The USB powered CamBoard pico monstar is a high-end 3D camera development kit based on pmd Time-of-Flight (ToF) technology. The integrated REAL3™ image sensor is a joint development of Infineon and pmdtechnologies. A measurement range of up to 6 meters, high frame rates and a wide field of view make the pico monstar the perfect development kit for high-end 3D depth-sensing use cases and applications like automotive, surveillance or gaming.
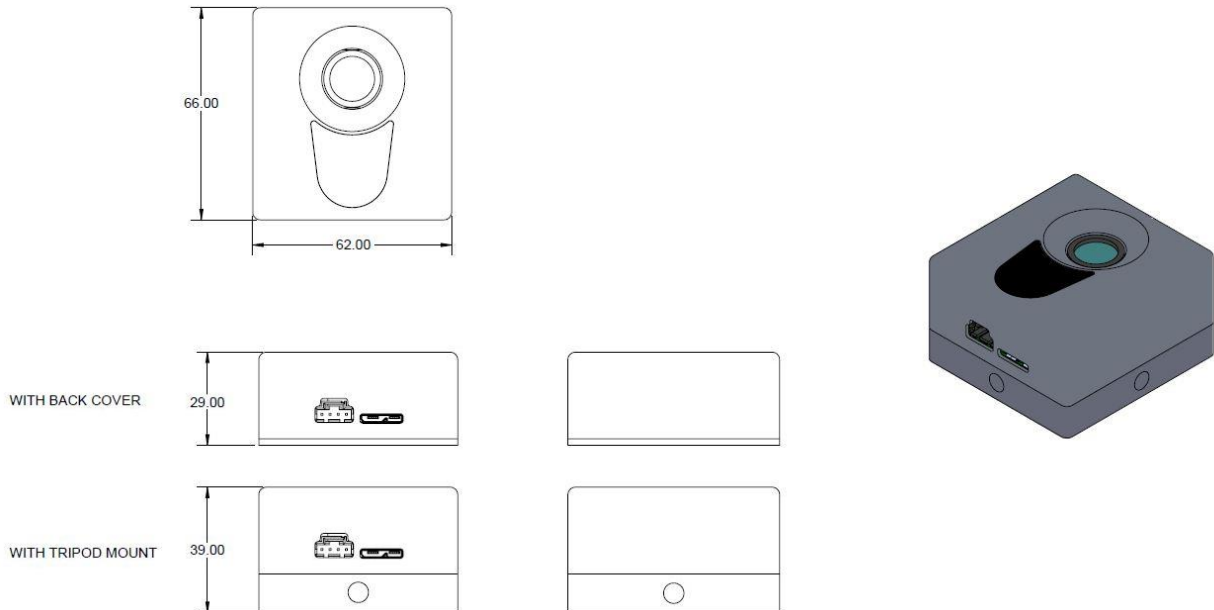
Parameter	CamBoard pico monstar
Dimensions [1]	62 mm x 66 mm x 29 mm
Weight [1]	142g
ToF-Sensor	IRS1125C Infineon® REAL3™ 3D Image Sensor IC based on pmd intelligence
Measurement range	0.5 – 6 m
Framerate	Up to 60 fps (3D frames) , 9 pre-defined operation modes
Acquisition time per frame	5 ms typ. @ 60 fps
Power consumption	USB3.0 compliant, 4.5 W max.[2] for IRS chip, illumination and USB3.0
Illumination	4x VCSEL, 850 nm, Laser Class 1
Software	Royale SDK (C/C++ based, supports Matlab, DotNet, CAPI, OpenCV, OpenNI2, ROS)
Resolution	352 x 287 (100k) px
Viewing angle (H x V)	100° x 85°
Interface	USB 3.0 (data & power)
Depth resolution [3]	<= 1 % of distance (1 – 6 m @ 5fps) <= 1 % of distance (0.5 – 2 m @ 60 fps)
Operating System	Windows 7/8/10, Linux/ARM, Ubuntu Linux 16.04 + Qt5.5, macOS

1) incl. housing, without tripod mount
2) @25fps and 450 µs exposure time, other frame rates consume less power
3) Typical values for lambertian reflection of 90% without ambient light, center of image; due to the wide FoV the depth performance may decrease for non-central pixel

Dimensions

Software

The CamBoard pico monstar comes with pmd´s powerful software suite Royale, containing all the logic to operate the 3D camera including a visualization tool, the Royale Viewer. Royale is cross platform compatible and runs on Windows, Linux/ARM, Ubuntu Linux, macOS and Android/ARM. The SDK to develop your own applications is C++ based and supports also several programming languages and libraries like ROS, OpenCV, OpenNI2, Matlab, C, DotNet.

For more information and to download the software package, visit **www.pmdtec.com/picofamily/**

Frequently Asked Questions

If you have further questions about the functionality of the CamBoard pico monstar and the technology in general, please visit our comprehensive FAQ: **www.pmdtec.com/picofamily/faq/**