OT-301

Versatile Position Sensing Amplifier

For: Duolateral • Tetralateral • Quad
One Dimensional • BiCell

Features

- X, Y Analog Position Output Voltages
- Sum Output
- Wide Dynamic Range: 0.1 µA to 1.5 mA
- DC to 15kHz
- Compatible With All Position Sensing Detectors
- Zero Offset/Nulling
- Calibration Adjust
- Automatic Detector Bias
- Position Independent of Beam Intensity

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OT-301 Position Sensing Amplifier. Plug-And-Play Convenience And Precision.

The OT-301 Position Sensing Amplifier is the easiest, most precise way to process the current output from any position sensing detector (PSD) on the market.

Plug-And-Play... Out Of The Box.

Truly plug-and-play, the OT-301 eliminates the hassle of having to design and build a custom amplification solution. Simply plug in the detector, switch on the power, and you're ready to go.

The benefit is greater convenience, efficiency and productivity... plus 100% compatibility with your future position sensing needs. The OT-301 pays for itself in no time.

Any Application... Any Detector.

From laser beam alignment, to beam centering, to mirror stabilization, the OT-301 is ideal for one- and two-dimensional absolute optical positioning or precision centering and nulling requirements.

Read the X-Y position output and SUM output from duolateral, tetralateral, single axis, quadrant and bi-cell PSDs.

Universal PSD Compatibility

One-Dimensional PSD
Common Anode
Common Cathode

Two-Dimensional PSD
Duolateral
Tetralateral Common Anode
Tetralateral Common Cathode
Pin Cushion Tetralateral-Silicon or Germanium

Quad and Bi-Cell
Common Anode
Common Cathode

Four Transimpedance Amplifiers.

Four transimpedance amplifier channels and precision signal processing electronics deliver the performance necessary for close-tolerance angle, surface uniformity, flatness, parallelism and straightness measurement.

X,Y Analog Output That's Directly Proportional To Beam Position.

The photocurrent generated from the position sensing detector is processed by the four-channel amplifier system using a position sensing algorithm. The result is X and Y analog outputs that are directly proportional to beam position—independent of changes in beam intensity.

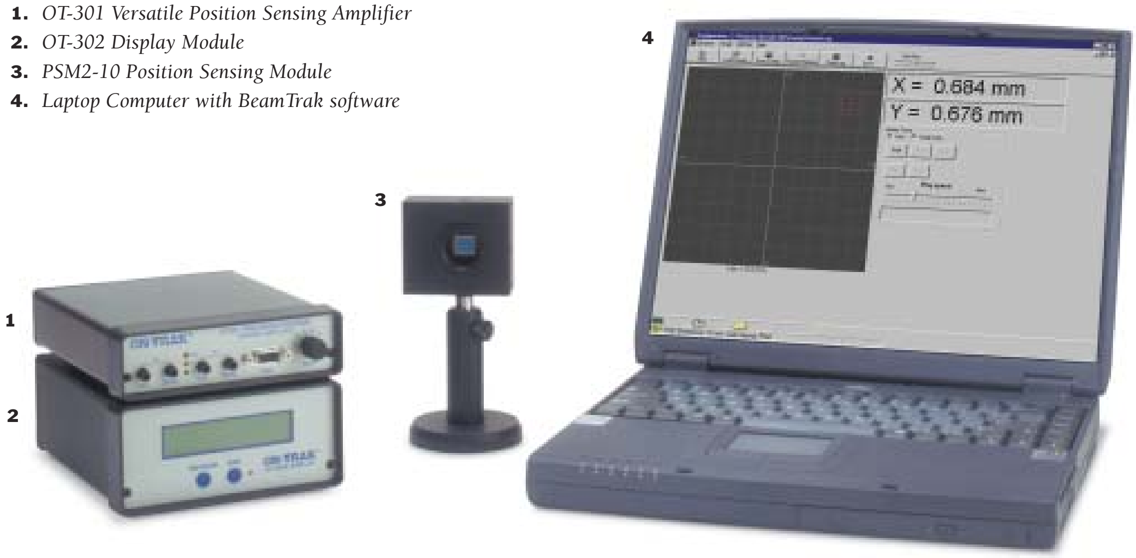
Six Gain Settings: 0.1 µA to 1.5 mA.

