



QE12

12 x 12 mm, 0.7 μ J - 3.9 J



KEY FEATURES

1. **MODULAR CONCEPT**
Increase the power capability of your detector:
2 different cooling modules
2. **LOW NOISE LEVEL**
0.7 μ J for the MB 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. **AVAILABLE WITH METALLIC ABSORBER**
High Repetition Rate (6000 Hz)
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



QE12LP-S-MB
(Broadband-Convection)



QE12LP-H-MB
(Broadband-Heatsink)



QE12SP-S-MT
(Metallic-Convection)



QE12SP-H-MT
(Metallic-Heatsink)

ACCESSORIES



Stand with Delrin Post
(Model Number: 200428)



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



QED-12 Attenuator
(Model Number: 201200)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS	200
CALIBRATION	6
TECHNICAL DRAWINGS	62
ABSORPTION CURVES	64
QED ATTENUATOR	41
COMPATIBLE DISPLAYS & PC INTERFACES	
MAESTRO	18
S-LINK	26
M-LINK	32
LIST OF ALL ACCESSORIES	206

APPLICATION NOTE

LONG PULSE JOULEMETER
IN BURST MODE

[202153](#)

DISPLAYS & PC INTERFACES

ENERGY DETECTORS

POWER DETECTORS

HIGH POWER SOLUTIONS

PHOTODETECTORS

THZ DETECTORS

OEM DETECTORS

SPECIAL PRODUCTS

BEAM DIAGNOSTICS

QE12



*Also traceable to NRC-CNRC

SPECIFICATIONS

	QE12LP-S-MB		QE12LP-H-MB		QE12SP-S-MT		QE12SP-H-MT	
MAX MEASURABLE ENERGY (WITH ATTENUATOR)	3.9 J		3.9 J		1.6 J		1.6 J	
MAX REPETITION FREQUENCY	300 Hz		300 Hz		6000 Hz		6000 Hz	
EFFECTIVE APERTURE	12 x 12 mm		12 x 12 mm		12 x 12 mm		12 x 12 mm	
MEASUREMENT CAPABILITY								
Spectral Range *	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
	0.19 – 20 μm	0.3 - 2.1 μm	0.19 – 20 μm	0.3 - 2.1 μm	0.19 – 20 μm ^a	0.3 - 2.1 μm	0.19 – 20 μm ^a	0.3 - 2.1 μm
Maximum Measurable Energy ^b	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 7 ns, 10 Hz ^c	0.85 J	3.9 J	0.85 J	3.9 J	0.70 J	1.60 J	0.70 J	1.60 J
266 nm, 7 ns, 10 Hz	0.70 J	0.81 J	0.70 J	0.81 J	0.10 J	0.25 J	0.10 J	0.25 J
Noise Equivalent Energy ^d	0.7 μJ		0.7 μJ		0.8 μJ		0.8 μJ	
Sensitivity ^{e,f}	60 V/J		60 V/J		100 V/J		100 V/J	
Max Repetition Frequency	300 Hz ^g		300 Hz ^g		6000 Hz ^{g,h}		6000 Hz ^{g,h}	
Maximum Pulse Width (typical)	400 μs ^{**}		400 μs ^{**}		10 μs		10 μs	
Rise Time (typical 0-100 %)	550 μs		550 μs		20 μs		20 μs	
Calibration Uncertainty ⁱ	± 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	3 W	7.5 W	5 W	12.5 W	3 W	7.5 W	5 W	12.5 W
Maximum Energy Density	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 7 ns, single shot	0.6 J/cm ²	16 J/cm ²	0.6 J/cm ²	16 J/cm ²	0.50 J/cm ²	4 J/cm ²	0.50 J/cm ²	4 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	0.50 J/cm ²	2 J/cm ²	0.50 J/cm ²	2 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	0.07 J/cm ²	0.35 J/cm ²	0.07 J/cm ²	0.35 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	0.07 J/cm ²	0.30 J/cm ²	0.07 J/cm ²	0.30 J/cm ²
Maximum Average Power Density	10 W/cm ²	600 W/cm ²	10 W/cm ² ^j	600 W/cm ²	10 W/cm ²	600 W/cm ²	10 W/cm ² ^j	600 W/cm ²
PHYSICAL CHARACTERISTICS								
Effective Aperture (with Attenuator)	12 X 12 mm (9 X 9 mm)							
Absorber	Multi-Band		Multi-Band		Metallic		Metallic	
Dimensions	36H x 36W x 14D mm		36H x 36W x 33D mm		36H x 36W x 14D mm		36H x 36W x 33D mm	
Weight	87 g		117 g		87 g		117 g	
ORDERING INFORMATION								
	Standard	With Attenuator ^k	Standard	With Attenuator ^k	Standard	With Attenuator ^k	Standard	With Attenuator ^k
Product Name	QE12LP-S-MB-D0	QE12LP-S-MB-QED	QE12LP-H-MB-D0	QE12LP-H-MB-QED	QE12SP-S-MT-D0	Call	QE12SP-H-MT-D0	Call
Product Number (without stand)	200526	202178	200528	202179	200531		200532	
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT	Call	-INT	Call
Product Number (without stand)	202724	202726	202720	202722	202730		202728	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR		-IDR	
Add Extension for INTEGRA (Ext Trig)	-INE	-INE	-INE	-INE	-INE		-INE	

