TM260-E2 Specifications

Introduction

PERCIPIO TM260-E2 3D camera adopts direct time of flight (DToF) technology for distance measurement, compact and easy to integrate, suitable for applications such as people counting, obstacle avoidance for AGV/AMR, security monitoring.

The documentation introduces the detailed technical specifications of TM260-E2 3D cameras. For more specifications of Percipio's other products, please go to Product Specifications — PercipioDC documentation.



Figure 1   TM260-E2 3D camera

Technical Specifications

Parameters	Value
Technical principle	Direct Time of Flight (DToF)
Illumination	1 x infrared laser (λ = 905 nm)
Latency of image acquisition[1]	48 ms
Frame rate[2] @ resolution (Depth)	Supported resolution: 240 x 96 Supported depth quality and corresponding frame rate: BASIC (25 fps), MEDIUM (15 fps)
Output data	Depth, IR, point cloud images

[1] Latency of image acquisition: the latency time between the host computer sending the software trigger signal and receiving depth images (Resolution: 240 x 96; Depth quality: BASIC) from the camera that works in software trigger mode.

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

Measurement Performance

Parameters	Value
Max working distance	50 mm ~ 8000 mm
Field of view	Depth16 (undistort): 3575 mm x 1400 mm @ 1500 mm (H/V ≈ 100°/50°) XYZ48: 5195 mm x 1400 mm @ 1500 mm (H/V ≈ 120°/50°)
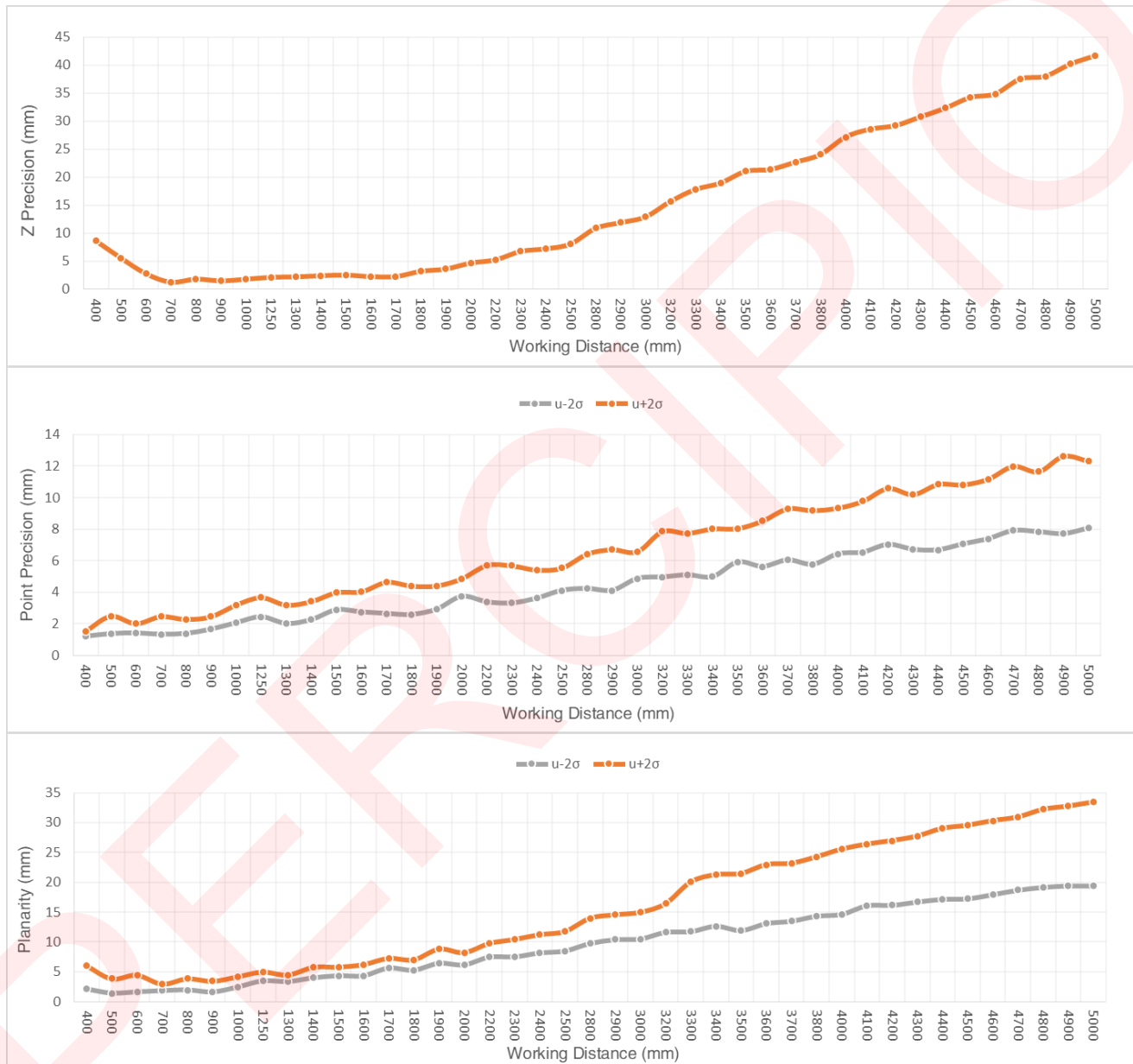
Z precision: the average deviation between the Z measured value and ground truth.

