

1.2.1 Photodiode Energy Sensors

10pJ to 15μJ

PD10-C / PD10-pJ-C / PD10-IR-pJ-C

Features

- Silicon and Germanium detectors
- Very sensitive - down to 10pJ
- Repetition rates to 20kHz
- Wide spectral range



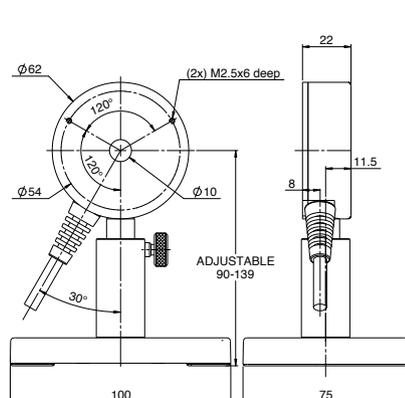
Model	PD10-C	PD10-pJ-C	PD10-IR-pJ-C																												
Use	Low energies	Lowest energies	Infrared																												
Aperture mm	Ø10	Ø10	Ø5																												
Absorber Type	Si photodiode with attenuator	Si photodiode	Ge photodiode																												
Spectral Range μm ^(a)	0.19 - 1.1	0.2 - 1.1	0.7 - 1.8																												
Surface Reflectivity % approx.	50	30	30																												
Calibration Accuracy +/- % ^(a)	5	5	5																												
Energy Scales	20μJ to 20nJ	200nJ to 200pJ	20nJ to 200pJ																												
Lowest Measurable Energy nJ ^(b)	1 at 900nm	0.01 at 900nm	0.03 at 1550nm																												
Max Pulse Width ms	0.005	0.005	0.005																												
Maximum Pulse Rate pps	20kHz	20kHz	10kHz																												
Noise on Lowest Range nJ	0.05	0.001	0.01																												
Additional Error with Frequency %	±1% to 20kHz ^(c)	±1% to 20kHz ^(d)	±1.5% to 10kHz																												
Linearity with Energy for > 10% of full scale ^(b)	±1.5%	±1.5%	±1.5%																												
Damage Threshold J/cm ²	0.1	0.1	0.1																												
Maximum Average Power mW	50 at 800nm	0.5	0.5																												
Maximum Average Power Density W/cm ²	50	5	5																												
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Fiber Adapters Available (see page 84)	ST, FC, SMA, SC	ST, FC, SMA, SC	ST, FC, SMA, SC																												
Weight kg	0.25	0.25	0.25																												
Version																															
Part number	7Z02944	7Z02945	7Z02946																												
Note: (a) This is basic calibration accuracy. In certain wavelength regions calibration there is additional error as tabulated here.	<250nm add ±3% >950nm add ±2%	<250nm add ±2% >950nm add ±2%	<900nm add ±2% >1700nm add ±2%																												

Note: (b) 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 available with StarBright, StarLite, Nova II, Vega or Juno. For other 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 or Orion meters with an additional adapter Ophir P/N 7Z08272 (see page 85). 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) Additional Error with Frequency of ±1% only for energies up to 2μJ. For higher energies ±1% up to 10kHz, -4% at 20kHz.

Note: (d) Additional Error with Frequency of ±1% only for energies up to 20nJ. For higher energies ±2% up to 10kHz, -5% at 20kHz.

PD10-C / PD10-pJ-C



PD10-IR-pJ-C

