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 Sony IMX 900C	3.2MP CMOS sensor, color, 2048 × 1536 pixels, 2.25 µm pixel pitch	
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 Recognition: 7360 m Identification: 3680 m	Light vehicle: Detection: 71300 m Recognition: 17820 m Identification: 8910 m

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 Recognition: 110 m Identification: 50 m	Light vehicle: Detection: 1020 m Recognition: 260 m Identification: 130 m

Software

Image Processing	• Electronic stabilization (Roll, Pitch, Yaw) • Moving object detection in dynamic scenery • 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 • Target tracking, Passive (sw only), Active (Motor actuation), various methods • Sensor fusion • Electronic boresight alignment • Digital zoom
Custom Integrations	C/C++ IPC API
Communica-tion Protocol	MAVLink
Video Stream Encoding	MPEG-2/H.262, H.264, H.265, MJPG, UDP, RTSP
Interface	Locally hosted web interface

Computing

Board	NVIDIA Jetson Orin NX
AI Performance	100 TOPS (trillion (10^{12}) 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)

Laser

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

Electrical

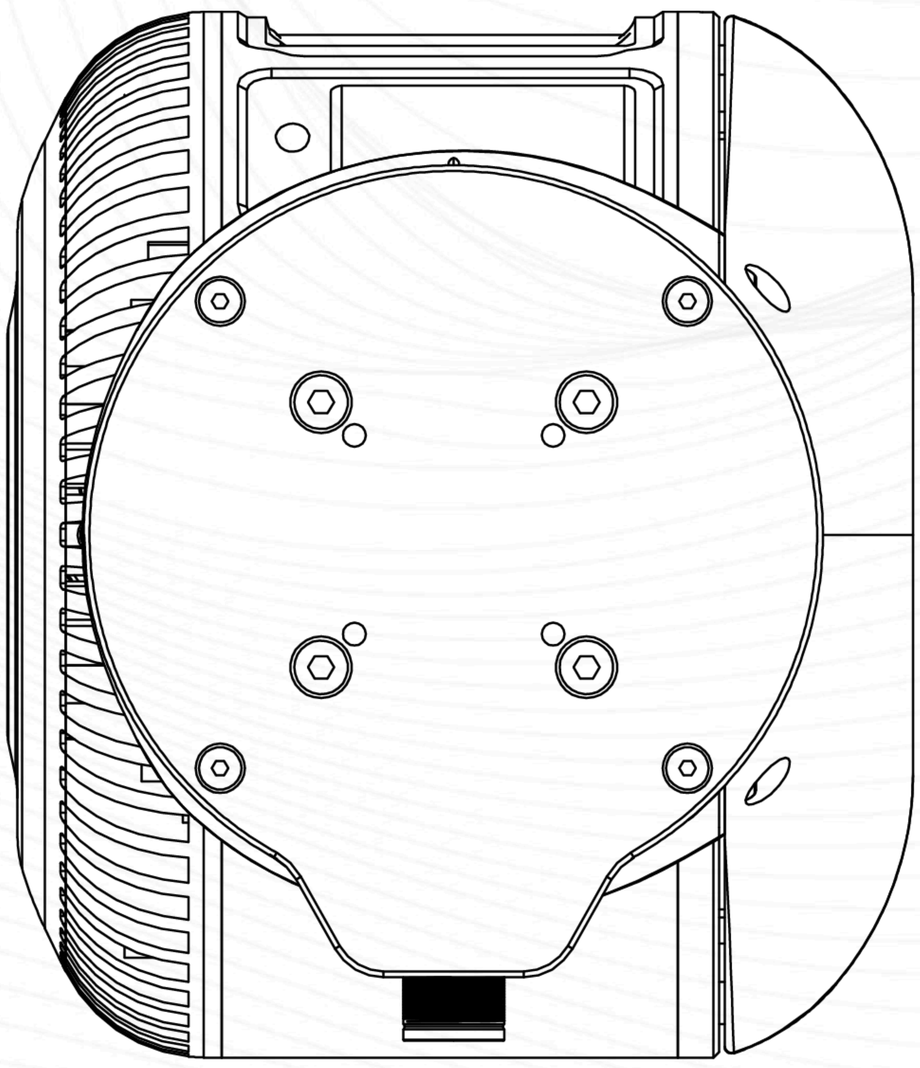
Connector	ODU A11WAM-P20XMM0-0000 (Cable side), ODU GK1WAM-P20UM00-000L (Gimbal side)
Voltage input	12-32V
Max Power Consumption	30W
Communica-tion	Ethernet, CANBUS, USB, UART

