



# PE-B

8 fJ - 150 nJ, Our Lowest Energy Measurements



## KEY FEATURES

- 1. VERY LOW NOISE LEVEL**  
Take measurements with a noise level as low as 8 fJ with the M-LINK, MAESTRO and S-LINK monitors
- 2. 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
- 3. SMART INTERFACE**  
Containing all the calibration data
- 4. integra OPTIONS**
  - Standard: USB Output (-INT)
  - In Option: RS-232 Output (-IDR) and External Trigger (-INE)

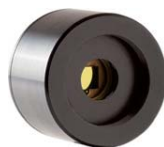
## AVAILABLE MODELS



PE3B-Si  
(3 mm - UV-Silicon)



PE10B-Si  
(10 mm - UV-Silicon)



PE5B-Ge  
(5 mm - Germanium)



PE3B-In  
(3 mm - InGaAs)

## ACCESSORIES



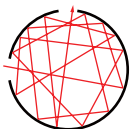
Stand with Delrin Post  
(Model Number: 200428)



Fiber Adaptors & Connectors  
(FC, ST or SMA)



APM Analog Power Supply  
(Model Number: 201848)



Integrating Sphere



Pelican Carrying Case

*This product cannot be used with DB-15 extension cables*

## SEE ALSO

TECHNICAL DRAWINGS	124
SENSITIVITY CURVES	126
COMPATIBLE MONITORS	
MAESTRO	20
S-LINK	28
M-LINK	32
LIST OF ALL ACCESSORIES	194

## APPLICATION NOTE

CALIBRATION UNCERTAINTY OF PHOTO DETECTORS

[202174](#)

# PE-B



\*Also traceable to NRC-CNRC

## SPECIFICATIONS

	PE3B-Si	PE10B-Si	PE5B-Ge	PE3B-In
<b>MAX MEASURABLE ENERGY*</b>	24 $\mu$ J	81 nJ	2.4 nJ	245 $\mu$ J
<b>EFFECTIVE APERTURE</b>	3 mm $\emptyset$	10 mm $\emptyset$	5 mm $\emptyset$	3 mm $\emptyset$
<b>MEASUREMENT CAPABILITY</b>				
Spectral Range	210 - 1080 nm	210 - 1080 nm	800 - 1650 nm	900 - 1700 nm
Maximum Measurable Energy*				
With M-LINK	22 $\mu$ J @ 634 nm	75 nJ @ 634 nm	2.2 nJ @ 1310 nm	223 $\mu$ J @ 1310 nm
With S-LINK	24 $\mu$ J @ 634 nm	81 nJ @ 634 nm	2.4 nJ @ 1310 nm	245 $\mu$ J @ 1310 nm
With MAESTRO	20 $\mu$ J @ 634 nm	69 nJ @ 634 nm	2.0 nJ @ 1310 nm	200 $\mu$ J @ 1310 nm
With INTEGRA	24 $\mu$ J @ 634 nm	81 nJ @ 634 nm	2.4 $\mu$ J @ 634 nm	245 $\mu$ J @ 634 nm
Noise Equivalent Energy <sup>a</sup>	8 fJ @ 634 nm	1.5 $\mu$ J @ 634 nm	1 $\mu$ J @ 1310 nm	30 fJ @ 1310 nm
Rise Time (0-100%)	15 $\mu$ s	30 $\mu$ s	25 $\mu$ s	12 $\mu$ s
Max Repetition Rate	1000 Hz	1000 Hz	1000 Hz	1000 Hz
Max Pulse Width	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s	10 $\mu$ s
Sensitivity	100 GV/J @ 634 nm	20 MV/J @ 634 nm	1 GV/J @ 1310 nm	10 GV/J @ 1310 nm
Calibration Uncertainty <sup>b</sup>	$\pm$ 4% <sup>c</sup>	$\pm$ 8% (210 - 219 nm) $\pm$ 6.5% (220 - 399 nm) $\pm$ 2.5% (400 - 899 nm) $\pm$ 3.5% (900 - 999 nm) $\pm$ 5% (1000 - 1049 nm) $\pm$ 7% (1050 - 1080 nm)	$\pm$ 3.5%	$\pm$ 4% <sup>d</sup>
<b>DAMAGE THRESHOLDS</b>				
Max Energy Density	N/A	5 $\mu$ J/cm <sup>2</sup>	5 $\mu$ J/cm <sup>2</sup>	N/A
Max Average Power Density	N/A	65 mW/cm <sup>2</sup> @ 532 nm	320 mW/cm <sup>2</sup> @ 1064 nm	N/A
<b>PHYSICAL CHARACTERISTICS</b>				
Effective Aperture	3 mm $\emptyset$	10 mm $\emptyset$	5 mm $\emptyset$	3 mm $\emptyset$
Distance to Sensor Face	13.7 mm	13.7 mm	10.5 mm	N/A
Sensor	UV-Silicon	UV-Silicon	Germanium	InGaAs
Dimensions	38.1 $\emptyset$ x 27.4D mm	38.1 $\emptyset$ x 27.4D mm	38.1 $\emptyset$ x 27.4D mm	38.1 $\emptyset$ x 27.4D mm
Weight	91 g	91 g	91 g	91 g
<b>ORDERING INFORMATION</b>				
Product Name	PE3B-Si-D0	PE10B-Si-D0	PE5B-Ge-D0	PE3B-In-D0
Product Number (without stand)	Call	202019	202020	Call
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Product Number (without stand)	Call	202651	202653	Call
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR
Add Extension for INTEGRA (Ext Trig)	-INE	-INE	-INE	-INE

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

\* See curves (p. 124-125) for maximum power at other wavelengths

- a. Nominal value. Depends on environmental electromagnetic interference and wavelength.
- b. With Gentec-EO monitor.
- 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.