

Pyroelectric Energy Sensors

PE50HD-C

10mJ to 10J

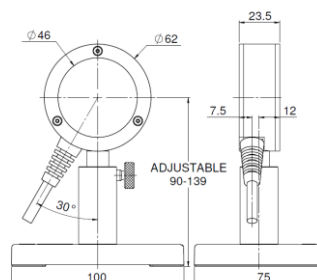
Features

- $\phi 46$ mm apertures
- High damage threshold for 193nm
- Rep rates up to 80Hz
- New compact PE-C series



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|--|---------------------------------|
| Model | PE50HD-C |
| Use | High damage threshold for 193nm |
| Aperture mm | $\phi 46$ |
| Absorber Type | HD |
| Spectral Range μm ^(a) | 193nm |
| Surface Reflectivity % approx. | 10 |
| Calibration Accuracy +/- % ^(a) | 3 at 193nm |
| Max Pulse Width Setting ^(e) | One setting only |
| Energy Scales | 10J to 10mJ |
| Lowest Measurable Energy μJ ^(c,d) | 500 |
| Max Pulse Width ms | 0.01 |
| Maximum Pulse Rate pps | 80Hz |
| Noise on Lowest Range μJ | 50 |
| Additional Error with Frequency % | $\pm 3\%$ |
| Linearity with Energy for $>7\%$ / $>10\%$ (for HD) of full scale ^(c) | $\pm 2\%$ |
| Damage Threshold J/cm^2 ^(b) | |
| <100ns | 1 |
| 1 μs | |
| 300 μs | |
| 2ms | |
| Maximum Average Power W ^(d) | 15, 25 with optional heat sink |
| Maximum Average Power Density W/cm^2 | 20 |
| Uniformity over surface | $\pm 3\%$ over central 25mm |
| Fiber Adapters Available (see page 69) | ST, FC, SMA, SC |
| Weight kg | 0.3 |
| Version | |
| Part Number | 7Z02951 |
| Note: (a) Calibration curve is verified and adjusted at specified wavelengths. | Calibrated at 193nm only |
| At other wavelengths, there may be an additional error up to the value given. | |
| Note: (b) At energy densities above $0.5\text{J}/\text{cm}^2$, reading may be lower with no permanent damage | |
| Note: (c) With the "user threshold" setting set to minimum. For other settings, the spec is for $>7\%$ / $>10\%$ (for HD) of full scale or greater than twice the "user threshold", whichever is greater. The user threshold is available with Nova II, Vega, StarLite or Juno. For other 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 70). 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. The user threshold setting represents the approximate minimum energy for pulse widths below ~50% of the pulse width setting. For longer pulse widths, the actual minimum may be higher. For highest accuracy, it is recommended to zero the sensor against the meter the first time it is used with a particular meter. For further information, see the FAQs on our Website. | |
| Note: (d) A shock absorbing mounting post is available for situations in which sensor is mounted on a surface subject to shock or vibration. This can prevent false triggering and allow working at lower minimum energies. Note however, that in this case the maximum average power will be reduced to 10W without heat sink and 20W with heat sink (see accessory page 69-70 for heat sink and mounting post). | |
| Note: (e) With the Laserstar, Pulsar, USBI, Quasar and Nova/Orion with adapter, only 2 out of 5 pulse widths settings are available; for the PE50-C model the 2 μs (displayed as "10 μs ") and 1ms settings, and for the PE50BF-C model the 1ms and 10ms settings. | |
| Note: (f) If the sensor is set to the 1064nm wavelength, then when measuring 10.6 μm pulses, the reading will be approximately 1.19X the correct reading. If you use the attenuate function and set the attenuation to read 0.84, then you will have the correct reading at 10.6 μm . The additional error at 10.6 μm is $\pm 5\%$. | |

PE50HD-C



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