                             | Attenuator                   |
| All Wavelengths                                                                                               | 5 W                        | 15 W                         | 10 W                              | 30 W                         | 5 W                     | 15 W                         | 10 W                              | 30 W                         |
| Maximum Energy Density                                                                                        | Alone                      | Attenuator                   | Alone                             | Attenuator                   | Alone                   | Attenuator                   | Alone                             | Attenuator                   |
| 1064 nm, 7 ns, single shot                                                                                    | 0.6 J/cm <sup>2</sup>      | 16 J/cm <sup>2</sup>         | 0.6 J/cm <sup>2</sup>             | 16 J/cm <sup>2</sup>         | 0.50 J/cm <sup>2</sup>  | 4 J/cm <sup>2</sup>          | 0.50 J/cm <sup>2</sup>            | 4 J/cm <sup>2</sup>          |
| 1064 nm, 7 ns, 10 Hz                                                                                          | 0.6 J/cm <sup>2</sup>      | 8 J/cm <sup>2</sup>          | 0.6 J/cm <sup>2</sup>             | 8 J/cm <sup>2</sup>          | 0.50 J/cm <sup>2</sup>  | 2 J/cm <sup>2</sup>          | 0.50 J/cm <sup>2</sup>            | 2 J/cm <sup>2</sup>          |
| 532 nm, 7 ns, 10 Hz                                                                                           | 0.6 J/cm <sup>2</sup>      | 6 J/cm <sup>2</sup>          | 0.6 J/cm <sup>2</sup>             | 6 J/cm <sup>2</sup>          | 0.07 J/cm <sup>2</sup>  | 0.35 J/cm <sup>2</sup>       | 0.07 J/cm <sup>2</sup>            | 0.35 J/cm <sup>2</sup>       |
| 266 nm, 7 ns, 10 Hz                                                                                           | 0.5 J/cm <sup>2</sup>      | 1 J/cm <sup>2</sup>          | 0.5 J/cm <sup>2</sup>             | 1 J/cm <sup>2</sup>          | 0.07 J/cm <sup>2</sup>  | 0.30 J/cm <sup>2</sup>       | 0.07 J/cm <sup>2</sup>            | 0.30 J/cm <sup>2</sup>       |
| Maximum Average Power Density                                                                                 | 10 W/cm <sup>2</sup>       | 600 W/cm <sup>2</sup>        | 10 W/cm <sup>2</sup> <sup>i</sup> | 600 W/cm <sup>2</sup>        | 10 W/cm <sup>2</sup>    | 600 W/cm <sup>2</sup>        | 10 W/cm <sup>2</sup> <sup>i</sup> | 600 W/cm <sup>2</sup>        |
| PHYSICAL CHARACTERISTICS                                                                                      |                            |                              |                                   |                              |                         |                              |                                   |                              |
| Effective Aperture (with Attenuator)                                                                          | 25 X 25 mm (22 X 22 mm)    |                              |                                   |                              |                         |                              |                                   |                              |
| Absorber                                                                                                      | Multi-Band                 |                              | Multi-Band                        |                              | Metallic                |                              | Metallic                          |                              |
| Dimensions                                                                                                    | 50H x 50W x 14D mm         |                              | 50H x 50W x 52.5D mm              |                              | 50H x 50W x 14D mm      |                              | 50H x 50W x 52.5D mm              |                              |
| Weight                                                                                                        | 120 g                      |                              | 187 g                             |                              | 120 g                   |                              | 187 g                             |                              |
|                                                                                                               |                            |                              |                                   |                              |                         |                              |                                   |                              |
| ORDERING INFORMATION                                                                                          | Standard                   | With Attenuator <sup>k</sup> | Standard                          | With Attenuator <sup>k</sup> | Standard                | With Attenuator <sup>k</sup> | Standard                          | With Attenuator <sup>k</sup> |
| Product Name                                                                                                  | QE25LP-S-MB                | QE25LP-S-MB-QED              | QE25LP-H-MB                       | QE25LP-H-MB-QED              | QE25SP-S-MT             | Call                         | QE25SP-H-MT                       | Call                         |
| Product Number (Including stand)                                                                              | 200312                     | 202184                       | 200313                            | 202185                       | 200310                  |                              | 200311                            |                              |
|  Add Extension for INTEGRA | -INT                       | -INT                         | -INT                              | -INT                         | -INT                    | Call                         | -INT                              | Call                         |
| Product Number (Including stand)                                                                              | 202380                     | 202739                       | 202382                            | 202733                       | 202384                  |                              | 202386                            |                              |

Specifications are subject to change without notice

\* \* Also available on special order: The Extra Long Pulse Series QE25LP-MB for pulse widths up to 4 msec, custom-tuned for rep. rate, sensitivity, and pulse width.

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

a. 0.19 - 0.3 µm with QEAS Attenuator, 0.3 - 2.1 µm with QED Attenuator.

b. Detectors with the MT coating can be used within the range 0.19 to 20 µm, however the absorption in the IR wavelengths decreases significantly. This, in turn, reduces the sensitivity and increases the noise level. Nevertheless, each detector is individually scanned and the wavelength correction factor (PWC) is NIST traceable in the range of 248 nm to 2.5 µm.

c. Not exceeding Maximum Average Power.

d. Increasing pulse width increases the maximum measurable energy.

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

f. Load: 1 MΩ and ≤ 30 pF.

g. Maximum output voltage = sensitivity x maximum energy.

h. 5700 Hz with Integra version.

i. Excludes non-linearities.

j. At 5 W. Maximum Average Power Density is 10 W/cm<sup>2</sup> @ 10 W for -H versions.

k. When -QED extension is added, the QE + QED come as one unit with a combined calibration only. See the "QED Attenuator" page for more options on the calibration.