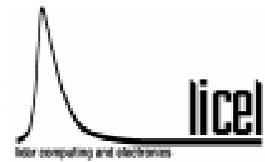


Si-Avalanche Photodiode module



Low noise - high speed detector @ 400 nm-1100nm



High NIR Quantum Efficiency

Now you can measure optical signals in the near IR with high quantum efficiency, comparable to UV-Vis detectors. Our Si-APD Module consists of a TE-cooled detector, a high speed, low noise preamplifier and HV supply. Signals can be acquired both in analog detection mode and by

using single photon counting.

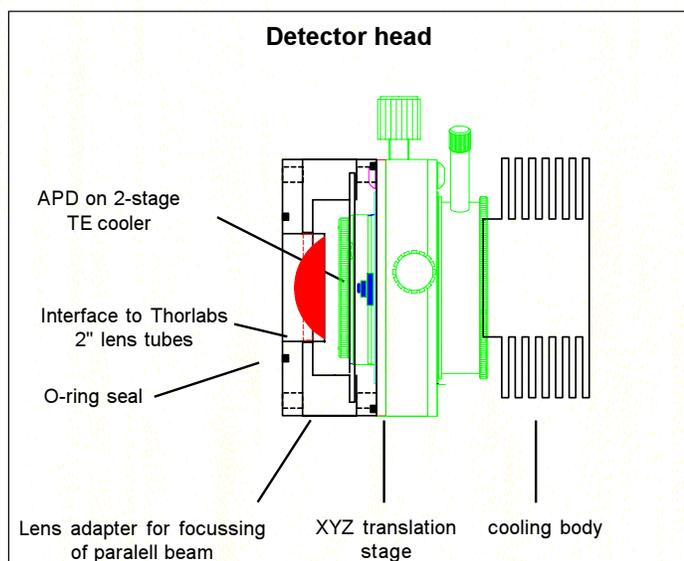
Integrated focussing optics and alignment mechanics allow easy integration into your optical setup. The increased sensitivity in the near infrared is a major advantage as compared to photomultipliers.

Features:

- 0.8 or 1.5 mm dia. detector size
- thermoelectric cooled to -20°C
- low noise, high gain preamplifier
- easy system integration with integrated alignment optics and mechanics
- integrated HV- and AC-power supply

Applications:

- LIDAR (Light Detection and Ranging)
- fluorescence detection
- replacement for photomultipliers



Specifications

Detector: EG&G C30954/5E
detector size: 0.8 or 1.5 mm dia.
QE @650 nm: > 80%
responsivity @ 1060 nm: 34AW typ., QE=38%
dark current @22°C: 50 nA (0.8 mm dia.),
100 nA (1.5 mm dia.)
spectral noise current: 0.3 pA/sqrt (Hz) typ.,
0.5 pA/sqrt (Hz) max.

Preamplifier:
bandwidth: DC-200 MHz
gain: 11mV/μA into 50 Ω
output polarity: negative
output signal: 0...-1V (max), 0...-100mV
(typ. operation) into 50 Ω

Geiger mode operation:
single photon rise time: <5ns

HV supply:
voltage range: 0...+400V
max. current: 0.6 mA
voltage ripple: <0.005%

Mechanics:
The compact APD/preamp/TEC controller unit is mounted in a XYZ translation stage for easy integration and alignment in detection systems.

XY axis travel: 5 mm
Z-axis travel: 6 mm
precision: 4μm

Integrated TE cooler and temp. controller:

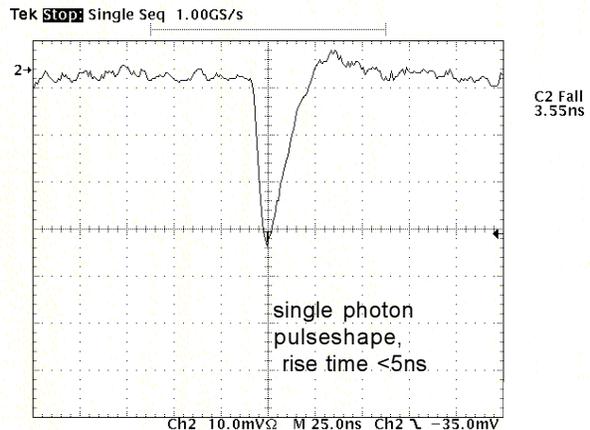
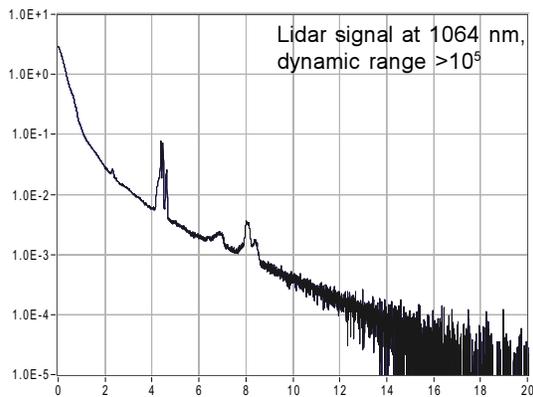
Detector temperature: -20°C
Temperature stability: <0.5 K

Power supply:

input: 230V/50 or 110V/60 Hz
output: +5V, -5V, +15 V, linear regulated.

Environmental conditions:

Operating temperature: 0°C to 35°C (non condensing)
Storage temperature: -40°C to 70°C



International distribution:



Photonic Solutions
Unit A, 40 Captains Road,
Edinburgh, EH17 8QF, UK,
Tel: +44 (0)131 664 8122
Fax: +44 (0)131 664 8144
Email sales@photronicsolutions.co.uk
Web www.photronicsolutions.co.uk