

## 1.1.1.2 Round Photodiode Sensors

### 20pW to 3W

#### Features

- Round geometry for easy centering
- Threaded to fit standard SM1 bench equipment
- Same performance as standard PD300 sensors
- Comes with removable filter as standard
- • Fiber optic adapters available

PD300R Filter Off



PD300R Filter installed



Model	PD300R		PD300R-3W		PD300R-UV		PD300R-IR				
Use	General		Powers to 3W		Lowest powers from 200-1100nm		IR wavelengths 700-1800nm				
Detector Type	silicon		silicon		silicon		Germanium				
Aperture	Ø10mm		Ø10mm		Ø10mm		Ø5mm				
Calibration Uncertainty nm	±1.1% 430-1000 <sup>(a)</sup>		±1.1% 430-1000 <sup>(a)</sup>		±1.1% 430-1000 <sup>(a)</sup>		±2.4% 700-1430 <sup>(a)</sup>				
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	200-1100	220-1100	700-1800	700-1800			
Power Range	500pW to 30mW	2µW to 300mW	5nW to 100mW	2µW to 3W	20pW to 3mW	2µW to 300mW	5nW to 30mW	2µW to 300mW			
Power Scales	30mW to 30nW and dBm	300mW to 300µW and dBm	100mW to 300nW and dBm	3W to 300µW and dBm	3mW to 3nW and dBm	300mW to 300µW and dBm	30mW to 30nW and dBm	300mW to 300µW and dBm			
Resolution nW	0.01		0.1		0.001		0.01				
Maximum Power vs. Wavelength	nm	mW	nm	mW	nm	mW	nm	mW			
	<488	30	300	<488	100	3000	250-350	3	300		
	633	20	300	633	100	3000	400	3	300		
	670	13	200	670	100	2000	600	3	300		
	790	10	100	790	100	1200	800-950	2.5	150		
	904	10	100	904	100	1200	1064	3	300		
	1064	25	250	1064	100	2200			1800	30	300

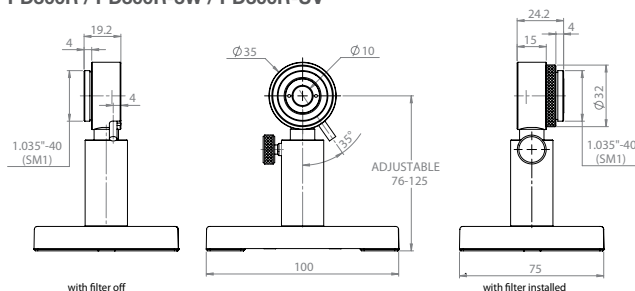
Accuracy (including errors due to temp. variations)

% error vs Wavelength nm	±10	360-400	NA	±10	360-400	NA	±10	200-230	±10	220-300	±5	700-800	±6	700-900
	±3	400-980	±5	430-980	±3	400-950	±5	430-950	±7	230-300	±4	300-420	±4	800-1700
	±5	980-1100	±7	980-1100	±4	950-1030	±6	950-1030	±3	300-420	±3	420-980	±7	1700-1800
				±6	1030-1100	±7	1030-1100	±2	420-980	±7	980-1100			
Damage Threshold W/cm <sup>2</sup>	10	50	10	30	10	50	10	50	10	50	10	50	10	50
Max Pulse Energy µJ	3	30	30	400	30	400	1	50	0.75	2	0.75	2	0.75	2
Noise Level for filter out pW	20		200		±1		200		200		200		200	
Response Time with Meter s	0.2		0.2		0.2		0.2		0.2		0.2		0.2	
Beam Position Dependence	±2%		±2%		±3%		±2%		±2%		±2%		±2%	
Fiber Adapters Available (see page 33)	ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC		ST, FC, SMA, SC	
Compliance	CE, UKCA, China RoHS		CE, UKCA, China RoHS		CE, UKCA, China RoHS		CE, UKCA, China RoHS		CE, UKCA, China RoHS		CE, UKCA, China RoHS		CE, UKCA, China RoHS	
Version														
Part Number: Standard Sensor	7Z02436		7Z02437		7Z02438 (1.5m cable)		7Z02439		7Z02438 (1.5m cable)		7Z02439		7Z02438 (1.5m cable)	
Sensor with different cable length									7Z02438C (10m cable)					

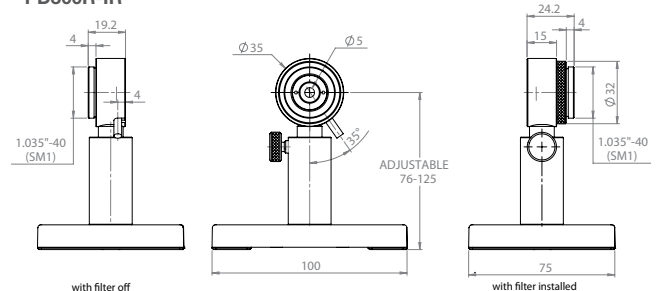
Note: (a) For calibration uncertainty of wavelengths outside of this range see table on page 24

