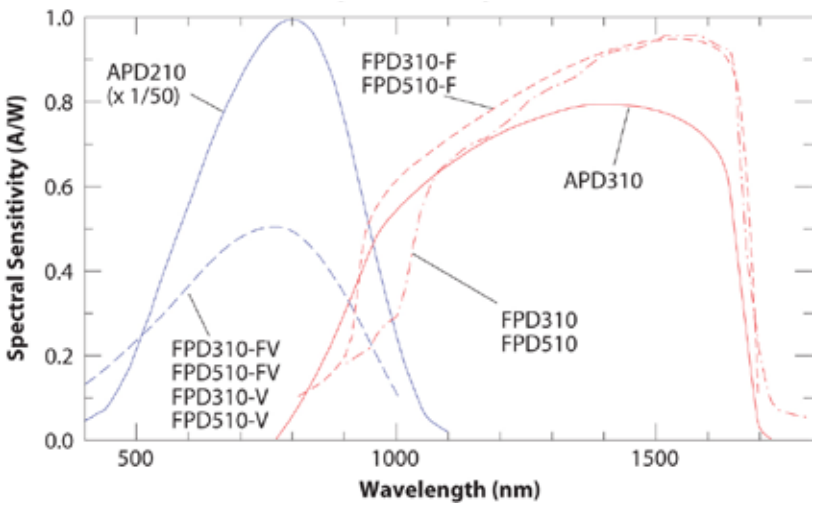
Detector Selection Guide

MenloSystems

Menlo Systems has developed a series of detectors for lowest light level signals. From avalanche to PIN photodiodes you can find the detector that is best for your specific application. All devices are field tested in our Optical Frequency Comb Systems featuring Nobel Prize winning technology.

SPECTRAL RESPONSE

Spectral response characteristics of the photodiodes built into the various detector models; please note the different scaling of the APD210 data:



AVALANCHE PHOTODETECTORS

APD210, APD310

- Avalanche photodetector APD210 in the visible regime and APD310 in the near infrared regime with contiuously adjustable gain and high signal-to-noise ratio. Temperature independent gain characteristics through electronic compensation of bias voltage, optimized for detection of low level free space optical pulses in the wavelength range from 400 to 1000 nm and from 850 to 1650 nm with extremely flat frequency response.

PIN PHOTODETECTORS

FPD310, FPD310-F, FPD310-V, FPD310-FV

- The high sensitivity ultrafast PIN photodetector FPD310 product family is optimized for high bandwidth and high signal-to-noise ratio. In the application the gain can be switched between two fixed settings to get optimal performance. Models for both the visible and the near infrared regime are available with free space or fiber coupled optical input.

FPD510, FPD510-F, FPD510-V, FPD510-FV

- The high sensitivity PIN photodetector FPD510 product family is optimized for highest signal-to-noise ratio when detecting low level optical beat signals at frequencies up to 250 MHz. The units are recommended in particular for applications in metrology where beat signals of weak power have to be detected in a very efficient way. Models for both the visible and the near infrared regime are available with free space or fiber coupled optical input.

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SPECIFICATIONS

	Optical Input	Max. Incident Power (mW)	Spectral Range (nm)	Detector Diameter (mm)	Frequency Range (MHz)	3 dB Bandwidth (MHz)	Rise Time (ns)	Max. Gain (V/W) (calculated)	Dark State Noise Level (dBm)	NEP (pW/√Hz) (calculated)	Output Coupling
APD210	Freespace	10	400-1000	0.5	1-1600	5-1000	0.5	2.5×10^5	-80	0.4	AC
APD310	Freespace	10	850-1650	0.03	1-1800	5-1000	0.5	2.5×10^4	-80	2	AC
FPD310	Fiber*	2	850-1650	-	1-1800	10-1000	0.5	5×10^4	-90	15.7	AC
FPD310-F	Freespace	2	850-1650	0.04	1-1800	10-1000	0.5	5×10^4	-90	16.6	AC
FPD310-V	Fiber**	2	400-1000	0.4	1-1500	10-1000	0.5	5×10^4	-90	31.7	AC
FPD310-FV	Freespace	2	400-1000	0.4	1-1500	10-1000	0.7	5×10^4	-90	30.0	AC
FPD510	Fiber*	10	850-1650	-/-	0-250	0-200	2	4×10^4	-120	3	DC
FPD510-F	Freespace	10	850-1650	0.3	0-250	0-200	2	4×10^4	-120	3.2	DC
FPD510-V	Fiber**	10	400-1000	0.4	0-250	0-200	2	4×10^4	-120	6	DC
FPD510-FV	Freespace	10	400-1000	0.4	0-250	0-200	2	4×10^4	-120	6	DC

*SMF28 pigtail with FC/APC **FC/APC connector

For more detailed information and specifications, please refer to the respective product sheets available for download at our website.

ORDERING INFORMATION

Product Code	APD210	APD310
Price	1800 EUR	1,950 EUR

Product Code	FPD310	FPD310-F	FPD310-FV	FPD310-V
Price	890 EUR	890 EUR	890 EUR	890 EUR

Product Code	FPD310	FPD310-F	FPD310-FV	FPD310-V
Price	1190 EUR	1190 EUR	1190 EUR	1190 EUR

Prices and Specifications are subject to change without notice. Custom modifications are available, please inquire.

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