Six gain settings accommodate input current ranges from 0.1 µA to 1.5 mA with a frequency response to 15 kHz. A convenient ZERO adjust enables you to electronically move the zero to a relative position on the PSD. A CAL adjust allows calibration to absolute position.

Lifetime Warranty.

So reliable is the OT-301, we back it with a comprehensive lifetime warranty... at no additional charge.

1. *OT-301 Versatile Position Sensing Amplifier*
2. *OT-302 Display Module*
3. *PSM2-10 Position Sensing Module*
4. *Laptop Computer with BeamTrak software*



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Front Panel

Gain: Transimpedance gain 4x10^3 V/A to 4x10^6 V/A
Input current range 0.1µA to 1.5mA.

H: Input optical power exceeds range selected.

L: Input optical power lower than range selected. Set range switch at a position where both H/L indicators are off.

On: Power on Indicator.

X,Y Cal: Gain potentiometers to allow calibration of voltage output in terms of displacement (± 10% of reading).

X,Y ZERO: Enables the user to electronically move the zero to a relative position on the PSD (± 1V each axis).

PSD: DB9 Position Sensing Detector Input.

Back Panel

X Out: Normalized X axis output (± 10V).

Y Out: Normalized Y axis output (± 10V).

Sum: Total amplified detector output proportional to light intensity (0-6V).

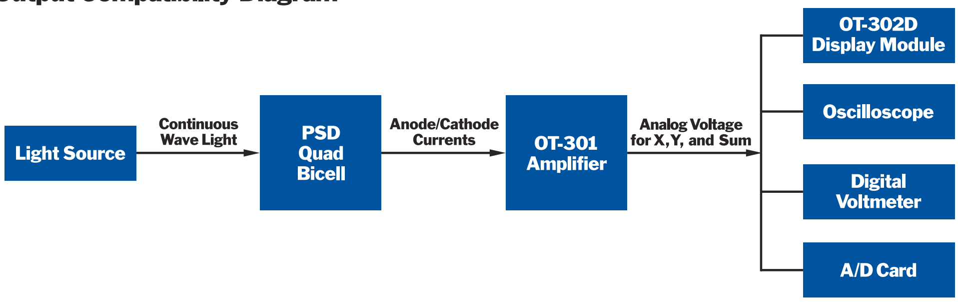
CAL/ZERO: CAL/ZERO “ON” allows use of the X, Y, Zero and X, Y CAL features. CAL/ZERO “OFF” disables these features.

ON/OFF: Power ON/OFF.

Power: 12V DC 300mA AC adapter.

PEO PHOTONICS

Output Compatibility Diagram



Specifications

Transimpedance Gain (V/A)	4×10^{3} to 4×10^{6}		
Input Current Range	0.1 µA to 1.5 mA		
Output Voltage			
Position X, Y	± 10V		
Sum	0 - 6V		
Zero Offset (Offset Null)	± 1V Each Axis		
Calibration Adjust	± 10% of reading		
Detector Bias	0V ± 5V (depending on detector)		
Linearity	± 0.1%		
Frequency Response	DC to 15 kHz (range dependent)		
Gain-Bandwidth	G1 4×10^{3} V/A	2.50×10^{-4} A/V	15 kHz
	G2 1.6×10^{4} V/A	6.25×10^{-5} A/V	15 kHz
	G3 6.4×10^{4} V/A	1.56×10^{-5} A/V	5 kHz
	G4 2.56×10^{5} V/A	3.90×10^{-6} A/V	1.25 kHz
	G5 1.024×10^{6} V/A	9.77×10^{-7} A/V	310 Hz
	G6 4×10^{6} V/A	2.50×10^{-7} A/V	80 Hz
Output Connectors	BNC		
Input Connector	9 Pin D Sub (DB9)		
Power Requirement	± 12V DC @ 300mA (AC Adapter)		
Dimensions	1.5 x 5.5 x 6.00 inches (H x W x D)		

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