PERCIPIO.XYZ

User Manual

VMD02/VMD03

2025.08.08 V1.0

Contents

Safety

Safety Precautions

- To ensure safe use, please read this user manual carefully and understand how to use this product correctly before operation. Failure to use and maintain the product according to this manual may result in camera damage or other injuries. Any injuries or losses caused by improper operation are not the responsibility of Percipio, and Percipio assumes no liability.
- Following the warnings in this user manual can effectively reduce risks, but it cannot eliminate all risks.
- Each part of this user manual has been thoroughly checked during compilation. If you have any questions or find any errors, please feel free to contact Percipio at any time.
- This product should be installed, connected, used, and maintained by qualified adult technicians. Proper transportation, storage, installation, connection, use, and maintenance are essential to ensure the safe operation of the product.

Laser Safety Notice

The Percipio VMD02/VMD03 series cameras are classified as CLASS 2 laser products. While Class 2 lasers are generally considered low-risk, prolonged or intentional eye exposure can cause injury. To ensure safe operation, adhere to the following precautions:

1. Wear Laser Protective Eyewear

   Use certified laser safety goggles when operating the device.

2. Avoid Direct Eye Exposure

   Never look directly into the laser beam. CLASS 2 lasers should only be used in controlled environments where accidental exposure is minimized.

3. Prevent Hazardous Reflections

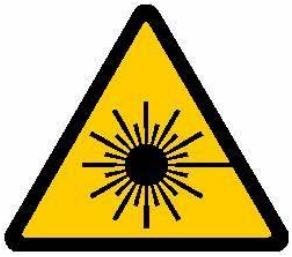
   Ensure the beam does not reflect into eyes or unintended surfaces.

4. Apply Clear Warning Labels

   Mark all laser exit points and reflection zones with high-visibility hazard warnings.

5. Follow Operational Safety Procedures

   Only trained personnel should handle or maintain the device. Strictly comply with all safety guidelines in the user manual.



Failure to follow these precautions may result in eye injury.

User Instructions

- Do not place flammable, explosive, or other dangerous items near the camera. Keep the camera away from open flames and high temperatures. Do not incinerate or crush the product, as this may cause an explosion.
- Avoid collisions, throwing, or dropping the camera. Strong impacts or vibrations can cause damage or operational failure. Any form of modification to the camera is prohibited. Percipio is not responsible for damage or loss resulting from self-repair or disassembly.
- Prevent metal objects, dust, paper, sawdust, and other foreign materials from entering the camera. This can lead to fire, electrical shock, or functional failure.
- Do not use the camera in environments with extreme temperatures. For the operating temperature range for the camera, refer to Appendix: Specifications.
- Avoid using the camera in corrosive environments.
- Use the camera indoors unless specified otherwise. Some cameras are designed for outdoor use; please refer to the user manual for specific instructions.
- Do not point the lens directly at the sun or other strong light sources for extended periods, as this can damage the image sensor.
- Operate the camera at altitudes below 2,000 meters above sea level.
- It is strictly prohibited to use a power supply with a voltage higher than the standard power supply voltage of the camera to power the camera. Any casualties or any losses suffered by third parties due to your improper operation have nothing to do with Percipio, and Percipio shall not bear any liability.
- Install the camera in a well-ventilated and open area.
- The camera's casing is designed with built-in heat dissipation capabilities, so no additional cooling measures are necessary. It is recommended to ensure that the metal mounting surface of the camera is in contact with the equipment during installation to optimize heat dissipation. Do not cover the camera to avoid overheating, which may impair measurement performance.

Pre-use Inspection

- Before each use, carefully inspect the camera to ensure it is in normal working condition. Check for any signs of damage, water ingress, unusual odors, smoke emissions, or missing/damaged screws. If any of these issues are detected, immediately cut off the power and discontinue use.
- High temperatures can cause power cables to age. Please check the power cables regularly to ensure that they are in normal condition and free from aging.

Disposal Instructions

- When disposing of this camera, comply with local regulations to protect the environment. Do not discard used cameras improperly, as improper disposal can cause environmental pollution.

Compliance

VMD02 and VMD03 series 3D cameras complie with the following standards and test specifications.