\* For graphs see page 31-32

#### PD300R / PD300R-3W / PD300R-UV

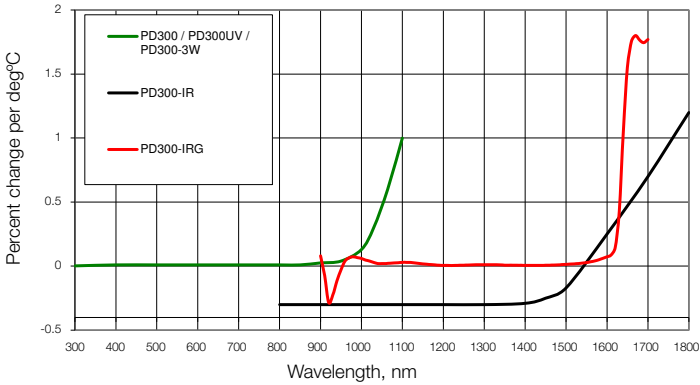


#### PD300R-IR

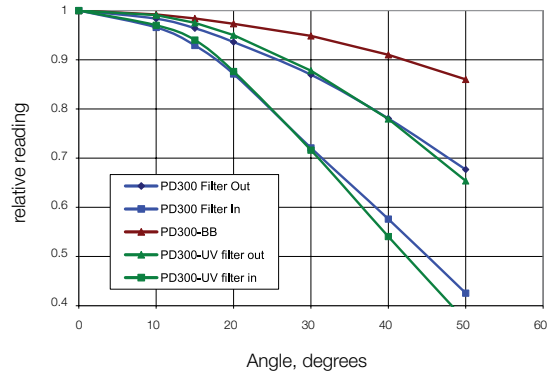


# 1.1.1.4 Graphs

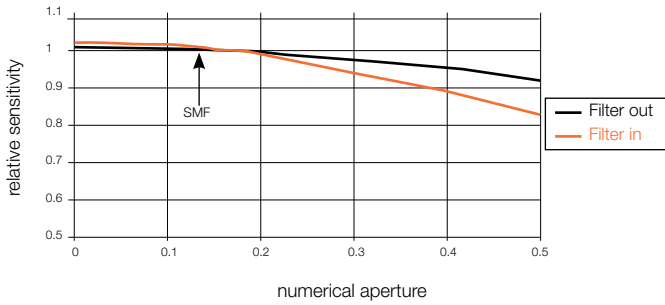
Temperature Coefficient of Sensitivity



PD300 Angle Dependence

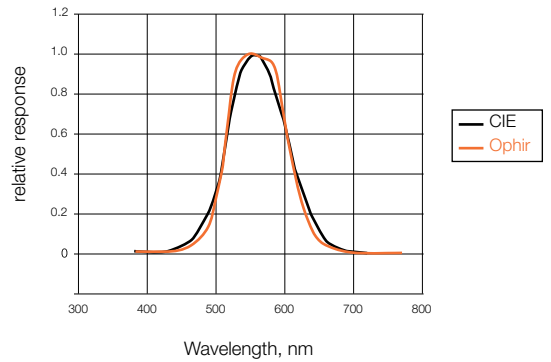


Dependence of Sensitivity on Numerical Aperture (PD300 - IRG)

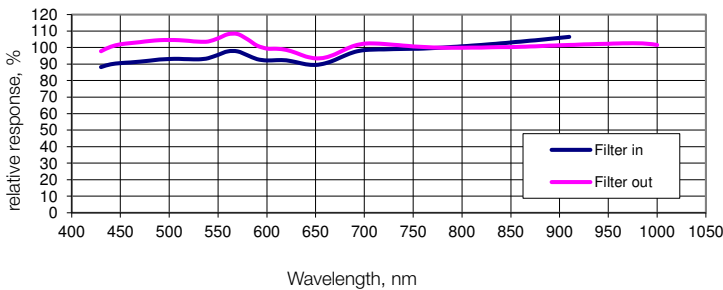


- Note:
1. Graph assumes equal intensity into all angles up to maximum N.A.
  2. Calibration is done with SMF, N.A. 0.13

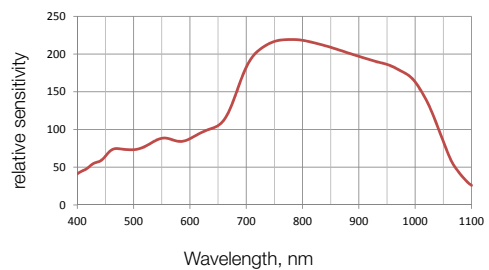
PD300-CIE Spectral Response vs. CIE Curve



