



FM811-TIX Specifications

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Introduction

The documentation introduces the detailed technical specifications of FM811-TIX 3D cameras. For more specifications of Percipio's other products, please go to [Product Specifications — PercipioDC documentation](#).



Figure 1 FM811-TIX 3D camera

Technical Specifications

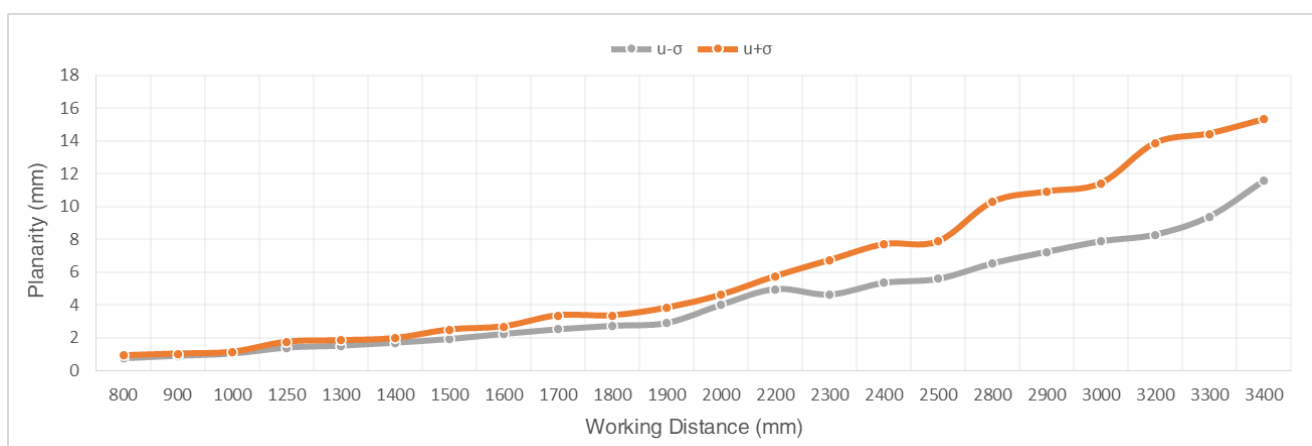
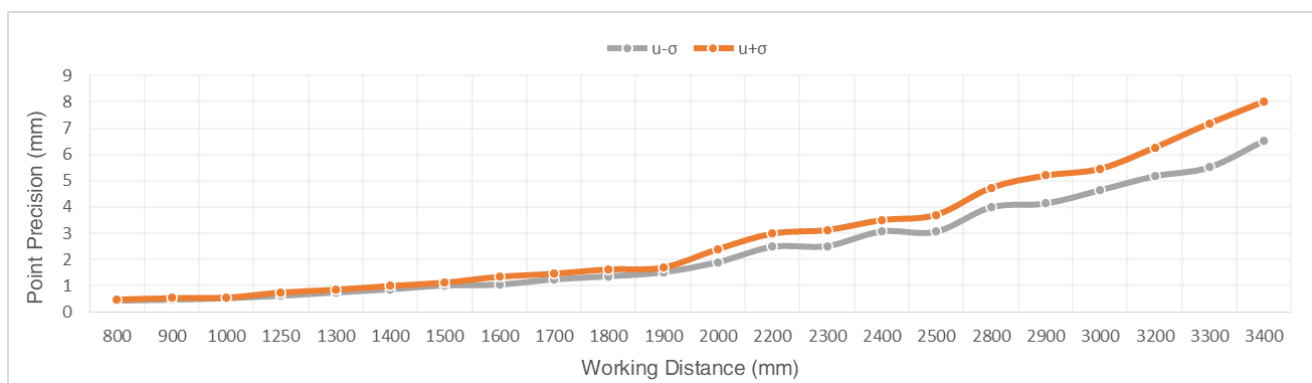
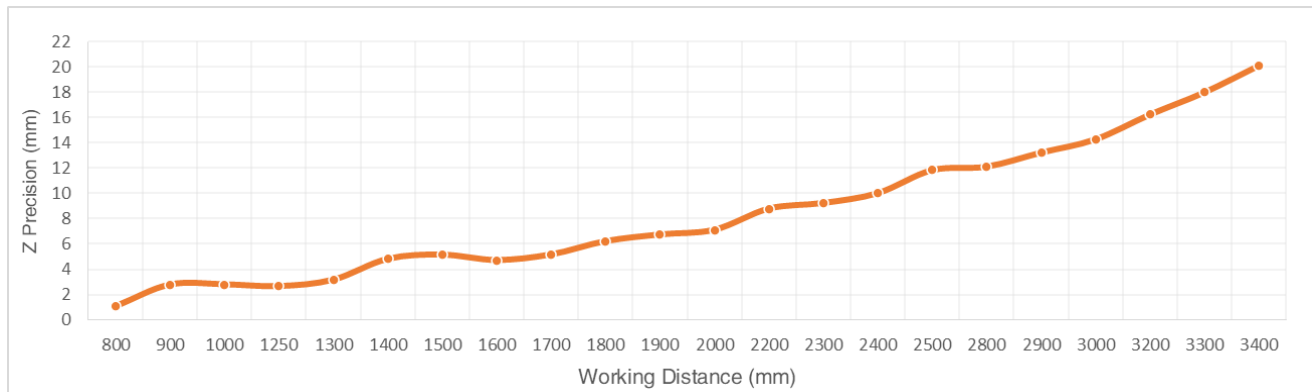
Parameters	Value
Technical principle	Active stereo
Illumination	3 x infrared laser ($\lambda = 830 \text{ nm}$)
Shutter	Rolling
Latency of image acquisition ¹	412 ms
Frame rate ² @ resolution (Depth)	5 fps @ 1280 x 960 5 fps @ 640 x 480 5 fps @ 320 x 240
Frame rate ² @ resolution @ image format (RGB)	14 fps @ 1280 x 960 @ YUYV 24 fps @ 640 x 480 @ YUYV 24 fps @ 320 x 240 @ YUYV 24 fps @ 1280 x 960 @ Bayer 8GRBG 24 fps @ 640 x 480 @ Bayer 8GRBG 24 fps @ 320 x 240 @ Bayer 8GRBG
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.

