

1.1.1 Photodiode Power Sensors

1.1.1.1 Standard Photodiode Sensors

50pW to 3W

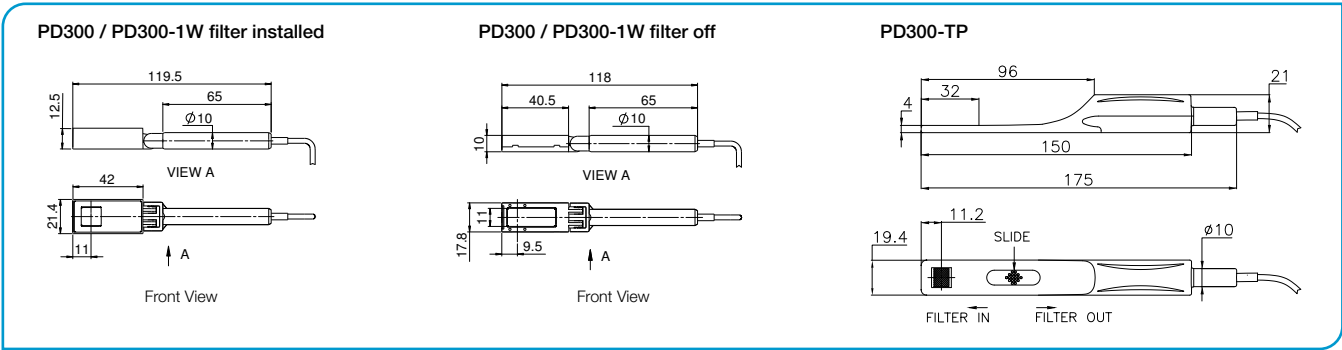
- Features**
- Very large dynamic range
 - Swivel mount for hard to measure places
 - Comes with filter in / filter out options
 - Patented automatic background subtraction
 - Fiber optic adapters available



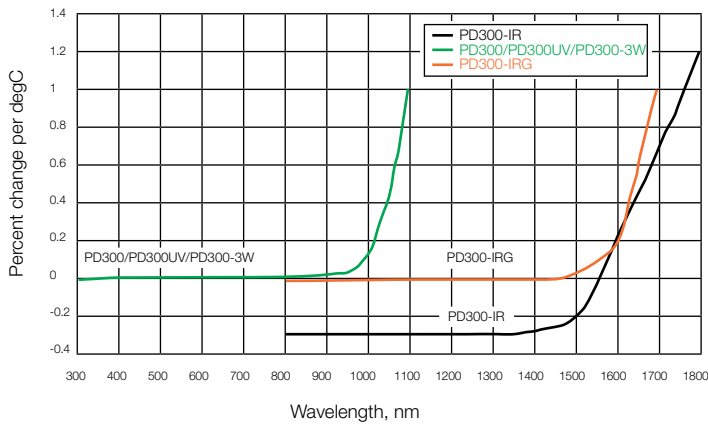
Model	PD300			PD300-1W			PD300-3W			PD300-TP		
Use	General			Powers to 1W			Powers to 3W			Thin profile for tight fit		
Detector Type	silicon			silicon			silicon			silicon		
Aperture	10x10mm			10x10mm			10x10mm			10x10mm		
Calibration Uncertainty nm	±1.1% 430-1000 ^(b)			±1.1% 430-1000 ^(b)			±1.1% 430-1000 ^(b)			±1.1% 430-1000 ^(b)		
Filter Mode	Filter out			Filter out			Filter out			Filter out		
Spectral Range nm	350-1100			350-1100			350-1100			350-1100		
Power Range	500pW to 30mW			500pW to 30mW			5nW to 100mW			50pW to 3mW		
Power Scales	30mW to 30nW and dBm			30mW to 30nW and dBm			100mW to 300nW and dBm			3mW to 3nW and dBm		
Resolution nW	0.01			0.01			0.1			0.001		
Maximum Power vs. Wavelength	nm mW			nm mW			nm mW			nm mW		
	<488 30			<488 30			<488 100			350-400 3		
	633 20			633 20			633 100			400-500 3		
	670 13			670 13			670 100			600 2.5		
	790 10			790 10			790 100			700 2		
	904 10			904 10			904 100			800-950 1.5		
	1064 25			1064 25			1064 100			1064 3		
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			±3 400-950			±3 400-950			±3 400-450		
	±5 980-1100			±4 950-1030			±4 950-1030			±2 450-950		
				±6 1030-1100			±6 1030-1100			±6 950-1100		
Damage Threshold W/cm²	10			10			10			10		
Max Pulse Energy μJ	3			3			30			1		
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%			±2%		
Background Subtraction	95-98% of background is cancelled automatically under normal room conditions, even when changing continuously			N.A.			N.A.			N.A.		
Fiber Adapters Available (see page 32)	ST, FC, SMA, SC			ST, FC, SMA, SC			ST, FC, SMA, SC			N.A.		
Compliance Version	CE, UKCA, China RoHS			CE, UKCA, China RoHS			CE, UKCA, China RoHS V1			CE, UKCA, China RoHS		
Part Number	7Z02410			7Z02411A			7Z02426			7Z02424		

