



PM805-E1 Specifications

Date: 2024.11.19 Version: V2.2

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Introduction

Percipio PM805-E1 3D camera, adopting innovative active stereo vision technology with core patents, achieves highly accurate 3D detection of stationary objects. The camera is equipped with a 5-megapixel RGB sensor that provides high-definition RGB images with distinct details.

The documentation introduces the detailed technical specifications of PM805-E1 3D cameras. For more specifications of Percipio's other products, please go to [Product Specifications — PercipioDC documentation](#).



Figure 1 PM805-E1 3D camera

Technical Specifications

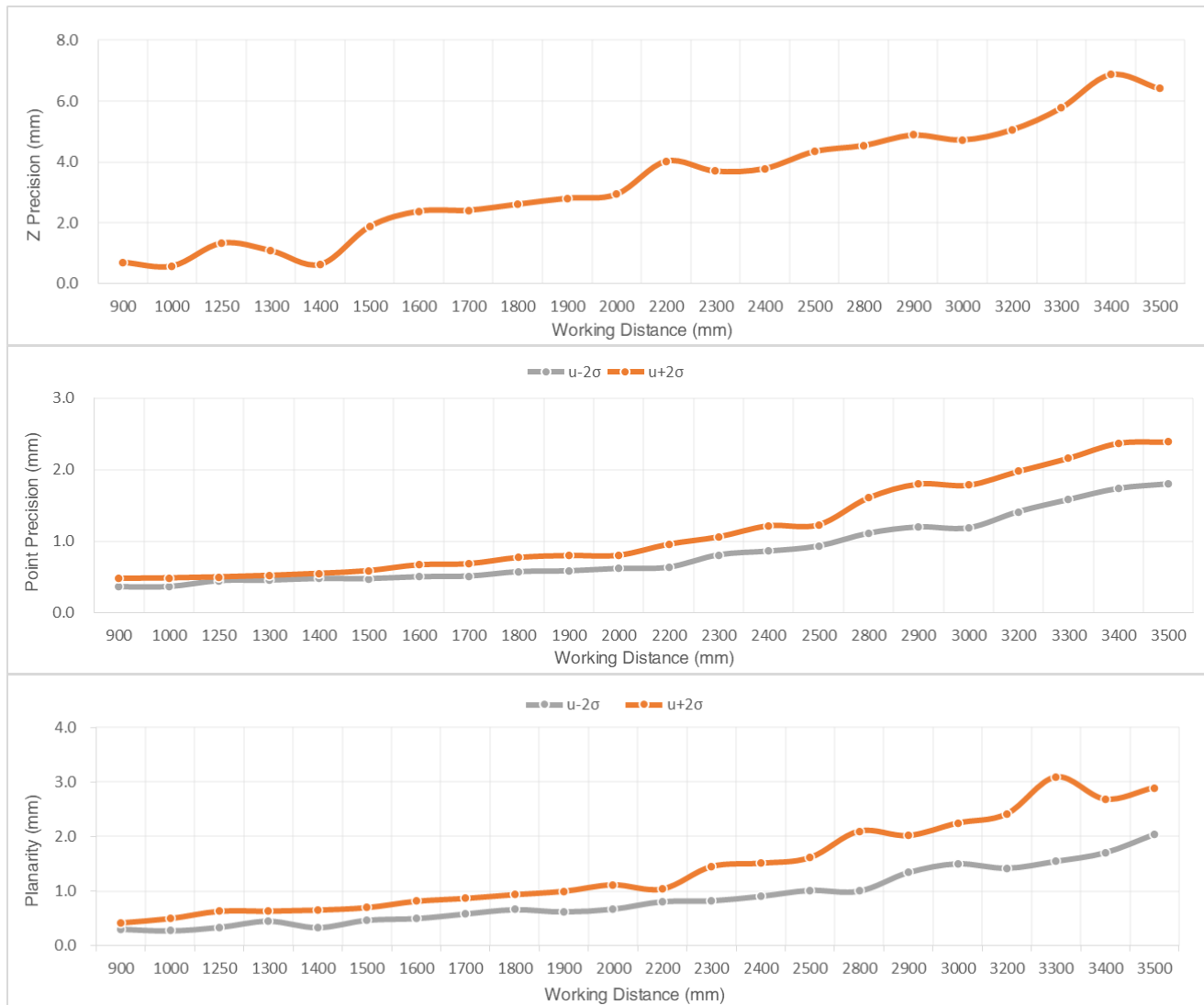
Parameters	Value
Technical principle	Active stereo
Illumination	2 x infrared laser
Latency of image acquisition ¹	1762 ms
Frame rate ² @ resolution (Depth)	0.87 fps @ 1280 x 960 0.87 fps @ 640 x 480 0.87 fps @ 320 x 240
Frame rate ² @ resolution @ image format (RGB)	4 fps @ 2560 x 1920 @ YUYV 6 fps @ 2560 x 1920 @ CSI BAYER12GBRG 8 fps @ 1920 x 1440 @ YUYV 16 fps @ 1280 x 960 @ YUYV 25 fps @ 640 x 480 @ YUYV
RGB-D alignment	√
Output data	Depth, RGB, IR, point cloud images

[1] Latency of image acquisition: the latency time between the host computer sending the software trigger signal and receiving VGA depth images from the camera that works in software trigger mode. This is when the camera is working with default SGBM parameters.

