



laserlines

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QE12HR

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



KEY FEATURES

- MODULAR CONCEPT**
Increase the power capability of your detector:
2 different cooling modules
- LOW NOISE LEVEL**
0.7 μ J for the MB coating
- QED ATTENUATOR AVAILABLE**
Measure up to 5X higher energies
- NEW MODELS FOR HIGH REPETITION RATES**
The QE12HR models are tuned for short pulses with high repetition rates (up to 10 kHz)
- TEST TARGET INCLUDED**
With the MB models

AVAILABLE MODELS



QE12HR-S-MB
(Broadband-Convection)



QE12HR-H-MB
(Broadband-Heatsink)



QE12HR-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

OUTPUT OPTIONS

- SMART DB15 CONNECTOR**
 - Contains all the calibration data
 - Compatible with our displays & PC interfaces
- INTEGRA ALL-IN-ONE METER**
 - No external meter required
 - Connects directly to a PC
 - Three models available:
 - USB output (-INT)
 - RS-232 output (-IDR)
 - RS-232 with external trigger (-INE)

COMPATIBLE DISPLAYS & PC INTERFACES

MAESTRO

U-LINK

S-LINK

M-LINK

QE12HR



*Also traceable to NRC-CNRC

SPECIFICATIONS

	QE12HR-S-MB	QE12HR-S-MB-QED	QE12HR-H-MB	QE12HR-H-MB-QED	QE12HR-H-MT
MAX MEASURABLE ENERGY ^a	0.85 J	3.9 J	0.85 J	3.9 J	0.70 J
MAX REPETITION FREQUENCY ^b	1 kHz	1 kHz	1 kHz	1 kHz	10 kHz ^c
APERTURE	12 x 12 mm	9 x 9 mm	12 x 12 mm	9 x 9 mm	12 x 12 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
Calibrated Spectral Range	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
Maximum Measurable Energy ^{a,d}					
1064 nm, 7 ns, 10 Hz	0.85 J	3.9 J	0.85 J	3.9 J	0.70 J
266 nm, 7 ns, 10 Hz	0.70 J	0.81 J	0.70 J	0.81 J	0.10 J
Noise Equivalent Energy ^e	1.4 μJ	2.8 μJ	1.4 μJ	2.8 μJ	1 μJ
Max Repetition Frequency ^b	1 kHz	1 kHz	1 kHz	1 kHz	10 kHz ^c
Maximum Pulse Width	40 μs	40 μs	40 μs	40 μs	4 μs
Rise Time (typical 0-100 %)	70 μs	70 μs	70 μs	70 μs	7 μs
Calibration Uncertainty ^f	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$
Repeatability	<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
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	0.50 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
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
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
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
PHYSICAL CHARACTERISTICS					
Aperture	12 x 12 mm	9 x 9 mm	12 x 12 mm	9 x 9 mm	12 x 12 mm
Absorber	MB	MB	MB	MB	MT
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
Weight	87 g	87 g	117 g	117 g	117 g
ORDERING INFORMATION					
Detector with Smart DB15 Connector	QE12HR-S-MB-D0	QE12HR-S-MB-QED-D0	QE12HR-H-MB-D0 P/N 203895	QE12HR-H-MB-QED-D0 P/N 203897	QE12HR-H-MT-D0 P/N 205104
INTEGRA All-in-one Meter & Detector					
USB output	QE12HR-S-MB-INT-D0	QE12HR-S-MB-QED-INT-D0	QE12HR-H-MB-INT-D0 P/N 203903	QE12HR-H-MB-QED-INT-D0 P/N 203905	QE12HR-H-MT-INT-D0
RS-232 output	QE12HR-S-MB-IDR-D0	QE12HR-S-MB-QED-IDR-D0	QE12HR-H-MB-IDR-D0 P/N 205363	QE12HR-H-MB-QED-IDR-D0 P/N 205364	
USB output + external trigger	QE12HR-S-MB-INE-D0	QE12HR-S-MB-QED-INE-D0	QE12HR-H-MB-INE-D0	QE12HR-H-MB-QED-INE-D0	QE12HR-H-MT-INE-D0

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

- a. Not exceeding maximum average power.
b. With the IDR version, measured values are sampled when the repetition rate is > 200 Hz.
c. Maximum 5.2 kHz with INT version.
d. Increasing pulse width increases the maximum measurable energy
e. Nominal value, actual value depends on electrical noise in the measurement system.
f. Excludes non-linearities.
g. At maximum power.



