



## Optroxa

### GMB-550

The Optroxa GMB-550 represents a new standard in weight, size and performance. Designed with defense in mind, it offers built-in Laser Range Finder capabilities in a lightweight form factor. With the addition of LWIR and a RGB camera, users can be confident in their ability to gain a tactical advantage.

It utilizes a built-in video processor to enable advanced image processing and several industry standard communication interfaces while keeping the weight and power consumption low. The built-in RGB camera offers up to 18x optical zoom + extendable digital zoom and recording in HD which helps to capture and record vital details, maximizing the value of your operations. The gimbal offers a high performance long-wave infrared camera integrated into the module.

#### Optics - EO/RGB Camera

|                                             |                                                                                                                                                   |                                                                                     |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Sensor: Vision Components                   | 3.2MP CMOS sensor, color, 2048 × 1536 pixels, 2.25 µm pixel pitch                                                                                 |                                                                                     |
| Sony IMX 900C                               |                                                                                                                                                   |                                                                                     |
| Lens                                        | 18x optical zoom + extendable digital zoom, 3.7° ~ 42° hfov, 5.85±5% ~ 93.6±5% mm focal length, Toggle-able IR-filter, Continuous Zoom, Autofocus |                                                                                     |
| DRI (Calculated, 50% Detection Probability) | Human: Detection: 29450 m<br>Recognition: 7360 m<br>Identification: 3680 m                                                                        | Light vehicle: Detection: 71300 m<br>Recognition: 17820 m<br>Identification: 8910 m |

#### Software

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Processing       | <ul style="list-style-type: none"><li>• Electronic stabilization (Roll, Pitch, Yaw)</li><li>• Moving object detection in dynamic scenery</li><li>• Object detection/classification with optional custom model/class file drag and drop: YOLO v3,5,6,7,8,9,11,12, .onnx models, TensorRT GPU acceleration</li><li>• Target tracking, Passive (sw only), Active (Motor actuation), various methods</li><li>• Sensor fusion</li><li>• Electronic boresight alignment</li><li>• Digital zoom</li></ul> |
| Custom Integrations    | C/C++ IPC API                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Communication Protocol | MAVLink                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Video Stream Encoding  | MPEG-2/H.262, H.264, H.265, MJPG, UDP, RTSP                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Interface              | Locally hosted web interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

#### Optics Long-Wave Infrared Camera (LWIR)

|                                             |                                                                       |                                                                                 |
|---------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Odd Systems, Kurbas 640 Alpha               | Microbolometer sensor, 640 × 512 pixels, 8 µm pixel pitch             |                                                                                 |
| Lens                                        | 6 mm focal length, EO/RGB digitally matched FOV                       |                                                                                 |
| DRI (Calculated, 50% Detection Probability) | Human: Detection: 420 m<br>Recognition: 110 m<br>Identification: 50 m | Light vehicle: Detection: 1020 m<br>Recognition: 260 m<br>Identification: 130 m |

#### Computing

|                |                                                               |
|----------------|---------------------------------------------------------------|
| Board          | NVIDIA Jetson Orin NX                                         |
| AI Performance | 100 TOPS (trillion (10 <sup>12</sup> ) Operations Per Second  |
| GPU            | 1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores |
| CPU            | 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3     |
| Memory         | 16GB 128-bit LPDDR5 102.4GB/s                                 |
| Power          | 10W - 25W                                                     |
| OS             | Ubuntu 22.04                                                  |

*Note: This document describes a preliminary design.  
Specifications and features are subject to change without notice.*

## General

|           |                                          |
|-----------|------------------------------------------|
| Weight    | 1.21 lbs / 550 g                         |
| Dimension | 4.77 × 3.67 × 3.18 in (121 × 93 × 81 mm) |

## Electrical

|                       |                                                                                |
|-----------------------|--------------------------------------------------------------------------------|
| Connector             | ODU A11WAM-P20XMM0-0000 (Cable side),<br>ODU GK1WAM-P20UM00-000L (Gimbal side) |
| Voltage input         | 12-32V                                                                         |
| Max Power Consumption | 30W                                                                            |
| Communication         | Ethernet, CANBUS, USB, UART                                                    |

