AVAILABLE WITH integra
See page **36** for détails

QE50

50 x 50 mm, 10 µJ - 85 J

KEY FEATURES

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

2. **LOW NOISE LEVEL**
   10 µJ 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

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

QE50

CE NIST* Traceable WEEE/RoHS COMPLIANT

*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		4000 Hz	
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 [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	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/cm²	16 J/cm²	0.6 J/cm²	16 J/cm²	0.50 J/cm²	4 J/cm²	0.50 J/cm²	4 J/cm²
1064 nm, 7 ns, 10 Hz	0.6 J/cm²	8 J/cm²	0.6 J/cm²	8 J/cm²	0.50 J/cm²	2 J/cm²	0.50 J/cm²	2 J/cm²
532 nm, 7 ns, 10 Hz	0.6 J/cm²	6 J/cm²	0.6 J/cm²	6 J/cm²	0.07 J/cm²	0.35 J/cm²	0.07 J/cm²	0.35 J/cm²
266 nm, 7 ns, 10 Hz	0.5 J/cm²	1 J/cm²	0.5 J/cm²	1 J/cm²	0.07 J/cm²	0.30 J/cm²	0.07 J/cm²	0.30 J/cm²
Maximum Average Power Density	10 W/cm²	600 W/cm²	10 W/cm² [i]	600 W/cm²	10 W/cm²	600 W/cm²	10 W/cm² [i]	600 W/cm²

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 [j]	Standard	With Attenuator [j]	Standard	With Attenuator [j]	Standard	With Attenuator [j]
Product Name	QE50LP-S-MB	QE50LP-S-MB-QED	QE50LP-H-MB	QE50LP-H-MB-QED	QE50SP-S-MT	Call	QE50SP-H-MT	Call
Product Number (Including stand)	200307	202188	200308	202189	200305		200306	
Add Extension for INTEGRA	-INT	-INT	-INT	-INT	-INT	Call	-INT	Call
Product Number (Including stand)	202749	202751	202745	202747	202755		202753	

Specifications are subject to change without notice

* * *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 MΩ and ≤ 30 pF.
g. Maximum output voltage = sensitivity x maximum energy.
h. Excludes non-linearities.
i. At 10 W. Maximum Average Power Density is 5 W/cm² @ 20 W for -H versions.
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.