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.

Note: The line charts above show the measurement performance of TM260-E2 whose parameters are set to default values.

Software Specifications

Parameters	Value
OS	Linux/Windows/ROS
SDK	Percipio Camport SDK; Supported programming language: C, C++, C#, Python See PercipioDC documentation for more SDK tutorials.
ToF features	Depth Quality Filter Threshold ToF Channel ToF Modulation Threshold Anti-sunlight Index Max Speckle Diff Max Speckle Size Anti Interference For the settings of ToF features, see API Guide.

Hardware Specifications

Parameters	Value
Dimension (excluding the cable)	90 mm x 34 mm x 30 mm
Weight (excluding the cable)	130 g
Power connector	DC power female plug, OD: 5.5mm ID: 2.1mm You can directly connect a power adapter to the DC power plug. See Power Connector for its pinout.
Data connector	RJ45 100M Ethernet
Hardware trigger	1 trigger input/output; falling-edge trigger See Hardware Trigger Wires for wire definitions.
Power supply	DC 24V ±30% (wide voltage)
Power consumption	Idle mode: 1.5 W Continuous mode: 4.0 W
Housing material	Aluminum alloy
Ingress protection	IP54
Thermal dissipation	Passive
Temperature	Operating: 0 ℃ ~ 45 ℃ Storage：-10 ℃ ~ 55 ℃

Power & Trigger Connector
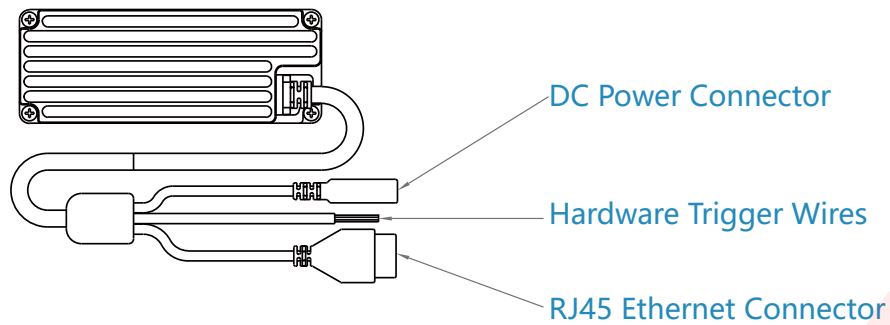
Figure 2   Connectors Pinout

