



Balanced Photodetector

TTT-BPD Series

Introduction

The Balanced Photodetector from TuoTuo Technology is optimized for ultrashort pulse lasers (below 1 ps). Two models are available for laser with repetition rate 0.1 kHz – 5 KHz, and 200 kHz – 200 MHz, respectively. As shown in the image at the right side, the detector has three SMA terminated ports for Chanel A, Channel B and Channel A-B, respectively.

It is worth noting that when measuring short pulse laser beam, the detector is saturated frequently, even with significantly low optical power input. Furthermore, the detection system is extremely sensitive to the angle of the ¼ waveplate. In another word, the measurable window is very small and unstable, representing a narrow linear response range of the detectors. TuoTuo Technology is proud to announce that those problems are well addressed by the *TTT-BPD series* detectors. The user will experience the precise signal acquisition with high stability and ease of operation.

The detector can be applied for wide range of applications, such as Magneto-optical Kerr measurement, THz spectroscopies, and transient absorption measurement.

A complete solution with integrated optics and automatic rotation mount is also available, please refer to TTT-ABPD for more details.

Application notes: The module is functioning with CW lasers, and the signal to noise performance is premium, however the advantages over the market product may not significant when handling CW pulses.

Specifications (TTT-BPD)

Operation wavelength	340 to 1100 nm, Peak sensitivity at 960 nm
Sensor area	5.8 mm × 5.8 mm
Photosensitivity	0.64 A/W
Bandwidth	-1k Version: 20 kHz (optimized for 0.1 kHz-5 kHz laser) -200k Version: 400 kHz (optimized for 200 kHz – 200 MHz laser)
Electrical port	SMA (Port A, Port B, Port A-B)
Conversion Gain	Port A-B: 500 kV/A, Port A & Port B: 20kV/A
Power in	Hirose 4 pin, 12±1 VDC 1A
System Dimensions¹	75 mm × 60 mm × 16 mm

Notes:

¹The dimensions exclude the electrical connectors.

TuoTuo Technology (Suzhou) Co. Ltd

Block 05-04, No5, Chunhui Road, Singapore Industrial Park, Suzhou, Jiangsu, China

Contact: Jianbo Wang

HP: +86-18962519682

Email: info@tuotuo.com



Recommended combinations

TTT-ABPD Series are the Auto Balanced Polarization measurement module with TTT-BPD inside.

TTT strongly recommends the auto alignment system (*TTT-AAL Series*) for regenerative amplifier system.

For optical measurement, we recommend *TTT-AFG series* preamplifier/photodetector is recommended for weak signal pre-amplification.

Product Code

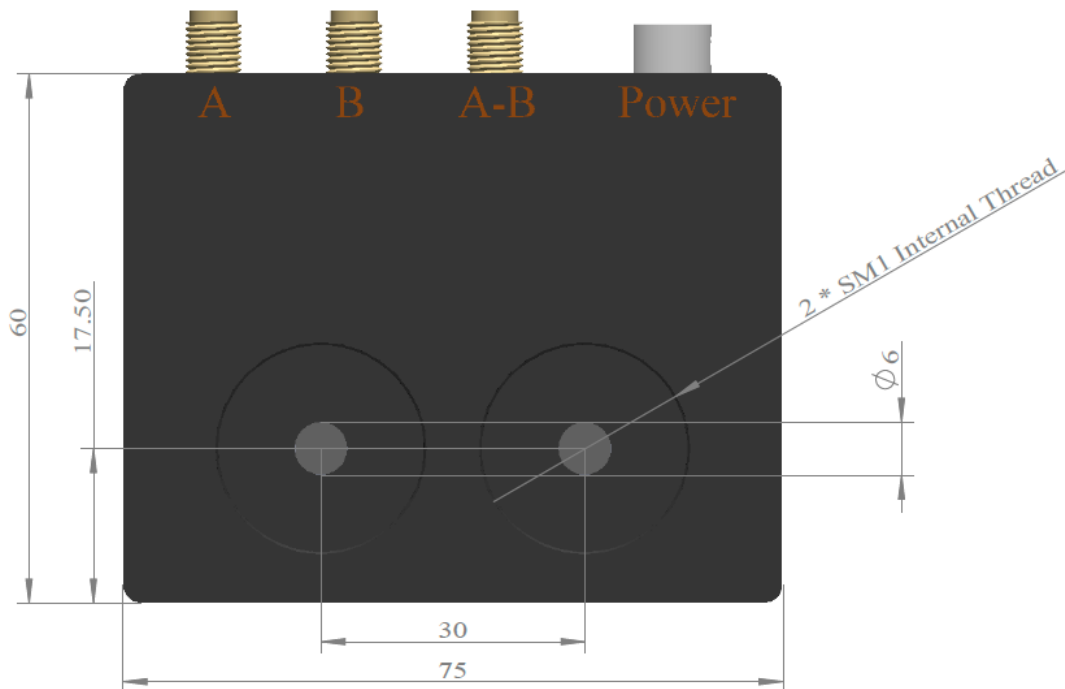
Please contact us for the availability if your needs are beyond the listed terms

TTT	-BPD	-XX	-XX
↓	↓	↓	↓
A product of TuoTuo Technology	Auto Balanced photodetection	Bandwidth: -1k -400k	Sensor Type Si InGaAs

Caution!

- Precision instruments, handle with extra caution.
- Usage and storage out of controlled environment leads to lower performance.
- Disassemble the module with lead to the warranty void immediately.

3D drawing of the detector



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