QE25HR

25 x 25 mm, 2 μ J - 23 J, tuned for high repetition rates



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
- 4. NEW MODELS FOR HIGH REPETITION RATES**
The QE25HR models are tuned for short pulses with high repetition rates (up to 10 kHz)
- 5. TEST TARGET INCLUDED**
With the MB models

AVAILABLE MODELS



QE25HR-S-MB
(Broadband-Convection)



QE25HR-H-MB
(Broadband-Heatsink)



QE25HR-H-MT
(Metallic-Heatsink)

OUTPUT OPTIONS

- 1. SMART DB15 CONNECTOR**
 - Contains all the calibration data
 - Compatible with our displays & PC interfaces
- 2. INTEGRA ALL-IN-ONE METER**
 - No external meter required
 - Connects directly to a PC
 - Three models available:
USB output (-INT)
RS-232 output (-IDR)
RS-232 with external trigger (-INE)

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

COMPATIBLE DISPLAYS & PC INTERFACES

MAESTRO

U-LINK

S-LINK

M-LINK

QE25HR



*Also traceable to NRC-CNRC

SPECIFICATIONS

	QE25HR-S-MB	QE25HR-S-MB-QED	QE25HR-H-MB	QE25HR-H-MB-QED	QE25HR-H-MT
MAX MEASURABLE ENERGY ^a	3.8 J	23 J	3.8 J	23 J	3.0 J
MAX REPETITION FREQUENCY ^b	1 kHz	1 kHz	1 kHz	1 kHz	10 kHz ^c
APERTURE	25 x 25 mm	22 x 22 mm	25 x 25 mm	22 x 22 mm	25 x 25 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
Calibrated Spectral Range	0.248 – 2.1 μm	0.308 – 2.1 μm	0.248 – 2.1 μm	0.308 – 2.1 μm	0.248 – 2.1 μm
Maximum Measurable Energy ^{a,d}					
1064 nm, 7 ns, 10 Hz	3.8 J	23 J	3.8 J	23 J	3.0 J
266 nm, 7 ns, 10 Hz	3.1 J	4.8 J	3.1 J	4.8 J	0.44 J
Noise Equivalent Energy ^e	10 μJ	20 μJ	10 μJ	20 μJ	3 μJ
Max Repetition Frequency ^b	1 kHz	1 kHz	1 kHz	1 kHz	10 kHz ^c
Maximum Pulse Width	40 μs	40 μs	40 μs	40 μs	4 μs
Rise Time (typical 0-100 %)	70 μs	70 μs	70 μs	70 μs	7 μs
Calibration Uncertainty ^f	± 3 %	± 3 %	± 3 %	± 3 %	± 3 %
Repeatability	<0.5 %	<0.5 %	<0.5 %	<0.5 %	<0.5 %
DAMAGE THRESHOLDS					
Maximum Average Power	5 W	15 W	10 W	30 W	10 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	0.50 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
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
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
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
PHYSICAL CHARACTERISTICS					
Aperture	25 x 25 mm	22 x 22 mm	25 x 25 mm	22 x 22 mm	25 x 25 mm
Absorber	MB	MB	MB	MB	MT
Dimensions	50H x 50W x 14D mm	53H x 55W x 19D mm	50H x 50W x 53D mm	53H x 55W x 58D mm	50H x 50W x 53D mm
Weight	120 g	120 g	193 g	193 g	193 g
ORDERING INFORMATION					
Detector with Smart DB15 Connector	QE25HR-S-MB-D0	QE25HR-S-MB-QED-D0	QE25HR-H-MB-D0 P/N 203899	QE25HR-H-MB-QED-D0 P/N 203901	QE25HR-H-MT-D0 P/N 205105
INTEGRA All-in-one Meter & Detector					
USB output	QE25HR-S-MB-INT-D0	QE25HR-S-MB-QED-INT-D0	QE25HR-H-MB-INT-D0 P/N 203907	QE25HR-H-MB-QED-INT-D0 P/N 203909	QE25HR-H-MT-INT-D0
RS-232 output	QE25HR-S-MB-IDR-D0	QE25HR-S-MB-QED-IDR-D0	QE25HR-H-MB-IDR-D0 P/N 205367	QE25HR-H-MB-QED-IDR-D0 P/N 205366	
USB output + external trigger	QE25HR-S-MB-INE-D0	QE25HR-S-MB-QED-INE-D0	QE25HR-H-MB-INE-D0	QE25HR-H-MB-QED-INE-D0	QE25HR-H-MT-INE-D0

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