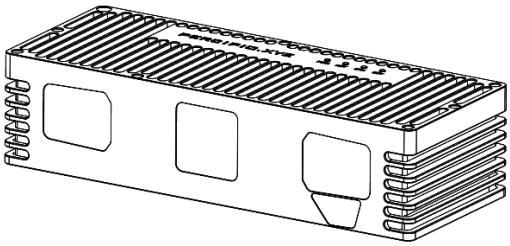
> **Note**
>
> Certification status may be updated. For the latest information, please contact support@pcp3d.com.

CE

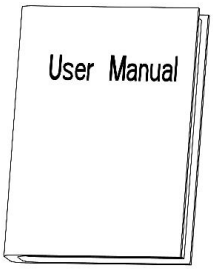
This product meets the following European Union electromagnetic compatibility standards:

- EN IEC 61000-6-2: 2019
- EN IEC 61000-6-4: 2019
- EN IEC 61000-3-2: 2019 + A2: 2024
- EN 61000-3-3: 2013 + A2: 2021 + AC: 2022-01

Unboxing



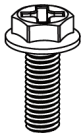
3D camera



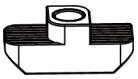
User manual (E-manual)

M4*14 Phillips countersunk bolt, 5 pcs

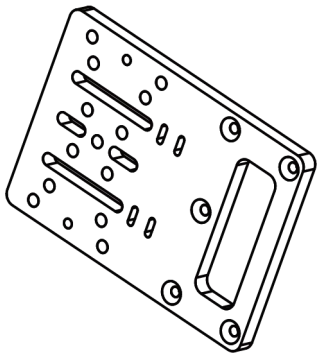
Ø6*8 (M5*6) ext. threaded step pin, 2 pcs



M5*14 Phillips hex flange bolt with serrations, 4 pcs



M5 T-nut for 20/30/40 profiles, 4 pcs each

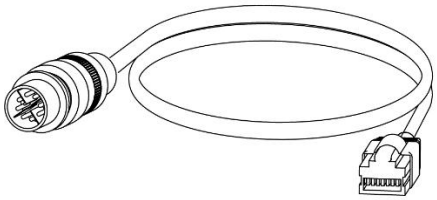


Adapter plate

Note

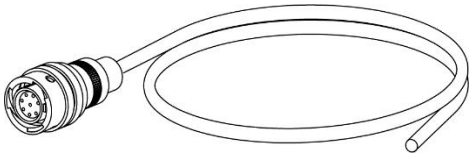
If any items are missing or damaged, please contact support@pcp3d.com promptly.

Optional Accessories



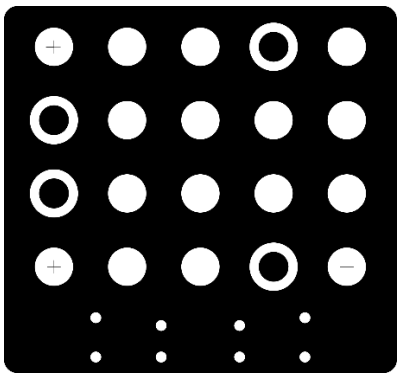
Gigabit Ethernet cable

(M12 X-Code to RJ45)



Power & Trigger cable

(M12 A-Code to Open)



Circle grid target

> **Note**
>
> If any items are missing or damaged, please contact support@pcp3d.com promptly.

