Quadrant Photodetector Module

Broad Spectral Range

Integrated Electronics

Applications

Laser Beam Centering Reference

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Laser Beam Tracking Systems

NOAH's Quadrant Photodetector Module combines a quadrant photodetector, 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. Small displacements from the null position will produce a signal gain of 50 millivolts per micron for a 1-millimeter diameter ($1/e^2$) beam. 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 from all four quadrants 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
Physical Dimensions	2.54"L x 1.25"W x 1.25"H
Transimpedence Gain	10^4 or 10^5 (selectable)
Bandwidth	DC to 30 kHz
Output Signal Range	
X, Y Position	0 to ±10 V
SUM	0 to 10 V
DC Supply Requirement	±15 V, 50 mA
Nominal Beam Power Range	0.001 to 1 mW

Product Number	Total Active Area (mm)	Gap Size (µm)	Spectral Range (nm)	Price
PDQDT-10S-SI	1 x 1	10	350 - 1100	$1,195
PDQDT-30S-UVSI	3 x 3	100	190 - 1100	$1,195
PDQDT-63D-SI	6.3 (diameter)	100	300 - 1100	$1,495

Features

- **Ultraviolet to near-infrared spectral range**
- **One-inch front bezel for mounting one-inch diameter 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 minimize the effect of external noise**

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