

# 1.2.2 Pyroelectric Energy Sensors

## 15µJ to 10J

### Features

- 25mm and 50mm sizes
- Metallic coating for high rep rates
- BF coating for highest damage threshold
- Rep rates up to 5000Hz
- Measure lasers with pulse widths up to 5ms

PE25



PE25BF



PE50/PE50BF

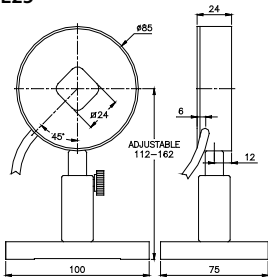


PE50HD

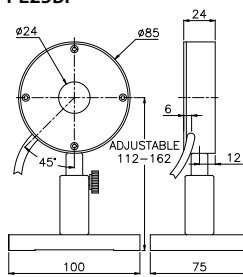


Model	PE25	PE25BF	PE50	PE50BF	PE50HD
Use	High rep rate	High damage threshold	High rep rate	High damage threshold	High damage threshold for 193nm
Aperture mm	24x24	φ24	φ46	φ46	φ46
Absorber Type	metallic	BF	metallic	BF	HD
Spectral Range µm <sup>(a)</sup>	0.15 - 3	0.15 - 3	0.15 - 3	0.15 - 3	193nm
Surface Reflectivity % approx.	50	20	50	20	10
Calibration Accuracy +/- % <sup>(a)</sup>	3	3	3	3	3 at 193nm
Max Pulse Width Setting	Short Long	Short Long	Short Long	Short Long	One setting only
Energy Scales	10J to 200µJ 10J to 2mJ	10J to 2mJ 10J to 20mJ	10J to 200µJ 10J to 2mJ	10J to 2mJ 10J to 20mJ	10J to 10mJ
Lowest Measurable Energy µJ	15 70	100 1000	25 80	150 1000	500
Max Pulse Width ms	0.03 1	1 5	0.03 1	1 5	0.01
Maximum Pulse Rate pps	5000 250	150 40	4000 250	120 40	100
Noise on Lowest Range µJ	0.8 2	10 50	2 8	10 50	20
Additional Error with Frequency %	±2 ±2	±2 ±2	±2 ±2	±2 ±2	±3
Linearity with Energy for >10% of full scale	±2% <sup>(c)</sup>	±2%	±2%	±2%	±2%
Damage Threshold J/cm <sup>2</sup> <sup>(b)</sup>					
<100ns	0.1	0.8	0.1	0.8	1 <sup>(c)</sup>
1µs	0.2	1	0.2	1	
300µs	2	5	2	5	
2ms	6	10	6	10	
Maximum Average Power W	10	10	20	15	15
Maximum Average Power Density W/cm <sup>2</sup>	10	20	10	20	10
Uniformity over surface	±2% over central 50% of aperture				±3% over central 25mm
Fiber Adapters Available (see page 64)	ST, FC, SMA, SC	ST, FC, SMA, SC	ST, FC, SMA, SC	ST, FC, SMA, SC	ST, FC, SMA, SC
Weight Kg	0.25	0.25	0.25	0.25	0.25
Version	V2	V2	V2	V2	V2
Part Number	<b>7Z02861</b>	<b>7Z02887</b>	<b>7Z02860</b>	<b>7Z02886</b>	<b>7Z02863</b>
Notes: (a) Calibration curve is verified and adjusted at specified wavelengths. At other wavelengths, there may be an additional error up to the value given.	Specified wavelengths: 248-266nm, 355nm, 1064nm and 2940nm. Max additional error at other wavelengths: ±2%	Specified wavelengths: 193nm, 248-266nm, 355nm, 532nm, 1064nm and 2940nm. Max additional error at other wavelengths: ±2%	Specified wavelengths: 248-266nm, 355nm, 1064nm and 2940nm. Max additional error at other wavelengths: ±2%	Specified wavelengths: 193nm, 248-266nm, 355nm, 532nm, 1064nm and 2940nm. Max additional error at other wavelengths: ±2%	Calibrated at 193nm only
Notes: (b)		For wavelengths below 600nm, derate damage threshold to 60% of given values. Below 300nm, derate to 40% of given values.		For wavelengths below 600nm, derate damage threshold to 60% of given values. Below 300nm, derate to 40% of given values.	
Notes: (c)	±3% for long pulses				At energy densities above 0.5J/cm <sup>2</sup> , reading may be lower with no permanent damage

PE25



PE25BF



PE50/PE50BF/ PE50HD