Notes: (a) Maximum power density above which sensor may not read correctly. There will be no permanent damage until 50W/cm²
(b) For calibration uncertainty of wavelengths outside of this range see table on page 24

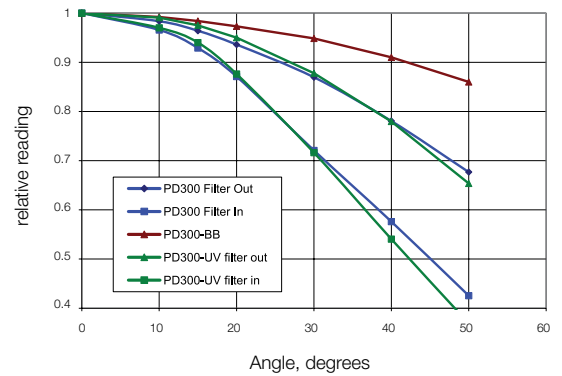
* For graphs see page 30-31
* For PD300-3W drawing see PD300-UV/PD300-IR drawing on page 26



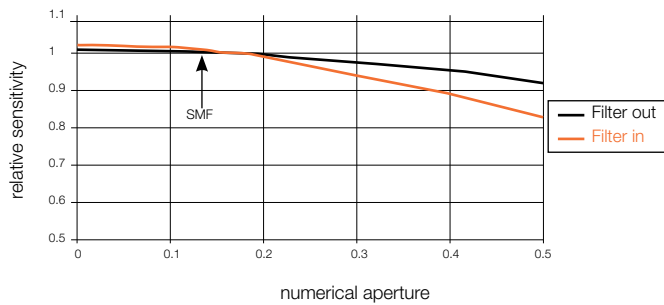
Temperature Coefficient of Sensitivity



PD300 Angle Dependence



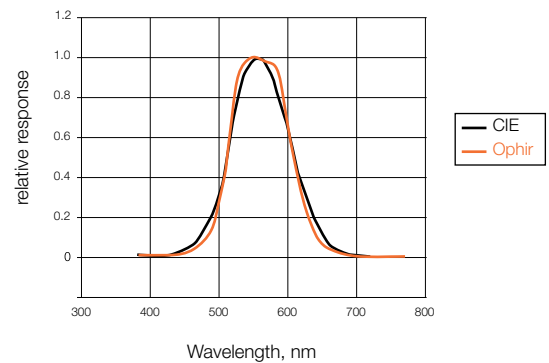
Dependence of Sensitivity on Numerical Aperture (PD300 - IRG)



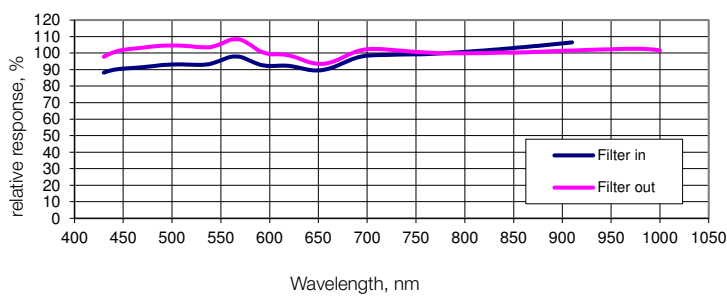
Note:

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

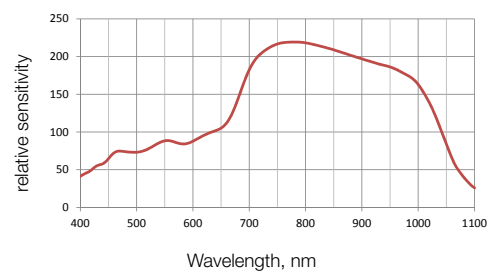
PD300-CIE Spectral Response vs. CIE Curve



Typical Sensitivity Curve of PD300-BB Sensors



BC20 Relative Spectral Response



Approximate Spectral Response

Relative to 633nm or 1550nm

