

# QE50

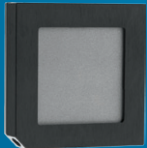
50 x 50 mm, 10  $\mu$ l - 85 J



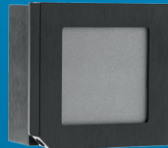
## KEY FEATURES

- 1 Modular Concept**  
Increase the power capability of your detector:  
2 different cooling modules
- 2 Low Noise Level**  
10  $\mu$ l for both coatings
- 3 Test Target Included**  
With the MB models
- 4 Available with Metallic Absorber**  
High Repetition Rate (4000 Hz)
- 5 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)

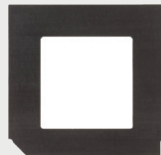
## ACCESSORIES



Stand with Delrin Post



DB-15 to BNC Adaptor



QED-50 Attenuator



Pelican Carrying Case

## SEE ALSO

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# QE50

## SPECIFICATIONS



\*Also traceable to NRC-CNRC

MODELS	QE50LP-S-MB	QE50LP-H-MB	QE50SP-S-MT	QE50SP-H-MT
<b>MAX MEASURABLE ENERGY (WITH ATTENUATOR)</b>	85 J	85 J	44 J	44 J
<b>MAX REPETITION FREQUENCY</b>	200 Hz	200 Hz	4000 Hz	4000 Hz
<b>APERTURE</b>	50 x 50 mm	50 x 50 mm	50 x 50 mm	50 x 50 mm

### MEASUREMENT CAPABILITY

Spectral Range <sup>a</sup>	0.19 – 20 $\mu\text{m}$		0.19 – 20 $\mu\text{m}$		0.19 – 20 $\mu\text{m}$ <sup>b</sup>		0.19 – 20 $\mu\text{m}$ <sup>b</sup>	
	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator
Maximum Measurable Energy 1064 nm, 7 ns, 10 Hz <sup>c</sup>	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 <sup>d</sup>	10 $\mu\text{J}$		10 $\mu\text{J}$		10 $\mu\text{J}$		10 $\mu\text{J}$	
Sensitivity <sup>e,f</sup>	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 $\mu\text{s}$ <sup>*</sup>		675 $\mu\text{s}$ <sup>*</sup>		10 $\mu\text{s}$		10 $\mu\text{s}$	
Rise Time (typical 0-100 %)	900 $\mu\text{s}$		900 $\mu\text{s}$		20 $\mu\text{s}$		20 $\mu\text{s}$	
Calibration Uncertainty <sup>g</sup>	$\pm 3\%$		$\pm 3\%$		$\pm 3\%$		$\pm 3\%$	
Repeatability	<0.5 %		<0.5 %		<0.5 %		<0.5 %	

### DAMAGE THRESHOLDS

Maximum Average Power All Wavelengths	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	Alone	Attenuator	
		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 <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>h</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>h</sup>	600 W/cm <sup>2</sup>	

### 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

Full Product Name	QE50LP-S-MB	QE50LP-H-MB	QE50SP-S-MT	QE50SP-H-MT
Product Number (Including stand)	200307	200308	200305	200306

\*Also available on special order: The Extra Long Pulse Series QE50ELP-MB for pulse widths up to 4 msec, custom-tuned for rep. rate, sensitivity, and pulse width.

a. 0.19 - 2.5  $\mu\text{m}$  with QED Attenuator.  
 b. Detectors with the MT coating can be used within the range 0.19 to 20  $\mu\text{m}$ , 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  $\mu\text{m}$ .  
 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 $\Omega$  and  $\leq 30$  pF.  
 f. Maximum output voltage = sensitivity x maximum energy.  
 g. Excludes non-linearities.  
 h. At 5 W. Maximum Average Power Density is 10 W/cm<sup>2</sup> @ 10 W for -H versions.

Specifications are subject to change without notice