

## 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			PE9-ES-C		
Use	Very Sensitive			Most Sensitive		
Aperture mm	Ø8			Ø8		
Absorber Type	metallic			metallic		
Spectral Range µm <sup>(a)</sup>	0.15 - 12			0.15 - 12		
Surface Reflectivity % approx.	50			50		
Calibration Accuracy +/--% <sup>(a)</sup>	3			3		
Max Pulse Width Setting <sup>(c)</sup>	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 <sup>(b)</sup>	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	±1% to 15kHz	±1% to 10kHz	±1.5% to 20kHz	±1.5% to 15kHz	±1.5% to 10kHz
Damage Threshold J/cm <sup>2</sup>						
<100ns	0.1			0.1		
1µs	0.2			0.2		
300µs	3			3		
Linearity with Energy <sup>(b)</sup>	±1%			±1.5%		
Maximum Average Power W	2			2		
Maximum Average Power Density W/cm <sup>2</sup>	30			30		
Fiber Adapters Available (see page 104)	ST, FC, SMA, SC			ST, FC, SMA, SC		
Weight kg	0.25			0.25		
Compliance	CE, China RoHS			CE, China RoHS		
Version						
Part Number	7Z02933			7Z02949		
Note: (a) Calibrated curve is checked and adjusted at the following wavelengths (µm)	0.193, 0.355, 1.064, 1.48-1.6			0.355, 1.064, 1.48-1.6		
For other wavelengths in the curve there is additional calibration error as stated.	240-800nm add ±4%, 2-3µm add ±8%, 10.6µm add ±15%.			240-800nm add ±4%, 2-3µm add ±8%, 10.6µm add ±15%. <240nm not calibrated.		
Note: (b) For >7% (>10% for PE9-ES-C) of full scale, with the "user threshold" setting set to minimum. 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/Orion, 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 or Orion meters with an additional adapter Ophir P/N 7Z08272 (see page 105). 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: (c) With the LaserStar, Pulsar, USBI, Quasar and Nova/Orion with adapter, only 2 out of 3 pulse widths settings are available; the 1µs (displayed as "10µs") and the 2µs (displayed as "20µs").						

