

1.2.1 Photodiode Energy Sensors

2μJ to 200nJ

Features

- Silicon detectors
- Very sensitive - down to 40nJ
- Repetition rates to 20kHz

PD10-C-193



| Model | PD10-C-193 ^(b) | | |
|--|--|------------|----------------------|
| Use | Low energies | | |
| Entrance Aperture mm | Ø10mm | | |
| Absorber Type | Si photodiode | | |
| Spectral Range μm ^(a) | 190 – 400nm | | |
| Surface Reflectivity % approx. | 50 | | |
| Calibration Uncertainty ±% ^{(a) (f)} | 5 | | |
| Energy Scales | 2μJ to 200nJ | | |
| Max Pulse Width Setting | 2μs | | 5μs |
| Lowest Measurable Energy nJ ^(c) | 40 at 193nm | | 40 at 193nm |
| Max Pulse Width ms ^(c) | 0.002 | | 0.005 |
| Maximum Pulse Rate pps ^(e) | 20kHz | | 20kHz ^(e) |
| Noise on Lowest Range nJ | 4 | | 4 |
| Additional Error with Frequency % ^(e) | ±1% to 20kHz | | ±1% to 20kHz |
| Maximum Energy vs. Wavelength | Wavelength | Max Energy | Max Energy |
| | 190nm-220nm | 1.5μJ | 1.5μJ |
| | 221nm-340nm | 0.4μJ | 0.4μJ |
| | 341nm-400nm | 0.15μJ | 0.15μJ |
| Linearity with Energy for > 10% of full scale ^(c) | ±1.5% | | |
| Damage Threshold J/cm ² | 0.1 | | |
| Maximum Average Power mW | 3 at 400nm | | |
| Maximum CW Power Density W/cm ² | 50 | | |
| Mechanical Coating | Clear Anodize Coating per: MIL-A-8625 TYPE II, CLASS 1 | | |
| Fiber Adapters Available (see page 147) | NA | | |
| Weight kg | 0.25 | | |
| Compliance | CE, UKCA, China RoHS | | |
| Version | | | |
| Part number | 7Z07150 | | |

Note: (a) This is basic calibration accuracy <240nm add ± 2%.

Note: (b) The PD10-C-193 sensor is not under ISO/IEC 17025:2017 accreditation.

Note: (c) With the "user threshold" setting set to minimum. For other settings, the spec is for >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 PD-C series will only operate with Nova meter with an additional adapter Ophir P/N 7Z08272 (see page 148). 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, the pulse width settings are displayed as follows: 10μs (for 2μs setting) and 20μs (for 5μs setting).

Note: (e) For scale 2μs from 10kHz error reaches -6%.

Note: (f) UV degradation at 193 nm: <1% change for dosage of 1 kJ/cm² with energy density of 0.1 mJ/cm²

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