## Other

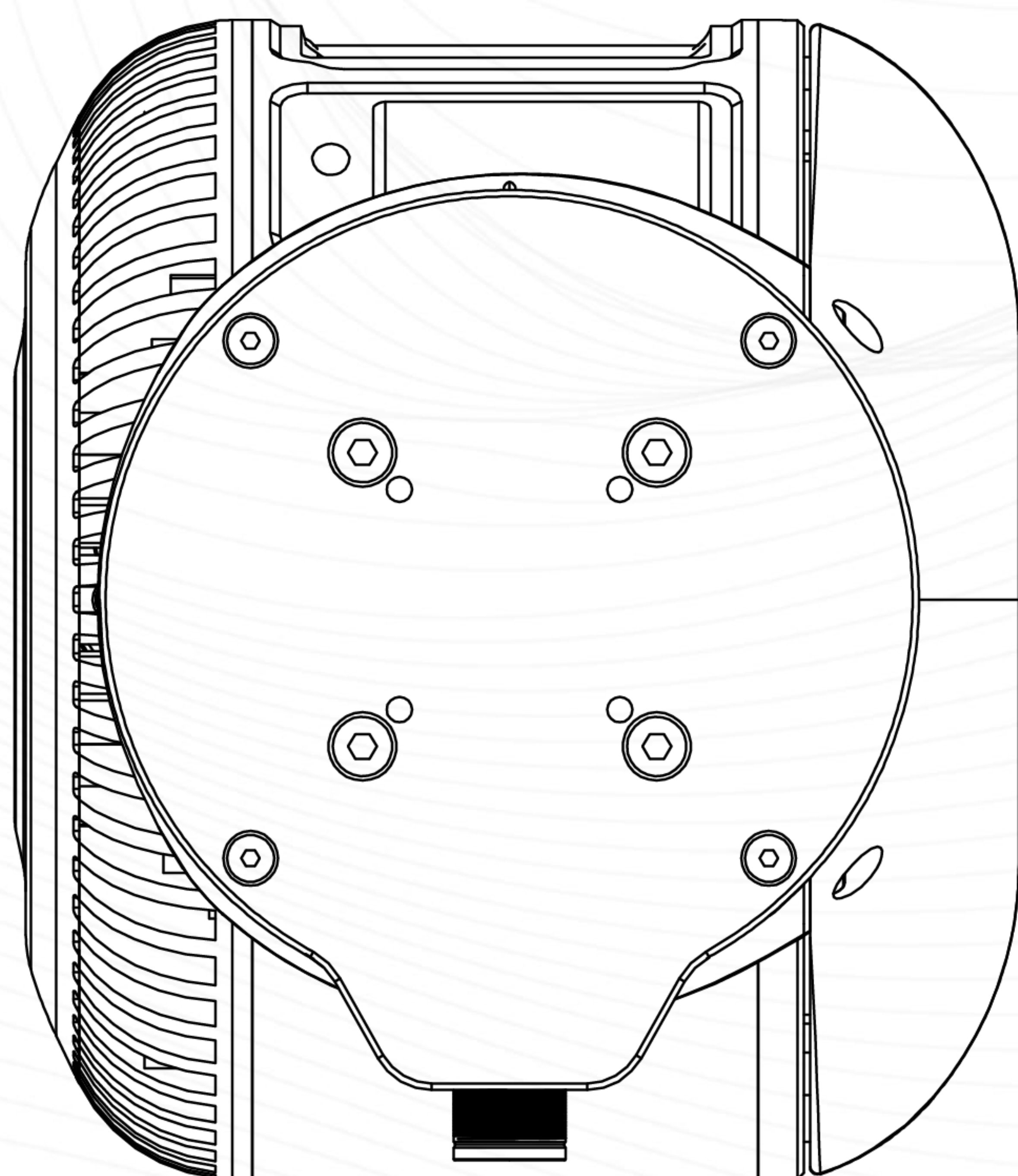
|             |          |
|-------------|----------|
| Regulations | Non-ITAR |
|-------------|----------|