[2] Frame rate of depth/RGB images: the number of depth/RGB images that the host computer receives every second from the camera. This is when the camera is working in free acquisition mode with default SGBM parameters. The frame rate of depth images will change with SGBM parameters.

Measurement Performance

Parameters	Value
Recommended working distance	900 mm ~ 3500 mm
Max working distance	800 mm ~ 4300 mm
Near field of view	965 mm x 725 mm @ 800 mm (H/V \approx 62°/49°)
Far field of view	4240 mm x 3840 mm @ 4300 mm (H/V \approx 52°/48°)



[1] Z precision: the average deviation between the Z measured value and ground truth.

The line chart shows the Z precision at different working distances.

[2] Point precision: the time-domain dispersion of all pixel points in the central ROI.

The line chart shows the distribution of point precision at different working distances.

[3] Planarity: the dispersion of all pixel points in the central ROI relative to the desired plane.

The line chart shows the distribution of planarity at different working distances.

Note: the line charts above show the measurement performance of PM805-E1 whose SGBM parameters are set to default values. Adjust the settings of SGBM parameters, you will have a better measurement performance.

Software Specifications

Parameters	Value
OS	Linux/Windows/ROS
SDK	Percipio Campport SDK; Supported programming language: C, C++, C#, Python See PercipioDC documentation for more SDK tutorials.
SGBM parameters	The parameters will influence the measurement performance of PM805-E1. For the settings of SGBM parameters, see API Guide .

Hardware Specifications

Parameters	Value
Dimension (including interfaces)	388.4 mm x 85.5 mm x 89.6 mm
Weight	1930 g
Data connector	M12 X-Code, 8-pin, female connector Gigabit Ethernet
Power & trigger connector	M12 A-Code, 8-pin, male connector See Power & Trigger Connector for its pinout.
Power supply	DC 24V \pm 10%; PoE (IEEE802.3at)
Hardware trigger	1 trigger input/output, falling-edge trigger
Power consumption	Idle mode: 6.0 W Trigger mode: 14.0 W Continuous mode: 16.0 W
Housing material	CFRP+aluminum alloy
Ingress protection	IP54
Thermal dissipation	Passive
Temperature	Operating: 0 °C ~ 45 °C Storage: -10 °C ~ 55 °C

Power & Trigger Connector

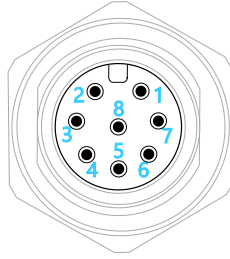


Figure 2 Pinout of the power & trigger connector

Pin No.	Name	Description
1	TRIG_OUT	Trigger output signal
2	P_24V	Power (camera, DC 24V \pm 10%)
3	P_GND	GND (camera)
4	TRIG_POWER	Power (trigger circuit, DC 11.4V~25.2V)
5	TRIG_GND	GND (trigger circuit)
6	NC	Reserved
7	TRIG_IN	Trigger input signal
8	NC	Reserved

Trigger Circuit Schematic Diagram

The camera supports falling-edge trigger, and the trigger circuit schematic diagram is shown as follows (The resistance at point A is 10k Ω).

For details about hardware connection, see [PercipioDC documentation](#).

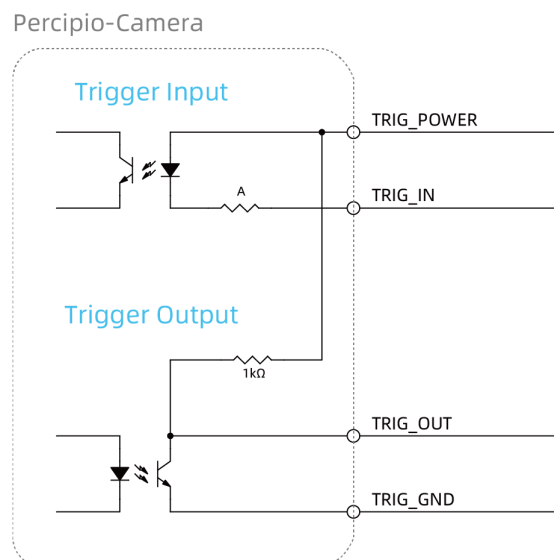


Figure 3 Trigger circuit schematic diagram (falling-edge)

