

1.1.1 Photodiode Power Sensors

1.1.1.1 Standard Photodiode Sensors

50pW to 3W

Features

- Very large dynamic range
- Swivel mount for hard to measure places
- Comes with filter in / filter out options
- Patented automatic background subtraction
- Fiber optic adapters available



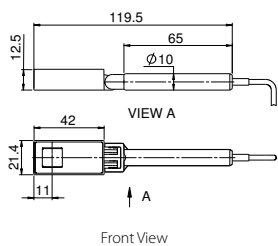
Model	PD300			PD300-1W			PD300-3W			PD300-TP				
Use	General			Powers to 1W			Powers to 3W			Thin profile for tight fit				
Detector Type	silicon			silicon			silicon			silicon				
Aperture	10x10mm			10x10mm			10x10mm			10x10mm				
Filter mode	Filter out	Filter in		Filter out	Filter in		Filter out	Filter in		Filter out	Filter in			
Spectral Range nm	350-1100		430-1100	350-1100		430-1100	350-1100		430-1100	350-1100		400-1100		
Power Range	500pW to 30mW		200µW to 300mW	500pW to 30mW		200µW to 1W	5nW to 100mW		200µW to 3W	50pW to 3mW		20µW to 1W		
Power Scales	30mW to 30nW and dBm		300mW to 30mW and dBm	30mW to 30nW and dBm		1W to 30mW and dBm	100mW to 300nW and dBm		3W to 30mW and dBm	3mW to 3nW and dBm		1W to 3mW and dBm		
Resolution nW	0.01		NA	0.01		NA	0.1		NA	0.001		1		
Maximum Power vs. Wavelength	nm	mW	mW	nm	mW	mW	nm	mW	mW	nm	mW	mW		
	<488	30	300	<488	30	1000	<488	100	3000	350-400	3	NA		
	633	20	300	633	20	1000	633	100	3000	400-500	3	1000		
	670	13	200	670	13	1000	670	100	2000	600	2.5	1000		
	790	10	100	790	10	600	790	100	1200	700	2	500		
	904	10	100	904	10	700	904	100	1200	800-950	1.5	300		
	1064	25	250	1064	25	1000	1064	100	2200	1064	3	500		
Accuracy (including errors due to temp. variations)														
% error vs Wavelength nm	±10	360-400	NA	±10	360-400	NA	±10	360-400	NA	±7	350-400	NA		
	±3	400-980	±5	430-980	±3	400-950	±5	430-950	±5	430-950	±3	400-450	±5	400-450
	±5	980-1100	±7	980-1100	±4	950-1030	±6	950-1030	±4	950-1030	±2	450-950	±3	450-950
					±6	1030-1100	±7	1030-1100	±6	1030-1100	±6	950-1100	±7	950-1100
Damage Threshold W/cm ²	10		50	10		10 ^(a)	10		30	10		50		
Max Pulse Energy µJ	2		20	2		100	20		500	1		100		
Noise Level for filter out pW	20			20			200			±2				
Response Time with Meter s	0.2			0.2			0.2			0.2				
Beam Position Dependence	±2%			±2%			±2%			±3%				
Background Subtraction	95-98% of background is cancelled automatically under normal room conditions, even when changing continuously						N.A.			N.A.				
Fiber Adapters Available (see page 40)	ST, FC, SMA, SC			ST, FC, SMA, SC			ST, FC, SMA, SC			N.A.				
Compliance	CE, China RoHS			CE, China RoHS			CE, China RoHS			CE, China RoHS				
Version							V1							
Part Number	7Z02410			7Z02411A			7Z02426			7Z02424				

Note: (a) Maximum power density above which sensor may not read correctly. There will be no permanent damage until 50W/cm²

