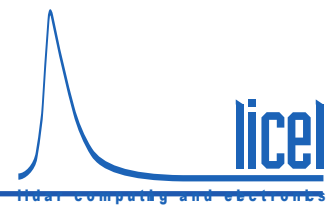


# InGaAs-APD module



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



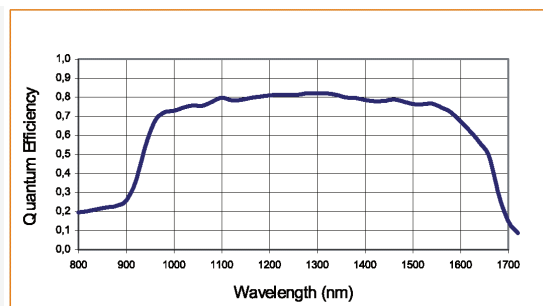
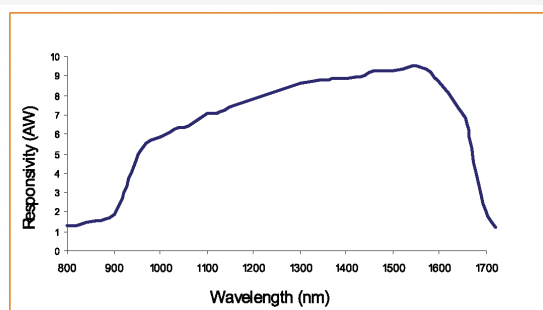
## Concept:

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  $-15^{\circ}\text{C}$
- temperature stability  $0.2^{\circ}\text{C}$
- signal bandwidth 10 MHz
- integrated alignment optics and mechanics
- integrated preamplifier
- HV supply, AC/DC supply

## Spectral Sensitivity:



# Specifications

## Detector:

detector size: 500  $\mu\text{m}$  square  
responsivity @1550nm: 10 A/W

## Preamplifier for analog detection:

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

## 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 $\mu\text{m}$

## Integrated 3TE cooler and temp. controller:

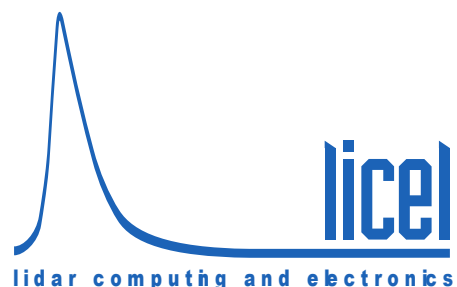
Detector temperature: -15°C  
Temperature stability: <0.5 K

## 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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