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

Other

Regulations Non-ITAR



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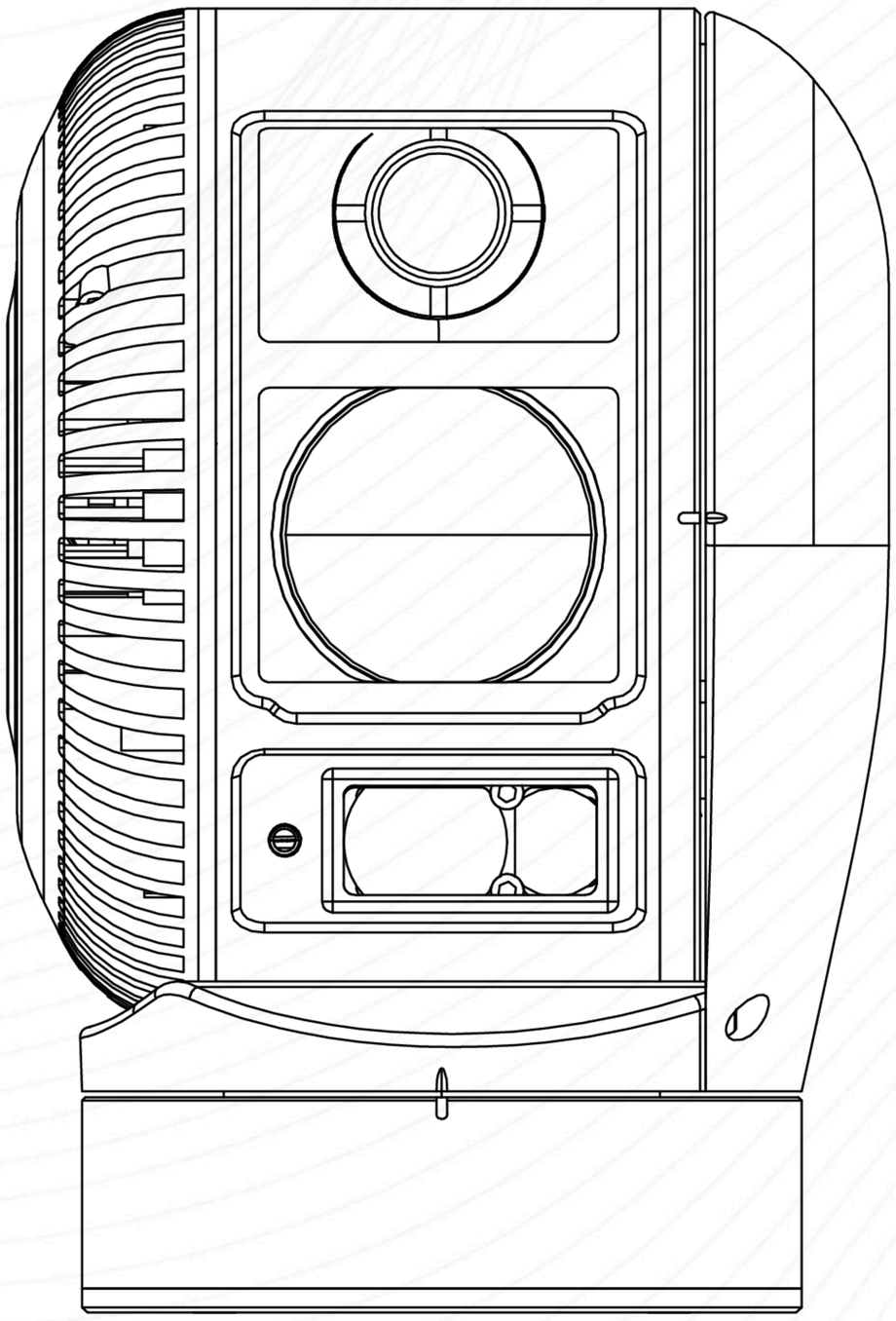

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