Hardware Installation

Connectors & Cables

Power & Trigger Connector

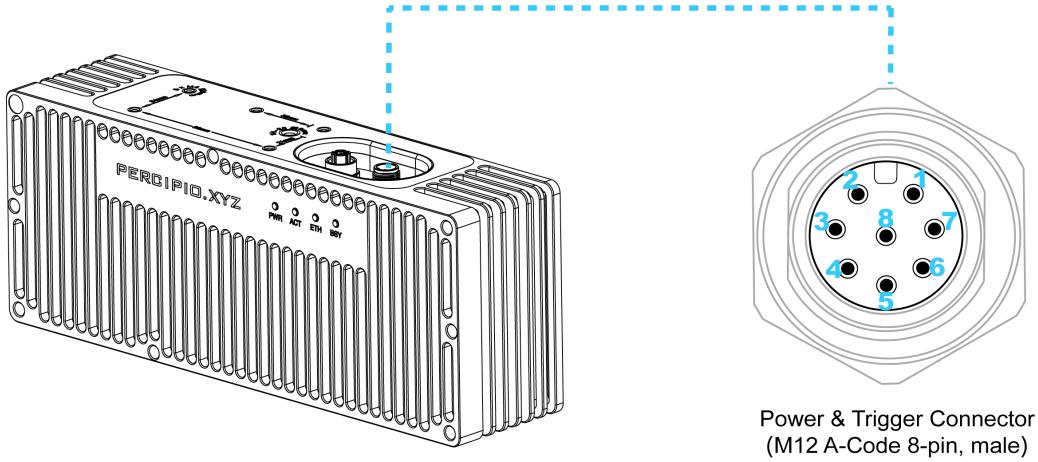


Figure 1: Power & Trigger Connector

Table 2: Power & Trigger Connector Descriptions

Pin Number	Name	Descriptions
1	TRIG_OUT 1	Trigger output signal 1 (rising-edge)
2	P_24V~48V	Power (camera)
3	P_GND	GND (camera)
4	TRIG_POWER	Power (trigger circuit)
5	TRIG_GND	GND (trigger circuit)
6	TRIG_IN 2	Trigger input signal 2 (falling-edge)
7	TRIG_IN 1	Trigger input signal 1 (rising-edge)
8	TRIG_OUT 2	Trigger output signal 2 (falling-edge)

Data Connector and Cable

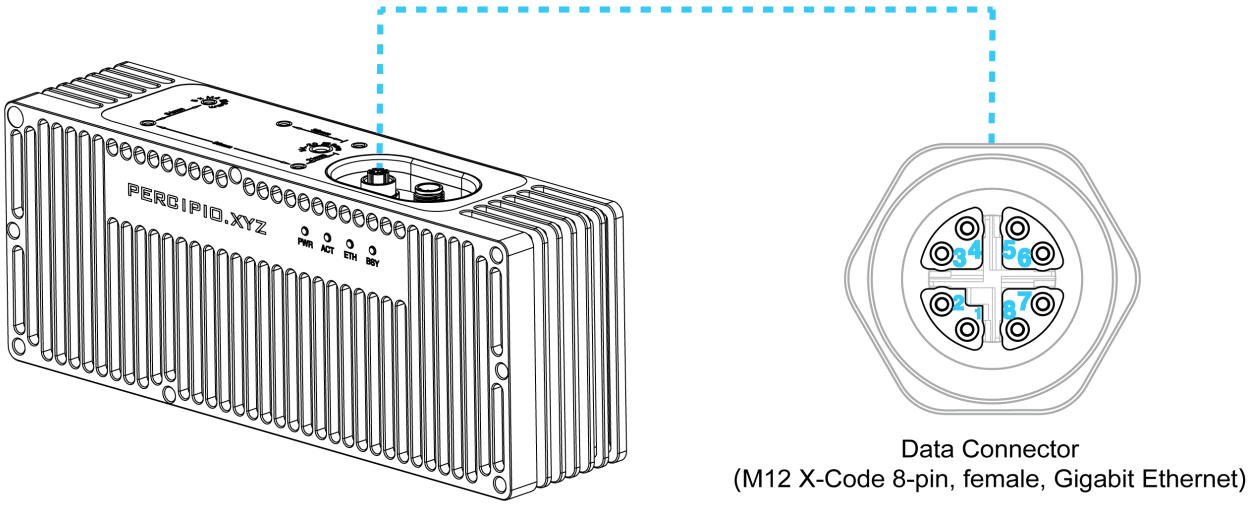


Figure 3: Data Connector Descriptions

The Gigabit Ethernet cable provided by Percipio is an M12 X-Code to RJ45 Gigabit Ethernet cable. The RJ45 end complies with the EIA/TIA 568B standard. The cable description is as follows:

