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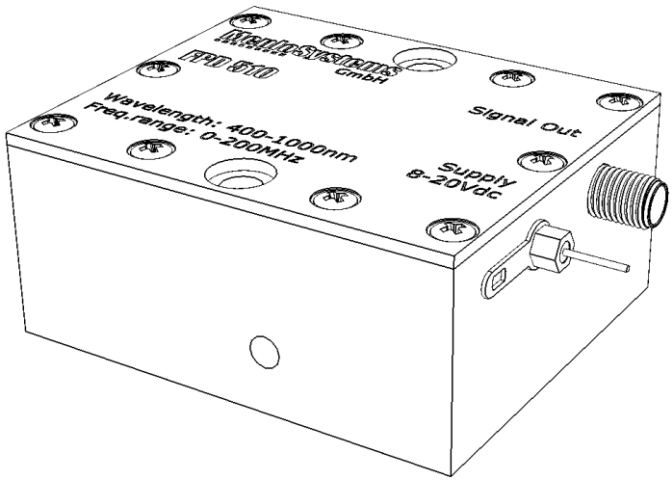
FPD510-FV Operating Manual

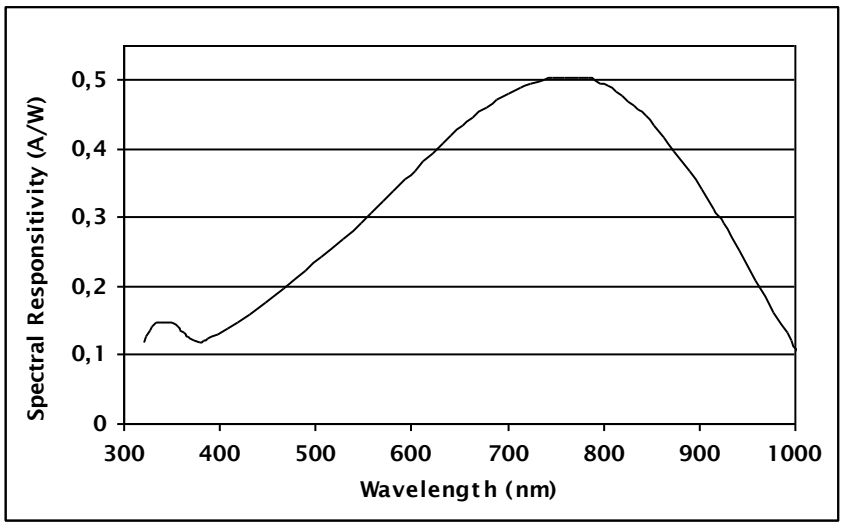
Freespace High Sensitivity PIN Photo Detector Unit
(400-1000nm)



Product Specifications

Optical Input	Freespace
Supply Voltage	+8 to +15 V
Current Consumption	50 mA
Max. Incident Power	10 mW
Operating Temperature	10-40 °C
Spectral Range	400-1000 nm
Detector Diameter	0.4 mm
Frequency Range	0-250 MHz
3dB-Bandwidth	0-200 MHz

Rise Time	2 ns
Gain	$4x10^4$ V/W
Dark State Noise Level	-120 dBm (5-200 MHz) -80 dBm (0-5 MHz)
NEP (calculated)	6 $pW/Hz^{1/2}$
Output Connector	SMA
Output Impedance	50 Ω
Device Dimensions (mm)	60x50x27
Output Coupling	DC



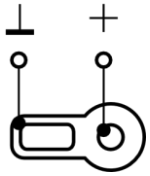
Packing Information

When unpacking your FPD510-FV, please check that the case contains the following items:

- 1x FPD510-FV Detector (with markings “FPD510” / “400-1000nm”)
- 1x Envelope with test report and this manual

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 and monitoring device, and apply a light source to the photo diode.

Maintaining the FPD510-FV

There are no serviceable parts in the FPD510-FV. 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 window of the photo diode should only be cleaned using isopropyl alcohol and optical grade wipes.

If you suspect a problem with your FPD510-FV 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.