

General

HiFi

Range & Accuracy

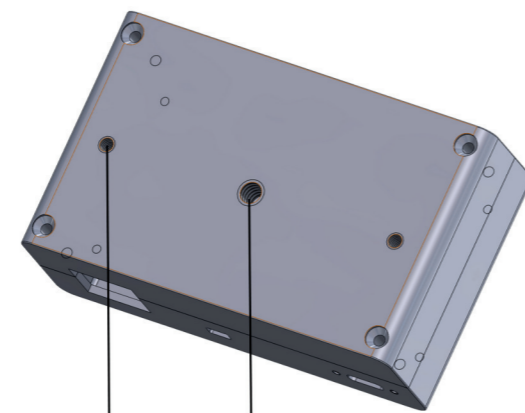
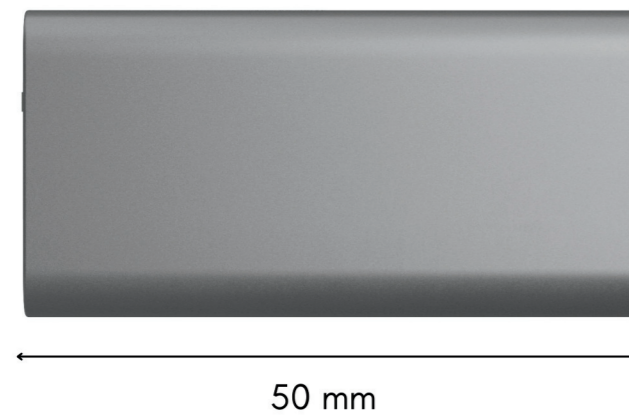
Calculated sub-1% or better depth error across the entire operating range of 0.3m to 5m

Operating Environment

HiFi can be used in temperatures from -10°C to +45°C. HiFi can be customized for IP ratings.



Weight: 300g



Certifications (In Progress)

FCC
CE
Class 1 Laser Product



AI-Enabled
High-Resolution
Depth Sensor



Overview

Description

HiFi is a high-fidelity 3D sensor with advanced AI capabilities. It employs three high-resolution global shutter cameras for exceptional depth maps that can be merged with RGB data, and processed via a dedicated neural processing unit if desired. Dual laser dot projectors can add texture for low-feature scenes. USB-C and PoE are both included.

High-Res Depth

2.2 megapixel global shutter cameras; subpixel refinement provides 1.6 megapixel depth

AI-Enabled

Dedicated neural processing unit (NPU) with 8 TOPS of AI compute and 16Gb memory

Self-Calibrating

AutoCal maintains accurate extrinsic values for all onboard cameras

Dual Connectivity

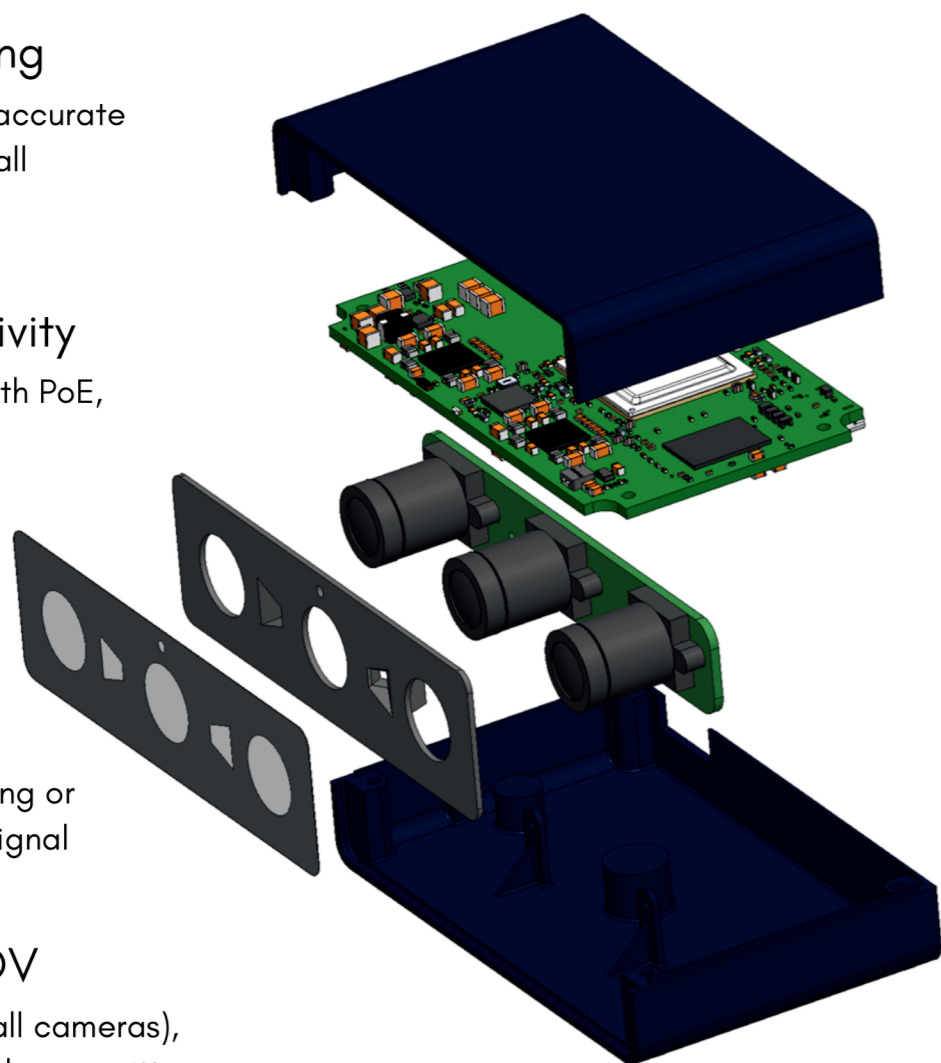
Gigabit Ethernet with PoE, plus USB-C

Fusion Sync

GPIO port for sending or receiving a timing signal

Ultra-Wide FOV

136° DFOV lenses (all cameras), FOV-matched dual laser emitters



www.tangramvision.com

Specifications*

Infrared Sensor (x2)

Model	ams Mira220
Array Size	1600 x 1400 px
Pixel Size	2.79 μm
Shutter	Global
Optical Format	1/2.7"
Max Framerate	90 fps
IR Sensitivity	Yes
Stereo Baseline	65mm

Lens (x3)

Model	Arducam LN005
DFOV	136°
VFOV	101°
HFOV	130°
Material	Optical Acrylic
Focal length	2.1mm

Microprocessor

Model	TI TDA4AL
Processor	2x ARM Cortex A72
Speed	2 Ghz
AI Compute	8 TOPS
CPU	64-bit
OS	Linux, RTOS
Operating Temp	-40 to 105° C

RGB Sensor (x1)

Model	ams Mira220
Array Size	1600 x 1400 px
Pixel Size	2.79 μm
Shutter	Global
Optical Format	1/2.7"
Max Framerate	90 fps

IMU

Model	LSM6DSMTR
Max Data Rate	6.4 kHz
Max Sync Error	< 40 μs

IR Laser Projector (x2)

Model	ams Belago 1.1
Type	VCSEL
Wavelength	940nm

Data/Power

Ethernet	1000BASE-T
USB-C	3.1, 10gbps
Max Power	15 watts
Trigger	GPIO External

*All specifications subject to change.