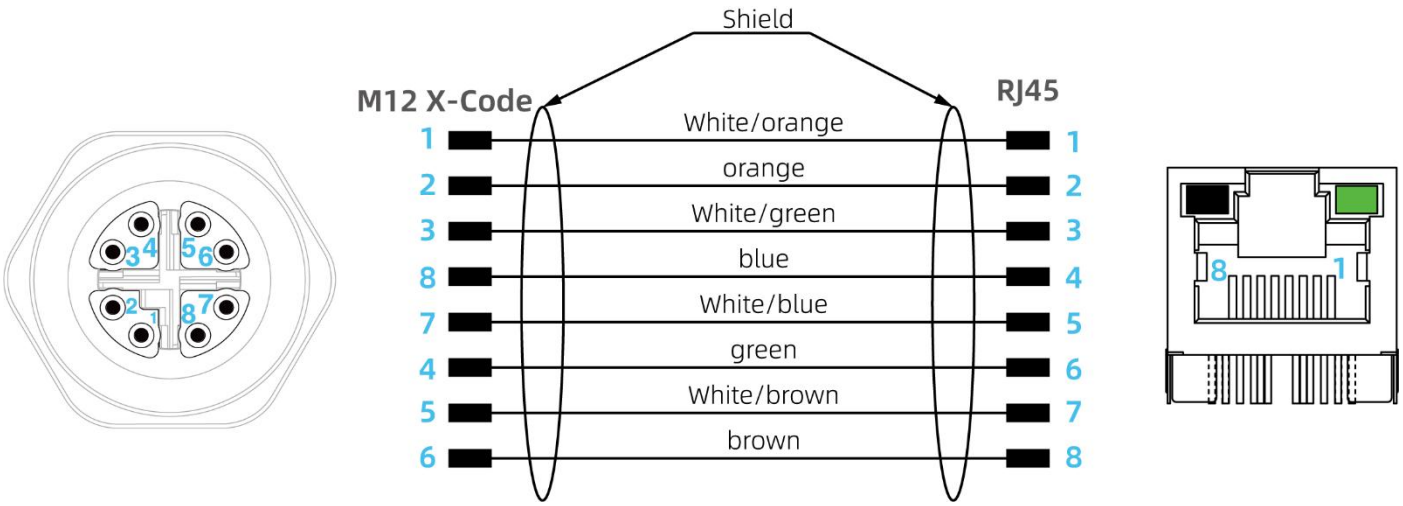


Figure 4: Gigabit Ethernet Cable Descriptions

Indicator Lights

The whole process from power-on to the completion of initialization of this camera takes approximately 40 seconds. When the camera is being initialized, the PWR indicator light stays on constantly. After the initialization is completed, the status of the indicator light is shown in the following table.

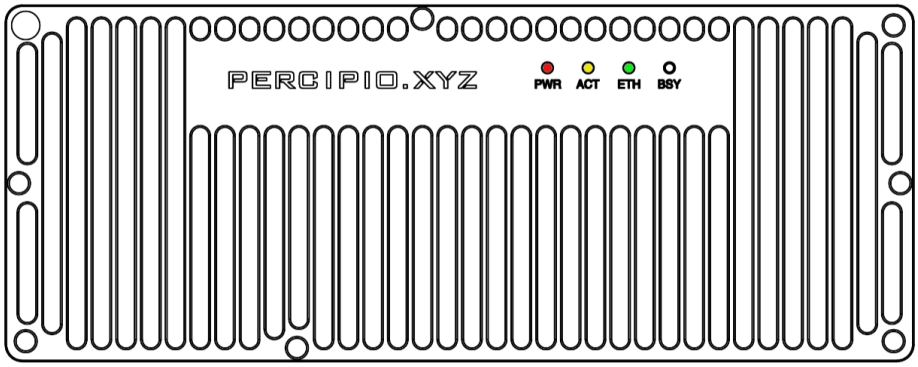


Figure 5: Indicator Lights

Table 6: Indicator Lights Descriptions

Name	Color	Descriptions
PWR	Red	Flashing at 1Hz: The camera is working normally. Flashing at > 1Hz: The camera firmware has encountered an initialization error. Constantly on: The camera is currently in a system freeze state. Constantly off: The camera is either not powered on or in a system freeze state.
ACT	Yellow	Flashing: Data is being transmitted. Constantly on: No data is being transmitted.
ETH	Green	Constantly on: The camera is working in Gigabit Ethernet mode. Constantly off: The camera is not working in Gigabit Ethernet mode.
BSY	White	Flashing: The camera is capturing images. Constantly off: The camera stops capturing images.

Camera Installation

The interfaces of VMD02 and VMD03 series cameras adopt a unified design standard, ensuring full compatibility. This installation guide will use VMD02 as an example for illustration, and the related procedures are equally applicable to the VMD03 series.

Mounting to a Tripod

For quick evaluation or experimentation where precise repositioning of the camera is not required, use the 1/4-20 threaded hole to secure the camera to a tripod via a standard tripod head, quick-release clamp, or similar accessory.

