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Find the *UDT Instruments 301-DIV* at our website: *Click HERE*

# Model 301-DIV Position Sensing Amplifier

## PRODUCT SUMMARY

The Model 301-DIV amplifier links position-sensing photodetectors with your indicators or controls.

This versatile system works with bi-cell detectors for nulling and centering operations, or with single-axis lateral-effect detectors for continuous position measurement. It also can normalize the differential output of two discrete detectors.

With two 301-DIVs you may perform dual-axis position sensing, since each amplifier accepts two input signals.

The Model 301-DIV's transimpedance amplifiers condition the detector signals, and the differential amplifiers generate an analog output proportional to position. Two Model 301-DIVs are required for quadrant or tetra-lateral detectors (the amplifier is incompatible with duo-lateral detectors).

The system does more than provide a differential output related to position. It also divides the output by the sum of the detector signals. This step cancels the effects of intensity variations in incident light.

The amplifier's six selectable input ranges accept detector signals from 3 µA to 2 mA, and LED indicators display the selected range setting. User-adjustable output signals range to 10V maximum.

The Model 301-DIV has a frequency range of DC to 30 kHz.



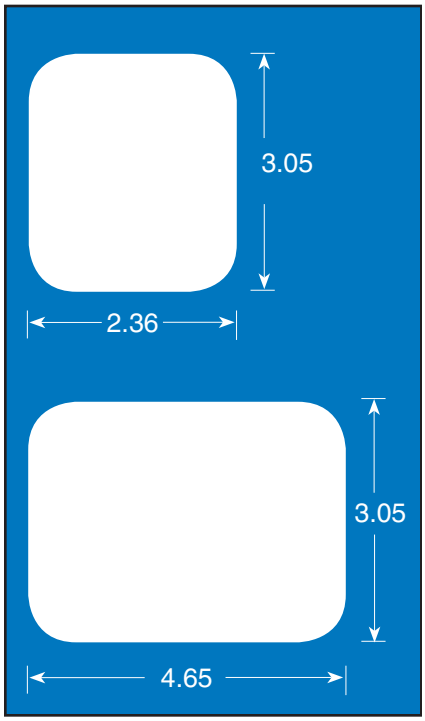

UDT INSTRUMENTS

8581 Aero Drive, San Diego, CA 92123
Phone (858) 279-8035 Fax (858) 576-9286
Website: www.udtinstruments.com

# Model 301-DIV Position Sensing Amplifier

## SPECIFICATIONS

| | |
|---|---|
| **Input Current Range** | Gain at sum output (V/A) |
| 1 mA to 3 mA | 3K |
| 300 µA to 1mA | 10K |
| 100 µA to 300 µA | 30K |
| 30 µA to 100 µA | 100K |
| 10 µA to 30 µA | 300K |
| 3 µA to 10 µA | 1000K |
| **Range Selector** | 6-position rotary switch |
| **Detector Bias** | Selectable 0 VDC (photovoltaic) or 15 VDC (photoconductive) |
| **Detector Polarity** | Selectable common anode or common cathode |
| **Output Voltage** | |
| Sum | GAIN x $(I_D + I_E)$ |
| Position | $\frac{(I_D - I_E)}{(I_D + I_E)} \times 10V$ |
| **Output Voltage Range** | |
| Sum | 0 to 10 V |
| Position | ± 10 V |
| **Output Connectors** | BNC |
| **Frequency Bandwidth** | DC to 30 kHZ |
| **DC drift** | 10 mV/C° for 10V full scale |
| **Noise, rms** | 2 mV for 10 V full scale |
| **Output Impedance** | 100 ohm |
| **Range Indicators** | HI/LO signal-level LEDs aid in setting range switch to proper value |
| **Output Adjustments** | |
| CAL | Adjustable scale factor for position |
| Zero | Provides ± 2.5V zero offset |
| **Operating Temperature** | 0 to 50°C |
| **Power Supply** | CE-marked external supply |
| **Accessories Supplied** | Corrugated cardboard case |




**Model 301-DIV overall dimensions**

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