## Laser

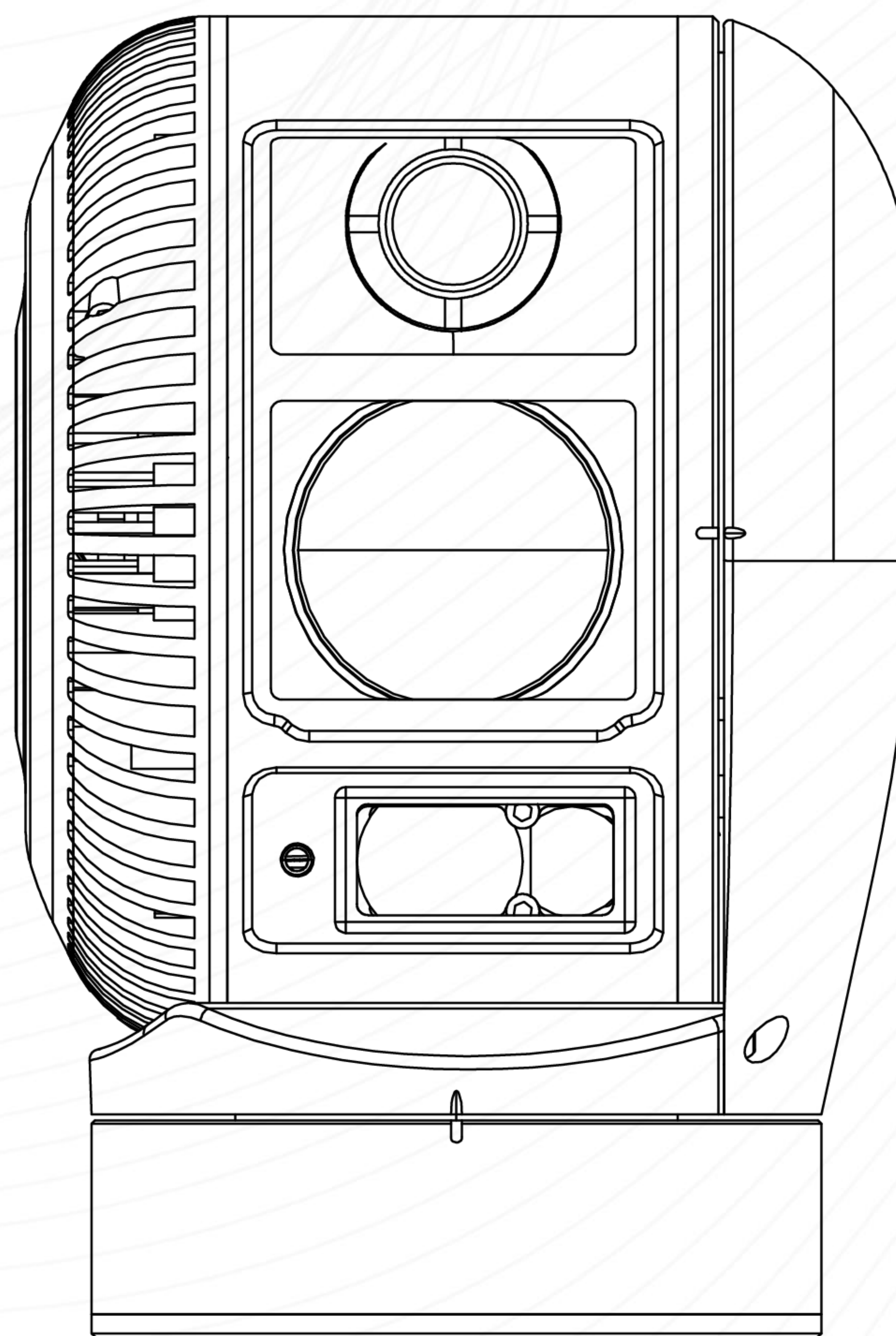
|                    |                                 |
|--------------------|---------------------------------|
| Laser Range Finder | Ranging capability up to 1.5 km |
| Laser Pointer      | 650 nm (Class II)               |

## Mechanical

|                    |                                                                                                                 |
|--------------------|-----------------------------------------------------------------------------------------------------------------|
| Material           | Aerospace-grade aluminum alloy; high-durability engineering polymer                                             |
| Mounting interface | 4x M2.5 on a 25.1 mm PCD                                                                                        |
| IP Rating          | Designed to IP65                                                                                                |
| Features           | Direct drive, Continuous rotation on yaw and pitch, Mechanical stabilization, Absolute encoders, Active cooling |



Bottom



Front