

## 1.1.1.2 Round Photodiode Sensors

### 20pW to 300mW

#### 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-UV Filter Off PD300R-UV Filter installed PD300R-UV-193



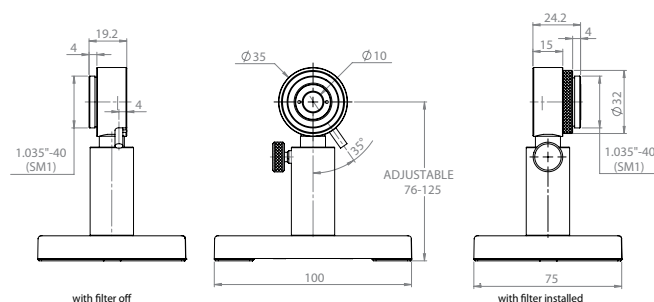
| Model                                                              | PD300R-UV                     |         |                        | PD300R-UV-193                |         |                |
|--------------------------------------------------------------------|-------------------------------|---------|------------------------|------------------------------|---------|----------------|
| Use                                                                | Lowest powers from 200-1100nm |         |                        | Lowest powers from 190-400nm |         |                |
| Detector Type                                                      | silicon                       |         |                        | silicon                      |         |                |
| Aperture                                                           | Ø10mm                         |         |                        | Ø10mm                        |         |                |
| Filter Mode                                                        |                               |         |                        |                              |         |                |
| Calibration Uncertainty ±%                                         | 1.1 430-1000nm <sup>(a)</sup> |         |                        | 190-400nm <sup>(a)</sup>     |         |                |
| Filter Mode                                                        | Filter out                    |         | Filter in              | Filter out                   |         | Filter in      |
| Spectral Range nm                                                  | 200-1100                      |         | 220-1100               | 190-400                      |         | 190-400        |
| Power Range                                                        | 20pW to 3mW                   |         | 2μW to 300mW           | 4nW to 20mW                  |         | 30μW to 300mW  |
| Power Scales                                                       | 3mW to 3nW and dBm            |         | 300mW to 300μW and dBm | 20mW to 20nW                 |         | 300μW to 300mW |
| Resolution nW                                                      | 0.001                         |         | 100                    | 0.01                         |         | 100            |
| Maximum Power vs. Wavelength                                       | nm                            | mW      | mW                     | nm                           | mW      | mW             |
|                                                                    | 250 - 350                     | 3       | 300                    | 190-350                      | 20      | 300            |
|                                                                    | 400                           | 3       | 300                    | 351-400                      | 8       | 300            |
| Accuracy <sup>(b)</sup> (including errors due to temp. variations) |                               |         |                        |                              |         |                |
| % error vs Wavelength nm                                           | ±10                           | 200-230 | ±10 220-300            | ±7                           | 190-230 | ±10 190-230    |
|                                                                    | ±7                            | 230-300 | ±4 300-420             | ±5                           | 231-300 | ±6 231-300     |
|                                                                    | ±3                            | 300-420 | ±3 420-980             | ±3                           | 301-400 | ±4 301-400     |
| Damage Threshold W/cm² at 400nm                                    | NA                            |         | NA                     | 10                           |         | 50             |
| Max Pulse Energy μJ                                                | 1                             |         | 50                     | 1                            |         | 50             |
| Noise Level for filter out pW                                      | 1                             |         |                        | 200                          |         |                |
| Response Time with Meter s                                         | 0.2                           |         |                        | 0.2                          |         |                |
| Beam Position Dependence                                           | ±2%                           |         |                        | NA                           |         |                |
| Fiber Adapters Available (see page 35)                             | ST, FC, SMA, SC               |         |                        | NA                           |         |                |
| Compliance                                                         | CE, UKCA, China RoHS          |         |                        | CE, UKCA, China RoHS         |         |                |
| Version                                                            |                               |         |                        |                              |         |                |
| Part Number: Standard Sensor                                       | 7Z02438 (1.5m cable)          |         |                        | 7Z07151                      |         |                |
| Sensor with different cable length                                 | 7Z02438C (10m cable)          |         |                        |                              |         |                |

Note: (a) For calibration uncertainty of wavelengths outside of this range see table on page 25

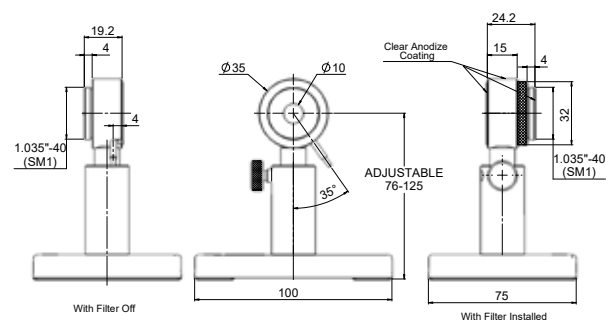
Note: (b) UV degradation at 193 nm: <1% change for dosage of 1 kJ/cm² with energy density of 0.1 mJ/cm²

