

QE12-MB

12 x 12 mm, 0.7 µJ - 3.9 J

New product



KEY FEATURES

- > **MODULAR CONCEPT**
Increase the power capability of your detector.
2 different cooling modules
- > **LOW NOISE LEVEL**
- > **QED ATTENUATOR AVAILABLE**
 - Measure up to 5X higher energies
 - Available with optional calibration, all wavelengths between 532 & 1064 nm, or single wavelength
- > **HIGH REPETITION RATE OPTIONS**
 - QE12LP: 300 Hz
 - QE12HR: 1000 Hz
- > **TEST TARGET INCLUDED**

OUTPUT OPTIONS

- > **SMART INTERFACE**
Containing all the calibration data
- > **integra ALL-IN-ONE-METER**
Connects directly to a PC
Three models available:
 - USB output (-INT)
 - RS-232 output (-IDR)
 - USB with external trigger (-INE)

COMPATIBLE DISPLAYS & PC INTERFACES



MIRO ALTITUDE



MAESTRO



U-LINK



M-LINK



S-LINK

ACCESSORIES



Stand with delrin post



DB15 to BNC adaptor



QE12 attenuator









Pelican carrying case

QE12-MB

Specifications

CE NIST*
Traceable
*Also traceable to NRC-CNRC



	QE12LP-S-MB	QE12LP-S-MB-QED	QE12LP-H-MB	QE12LP-H-MB-QED	QE12HR-H-MB	QE12HR-H-MB-QED
MAX MEASURABLE ENERGY^a	3.9 J	3.9 J	3.9 J	3.9 J	0.85 J	3.9 J
MAX REPETITION FREQUENCY^b	300 Hz	300 Hz	300 Hz	300 Hz	1 kHz	1 kHz
EFFECTIVE APERTURE	12 x 12 mm	9 x 9 mm	12 x 12 mm	9 x 9 mm	12 x 12 mm	9 x 9 mm
MEASUREMENT CAPABILITY						
Spectral range	0.19 - 20 μm	0.3 - 2.1 μm	0.19 - 20 μm	0.3 - 2.1 μm	0.19 - 20 μm	0.3 - 2.1 μm
Calibrated spectral range^c	0.248 - 2.1 μm	0.532 - 2.1 μm	0.248 - 2.1 μm	0.532 - 2.1 μm	0.248 - 2.1 μm	0.532 - 2.1 μm
Maximum measurable energy^a						
1064 nm, 7 ns, 10 Hz	0.85 J	3.9 J	0.85 J	3.9 J	0.85 J	3.9 J
266 nm, 7 ns, 10 Hz	0.70 J	0.81 J	0.70 J	0.81 J	0.70 J	0.81 J
Noise equivalent energy^d	0.7 μJ	1.4 μJ	0.7 μJ	1.4 μJ	1.4 μJ	2.8 μJ
Max repetition frequency^b	300 Hz	300 Hz	300 Hz	300 Hz	1 kHz	1 kHz
Maximum pulse width (typical)^e	400 μs	400 μs	400 μs	400 μs	40 μs	40 μs
Rise time (typical 0-100%)	550 μs	550 μs	550 μs	550 μs	70 μs	70 μs
Calibration uncertainty^f	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$
Repeatability	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%
DAMAGE THRESHOLDS						
Maximum average power	3 W	7.5 W	5 W	12.5 W	5 W	12.5 W
Maximum energy density						
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
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
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
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
Maximum average power density^g	10 W/cm ²	600 W/cm ²	10 W/cm ²	600 W/cm ²	10 W/cm ²	600 W/cm ²
PHYSICAL CHARACTERISTICS						
Effective aperture (with attenuator)	12 x 12 mm	9 x 9 mm	12 x 12 mm	9 x 9 mm	12 x 12 mm	9 x 9 mm
Absorber	MB	QED	MB	QED	MB	QED
Dimensions	36H x 36W x 14D mm	39H x 41W x 19D mm	36H x 36W x 33D mm	39H x 41W x 38D mm	36H x 36W x 33D mm	39H x 41W x 38D mm
Weight	87 g	87 g	117 g	117 g	117 g	117 g
ORDERING INFORMATION						
Available output options	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232
Compatible stand	STAND-D-233	STAND-D-233	STAND-D-233	STAND-D-233	STAND-D-233	STAND-D-233
Product page						

- a. Not exceeding maximum average power. Increasing pulse width increases the maximum measurable energy.
 b. With the IDR version, measured values are sampled when the repetition rate is > 200 Hz.
 c. Calibration at 2.1 to 2.5 μm is available on special request.
 d. Nominal value, actual value depends on electrical noise in the measurement system.
 e. Also available on special order: ELP (extra-long pulse) version.
 f. Excludes non-linearities.
 g. At maximum power.

