

# How Licel can help the ATMOHEAD community?

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- focus on Lidar components
- founded in 1994
- privately owned

- Pierre Auger Observatory - Lubljana
- CEILAP Argentina
- UAB Barcelona
- LUPM Montpellier
- University Napoli/Catania
- ...



If you need to cover a high dynamic range signal...

We supply the standard **12 bit transient recorder** with a 250MHz photon counting.

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If you still need more dynamic range...

Our new **16 bit transient recorder** might help you



## Features...

- higher analog **SNR**
- Pretrigger
- up to 64k shots



If your laser has a kHz repetition rate...

The **HR type transient recorder** with 200ns wide bins and a duty cycle of 1 will handle this.

- Presetable number of bins
- 64k shots

If you need a detector for the UV and visible...

We supply **Photomultiplier** modules with a stronger voltage divider to deal with dynamic requirements in a lidar



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If your near field signal could blind the detector...

The Photomultiplier modules can have a **gating** input.



If your laser emits at 1064nm...

A **Si-APD** with a 1 or 3mm diameter will detect the signal

- The APD comes with a lens, and xyz translation stage so that the only requirement is a parallel beam.



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If your laser emits more in the IR...

A **InGaAs-APD** with a 0.5 mm diameter will then detect the signal

- The APD comes with focusing lens, and xyz translation stage making your focusing task easier.

If you need to synchronize the laser with your experiment...

A small **trigger generator** module with 4 outputs can be used

- Laser Lamp
- Laser Q Switch
- Acquisition
- Gating

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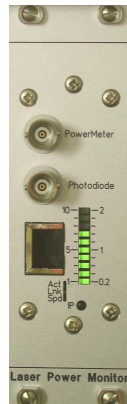
If you want to trigger the acquisition directly with the laser beam...

The **laser trigger** will accept the signal from a fiber and convert this into trigger pulse with an adjustable threshold level.

If your laser pulse energy fluctuates...

The **Laser Monitor** module will record the signal either from a photodiode or a powermeter head.

- Record individual shots
- integration in to the Aquis software



If your laser beam needs to be actively hold in the field of view...

The **Bore Sight** Module will count

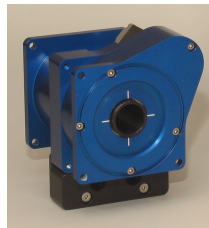
- 4 signal quadrants
- 4 background quadrants
- the steering signal is used to actively keep the alignment in 2 dimensions
- minimal driver adaption four your drives required.



If you need to know the aerosol depolarization...

The **Polarotor** adds (de-)polarization measurements to multispectral detection systems.

- A **rotating Glan Thompson** prism is used to separate p- and s-polarized signal contributions.
- The integrated trigger generator synchronizes the laser flashlamp and Q-switch pulses.

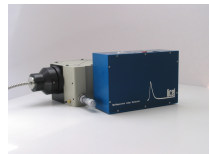




If you want to do something **really new...**

The **32 channel multispectral lidar detector** allows simultaneous detection of 32 wavelengths in parallel

- Aerosol characterization - Biomass burning detection - Fluorescence Lidar
- Liquid water - Water vapor separation - Water vapor raman



## How does it work...

- a **fiber bundle** transfers a circular beam into a rectangular shape
- the **monochromator** images the multiple wavelengths on the cathodes of **multianode PMT**.
- **32 counter** give you 32 photon counting traces
- via **Ethernet** the traces are transferred to a PC