\* For graphs see page 33-34

#### PD300R-UV

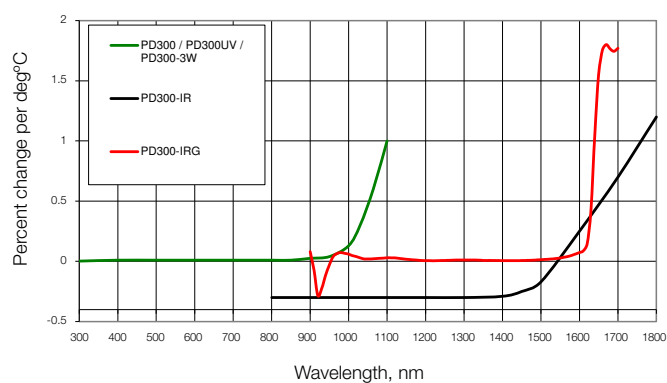


#### PD300-UV-193

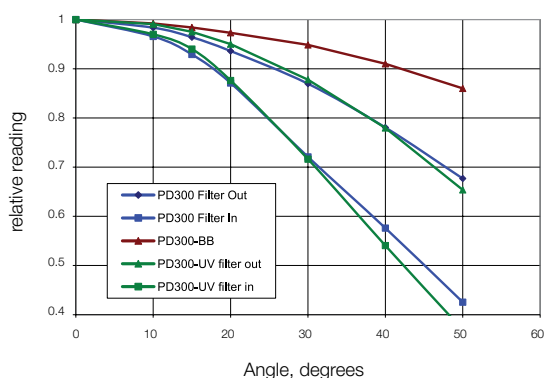


## 1.1.1.4 Graphs

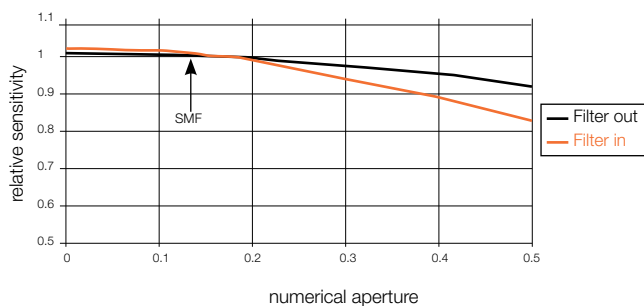
Temperature Coefficient of Sensitivity



PD300 Angle Dependence



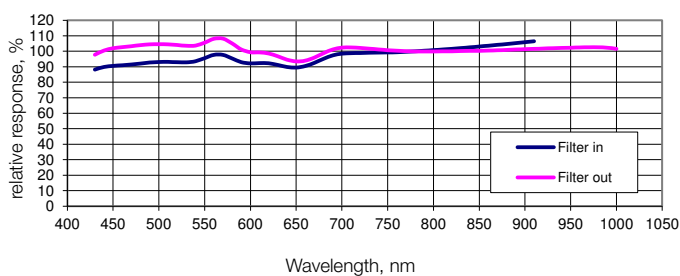
Dependence of Sensitivity on Numerical Aperture (PD300 - IRG)



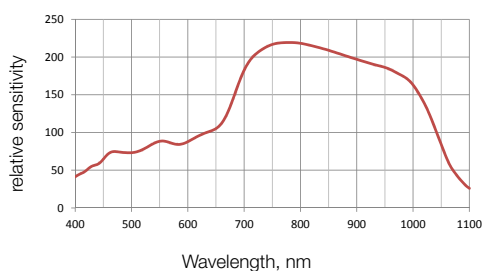
Note:

