

QE65

65 x 65 mm, 10 μ J - 200 J

KEY FEATURES

1. MODULAR CONCEPT

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

2. LARGE APERTURE

Effective aperture of 65 x 65 mm

3. QED ATTENUATOR AVAILABLE

- Measure up to 5X higher energies
- Available with optional calibration, all wavelengths between 532 & 1064 nm, or single wavelength

4. LOW NOISE LEVEL

10 μ J for the MB coating

5. TEST TARGET INCLUDED

With the MB models

6. SMART INTERFACE

Containing all the calibration data

AVAILABLE MODELS



QE65LP-S-MB
(Broadband-Convection)



QE65LP-H-MB
(Broadband-Heatsink)



QE65ELP-S-MB
(XLong Pulse-Convection)



QE65ELP-S-MB
(XLong Pulse-Heatsink)

ACCESSORIES



Stand with Delrin Post
(200428, For -S Model)



Stand with Delrin Post
(201284, For -H Model)



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



QED-65 Attenuator
(Model Number: 201282)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS	12
CALIBRATION	6
TECHNICAL DRAWINGS	54
ABSORPTION CURVES	56
QED ATTENUATOR	39
COMPATIBLE MONITORS	
MAESTRO	20
S-LINK	28
M-LINK	32
LIST OF ALL ACCESSORIES	190
APPLICATION NOTE	
LONG PULSE JOULEMETER IN BURST MODE	202153

QE65

SPECIFICATIONS



*Also traceable to NRC-CNRC

	QE65LP-S-MB		QE65LP-H-MB		QE65ELP-S-MB		QE65ELP-H-MB	
MAX MEASURABLE ENERGY (WITH ATTENUATOR)	200 J		200 J		200 J		200 J	
MAX REPETITION FREQUENCY	100 Hz		100 Hz		20 Hz		20 Hz	
EFFECTIVE APERTURE	65 x 65 mm		65 x 65 mm		65 x 65 mm		65 x 65 mm	
MEASUREMENT CAPABILITY								
Spectral Range ^a	0.19 – 20 µm		0.19 – 20 µm		0.19 – 20 µm		0.19 – 20 µm	
Maximum Measurable Energy ^{b,c}	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 150 µs pulse, Single shot ^d	50 J	200 J	50 J	200 J	50 J	200 J	50 J	200 J
1064 nm, 7 ns, 10 Hz	25 J	125 J	25 J	125 J	25 J	125 J	25 J	125 J
266 nm, 7 ns, 10 Hz	20 J	35 J	20 J	35 J	20 J	35 J	20 J	35 J
Noise Equivalent Energy ^e	10 µJ		10 µJ		20 µJ		20 µJ	
Sensitivity ^{f,g}	4 V/J		4 V/J		1.5 V/J		1.5 V/J	
Max Repetition Frequency	100 Hz		100 Hz		20 Hz		20 Hz	
Maximum Pulse Width (typical)	0.7 ms		0.7 ms		5 ms		5 ms	
Rise Time (typical 0-100%)	1 ms		1 ms		6 ms		6 ms	
Calibration Uncertainty ^h	±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	12 W	30 W	40 W	90 W	12 W	30 W	40 W	90 W
Maximum Energy Density	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 150 µs, 10 Hz	1.2 J/cm ²	14 J/cm ²	1.2 J/cm ²	14 J/cm ²	1.2 J/cm ²	14 J/cm ²	1.2 J/cm ²	14 J/cm ²
1064 nm, 7 ns, single shot	0.6 J/cm ²	16 J/cm ²	0.6 J/cm ²	16 J/cm ²	0.6 J/cm ²	16 J/cm ²	0.6 J/cm ²	16 J/cm ²
1064 nm, 7 ns, 10 Hz	0.6 J/cm ²	8 J/cm ²	0.6 J/cm ²	8 J/cm ²	0.6 J/cm ²	8 J/cm ²	0.6 J/cm ²	8 J/cm ²
532 nm, 7 ns, 10 Hz	0.6 J/cm ²	6 J/cm ²	0.6 J/cm ²	6 J/cm ²	0.6 J/cm ²	6 J/cm ²	0.6 J/cm ²	6 J/cm ²
266 nm, 7 ns, 10 Hz	0.5 J/cm ²	1 J/cm ²	0.5 J/cm ²	1 J/cm ²	0.5 J/cm ²	1 J/cm ²	0.5 J/cm ²	1 J/cm ²
Maximum Average Power Density (@12 W)	10 W/cm ²	600 W/cm ²	10 W/cm ² ⁱ	600 W/cm ²	10 W/cm ²	600 W/cm ²	10 W/cm ² ⁱ	600 W/cm ²
PHYSICAL CHARACTERISTICS								
Effective Aperture (with Attenuator)	65 X 65 mm (62 X 62 mm)							
Absorber	Multi-Band		Multi-Band		Multi-Band		Multi-Band	
Dimensions	90H x 90W x 20D mm		90H x 90W x 94D mm		90H x 90W x 20D mm		90H x 90W x 94D mm	
Weight	440 g		900 g		440 g		900 g	
ORDERING INFORMATION								
	Standard	With Attenuator ^j	Standard	With Attenuator ^j	Standard	Standard	Standard	Standard
Product Name	QE65LP-S-MB		QE65LP-H-MB		QE65ELP-S-MB		QE65ELP-H-MB	
Add Extension for Attenuator	-QED		-QED					
Product Number (Including stand)	201255	202192	201256	202193	201324		201325	

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

- a. 0.308 – 2.1 µm with QED Attenuator.
 b. Not exceeding Maximum Average Power.
 c. Maximum measurable energy depends on the monitor.
 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. Excludes non-linearities.
 i. At 12 W. Maximum Average Power Density is 5 W/cm² @ 40 W
 j. 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.

Specifications are subject to change without notice