

UP12E



12 mm Ø, 1 mW - 110 W



Monitors

Energy Detectors

Power Detectors

OEM Detectors

Calorimeters

Diffractive Optics

Beam Diagnostics



UP12E-10S-H5

UP12E-70W-H5



Key Features

- 1 **Modular Concept**
Increase the power capability of your detector : 3 different cooling modules
- 2 **High Performance**
 - . Fast Rise Time (0.3 sec)
 - . High Damage Threshold (36 kW/cm²)
- 3 **Compact Design**
Only 14 mm thick (10S model)
- 4 **Energy Mode**
Measure single shot energy up to 5 J
- 5 **High Quality Stand**
Post threaded on both sides to allow extension
- 6 **Smart Interface**
Containing all the calibration data

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- . OEM Custom detectors80
- . Compatible monitors
 - SOLO 220
 - UNO22
 - S-LINK-224
 - P-LINK26

Accessories

» Fiber Optic Adapters (FC, SMA, SC)

Variety of fiber adapter options to give you the most flexibility in using our power detectors with your fiber coupled lasers.



» Extension Cables (4, 15, 20 and 25 m)

For some OEM, manufacturing and laboratory applications.






» Pelican Carrying Case

We offer a robust hard shell polymer carrying case.



SPECIFICATIONS

Models	UP12E-10S-H5	UP12E-20H-H5	UP12E-70W-H5
			
Max Average Power (continuous)	10 W	20 W	70 W ^f
Max Average Power (1 minute)	20 W	40 W	110 W ^f

MEASUREMENT CAPABILITY	10S	20H	70W
Spectral Range	0.19 – 20 μm	0.19 – 20 μm	0.19 – 20 μm
Noise Equivalent Power ^a	1 mW	1 mW	1 mW
Rise Time (nominal) ^b	0.3 sec	0.3 sec	0.3 sec
Sensitivity (typ into 100 k Ω load) ^c	0.53 mV/W	0.53 mV/W	0.53 mV/W
Calibration Uncertainty ^d	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$
Repeatability	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Energy Mode			
Sensitivity	0.84 mV/J	0.84 mV/J	0.84 mV/J
Maximum Measurable Energy ^e	5 J	5 J	5 J
Noise Equivalent Energy ^a	0.02 J	0.02 J	0.02 J
Minimum Repetition Period	1.5 sec	1.5 sec	1.5 sec
Maximum Pulse Width	50 ms	50 ms	50 ms
Accuracy with energy calibration option	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$

DAMAGE THRESHOLDS

Maximum Average Power Density ^g	36 kW/cm ²	36 kW/cm ²	36 kW/cm ²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density
1064 nm, 360 μs , 5 Hz	5 J/cm ²		14 kW/cm ²
1064 nm, 7 ns, 10 Hz	1 J/cm ²		143 MW/cm ²
532 nm, 7 ns, 10 Hz	0.6 J/cm ²		86 MW/cm ²
266 nm, 7 ns, 10 Hz	0.3 J/cm ²		43 MW/cm ²

PHYSICAL CHARACTERISTICS

Effective Aperture Diameter	12 mm \emptyset	12 mm \emptyset	12 mm \emptyset
Absorber (High Damage Threshold)	H5	H5	H5
Dimensions	38H x 38W x 14D mm	38H x 38W x 45D mm	38H x 38W x 32D mm
Weight (head only)	0.13 kg	0.15 kg	0.19 kg

ORDERING INFORMATION

Full Product Name	UP12E-10S-H5	UP12E-20H-H5	UP12E-70W-H5
Product Number (including stand)	200384	200386	200390

a. Nominal value, actual value depends on electrical noise in the measurement system.

b. With Gentec-EO SOLO, UNO, P-LINK and S-LINK-2 monitors.

c. Maximum output voltage = sensitivity x maximum power.

d. Including linearity with power.

e. For 360 μs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).

f. Minimum cooling flow 0.5 liters/min, water temperature $\leq 22^\circ\text{C}$, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube. Contact Gentec-EO for clean deionized water cooling module option.

g. At 1064 nm, 10 W CW.

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Headquarters

445 St-Jean-Baptiste, Suite 160
Québec, QC, G2E 5N7, CANADA

T (418) 651-8003
F (418) 651-1174
1.888.5Gentec (543.6832)

info@gentec-eo.com

Calibration Centers

Quebec City, Canada
Olching (Munich), Germany

Distributed in the UK by

Lambda
photometrics λ

Batford Mill, Harpenden, Herts., UK, AL5 5BZ

T +44 (0) 1582 764334
F +44 (0) 1582 712084

info@lambdaphoto.co.uk
www.lambdaphoto.co.uk