1.3.3 High Energy Pyroelectric Sensors

60µJ to 40J

Features

- Removable diffusers
- PE50-DIF-ER mainly for NIR lasers
- PE100BF-DIF for very large beams
- Rep rates up to 400Hz
- Measure lasers with pulse widths up to 10ms

PE50-DIF-ER

DIFFUSER IN

DIFFUSER OUT

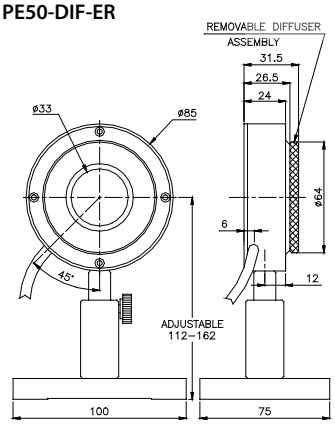
PE100BF-DIF

DIFFUSER IN

DIFFUSER OUT

Model	**PE50-DIF-ER**				**PE100BF-DIF**			
Use	**Mainly for 1064nm, 2.1µm and 2.94µm**				**Very large aperture**			
Diffuser	Diffuser out		Diffuser in		Diffuser out		Diffuser in	
Aperture mm	φ46		φ33		φ96		φ85	
Absorber Type	Metallic		Metallic with diffuser		BF		BF with diffuser	
Spectral Range µm [(a)]	0.19 - 3		0.4 - 3		0.15 - 3		0.4 - 2.5	
Surface Reflectivity % approx.	50		50		20		50	
Calibration Accuracy +/-% [(a)]	3		3		3		3	
Max Pulse Width Setting	Short	Long	Short	Long	Short	Long	Short	Long
Energy Scales	10J to 2mJ	10J to 2mJ	30J to 6mJ	30J to 6mJ	10J to 20mJ	10J to 20mJ	40J to 200mJ [(b)]	40J to 200mJ [(b)]
Lowest Measurable Energy mJ	0.06	0.1	0.3	0.5	2	2	20	20
Max Pulse Width ms	0.2	1	0.2	1	3	10	3	10
Maximum Pulse Rate pps	400	200	400	200	35	10	35	10
Noise on Lowest Range µJ	5	10	30	50	250	150	2500	1500
Additional Error with Frequency %	±2	±2	±2	±2	±2%	±2%	±2%	±2%
Linearity with Energy for > 10% of full scale	±2%	±2%	±2%	±2%	±2%	±2%	±2%	±2%
Damage Threshold J/cm²								
<100ns	0.1		1.5		0.8		3	
1µs	0.2		3		1		3	
300µs	4		40		5		10	
Maximum Average Power W	20		40		15		40	
Maximum Average Power Density W/cm²	10		500		20		500	
Weight kg	0.3				1.2			
Version	V2							
Part Number	**7Z02867**				**7Z02890**			
Notes: (a)	Calibrated at 1064nm and 532nm only		Calibrated at 1064nm, 2100nm and 2940nm		Calibrated at 1064nm and 532nm only		Calibrated at 1064nm, 532nm and 2100nm only	
Notes: (b)					With diffuser in, sensor may saturate before end of range. In this case, use next higher range			

PE50-DIF-ER



PE100BF-DIF