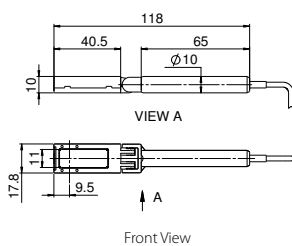
* For graphs see page 30-31

* For PD300-3W drawing see PD300-LV/PD300-IR drawing on page 26

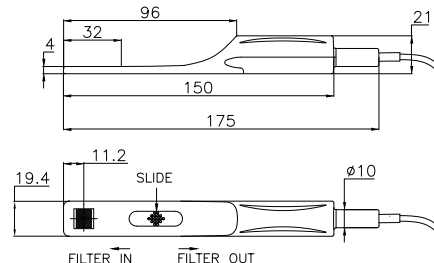
PD300 / PD300-1W filter installed



PD300 / PD300-1W filter off

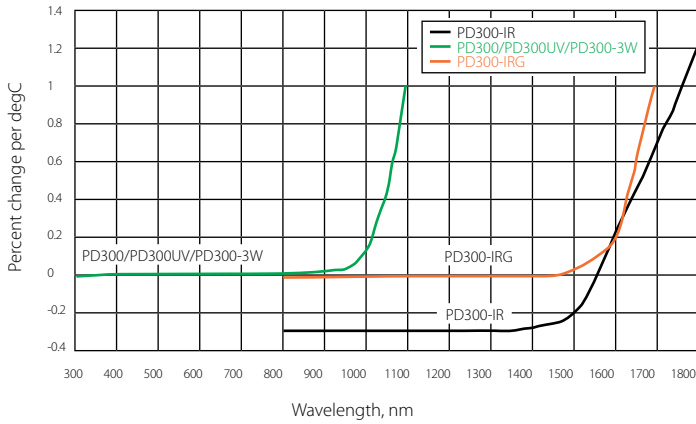


PD300-TP

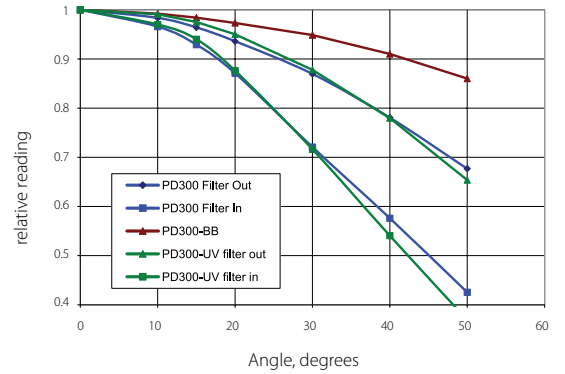


1.1.1.4 Graphs

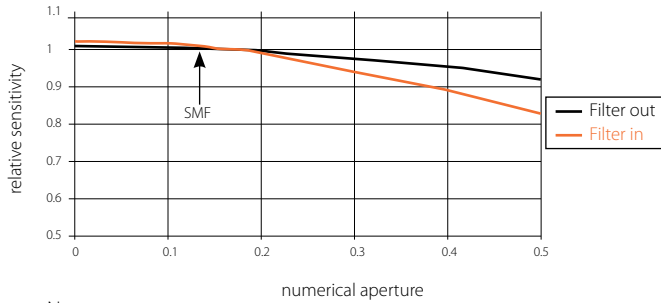
Temperature Coefficient of Sensitivity



PD300 Angle Dependence



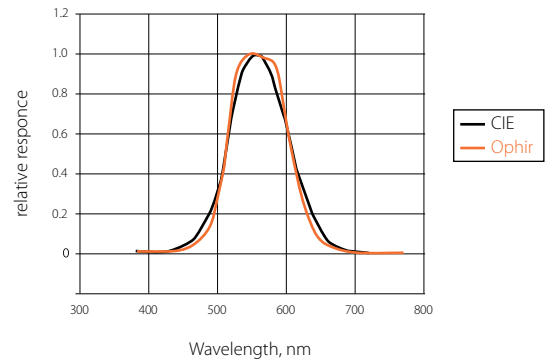
Dependence of Sensitivity on Numerical Aperture (PD300 - IRG)



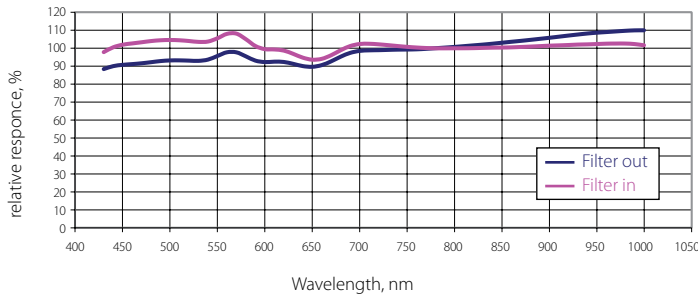
Note:

1. Graph assumes equal intensity into all angles up to maximum N.A.
2. Calibration is done with SMF, N.A. 0.13

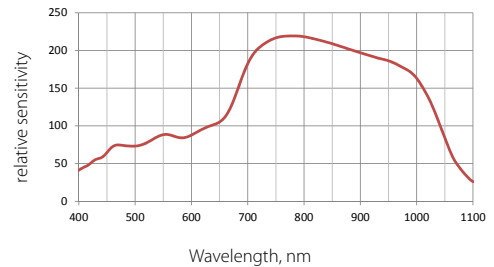
PD300-CIE Spectral Response vs. CIE Curve



