

L3CAM

PRELIMINARY

MULTIMODE IMAGING LIDAR

The L3CAM is a multimodal sensor composed essentially by a solid-state LIDAR sensor and 3 additional imaging modes (RGB, thermal and polarimetric).

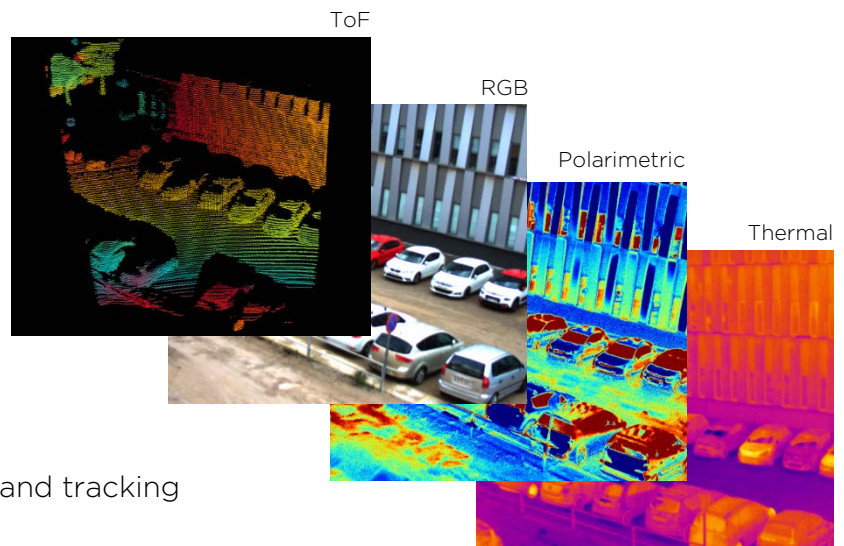
The LIDAR system is a patented MEMS-based scanning technology that combines high-resolution 3D imaging, real time frame rate and long range. The most suitable combination for applications related to autonomous vehicles, security, object detection and mapping.

Critical applications, however, require more than a single “eye” to achieve high reliability levels once the data is processed. L4-CAM offers the all in a single, compact and cost-effective device.

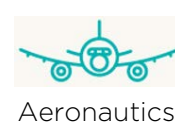
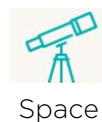
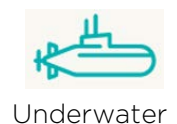
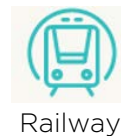


HIGHLIGHTS

- Solid-state LIDAR design
- Patented sunlight suppression
- High-end imaging performance
- Multi-sensor cross-talk immunity
- Up to 4 imaging modes
- Embedded processing:
 - Parallax-free data fusion
 - Automatic object detection and tracking



MARKETS





LIDAR FEATURES

OPTICAL PERFORMANCE

| | | |
|--------------------------------------|---|-------------------------|
| Range: <i>Class 1 Ambient light:</i> | 50% target reflectivity | 10% target reflectivity |
| | 180m | 80m |
| Range: <i>Class 3R 250W/m2</i> | 400m | 180m |
| Field-of-View (HxV) | 60x20° | |
| Image resolution | 460 x 150 px | |
| Frames per second | 10 Hz | |
| Angular resolution (HxV) | 0.13° x 0.13° | |
| Point rate | 700 Kpx/s | |
| Range accuracy | ±1.5 cm | |
| Returns | 4 | |
| Laser | 1064 nm | |
| | Class 1 eye-safe per IEC 60825-1:2007 & 2014 (Class 3R available) | |

OUTPUT

| | |
|------------|---|
| Connection | 1000Mbit Ethernet – UDP packets |
| Data types | Distance (ToF), reflectivity, angle, confidence map, time stamp |
| IMU | Integrated 9-axis IMU |
| Drivers | Windows, Ubuntu and ROS |

MECHANICAL / ELECTRICAL / OPERATIONAL

| | |
|--------------------|---|
| Operating voltage | 12V-36V (regulated) |
| Power consumption | 22W |
| Dimensions (HxWxD) | 10x17x15 cm |
| Weight | 1.3 Kg |
| Mounting | 4 M4 screws at the bottom |
| Connector | Single circular connector (Power+Data) |
| Case protection | IP67 |
| Temperature | Operating: -20°C to +60°C Storage: -40°C to +100°C |
| Certification | CE, FCC, RoHS |

IMAGING FEATURES

| | | |
|-------------------------|--|---|
| Available imaging modes | Up to three: - RGB - Thermal - Polarimetric | One, two or three additional imaging modes can be selected by the user. Any combination between them is possible. Sensor case size does not vary. |
|-------------------------|--|---|

DATA FUSION AND PERCEPTION

| | |
|--------------------|--|
| Embedded functions | - Parallax free data fusion between LIDAR data and imaging modes - Object and obstacle detection & tracking - Automatic human detection & tracking |
| Processor | NVIDIA Jetson TX2. The user can use the processor to program their own functions. |