



QE12HR

12 x 12 mm, 0.7 μ J - 3.9 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**
0.7 μ J for the MB coating
- 3. QED ATTENUATOR AVAILABLE**
Measure up to 5X higher energies
- 4. NEW MODELS FOR HIGH REPETITION RATES**
The QE12HR models are tuned for short pulses with high repetition rates (up to 10 kHz)
- 5. TEST TARGET INCLUDED**
With the MB models

AVAILABLE MODELS



QE12HR-S-MB
(Broadband-Convection)



QE12HR-H-MB
(Broadband-Heatsink)



QE12HR-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)

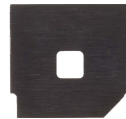
ACCESSORIES



Stand with Delrin Post
(Model Number: 200428)



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



QED-12 Attenuator
(Model Number: 201200)



Pelican Carrying Case

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-DO	QE12HR-S-MB-QED-DO	QE12HR-H-MB-DO P/N 203895	QE12HR-H-MB-QED-DO P/N 203897	QE12HR-H-MT-DO P/N 205104
INTEGRA All-in-one Meter & Detector					
USB output	QE12HR-S-MB-INT-DO	QE12HR-S-MB-QED-INT-DO	QE12HR-H-MB-INT-DO P/N 203903	QE12HR-H-MB-QED-INT-DO P/N 203905	QE12HR-H-MT-INT-DO
RS-232 output	QE12HR-S-MB-IDR-DO	QE12HR-S-MB-QED-IDR-DO	QE12HR-H-MB-IDR-DO P/N 205363	QE12HR-H-MB-QED-IDR-DO P/N 205364	
USB output + external trigger	QE12HR-S-MB-INE-DO	QE12HR-S-MB-QED-INE-DO	QE12HR-H-MB-INE-DO	QE12HR-H-MB-QED-INE-DO	QE12HR-H-MT-INE-DO

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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- a. Not exceeding maximum average power.
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