Specifications are subject to change without notice // Compatible stand: P/N 200428

* * Also available on special order: The Extra Long Pulse Series QE12ELP-MB for pulse widths up to 2 msec, custom-tuned for rep. rate, sensitivity, and pulse width.

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

a. 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.

b. Not exceeding Maximum Average Power.

c. Increasing pulse width increases the maximum measurable energy.

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

e. Load: 1 M Ω and ≤ 30 pF.

f. Maximum output voltage = sensitivity x maximum energy.

g. With the IDR version, measured values are sampled when the repetition rate is >200 Hz.

h. 5700 Hz with INT version. Call us for up to 9000 Hz option.

i. Excludes non-linearities.

j. At 3 W. Maximum Average Power Density is 10 W/cm² @ 5 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.



QE25

25 x 25 mm, 2 μ J - 23 J



KEY FEATURES

1. **MODULAR CONCEPT**
Increase the power capability of your detector:
2 different cooling modules
 2. **LOW NOISE LEVEL**
2 μ 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

SEE ALSO

HOW IT WORKS	200
CALIBRATION	6
TECHNICAL DRAWINGS	62
ABSORPTION CURVES	64
QED ATTENUATOR	41
COMPATIBLE DISPLAYS & PC INTERFACES	
MAESTRO	18
S-LINK	26
M-LINK	32
LIST OF ALL ACCESSORIES	206
APPLICATION NOTES	
LONG PULSE JOULEMETER IN BURST MODE	202153

DISPLAYS & PC INTERFACES
 ENERGY DETECTORS
 POWER DETECTORS
 HIGH POWER SOLUTIONS
 PHOTODETECTORS
 THZ DETECTORS
 OEM DETECTORS
 SPECIAL PRODUCTS
 BEAM DIAGNOSTICS

