



# QE25

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



## KEY FEATURES

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

  - Standard: USB Output (-INT)
  - In Option: RS-232 Output (-IDR) and External Trigger (-INE)

## 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)



QED-25 Attenuator  
(Model Number: 201199)





Pelican Carrying Case

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LONG PULSE JOULEMETER IN BURST MODE	<a href="#">202153</a>

## QE25

## SPECIFICATIONS

	QE25LP-S-MB		QE25LP-H-MB		QE25SP-S-MT		QE25SP-H-MT	
<b>MAX MEASURABLE ENERGY (WITH ATTENUATOR)</b>	23 J		23 J		10 J		10 J	
<b>MAX REPETITION FREQUENCY</b>	300 Hz (1000 Hz in option)		300 Hz (1000 Hz in option)		6000 Hz		6000 Hz	
<b>EFFECTIVE APERTURE</b>	25 x 25 mm		25 x 25 mm		25 x 25 mm		25 x 25 mm	
<b>MEASUREMENT CAPABILITY</b>								
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 %	
<b>DAMAGE THRESHOLDS</b>								
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>j</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>
<b>PHYSICAL CHARACTERISTICS</b>								
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	
<b>ORDERING INFORMATION</b>								
Product Name	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 (USB)	-INT	-INT	-INT	-INT	-INT	Call	-INT	Call
Product Number (Including stand)	202380	202739	202382	202733	202384		202386	
 Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR		-IDR	
 Add Extension for INTEGRA (Ext Trig)	-INE	-INE	-INE	-INE	-INE		-INE	
Product Name with 1000 Hz Tuning	QE25HR-S-MB	QE25HR-S-MB-QED						

Specifications are subject to change without notice

\* Also available on special order: The Extra Long Pulse Series QE25ELP-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.