[2] Frame rate of depth/RGB images: the number of depth/RGB images that the host computer receives every second from the camera.

Measurement Performance

Parameters	Value
Recommended working distance	800 mm ~ 3400 mm
Max working distance	700 mm ~ 3400 mm
Near field of view	720 mm x 610 mm @ 700 mm (H/V \approx 54°/46°)
Far field of view	3710 mm x 2890 mm @ 3400 mm (H/V \approx 57°/46°)



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

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

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.

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.

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.

Hardware Specifications

Parameters	Value
Dimension (excluding interfaces)	130.0 mm x 50.9 mm x 68.8 mm
Weight	523 g
Power & Data connector	USB 2.0
Trigger connector	M8 A-Code, 5-pin, male connector See Trigger Connector for its pinout.
Hardware trigger	1 trigger input/output, falling-edge trigger
Power consumption	Idle mode: 1.9 W Trigger mode: 3.0 W Continuous mode: 3.5 W
Housing material	Aluminum alloy
Ingress protection	IP54
Thermal dissipation	Passive
Temperature	Operating: 0 °C ~ 45 °C Storage: -10 °C ~ 55 °C

Trigger Connector

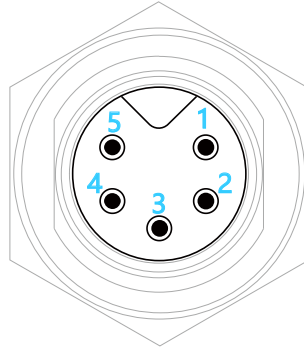


Figure 2 Pinout of the trigger connector

Pin No.	Name	Description	Wire Color
1	TRIG_GND	GND of the trigger circuit	Black
2	TRIG_GND	GND of the trigger circuit	Brown
3	TRIG_OUT	Trigger output signal	Red
4	TRIG_IN	Trigger input signal	Orange
5	TRIG_POWER	DC 12V~24V power of trigger circuit	Yellow

Note: The "Wire Color" is subject to change without notice. Please refer to the "Pin No.", which corresponds one-to-one with the pins of the trigger connector.

Trigger Circuit Schematic Diagram

The camera supports the 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](#).