QE25



*Also traceable to NRC-CNRC

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 (1000 Hz in option)		300 Hz (1000 Hz in option)		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 ^a	0.19–20 μm	0.3–2.1 μm ^a	0.19–20 μm ^b	0.3–2.1 μm ^a	0.19–20 μm ^b	0.3–2.1 μm ^a
Maximum Measurable Energy ^c	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 7 ns, 10 Hz ^d	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 ^e	4 μJ		4 μJ		2 μJ		2 μJ	
Sensitivity ^{f,g}	10 V/J		10 V/J		20 V/J		20 V/J	
Max Repetition Frequency	300 Hz (1000 Hz in option) ^h		300 Hz (1000 Hz in option) ^h		6000 Hz ^{h,i}		6000 Hz ^{h,i}	
Maximum Pulse Width (typical)	400 μs ^{**}		400 μs ^{**}		10 μs		10 μs	
Rise Time (typical 0-100 %)	550 μs		550 μs		20 μs		20 μs	
Calibration Uncertainty ^j	±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 ²	16 J/cm ²	0.6 J/cm ²	16 J/cm ²	0.50 J/cm ²	4 J/cm ²	0.50 J/cm ²	4 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	0.50 J/cm ²	2 J/cm ²	0.50 J/cm ²	2 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	0.07 J/cm ²	0.35 J/cm ²	0.07 J/cm ²	0.35 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	0.07 J/cm ²	0.30 J/cm ²	0.07 J/cm ²	0.30 J/cm ²
Maximum Average Power Density	10 W/cm ²	600 W/cm ²	10 W/cm ² ^k	600 W/cm ²	10 W/cm ²	600 W/cm ²	10 W/cm ² ^k	600 W/cm ²
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								
Product Name	Standard	With Attenuator ^l	Standard	With Attenuator ^l	Standard	With Attenuator ^l	Standard	With Attenuator ^l
Product Name	QE25LP-S-MB-D0	QE25LP-S-MB-QED	QE25LP-H-MB-D0	QE25LP-H-MB-QED	QE25SP-S-MT-D0	Call	QE25SP-H-MT-D0	Call
Product Number (without stand)	200455	202182	200457	202183	200460		200461	
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT	Call	-INT	Call
Product Number (without stand)	202381	202740	202383	202734	202385		202387	
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 // Compatible stand: P/N 200428

* * 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. With the IDR version, measured values are sampled when the repetition rate is >200 Hz.

i. 5700 Hz with Integra version.

j. Excludes non-linearities.

k. At 5 W. Maximum Average Power Density is 10 W/cm² @ 10 W for -H versions.

l. 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.



QE50

50 x 50 mm, 10 μ J - 85 J



KEY FEATURES

1. **MODULAR CONCEPT**
Increase the power capability of your detector:
2 different cooling modules
2. **LOW NOISE LEVEL**
10 μ J for both coatings
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: 200 Hz (Standard)
 - QE-MB: 500 Hz (Upon Request)
 - QE-MT: 4 000 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



QE50LP-S-MB
(Broadband-Convection)



QE50LP-H-MB
(Broadband-Heatsink)



QE50SP-S-MT
(Metallic-Convection)



QE50SP-H-MT
(Metallic-Heatsink)

ACCESSORIES



Stand with Delrin Post
(Model Number: 200428)



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



QED-50 Attenuator
(Model Number: 201198)



Pelican Carrying Case

SEE ALSO

HOW IT WORKS	200
CALIBRATION	6
TECHNICAL DRAWINGS	62
ABSORPTION CURVES	64
QED ATTENUATOR	41
COMPATIBLE DISPLAYS & PC INTERFACES	
MAESTRO	18
S-LINK	26
M-LINK	32
LIST OF ALL ACCESSORIES	206
APPLICATION NOTES	
LONG PULSE JOULEMETER IN BURST MODE	202153

DISPLAYS & PC INTERFACES
ENERGY DETECTORS
POWER DETECTORS
HIGH POWER SOLUTIONS
PHOTODETECTORS
THZ DETECTORS
OEM DETECTORS
SPECIAL PRODUCTS
BEAM DIAGNOSTICS

