

# QE65-MB

65 x 65 mm, 10  $\mu$ J - 200 J



## KEY FEATURES

- > **MODULAR CONCEPT**  
Increase the power capability of your detector:  
2 different cooling modules
- > **LARGE APERTURE**  
Effective aperture of 65 x 65 mm
- > **QED ATTENUATOR AVAILABLE**
  - Measure up to 5X higher energies
  - Available with optional calibration, all wavelengths between 532 & 1064 nm, or single wavelength
- > **LOW NOISE LEVEL**  
10  $\mu$ J for the MB coating
- > **TEST TARGET INCLUDED**  
With the MB models

## OUTPUT OPTIONS

- > **SMART INTERFACE**  
Containing all the calibration data
- > **integra ALL-IN-ONE-METER**  
Connects directly to a PC  
Three models available:
  - USB output (-INT)
  - RS-232 output (-IDR)
  - USB with external trigger (-INE)

## COMPATIBLE DISPLAYS & PC INTERFACES



MIRO ALTITUDE



MAESTRO



U-LINK



M-LINK



S-LINK

## ACCESSORIES



Stand with delrin post  
(200428, For -S model)



Stand with delrin post  
(201284, For -H model)



DB15 to BNC adaptor



QED-65 attenuator



Pelican carrying case

# QE65-MB

## Specifications



|                                                   | QE65LP-S-MB                                                                         | QE65LP-S-MB-QED                                                                     | QE65LP-H-MB                                                                          | QE65LP-H-MB-QED                                                                       | QE65ELP-H-MB                                                                          |
|---------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>MAX MEASURABLE ENERGY <sup>a</sup></b>         | 25 J                                                                                | 200 J                                                                               | 25 J                                                                                 | 200 J                                                                                 | 50 J                                                                                  |
| <b>MAX REPETITION FREQUENCY</b>                   | 100 Hz                                                                              | 100 Hz                                                                              | 100 Hz                                                                               | 100 Hz                                                                                | 20 Hz                                                                                 |
| <b>EFFECTIVE APERTURE</b>                         | 65 x 65 mm                                                                          | 62 x 62 mm                                                                          | 65 x 65 mm                                                                           | 62 x 62 mm                                                                            | 65 x 65 mm                                                                            |
| <b>MEASUREMENT CAPABILITY</b>                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| <b>Spectral range</b>                             | 0.19 - 20 $\mu\text{m}$                                                             | 0.3 - 2.1 $\mu\text{m}$                                                             | 0.19 - 20 $\mu\text{m}$                                                              | 0.3 - 2.1 $\mu\text{m}$                                                               | 0.19 - 20 $\mu\text{m}$                                                               |
| <b>Calibrated spectral range <sup>b</sup></b>     | 0.248 - 2.1 $\mu\text{m}$                                                           | 0.308 - 2.1 $\mu\text{m}$                                                           | 0.248 - 2.1 $\mu\text{m}$                                                            | 0.308 - 2.1 $\mu\text{m}$                                                             | 0.248 - 2.1 $\mu\text{m}$                                                             |
| <b>Maximum measurable energy <sup>a</sup></b>     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 1064 nm, 150 $\mu\text{s}$                        | 25 J                                                                                | 200 J                                                                               | 25 J                                                                                 | 200 J                                                                                 | 50 J                                                                                  |
| 1064 nm, 7 ns                                     | 25 J                                                                                | 125 J                                                                               | 25 J                                                                                 | 125 J                                                                                 | 25 J                                                                                  |
| 266 nm, 7 ns                                      | 20 J                                                                                | 35 J                                                                                | 20 J                                                                                 | 35 J                                                                                  | 20 J                                                                                  |
| <b>Noise equivalent energy <sup>c</sup></b>       | 10 $\mu\text{J}$                                                                    | 20 $\mu\text{J}$                                                                    | 10 $\mu\text{J}$                                                                     | 20 $\mu\text{J}$                                                                      | 20 $\mu\text{J}$                                                                      |
| <b>Max repetition frequency</b>                   | 100 Hz                                                                              | 100 Hz                                                                              | 100 Hz                                                                               | 100 Hz                                                                                | 20 Hz                                                                                 |
| <b>Maximum pulse width (typical) <sup>d</sup></b> | 0.7 ms                                                                              | 0.7 ms                                                                              | 0.7 ms                                                                               | 0.7 ms                                                                                | 5 ms                                                                                  |
