

PE

8 fJ - 150 nJ, our lowest energy measurements



#### OUTPUT OPTIONS

- > **SMART INTERFACE**  
Containing all the calibration data
- > **ANALOG OUTPUT**  
When used with APM (D) analog power supply
- > **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

#### KEY FEATURES

- > **VERY LOW NOISE LEVEL**  
Take measurements with a noise level as low as 8 fJ (model PE3B-Si only) with the M-LINK, MAESTRO and S-LINK
- > **3 SENSORS AVAILABLE**
  - PE-B-SI family: 3 and 10 mm Ø silicon sensors for 0.21 to 1.08 µm
  - PE5B-GE: 5 mm Ø, germanium sensor for 0.8 to 1.65 µm
  - PE3B-IN: 3 mm Ø, InGaAs sensor for 0.9 to 1.7 µm

#### ACCESSORIES



Stand with delrin post



Fiber adaptors & connectors (FC, ST or SMA)



APM (D) analog power supply



Pelican carrying case



Isolation tube





*This product cannot be used with DB15 extension cables*

# PE

## Specifications

CE NIST\*  
Traceable  
\*Also traceable to NRC-CNRC



	PE3B-SI-D0	PE10B-SI-D0	PE5B-GE-D0	PE3B-IN-D0
<b>MAX MEASURABLE ENERGY*</b>	24 pJ	81 nJ	2.4 nJ	245 pJ
<b>EFFECTIVE APERTURE</b>	3 mm $\phi$	10 mm $\phi$	5 mm $\phi$	3 mm $\phi$
<b>MEASUREMENT CAPABILITY</b>				
<b>Calibrated spectral range</b>	210 - 1080 nm	210 - 1080 nm	800 - 1650 nm	900 - 1700 nm
<b>Maximum measurable energy*</b>				
<b>With M-LINK</b>	22 pJ at 634 nm	75 nJ at 634 nm	2.2 nJ at 1310 nm	223 pJ at 1310 nm
<b>With S-LINK</b>	24 pJ at 634 nm	81 nJ at 634 nm	2.4 nJ at 1310 nm	245 pJ at 1310 nm
<b>With MAESTRO</b>	20 pJ at 634 nm	69 nJ at 634 nm	2.0 nJ at 1310 nm	200 pJ at 1310 nm
<b>With INTEGRA</b>	24 pJ at 634 nm	81 nJ at 634 nm	2.4 nJ at 1310 nm	245 pJ at 1310 nm
<b>Noise equivalent energy<sup>a</sup></b>	8 fJ at 634 nm	1.5 pJ at 634 nm	1 pJ at 1310 nm	30 fJ at 1310 nm
<b>Rise time (0-100%)</b>	15 $\mu$ s	30 $\mu$ s	25 $\mu$ s	12 $\mu$ s
<b>Max repetition rate</b>	1000 Hz	1000 Hz	1000 Hz	1000 Hz
<b>Max pulse width</b>	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s
<b>Calibration uncertainty<sup>b</sup></b>	$\pm 4\%$ <sup>c</sup>	$\pm 18\%$ (210 - 229 nm) $\pm 8.0\%$ (230 - 254 nm) $\pm 6.5\%$ (255 - 399 nm) $\pm 2.5\%$ (400 - 899 nm) $\pm 4.0\%$ (900 - 1009 nm) $\pm 7.5\%$ (1010 - 1080 nm)	$\pm 5\%$ (800 - 1049 nm) $\pm 3.5\%$ (1050 - 1559 nm) $\pm 7\%$ (1560 - 1629 nm) $\pm 10\%$ (1630 - 1650 nm)	$\pm 4\%$ <sup>d</sup>
<b>DAMAGE THRESHOLDS</b>				
<b>Max energy density</b>	N/A	5 $\mu$ J/cm <sup>2</sup>	5 $\mu$ J/cm <sup>2</sup>	N/A
<b>Max average power density</b>	N/A	65 mW/cm <sup>2</sup> at 532 nm	320 mW/cm <sup>2</sup> at 1064 nm	N/A
<b>PHYSICAL CHARACTERISTICS</b>				
<b>Effective aperture</b>	3 mm $\phi$	10 mm $\phi$	5 mm $\phi$	3 mm $\phi$
<b>Distance to sensor face</b>	13.7 mm	13.7 mm	10.5 mm	N/A
<b>Sensor</b>	UV-silicon	UV-silicon	Germanium	InGaAs
<b>Dimensions</b>	38.1 $\phi$ x 27.4D mm	38.1 $\phi$ x 27.4D mm	38.1 $\phi$ x 27.4D mm	38.1 $\phi$ x 27.4D mm
<b>Weight</b>	91 g	91 g	91 g	91 g
<b>ORDERING INFORMATION</b>				
<b>Available output options</b>	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232	DB15, USB or RS-232
<b>Compatible stand</b>	STAND-D-233 or STAND-D-233-M	STAND-D-233 or STAND-D-233-M	STAND-D-233 or STAND-D-233-M	STAND-D-233 or STAND-D-233-M
<b>Product page</b>				

\* See curves (p. 102-103) for maximum energy at other wavelengths

- a. Nominal value. Depends on environmental electromagnetic interference and wavelength.
- b. With Centec-EO display or PC interface.
- c. This detector is NIST Traceable at the calibration wavelength of 634 nm. Typical values are used at other wavelengths.
- d. This detector is NIST Traceable at the calibration wavelength of 1310 nm. Typical values are used at other wavelengths.

Specifications are subject to change without notice