QE50



*Also traceable to NRC-CNRC

SPECIFICATIONS

	QE50LP-S-MB		QE50LP-H-MB		QE50SP-S-MT		QE50SP-H-MT	
MAX MEASURABLE ENERGY (WITH ATTENUATOR)	85 J		85 J		44 J		44 J	
MAX REPETITION FREQUENCY	200 Hz		200 Hz		4000 Hz		4000 Hz	
EFFECTIVE APERTURE	50 x 50 mm		50 x 50 mm		50 x 50 mm		50 x 50 mm	
MEASUREMENT CAPABILITY								
Spectral Range *	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
	0.19 – 20 μm	0.3 - 2.1 μm^a	0.19 – 20 μm	0.3 - 2.1 μm^a	0.19 – 20 μm^b	0.3 - 2.1 μm^a	0.19 – 20 μm^b	0.3 - 2.1 μm^a
Maximum Measurable Energy ^c	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 7 ns, 10 Hz ^d	15 J	85 J	15 J	85 J	13 J	44 J	13 J	44 J
266 nm, 7 ns, 10 Hz	12.5 J	22 J	12.5 J	22 J	1.8 J	6.5 J	1.8 J	6.5 J
Noise Equivalent Energy ^e	10 μJ		10 μJ		10 μJ		10 μJ	
Sensitivity ^{f,g}	3 V/J		3 V/J		4 V/J		4 V/J	
Max Repetition Frequency	200 Hz		200 Hz		4000 Hz ^h		4000 Hz ^h	
Maximum Pulse Width (typical)	675 μs **		675 μs **		10 μs		10 μs	
Rise Time (typical 0-100 %)	900 μs		900 μs		20 μs		20 μs	
Calibration Uncertainty ⁱ	± 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	10 W	25 W	20 W	45 W	10 W	25 W	20 W	45 W
Maximum Energy Density	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
1064 nm, 7 ns, single shot	0.6 J/cm ²	16 J/cm ²	0.6 J/cm ²	16 J/cm ²	0.50 J/cm ²	4 J/cm ²	0.50 J/cm ²	4 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	0.50 J/cm ²	2 J/cm ²	0.50 J/cm ²	2 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	0.07 J/cm ²	0.35 J/cm ²	0.07 J/cm ²	0.35 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	0.07 J/cm ²	0.30 J/cm ²	0.07 J/cm ²	0.30 J/cm ²
Maximum Average Power Density	10 W/cm ²	600 W/cm ²	10 W/cm ² ^j	600 W/cm ²	10 W/cm ²	600 W/cm ²	10 W/cm ² ^j	600 W/cm ²
PHYSICAL CHARACTERISTICS								
Effective Aperture (with Attenuator)	50 X 50 mm (47 X 47 mm)							
Absorber	Multi-Band		Multi-Band		Metallic		Metallic	
Dimensions	75H x 75W x 15D mm		75H x 75W x 44D mm		75H x 75W x 15D mm		75H x 75W x 44D mm	
Weight	209 g		338 g		209 g		338 g	
ORDERING INFORMATION								
	Standard	With Attenuator ^k	Standard	With Attenuator ^k	Standard	With Attenuator ^k	Standard	With Attenuator ^k
Product Name	QE50LP-S-MB-D0	QE50LP-S-MB-QED	QE50LP-H-MB-D0	QE50LP-H-MB-QED	QE50SP-S-MT-D0	Call	QE50SP-H-MT-D0	Call
Product Number (without stand)	200479	202186	200481	202187	200484		200485	
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT	-INT	Call	-INT	Call
Product Number (without stand)	202750	202752	202746	202748	202756		202754	
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR	-IDR		-IDR	
Add Extension for INTEGRA (Ext Trig)	-INE	-INE	-INE	-INE	-INE		-INE	

Specifications are subject to change without notice // Compatible stand: P/N 200428

* * Also available on special order: The Extra Long Pulse Series QE50ELP-MB for pulse widths up to 5 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 M Ω and ≤ 30 pF.

g. Maximum output voltage = sensitivity x maximum energy.

h. With the IDR version, measured values are sampled when the repetition rate is >200 Hz.

i. Excludes non-linearities.

j. At 10 W. Maximum Average Power Density is 5 W/cm² @ 20 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.



