Linear Position Sensor Module

Position Sensing

Integrated Electronics

Applications

Beam Alignment

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Metrology

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Targeting

NOAH's Linear Position Sensor Module combines a duolateral position sensing detector (PSD), transimpedance amplifiers, and sum/divider circuitry in a compact package convenient for laboratory or general use.

The detector measures beam displacement on two axes (X and Y) and generates normalized displacement signals ranging from -10 to 10 volts. The position values are independent of beam size and intensity and are accurate to within one percent over most of the sensing area. The X and Y signals can be connected directly to an oscilloscope or voltmeter using the BNC break-out cable provided with the unit. The SUM signal, which is proportional to the total power on the detector, is also output for reference.

A 1-inch front bezel or the ¼ - 20 tapped mounting hole provided on the underside of the assembly allow the detector assembly to be mounted to an optical table. The front bezel can also be used to mount companion optics such as ND filters or visible blocking filters.

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Specifications

Parameter	Specification
Electrical	
Transimpedence Gain	10^4 or 10^5 (selectable)
Bandwidth	
10^4 Gain	DC to 30 kHz
10^5 Gain	DC to 8 kHz
Output Signal Range	
X, Y Position	0 to ±10 V
SUM	0 to 10 V
DC Supply Requirement	±15 V, 50 mA
Optical	
Detector Type	UDT DLS4
Spectral Range	350 to 1100 nm
Nominal Beam Power Range	0.001 to 1 mW
Sensing Area	4 mm x 4 mm
Position Scale Factor	5 V/mm
Maximum Position Error	50 µm over central 64% of sensing area
Ordering	
Product Number	PDPSD-40S-SI
Price	$1,695

Features

- One-inch front bezel for mounting optical filters
- Low-light LED indicator
- Two transimpedance gain settings
- Six-foot detachable cable for DC supply and BNC outputs for X, Y, and SUM
- Integrated amplifier electronics minimizes effect of external noise

Good People – Innovative Solutions®

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