Typical Sensitivity Curve of PD300-BB Sensors

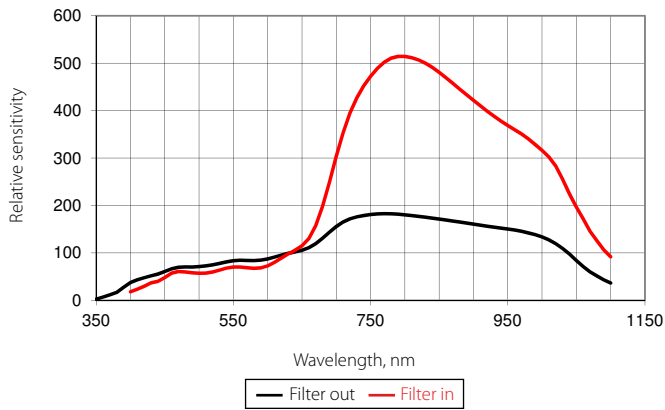


BC20 Relative Spectral Response

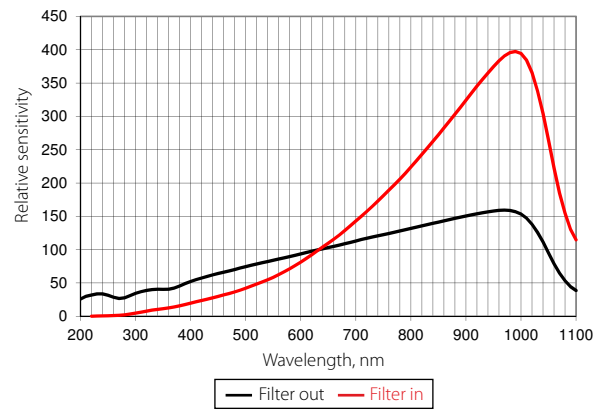


Approximate Spectral Response Relative to 633nm or 1550nm

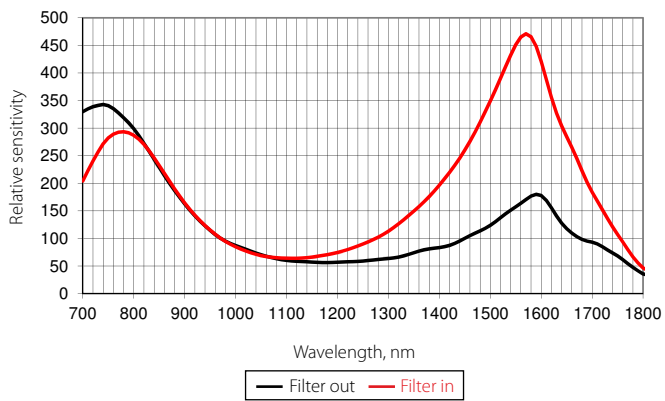
PD300 / PD300R



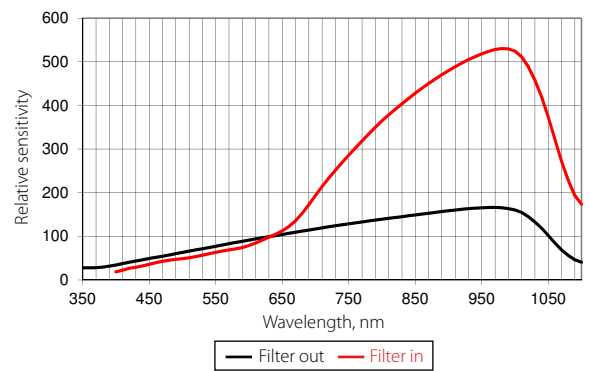
PD300-UV / PD300R-UV



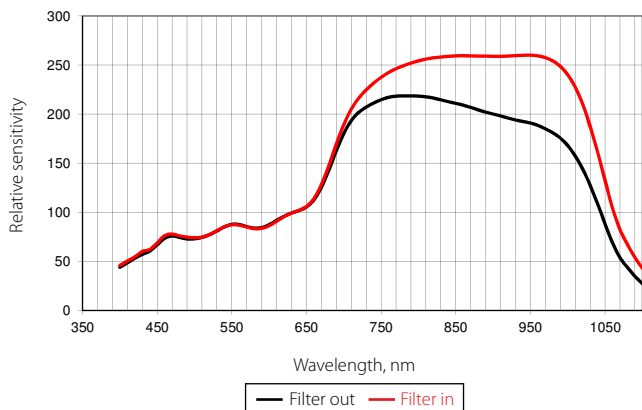
PD300-IR / PD300R-IR



PD300-TP



PD300-3W / PD300R-3W



PD300-IRG

