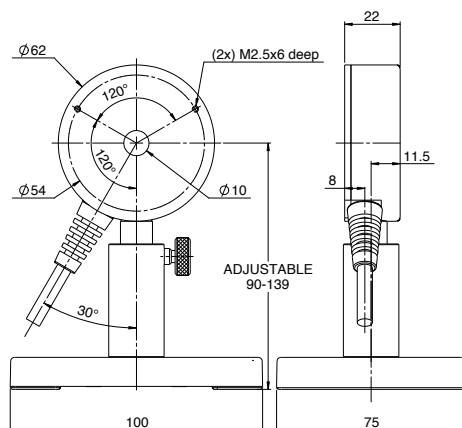Sensors

1.2.1

10pJ to 15µJ

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

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

Model	PD10-C		PD10-IR-C		PD10-pJ-C		PD10-IR-pJ-C	
Use	Low energies		Infrared		Lowest energies		Infrared, lowest energies	
Aperture mm	Ø10		Ø5		Ø10		Ø5	
Absorber Type	Si photodiode		Ge photodiode		Si photodiode		Ge photodiode	
Spectral Range µm [a]	0.19 - 1.1		0.7 – 1.8		0.2 - 1.1		0.7 - 1.8	
Surface Reflectivity % approx.	50		30		30		30	
Calibration Accuracy +/-% [a]	5		5		5		5	
Energy Scales	20µJ to 20nJ		600nJ to 6nJ		200nJ to 200pJ		20nJ to 200pJ	
Lowest Measurable Energy nJ [b]	1 at 900nm		1 at 1550nm		0.01 at 900nm		0.03 at 1550nm	
Max Pulse Width ms	0.005		0.005		0.005		0.005	
Maximum Pulse Rate pps	20kHz		10kHz		20kHz		10kHz	
Noise on Lowest Range nJ	0.05		0.1		0.001		0.01	
Additional Error with Frequency %	±1% to 20kHz [c]		±1.5% to 10kHz		±1% to 20kHz [d]		±1.5% to 10kHz	
Linearity with Energy for > 10% of full scale [b]	±1.5%		±1.5%		±1.5%		±1.5%	
Damage Threshold J/cm²	0.1		0.1		0.1		0.1	
Maximum Average Power mW	50 at 800nm		6		0.5		0.2	
Maximum Average Power Density W/cm²	50		50		5		5	
Maximum Energy vs. Wavelength	Wavelength	Max Energy	Wavelength	Max Energy	Wavelength	Max Energy	Wavelength	Max Energy
	<300nm	15µJ	800 - 900nm	600nJ	<300nm	150nJ	800 - 900nm	20nJ
	350 - 550nm	8µJ	1000 - 1300nm	200nJ	350 - 550nm	75nJ	1000 - 1300nm	8nJ
	>800nm	5µJ	1300 - 1400nm	170nJ	>800nm	50nJ	1300 - 1400nm	7nJ
			1480 - 1560nm	150nJ			1480 - 1560nm	6nJ
			>1650nm	600nJ			>1650nm	20nJ
Fiber Adapters Available (see page 104)	ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC	
Weight kg	0.25		0.25		0.25		0.25	
Compliance	CE, China RoHS		CE, China RoHS		CE, China RoHS		CE, China RoHS	
Version								
Part number	7Z02944		7Z02955		7Z02945		7Z02946	

Note: (a) This is basic calibration accuracy. In certain wavelength regions calibration there is additional error as tabulated here.

<250nm	add ±3%		<900nm	add ±2%	<250nm	add ±2%	<900nm	add ±2%
>950nm	add ±2%		>1700nm	add ±2%	>950nm	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 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 PD-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) 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-C / PD10-IR-pJ-C

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