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

Typical Sensitivity Curve of PD300-BB Sensors



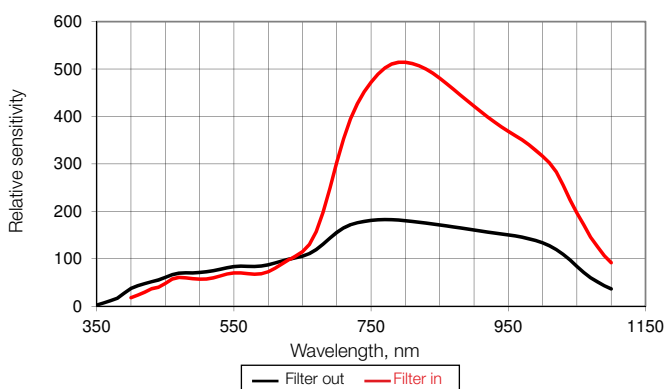
BC20 Relative Spectral Response



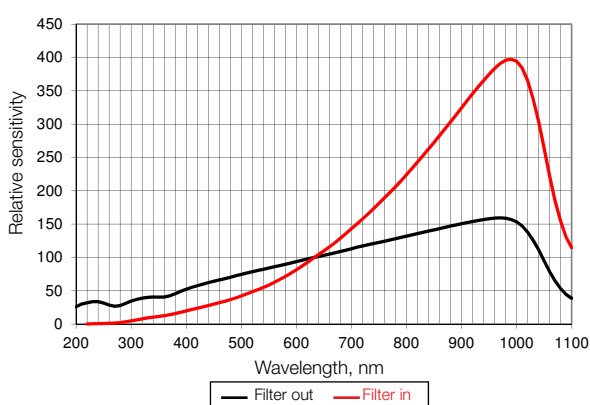
## Approximate Spectral Response

Relative to 633nm or 1550nm

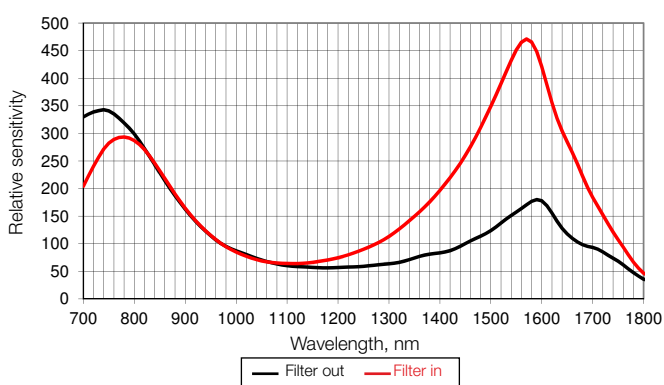
PD300 / PD300R



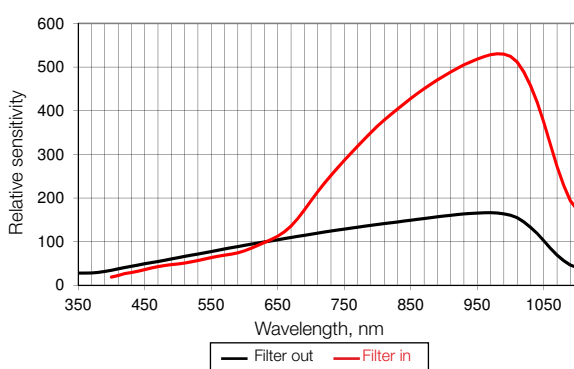
PD300-UV / PD300R-UV



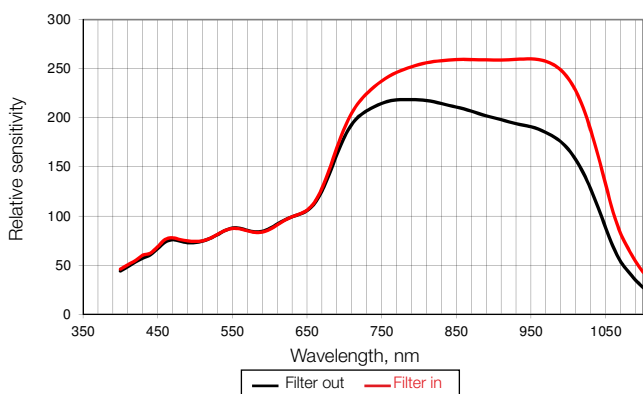
PD300-IR / PD300R-IR



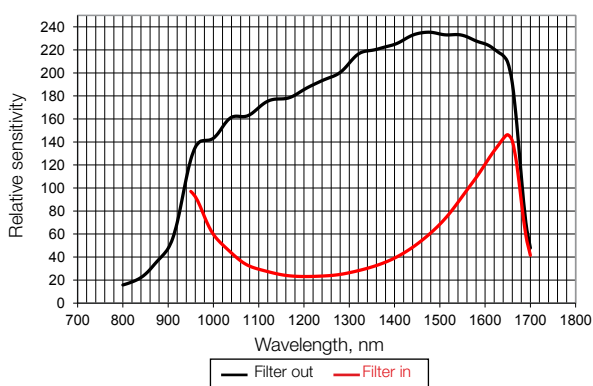
PD300-TP



PD300-3W / PD300R-3W



PD300-IRG



PD300-1W

