

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 ^(d)	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 140)	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 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, 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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