



## Photodiode Module for Synchronisation of TCSPC Devices

**Synchronisation of TCSPC to Titanium-Sapphire Lasers**

**Wavelength Range 500 nm to 950 nm**

**Internal Gain Regulation**

**Constant Output Amplitude over 1:100 Intensity Range**

**Output Pulse Width < 1.5 ns**

**Output Amplitude +50mV to +250mV**

**For Pulse Frequency of 50 MHz to 90 MHz**

**Operating Voltage +12 V, 20 mA**

The APS-100 delivers an almost constant output signal over an intensity range of about 1:100. Gain regulation in the APS-100 is achieved by keeping the average photodiode current constant. A constant pulse frequency in the range of 70 MHz to 90 MHz is required for the module to work efficiently. The APS-100 contains a beamsplitter that directs a few percent of the laser power into the photodiode, and lets the rest pass to the experiment. The device is shown in Fig. 1, left. The laser beam enters from the back and leaves the beamsplitter to the front. Two LEDs are provided to indicate whether the light intensity is in the correct range (green) or too high (yellow). The output signal for 80 MHz laser pulse frequency is shown in Fig. 1, right.

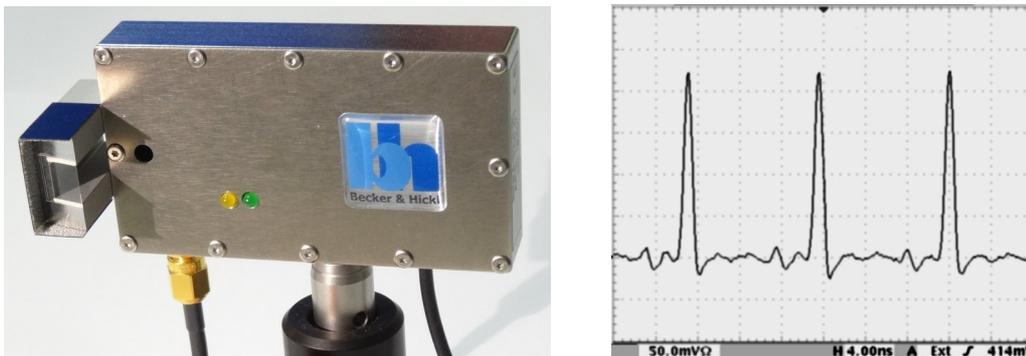


Fig. 1: Left: APS-100 photodiode module. Right: Output pulses for an 80 MHz laser pulse sequence.

Related Products: APPI-D Pulse inverter, to change the pulse polarity to negative  
PHD-400 photodiode modules, without intensity regulation



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