1.2.2 Pyroelectric Energy Sensors

0.1µJ to 1mJ

Features

- Ø8mm aperture
- Repetition rates up to 20,000Hz
- High sensitivity sensors
- Pulse widths up to 20µs

PE9-C / PE9-ES-C

Model	PE9-C [b]			PE9-ES-C [b]		
Use	**Very Sensitive**			**Most Sensitive**		
Aperture mm	Ø8			Ø8		
Absorber Type	metallic			metallic		
Spectral Range µm [a]	0.15 - 12			0.15 - 12		
Surface Reflectivity % approx.	50			50		
Calibration Uncertainty ±% [a]	3			3		
Max Pulse Width Setting [d]	1µs	2µs	20µs	1µs	2µs	20µs
Energy Scales	1mJ to 2µJ	1mJ to 2µJ	1mJ to 20µJ	200µJ to 200nJ	200µJ to 200nJ	200µJ to 2µJ
Lowest Measurable Energy µJ [c]	0.5	0.2	0.5	0.1	0.1	0.1
Max Pulse Width µs	1	2	20	1	2	20
Maximum Pulse Rate pps	25kHz	15kHz	10kHz	20kHz	15kHz	10kHz
Noise on Lowest Range µJ	0.04	0.05	0.1	0.01	0.01	0.02
Additional Error with Frequency %	±1% to 15kHz, ±6% to 25kHz	±1% to 15kHz	±1% to 10kHz	±1.5% to 20kHz	±1.5% to 15kHz	±1.5% to 10kHz
Damage Threshold J/cm²						
<100ns	0.1			0.1		
1µs	0.2			0.2		
300µs	3			3		
Linearity with Energy [c]	±1%			±1.5%		
Maximum Average Power W	2			2		
Maximum Average Power Density W/cm²	30			30		
Fiber Adapters Available (see page 140)	ST, FC, SMA, SC			ST, FC, SMA, SC		
Weight kg	0.25			0.25		
Compliance	CE, UKCA, China RoHS			CE, UKCA, China RoHS		
Version						
Part Number	**7Z02933**			**7Z02949**		
Note: (a) Calibrated curve is checked and adjusted at the following wavelengths (µm) For other wavelengths in the curve there is additional calibration error as stated	0.193, 0.355, 1.064, 1.48-1.6 240-800nm add ±4%, 2-3µm add ±8%, 10.6µm add ±15% In order to avoid measurement degradation at UV wavelengths extra care must be taken to protect sensor from contaminants			0.355, 1.064, 1.48-1.6 240-800nm add ±4%, 2-3µm add ±8%, 10.6µm add ±15%. <240nm not calibrated In order to avoid measurement degradation at UV wavelengths extra care must be taken to protect sensor from contaminants		

Note: (b) The PE9-C & PE9-ES-C sensors are not under ISO/IEC 17025:2017 accreditation.

Note: (c) With "user threshold" setting set to minimum. For >7% (>10% for PE9-ES-C) of full scale. For other settings, the spec is for >7%/>10% of full scale or greater than twice the "user threshold", whichever is greater. The user threshold is not available with LaserStar, Nova, Pulsar, USBI and Quasar. For these meters, the threshold is set to minimum and the linearity spec is >10% of full scale. The PE-C series will only operate with Nova meter with an additional adapter Ophir P/N 7Z08272 (see page 141). The adapter can introduce up to 1% additional measurement error. The user threshold feature allows adjustment of the internal threshold up to 25% of full scale if desired to avoid false triggering in noisy environments. For further information, see the FAQs on our Website.

Note: (d) With the LaserStar, Pulsar, USBI, Quasar and Nova with adapter, only 2 out of 3 pulse widths settings are available; the 1µs (displayed as "10µs") and the 2µs (displayed as "20µs").

PE9-C / PE9-ES-C