Specifications are subject to change without notice

QE12-MT

12 x 12 mm, 0.7 μ J - 3.9 J, tuned for high repetition rates

New product



KEY FEATURES

- > **MODULAR CONCEPT**
Increase the power capability of your detector:
2 different cooling modules
- > **LOW NOISE LEVEL**
- > **NEW MODELS FOR HIGH REPETITION RATES**
The QE12HR models are tuned for short pulses with
high repetition rates (up to 10 kHz)

OUTPUT OPTIONS

- > **SMART DB15 CONNECTOR**
Contains all the calibration data
- > **integra ALL-IN-ONE-METER**
Connects directly to a PC
Three models available:
 - USB output (-INT)
 - RS-232 output (-IDR)
 - USB with external trigger (-INE)

COMPATIBLE DISPLAYS & PC INTERFACES



MIRO ALTITUDE



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ACCESSORIES



Stand with delrin post



DB15 to BNC adaptor



QE12 attenuator






Pelican carrying case

QE12-MT

Specifications

CE NIST*
Traceable
*Also traceable to NRC-CNRC



	QE12SP-S-MT-D0	QE12SP-H-MT-D0	QE12HR-H-MT-D0
MAX MEASURABLE ENERGY ^a	0.70 J	0.70 J	0.70 J
MAX REPETITION FREQUENCY ^{b,c}	6 kHz	6 kHz	10 kHz
APERTURE	12 x 12 mm	12 x 12 mm	12 x 12 mm
MEASUREMENT CAPABILITY			
Spectral range	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm
Calibrated spectral range ^d	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm
Maximum measurable energy ^a			
1064 nm, 7 ns, 10 Hz	0.70 J	0.70 J	0.70 J
266 nm, 7 ns, 10 Hz	0.10 J	0.10 J	0.10 J
Noise equivalent energy ^e	0.8 μJ	0.8 μJ	1 μJ
Max repetition frequency ^{b,c}	6 kHz	6 kHz	10 kHz
Maximum pulse width (typical)	10 μs	10 μs	4 μs
Rise time width (typical 0-100%)	20 μs	20 μs	7 μs
Calibration uncertainty ^f	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$
Repeatability	< 0.5%	< 0.5%	< 0.5%
DAMAGE THRESHOLDS			
Maximum average power	3 W	5 W	5 W
Maximum energy density			
1064 nm, 7 ns, single shot	0.50 J/cm ²	0.50 J/cm ²	0.50 J/cm ²
1064 nm, 7 ns, 10 Hz	0.50 J/cm ²	0.50 J/cm ²	0.50 J/cm ²
532 nm, 7 ns, 10 Hz	0.07 J/cm ²	0.07 J/cm ²	0.07 J/cm ²
266 nm, 7 ns, 10 Hz	0.07 J/cm ²	0.07 J/cm ²	0.07 J/cm ²
Maximum average power density ^g	10 W/cm ²	10 W/cm ²	10 W/cm ²
PHYSICAL CHARACTERISTICS			
Effective aperture	12 x 12 mm	12 x 12 mm	12 x 12 mm
Absorber	MT	MT	MT
Dimensions	36H x 36W x 14D mm	36H x 36W x 33D mm	36H x 36W x 33D mm
Weight	87 g	117 g	117 g
ORDERING INFORMATION			
Available output options	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232
Compatible stand	STAND-D-233	STAND-D-233	STAND-D-233
Product page			

- a. Not exceeding maximum average power. Increasing pulse width increases the maximum measurable energy.
 b. With the IDR version, measured values are sampled when the repetition rate is > 200 Hz.
 c. Maximum 52 kHz with INT version.
 d. Calibration at 2.1 to 2.5 μm is available on special request.
 e. Nominal value, actual value depends on electrical noise in the measurement system.
 f. Excludes non-linearities.
 g. At maximum power.

Specifications are subject to change without notice