QE-B

50 nJ - 3.6 mJ, Ultra-Low Energy Measurements



KEY FEATURES

1. **VERY LOW NOISE LEVELS**
Noise levels of a photodetector, but with the high energies of a pyroelectric:
 - 50 nJ with the MT coating
 - 100 nJ with the BL coating
2. **2 COATINGS AVAILABLE**
 - BL: Black coating, sensitivity of 900 V/J, readings up to 400 Hz
 - MT: Metallic coating, sensitivity of 2400 V/J, readings up to 1000 Hz
3. **SMART INTERFACE**
Containing all the calibration data
4. **integra OPTIONS**
 - Standard: USB Output (-INT)
 - In Option: RS-232 Output (-IDR) and External Trigger (-INE)

AVAILABLE MODELS



QE8SP-B-BL
(8 mm-Organic Black)



QE8SP-B-MT
(8 mm-Metallic)

ACCESSORIES



Stand with Delrin Post
(Model Number: 200428)



Fiber Adaptors & Connectors
(FC, ST or SMA)



APM Analog Power Supply
(Model Number: 201848)
See page 57 for specs.



Pelican Carrying Case

This product cannot be used with DB-15 extension cables

SEE ALSO

TECHNICAL DRAWINGS	62
ABSORPTION CURVES	64
COMPATIBLE DISPLAYS & PC INTERFACES	
MAESTRO	18
S-LINK	26
M-LINK	32
LIST OF ALL ACCESSORIES	206

APPLICATION NOTES

MEASUREMENT LIMITS USING JOULEMETERS	<u>201932</u>
LONG PULSE JOULEMETER IN BURST MODE	<u>202153</u>

DISPLAYS & PC INTERFACES

ENERGY DETECTORS

POWER DETECTORS

HIGH POWER SOLUTIONS

PHOTODETECTORS

THZ DETECTORS

OEM DETECTORS

SPECIAL PRODUCTS

BEAM DIAGNOSTICS

QE-B



*Also traceable to NRC-CNRC

SPECIFICATIONS

	QE8SP-B-BL	QE8SP-B-MT
MAX MEASURABLE ENERGY	3.6 mJ	1.3 mJ
MAX REPETITION FREQUENCY	400 Hz	1 000 Hz
EFFECTIVE APERTURE	7.8 X 7.8 mm	7.8 X 7.8 mm
MEASUREMENT CAPABILITY		
Spectral Range *	0.19 - 20 μ m	0.19 - 20 μ m
Max Measurable Energy		
With M-LINK	3.6 mJ	1.3 mJ
With S-LINK	2.9 mJ	1.1 mJ
With MAESTRO	2.5 mJ	0.93 mJ
Noise Equivalent Energy		
With M-LINK (with noise suppression) ^a	100 nJ	50 nJ (3 nJ)
With S-LINK	100 nJ	50 nJ
With MAESTRO	150 nJ	80 nJ
Sensitivity	900 V/J	2400 V/J
Max Repetition Frequency	400 Hz	1000 Hz
Max Pulse Width	10 μ s	10 μ s
Rise Time (0-100%)	30 μ s	30 μ s
Calibration Uncertainty	\pm 4.0%	\pm 4.0%
Repeatability	<0.5 %	<0.5 %
DAMAGE THRESHOLDS		
Maximum Average Power	0.5 W	0.5 W
Maximum Average Power Density		
1064 nm, 7 ns, 10 Hz	1 W/cm ²	1 W/cm ²
Maximum Energy Density		
1064 nm, 7 ns, 10 Hz	50 mJ/cm ²	50 mJ/cm ²
PHYSICAL CHARACTERISTICS		
Effective Aperture	7.8 x 7.8 mm	7.8 x 7.8 mm
Absorber	Organic Black	Metallic
Dimensions	38.1 \varnothing X 27.4D mm	38.1 \varnothing X 27.4D mm
Weight	91 g	91 g
ORDERING INFORMATION		
Product Name	QE8SP-B-BL-D0	QE8SP-B-MT-D0
Product Number (without stand)	202017	201968
Add Extension for INTEGRA (USB)	-INT	-INT
Product Number (without stand)	202389	202391
Add Extension for INTEGRA (RS-232)	-IDR	-IDR
Add Extension for INTEGRA (Ext Trig)	-INE	-INE

Specifications are subject to change without notice // Compatible stand: P/N 200428

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

a. Obtain a lower noise level using the Noise Suppression function in the PC M-LINK application. Setting the sampling size at 128 will get the lowest noise level possible.

* For details, contact your Gentec-EO representative