



# OAK-D-SR



## Overview

The OAK-D SR (Short Range) was designed to provide an accurate close-in depth perception. It's ideal for application like bin picking/pack, for pick and place machines, quality control/automated manufacturing, robotics arms, and more.

It has two OV9782 global shutter colour cameras, that are used as the stereo pair.

The OAK-D SR leverages our OAK-SoM-Pro to make a overall compact design. The use of the SoM reduces the design's scale, making it easier to mount or fit in various robotic processes. The design is also open-source, allowing for any necessary modifications. The data is output to a host USB 3.1 Gen1 (Type-C).

## Hardware Specification

This OAK camera uses USB-C cable for communication and power. It supports both USB2 and USB3 (5Gbps / 10Gbps).



# Camera Specification:

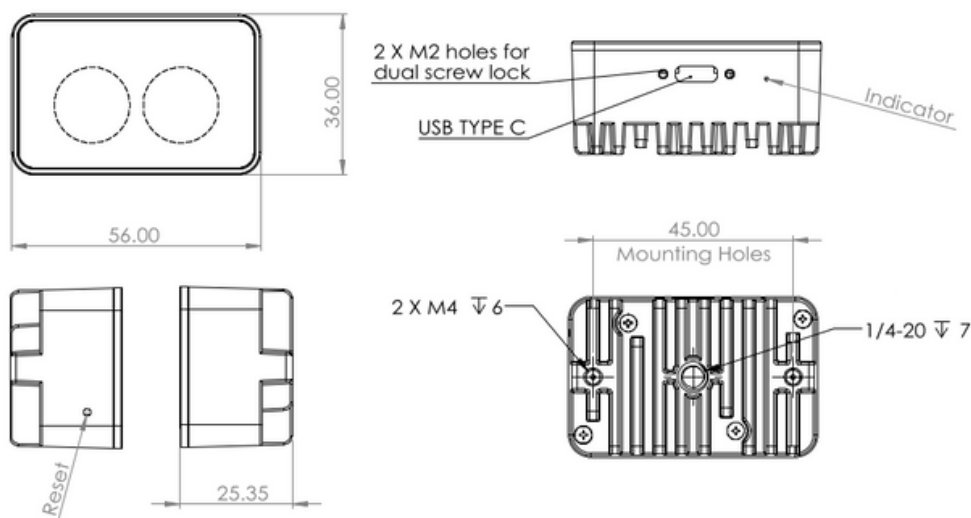
Camera Specs	Stereo Pair / Colour
Sensor	OV9782 (colour, PY074)
Shutter	Global
DFOV/HFOV/VFOV	89.5° / 80° / 55°
Resolution	1MP (1280x800)
Focus	FF: 20cm - ∞
Max Framerate	120 FPS (800P)
F-Number	2.0 ±5%
Sensor Size	1/4"
Effective Focal Length	2.3mm
Distortion	< 1%
Pixel Size	3.0µm x 3.0µm

## RVC2 inside

This OAK device is built on top of the RVC2. Main features:

- **4 TOPS** of processing power (1.4 TOPS for AI - RVC2 NN Performance)
- **Run any AI model**, even custom-architected/built ones (models need to be converted)
- **Encoding** H.264, H.265, MJPEG - 4K/30FPS, 1080P/60FPS
- **Computer Vision** warp/dewarp, resize, crop in ImageManip node, edge detection, feature tracking. You can also run custom CV functions
- **Object Tracking** 2D and 3D tracking with ObjectTracker node
- **Stereo Depth** perception with filtering, post-processing, RGB-depth alignment and high configurability

## Dimensions and Weight



Weight: 72g

## Stereo depth perception

This OAK camera has a baseline of 7.5cm - the distance between the left and the right stereo camera. Minimal and maximal depth perception (MinZ and Max) depends on camera FOV, resolution, and baseline- more information [here](#).

- Ideal range: 30cm - 100m
- MinZ: ~20cm (800P)
- MaxZ: ~3 meters with a variance of 10%

Extended means that StereoDepth node has Extended disparity mode enabled.

## 3D Models

- Board (PCBA) STEP files [here](#)
- Enclosure STEP files [here](#)

## Files

- [Altium project files](#)
- [Assembly Drawing](#)
- [Assembly Outputs](#)
- [Fabrication Drawing](#)
- [Fabrication Outputs](#)
- [Schematic](#)