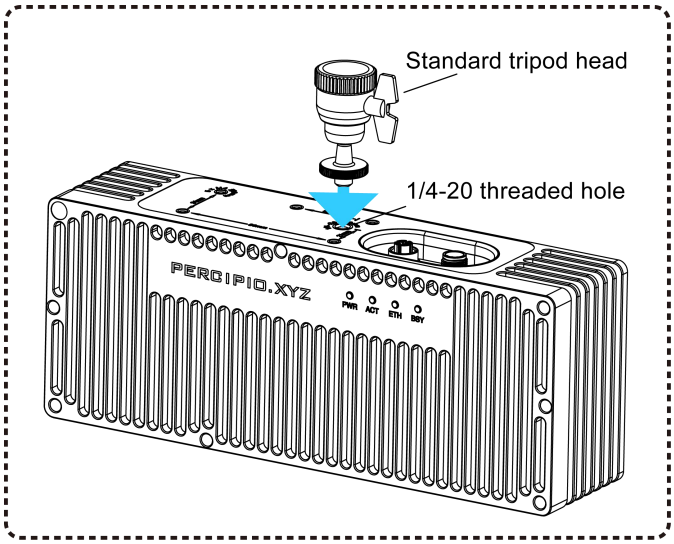


Figure 7: 1/4-20 Threaded Hole Mounting Diagram

Mounting to an Adapter Plate

For long-term deployment, to ensure reliability, the camera can be secured to EU-standard T-slot aluminum profiles using an adapter plate.

Instructions

1. If the adapter plate provided by Percipio does not meet your requirements, please contact support@pcp3d.com to obtain the camera's 2D/3D CAD models for custom adapter plate design.
2. For adapter plate dimensions, refer to the Appendix: Specifications.

Notes

The camera's casing is designed with built-in heat dissipation capabilities, so no additional cooling measures are necessary. It is recommended to ensure good ventilation around the camera and that the metal mounting surface of the camera is in contact with the equipment during installation to optimize heat dissipation.

Step 1: Secure Camera to Adapter Plate

Use 5 pieces of M4*14 Phillips countersunk bolts to attach the camera to the adapter plate. Top and side surfaces of the camera each provide a set of M4 threaded holes for flexible mounting.

Recommended thread engagement depth: 5 mm. Torque specification: 1.0~1.5N·m.

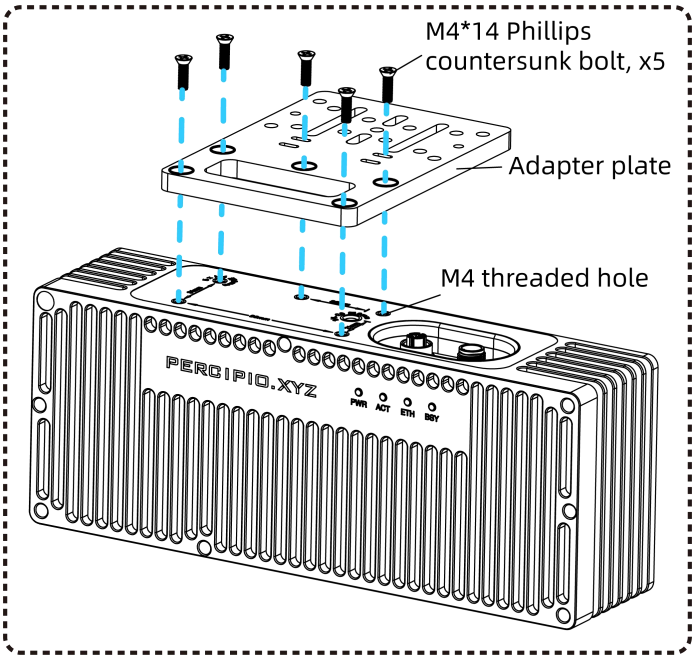


Figure 8: Camera and Adapter Plate Installation Diagram

Step 2: Secure Adapter Plate to Aluminum Profiles

Notes

When fixing the adapter plate to the profile, ensure sufficient clearance above the camera interface for cable routing:

- ⩾40mm for angled connectors.
- ⩾200mm for straight connectors.

