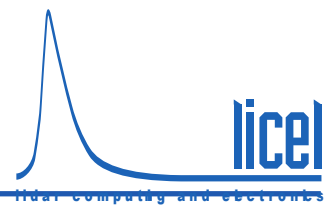


InGaAs-APD module



Detector for eye-safe lidars @ 1100 nm-1700nm



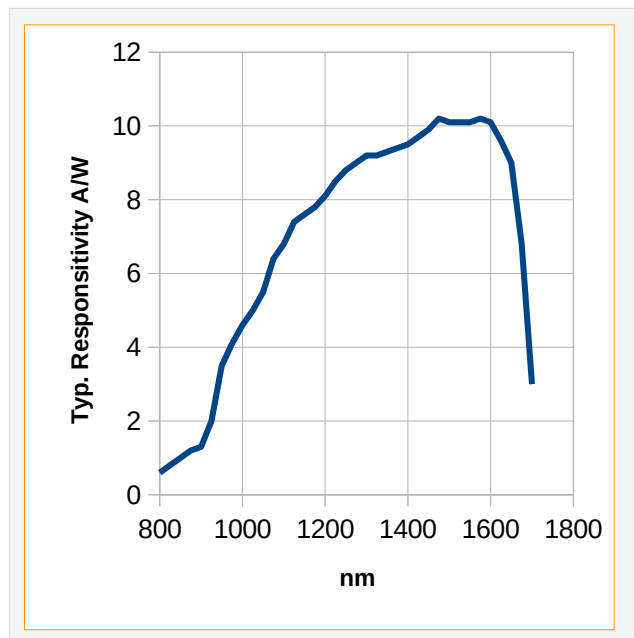
Concept:

The Licel InGaAs APD module is an integrated detector solution for eye-safe lidar systems. The detector head comprises a thermoelectrically cooled detector and preamplifier in a XYZ-translation stage.

Features:

- 0.5 mm detector size
- detector temperature -15° C
- temperature stability 0.2° C
- signal bandwidth 10 MHz
- integrated alignment optics and mechanics
- integrated preamplifier
- HV supply, AC/DC supply

Spectral Sensitivity:



Specifications

Detector:

detector size: 500 μm $\varnothing$
responsivity @1550nm: 9 A/W (M = 10)

Preamplifier for analog detection:

bandwidth: DC-10 MHz
gain: 11mV/ μA into 50 Ω
NEP (DC-10 MHz) 0.7pW/ $\sqrt{\text{Hz}}$
output polarity: negative
output signal: 0...-1V (max),
0...-500mV (typ.) into 50 Ω

HV supply:

voltage range: 0...+100V
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: 6 mm
Z-axis travel: 6 mm
precision: 4 μm

Integrated 3TE cooler and temp. controller:

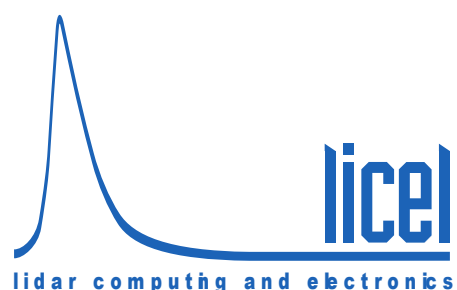
Detector temperature: -10°C
Temperature stability: <0.5 K

Power supply:

input: 100V, 110V or 230V, 50/60 Hz
output: +5V, -5V, +15 V

Environmental conditions:

Operating temperature: 0°C to 30°C (non condens.)
Storage temperature: -40°C to 70°C



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