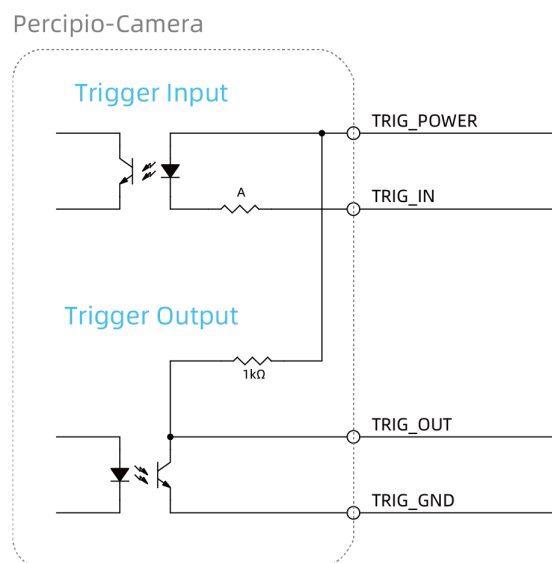
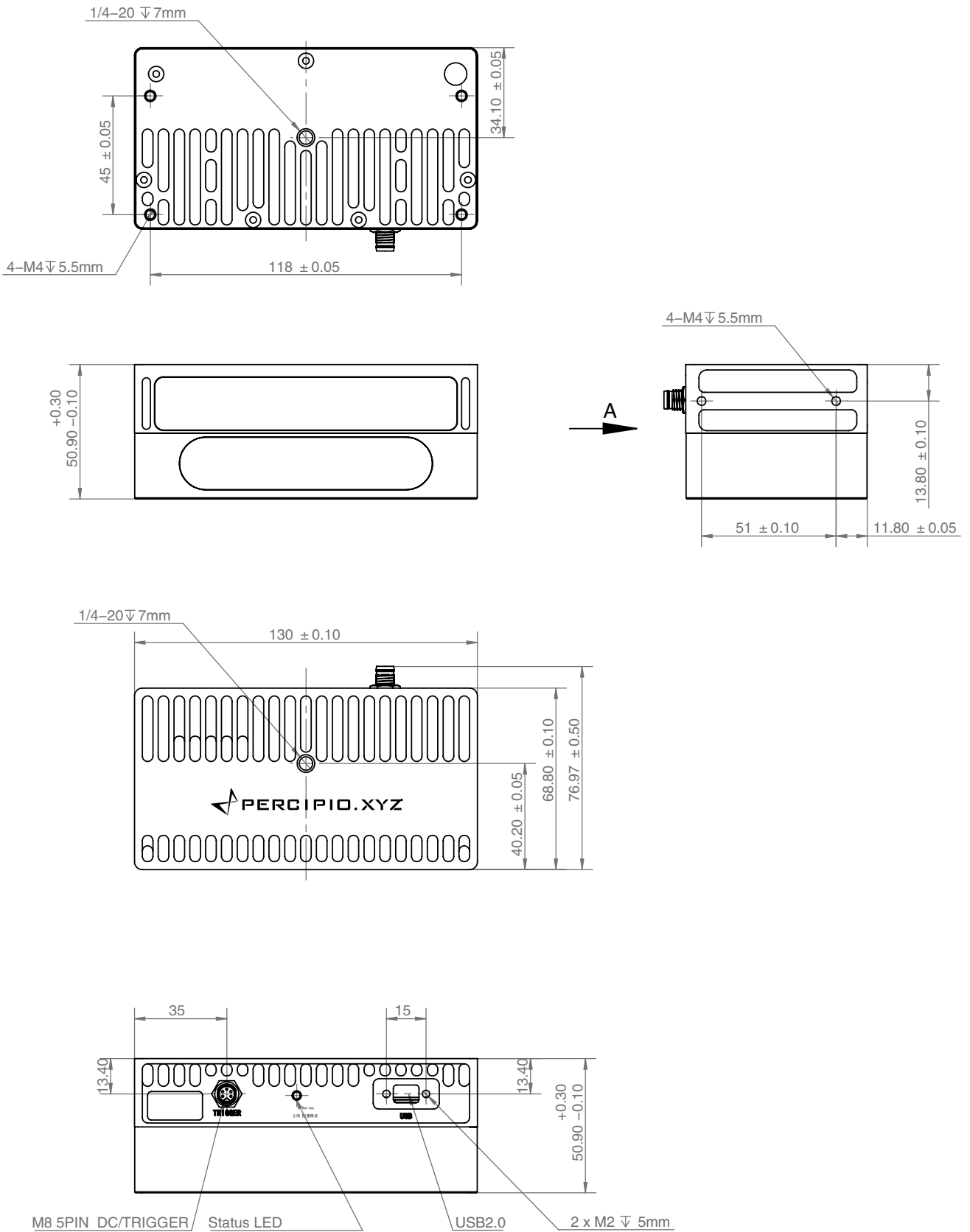


Figure 3 Trigger circuit schematic diagram (falling-edge)

Mechanical Dimensions



View A

Figure 4 FM811-TIX mechanical dimensions (unit: mm)

Percipio.XYZ is an industry leading provider of 3D cameras. We provide a broad range of 3D camera products to meet requirements from various applications, such as industrial, automotive, inspection, logistics, medical, education, security and commercial etc. We will continue to develop and optimize our product roadmap to support more 3D vision applications.

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
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