- Mounting Instructions for 20/30/40 Series Single/Dual T-Slot Aluminum Profiles

  Required Hardware:

  - Bolt: M5*14 Phillips Hex Flange Bolt with Serrations.
  - Nut: T-nut compatible with the profile's slot size.

  Installation Steps:

  1. Insert the T-nut into the profile's T-slot and slide it to the desired position.
  2. Align the adapter plate's mounting hole with the T-nut, then secure using the M5*14 bolt.
  3. Tighten to the recommended torque: 3 ~ 4 N·m.

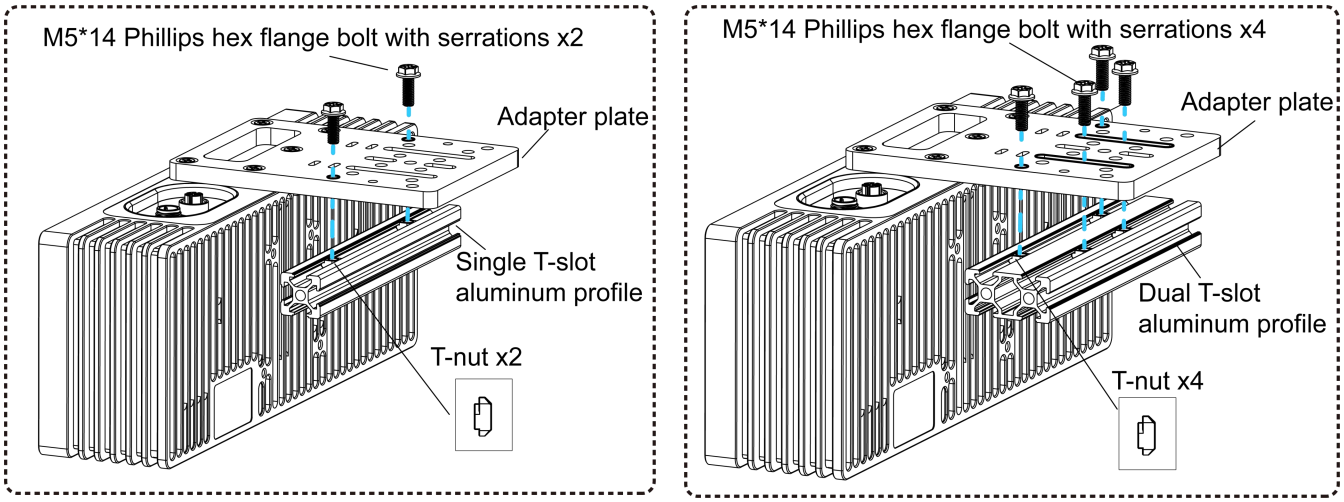


Figure 9: Adapter Plate Mounting Configurations (Single T-Slot vs. Dual T-Slot Aluminum Profile Installation)

- Mounting Instructions for 20/30/40 Series Single/Dual T-Slot Aluminum Profiles

  Use the provided accessory "Ø6*8 (M5*6) ext. threaded step pin" for initial alignment. Secure the pin temporarily using a flathead screwdriver (0.8mm blade width).