RJ45 Ethernet Connector

Pin No.	Name	Description	Wire Color
1	MD1+	——	Orange and White
2	MD1-	——	Orange
3	MD2+	——	Green and White
4	MD2-	——	Green

Hardware Trigger Wires

Pin No.	Name	Description	Wire Color
5	TRIG_POWER	Power (trigger circuit, DC 12V~24V)	Brown and White
6	TRIG_GND	GND (trigger circuit)	Brown
7	TRIG_IN	Trigger input signal [falling-edge]	Blue and White
8	TRIG_OUT	Trigger output signal [falling-edge]	Blue

DC Power Connector

Pin No.	Name	Description	Wire Color
9	P_24V	Power (camera, DC 24V ±30%)	Red
10	P_GND	GND (camera)	Black

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

Trigger Circuit Schematic Diagram

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

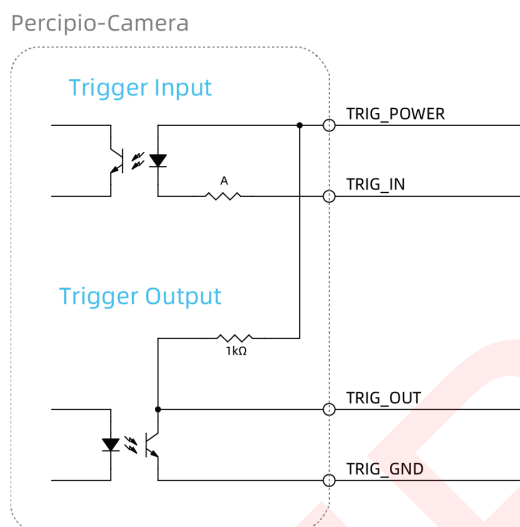For details about hardware connection, see PercipioDC documentation.

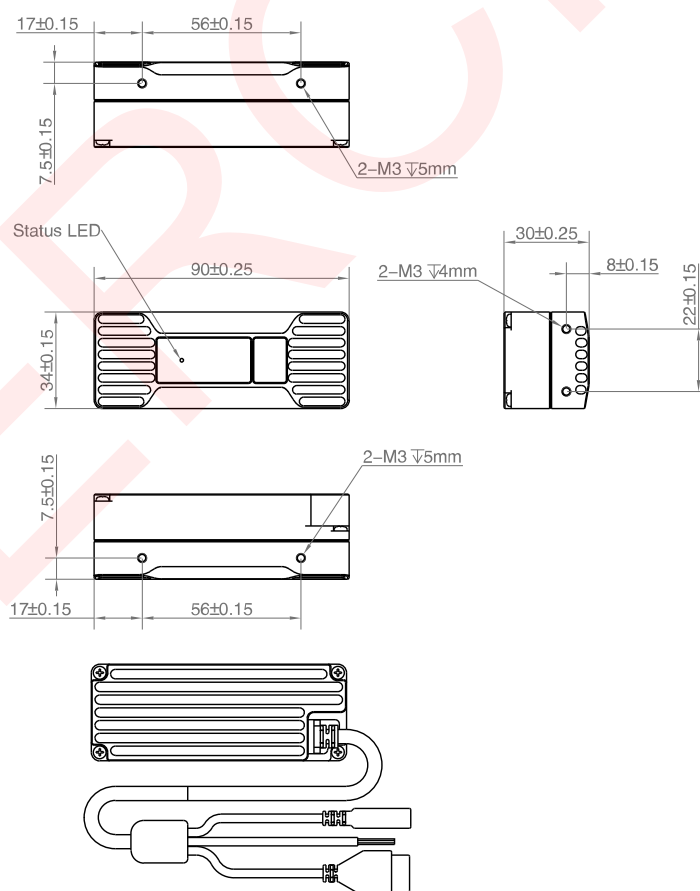Figure 3   Trigger circuit schematic diagram (falling-edge)

Mechanical Dimensions

Figure 4   TM260-E2 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.

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