Typical Sensitivity Curve of PD300-BB Sensors



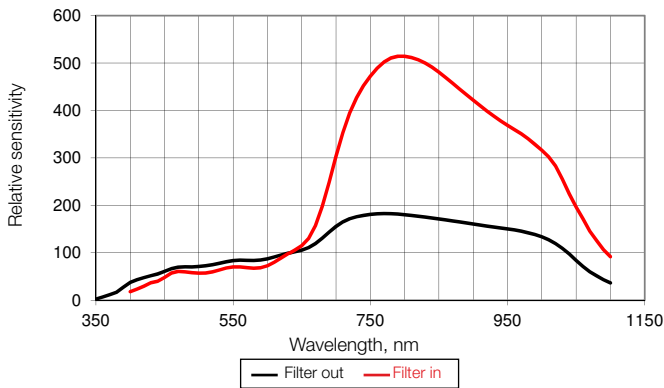
BC20 Relative Spectral Response



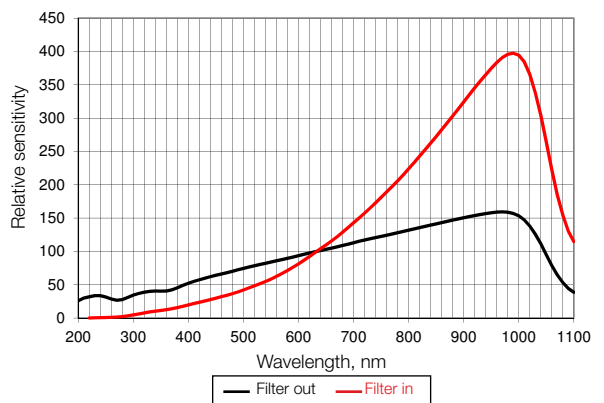
## Approximate Spectral Response

Relative to 633nm or 1550nm

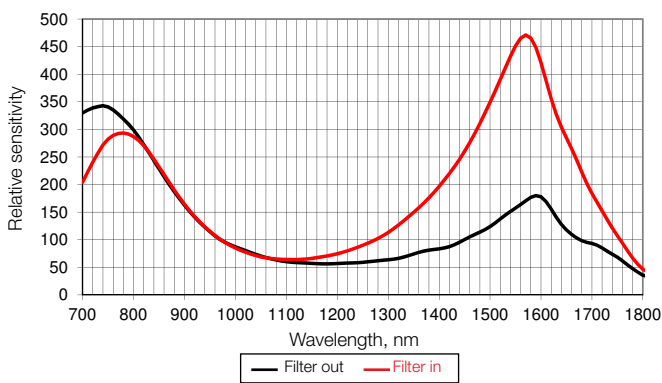
PD300 / PD300R



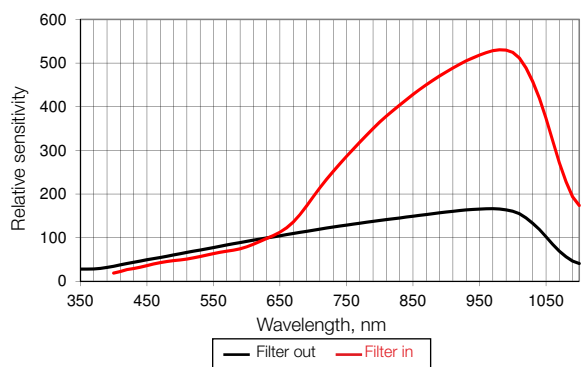
PD300-UV / PD300R-UV



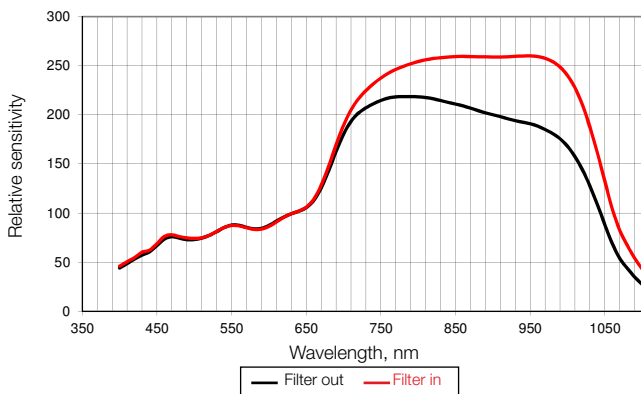
PD300-IR / PD300R-IR



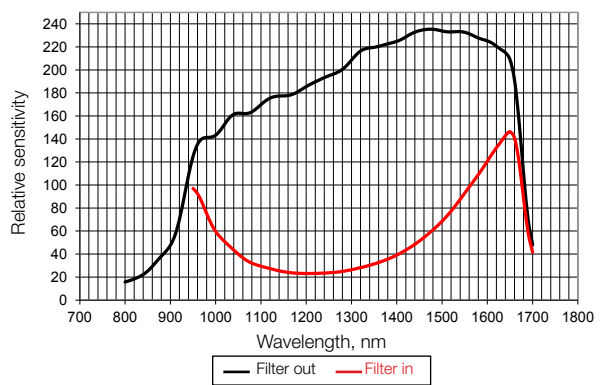
PD300-TP



PD300-3W / PD300R-3W



PD300-IRG



PD300-1W

