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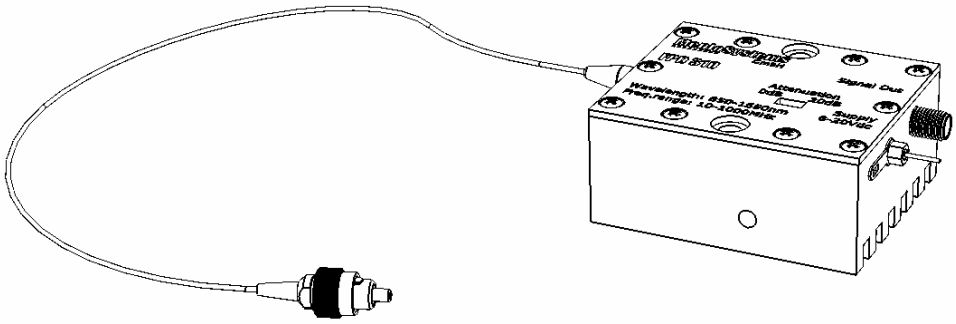
FPD310 Operating Manual

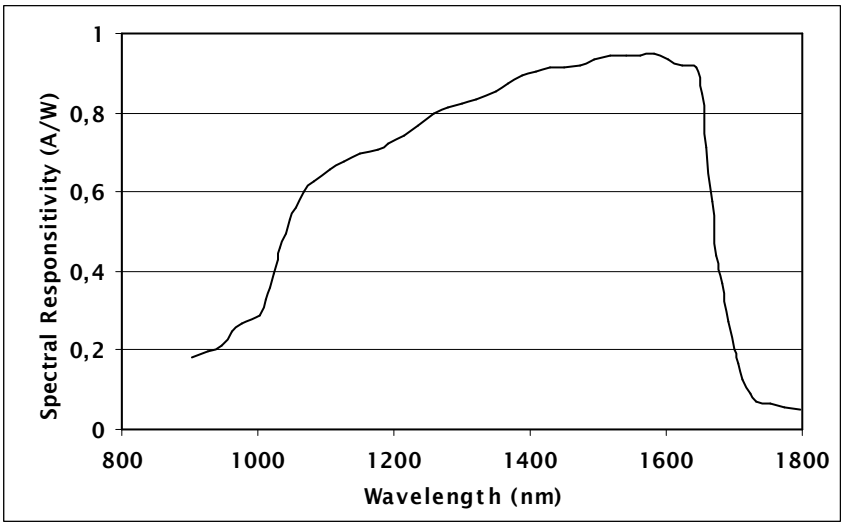
Fiber coupled High Sensitivity PIN Photo Detector Unit
(850-1650 nm)



Product Specifications

Optical Input	SM fiber
Supply Voltage	+9 to +20 V
Current Consumption	250 mA
Max Incident Power	2 mW
Operating Temperature	10-40 °C
Spectral Range	850-1650 nm
Fiber Connector	FC/APC
Frequency Range	1-1800 MHz
3dB-Bandwidth	10-1000 MHz

Rise Time	0.5 ns
Gain – Setting 1 – Setting 2	$5x10^4$ V/W $5x10^2$ V/W
Dark State Noise Level	-90 dBm
NEP (calculated)	15.7 $pW/Hz^{1/2}$
Output Connector	SMA
Output Impedance	50 Ω
Device Dimensions (mm)	60x50x27
Output Coupling	AC



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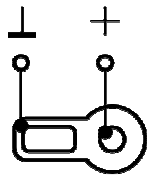
Packing Information

When unpacking your FPD310, please check that the case contains the following items:

- 1x FPD310 Detector (with markings “FPD310” / “850-1650nm”)
- 1x Envelope with manual and test report

Setup and Operation

- After unpacking, connect the power supply to the detector as depicted in the following sketch; refer to technical drawings and labelling of the device to locate the respective connectors:

  Best performance of the detector can be achieved when using a linear regulated power supply. Note that switched power supplies may introduce switching noise that could potentially carry through to the output signal.

- Connect **Signal Out** (SMA jack) to a suitable monitoring device, e.g. oscilloscope or RF-spectrum-analyzer, with 50Ω impedance.
  Mount the device firmly in your setup using the mounting holes (at least one of the two holes through the device or M4-threaded hole at the side). Please note that when the device is not mounted properly, involuntary displacements during operation might occur, leading to uncontrolled reflections from the device.

- Switch on the power supply (or supplies, depending on the configuration) and monitoring device, and connect the FC/APC connector to your light source. Please note that only FC/APC connectors may be used for mating.

- The FPD310 can be attenuated by 20dB operating the switch beneath the top with a small pen.

Maintaining the FPD310

There are no serviceable parts in the FPD310. The housing may be cleaned by wiping with a soft damp cloth. Do not use any alcohol or organic solvent to clean the mechanical parts. The FC/APC fiber connector may only be cleaned using appropriate cleaning tools.

If you suspect a problem with your FPD310 please contact Menlo Systems and technical support will be happy to assist you. For service requests, please make sure to provide the serial number of your device. For storage and shipping, please use the case your detector was shipped with.