Mechanical Dimensions

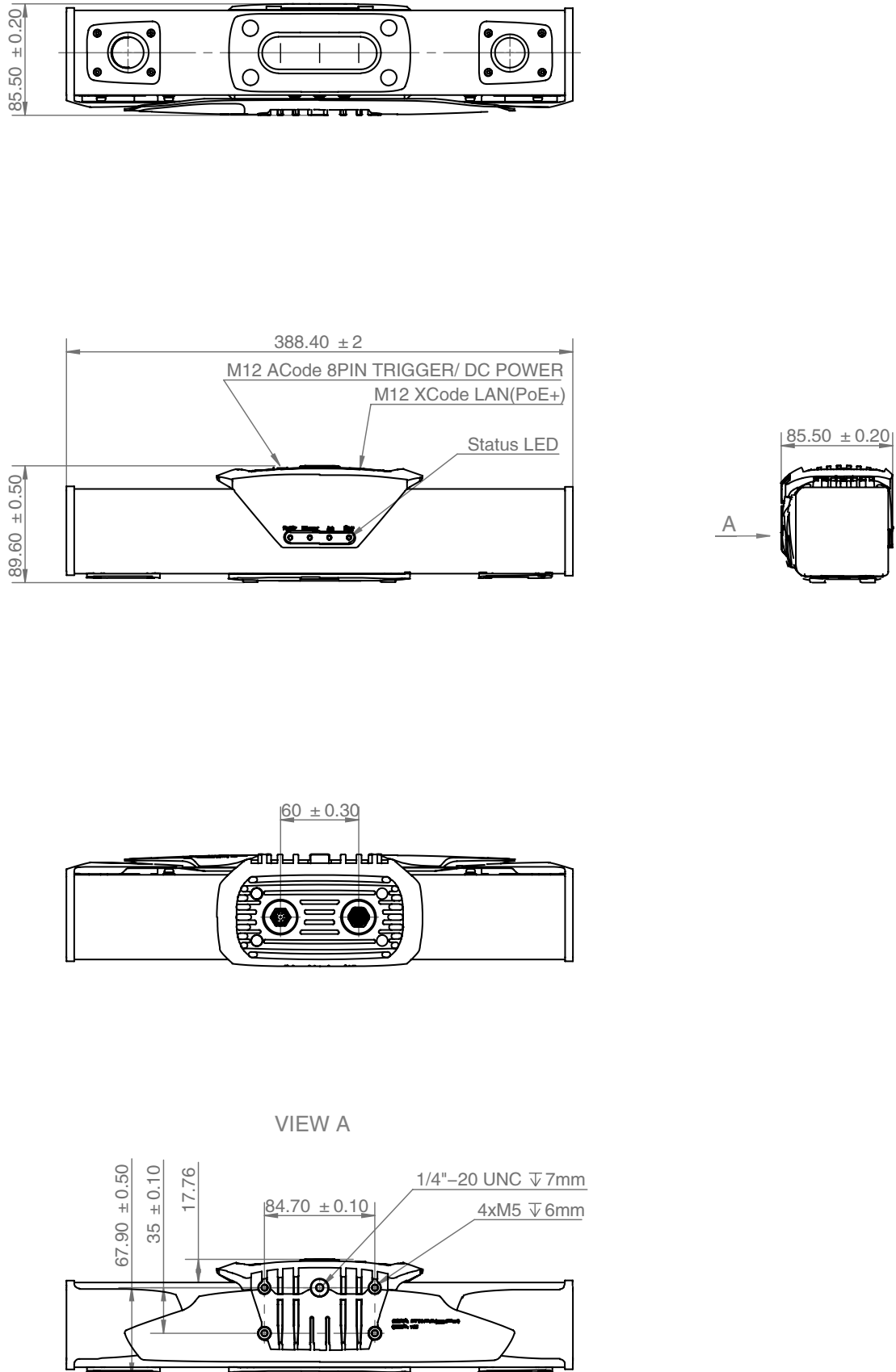


Figure 4 PM805-E1 Mechanical dimensions (unit: mm)

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Percipio is an independent vendor of 3D machine vision solutions. We provide products and services to system integration customers rather than end users. This marketing strategy allows us to serve multiple sectors and segments, and also means that our success will be based on our customer's success. Together with our customer's industry specific expertise, we can support end users with implementing machine intelligence, which will improve productivity and/or reduce cost.

Make 3D Machine Vision Everywhere

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Website : www.percipio.xyz
Documentation : doc.percipio.xyz/cam/latest/

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