Model 431 X-Y Optical Position Indicator

PRODUCT SUMMARY

When interfaced with tetra-lateral devices, pin-cushion photodiodes, or quadrant detectors, the Model 431 determines the X and Y location of the centroid of a light spot on the detector (the Model 431 is incompatible with duo-lateral detectors).

The Model 431 uses a network of analog amplifiers and dividers. The first amplifier stages operate in the transimpedance mode, boosting the photodetector current and converting it to a voltage. The secondary stages add and subtract the signals from each of the front-end amplifiers. A divider network divides the difference by the sum. And a final buffer amplifier drives the digital display and analog output.

The front-end amplifier gain adjusts over 4 1/3 decades. This lets you optimize the signal-to-noise ratio for the incident light level. The sum and difference stage gain adjustments establish the detector's sensitivity light spot movement. With the front-panel quadrant/continuous select switch, you select the appropriate amplifier sequence as a function of the detector type in use.

Five BNC connectors on the rear panel present the X position, Y position, X sum,Y sum, and total sum signals. The position signals are scaled from 0 to ±2VDC (to coincide with the 3½ digit display), and sum signals range from 0 to +10VDC. A printed circuit board edge connector also provides each of the four preamplifier outputs, the X and Y difference outputs, and test voltages from the power supply (+7V, -7V, +15V, -15V).

Model 431 with rear panel connections

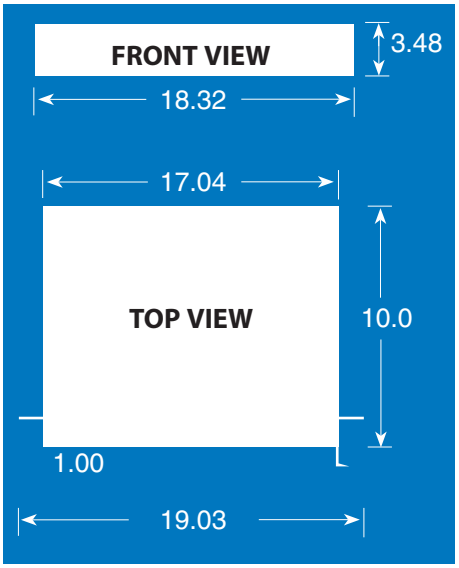
UDT INSTRUMENTS

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

Model 431 X-Y Optical Position Indicator

SPECIFICATIONS

Power	External CE-Marked power supply			
Analog Output				
Position	0 to ±2VDC			
Difference	0 to ±10VDC			
Sum	0 to ±10VDC			
Dimensions				
Height	3.48" (88 mm)			
Width	17" (432 mm)			
Depth	10" (254 mm)			
Mounting	Standard 19" NEMA Rack			
Weight	8.2 lbs. (3.72 kg)			
Response	0 to 7 kHz			
Input Voltage Error	5V from ground (at 25ºC)			
Input Current Error	10 nA (at 25ºC)			
Input Current Range	33 nA to 1.66 mA (per input)			
Light Level Range	x1	x10	x100	x1000
Input Impedance	<1Ω	<1Ω	1Ω	10Ω
Overall Precision	Better than 1%			
Accessories Supplied	Instruction manual			
	Corrugated cardboard carrying case			



Model 431 overall dimensions

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