| <b>Calibration uncertainty <sup>e</sup></b>       | $\pm 3\%$                                                                           | $\pm 3\%$                                                                           | $\pm 3\%$                                                                            | $\pm 3\%$                                                                             | $\pm 3\%$                                                                             |
| <b>Repeatability</b>                              | < 0.5%                                                                              | < 0.5%                                                                              | < 0.5%                                                                               | < 0.5%                                                                                | < 0.5%                                                                                |
| <b>DAMAGE THRESHOLDS</b>                          |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| <b>Maximum average power</b>                      | 12 W                                                                                | 30 W                                                                                | 40 W                                                                                 | 90 W                                                                                  | 40 W                                                                                  |
| <b>Maximum energy density</b>                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 1064 nm, 150 $\mu\text{s}$ , 10 Hz                | 1.2 J/cm <sup>2</sup>                                                               | 14 J/cm <sup>2</sup>                                                                | 1.2 J/cm <sup>2</sup>                                                                | 14 J/cm <sup>2</sup>                                                                  | 1.2 J/cm <sup>2</sup>                                                                 |
| 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>                                                                  | 0.6 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>                                                                   | 0.6 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>                                                                   | 0.6 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>                                                                   | 0.5 J/cm <sup>2</sup>                                                                 |
| <b>Maximum average power density <sup>f</sup></b> | 10 W/cm <sup>2</sup>                                                                | 600 W/cm <sup>2</sup>                                                               | 10 W/cm <sup>2</sup> <sup>h</sup>                                                    | 600 W/cm <sup>2</sup>                                                                 | 10 W/cm <sup>2</sup>                                                                  |
| <b>PHYSICAL CHARACTERISTICS</b>                   |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| <b>Effective aperture</b>                         | 65 x 65 mm                                                                          | 62 x 62 mm                                                                          | 65 x 65 mm                                                                           | 62 x 62 mm                                                                            | 65 x 65 mm                                                                            |
| <b>Absorber</b>                                   | MB                                                                                  | QED                                                                                 | MB                                                                                   | QED                                                                                   | MB                                                                                    |
| <b>Dimensions</b>                                 | 92H x 92W x 20D mm                                                                  | 95H x 97W x 25D mm                                                                  | 92H x 92W x 99D mm                                                                   | 95H x 97W x 104D mm                                                                   | 92H x 92W x 99D mm                                                                    |
| <b>Weight</b>                                     | 440 g                                                                               | 440 g                                                                               | 900 g                                                                                | 900 g                                                                                 | 900 g                                                                                 |
| <b>ORDERING INFORMATION</b>                       |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| <b>Available output options</b>                   | DB15, USB or RS-232                                                                 | DB15, USB or RS-232                                                                 | DB15, USB or RS-232                                                                  | DB15, USB or RS-232                                                                   | DB15, USB or RS-232                                                                   |
| <b>Compatible stand</b>                           | STAND-D-233                                                                         | STAND-D-233                                                                         | STAND-D-443                                                                          | STAND-D-443                                                                           | STAND-D-443                                                                           |
| <b>Product page</b>                               |  |  |  |  |  |

- a. Not exceeding maximum average power. Increasing pulse width increases the maximum measurable energy. The maximum measurable energy depends on the display or PC interface used.  
If your laser is close to the maximum, contact us to check your specifications.
- b. Calibration at 2.1 to 2.5  $\mu\text{m}$  is available on special request.
- c. Nominal value, actual value depends on electrical noise in the measurement system.
- d. Also available on special order: ELP (extra-long pulse) version.
- e. Excludes non-linearities.
- f. At maximum power.