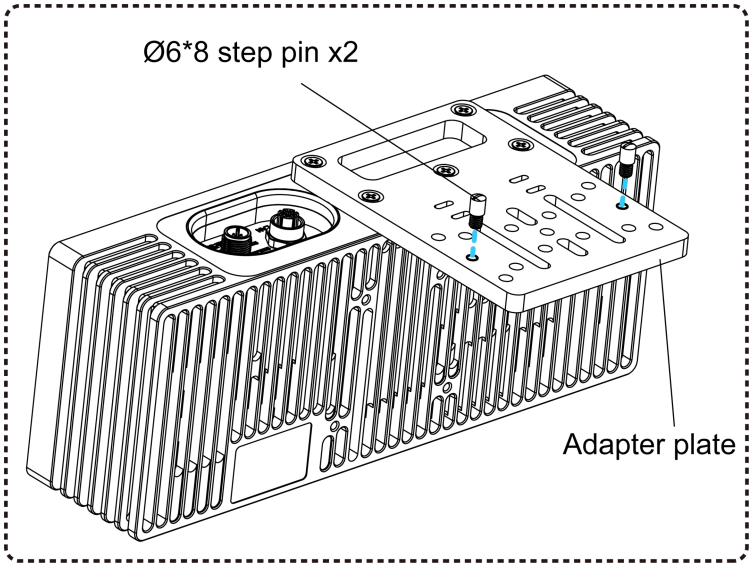


Figure 10: Step Pin Installation Diagram

Power Supply & Network Connection

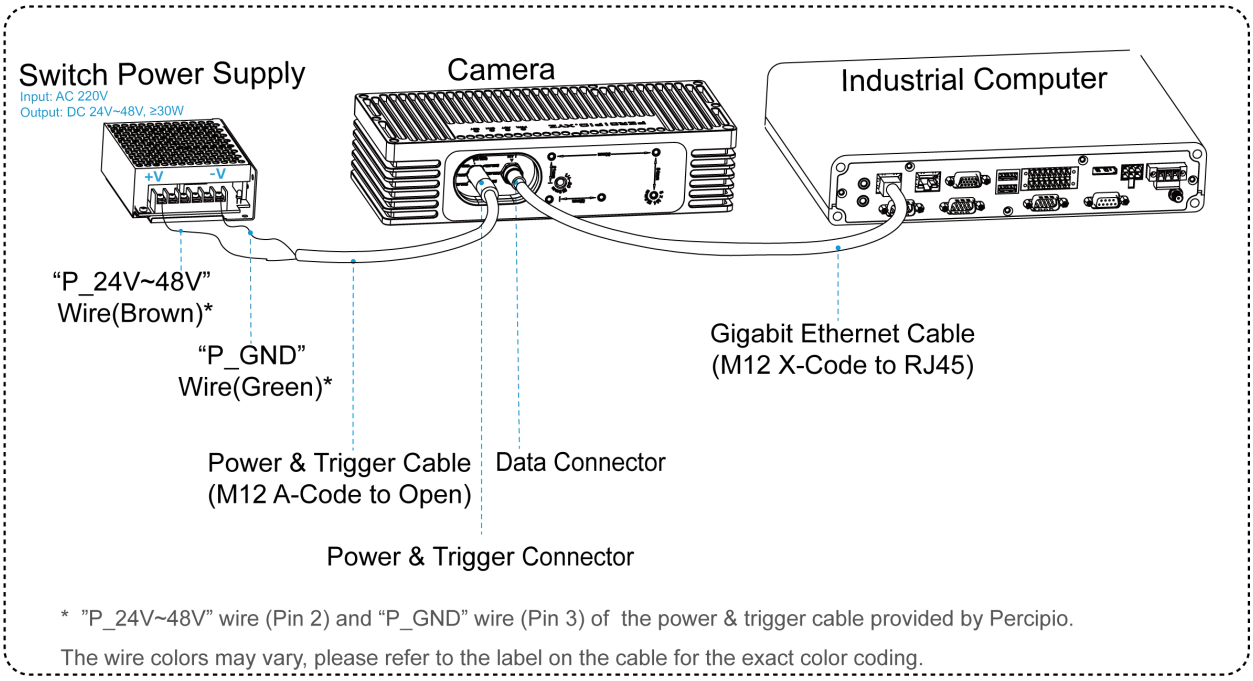


Figure 11: Connection Diagram

Network Connection

1. Connect the M12 X-Code end of the Gigabit Ethernet cable to the camera's data connector.
2. Insert the RJ45 end of the Gigabit Ethernet cable into the RJ45 network port of the industrial computer (host computer).

Network Configuration

Percipio cameras are configured with dynamic IP addresses by default, enabling them to automatically obtain an IP. If a static IP address needs to be set for the camera, the SDK or Percipio Viewer software can be utilized. For detailed instructions, please refer to Percipio Viewer User Guide: Set Camera IP or Application example: Set Camera IP .

Power Supply (External DC Power Supply)

The recommended specification for the external DC power supply is 24V ~ 48V, with a minimum output power of 30W. The connection steps are as follows:

1. Connect the M12 A-Code end of the trigger power cable to the camera's power & trigger connector.
2. Based on the pin description of the camera's power & trigger connector, connect the open end of the trigger power cable to the external DC power supply.

Hardware Trigger Connection

Hardware triggering refers to the camera operating in the hardware trigger mode, where it captures images upon receiving an external trigger signal. VMD02/VMD03 series cameras support two hardware trigger input/output channels, which are rising edge and falling edge. This section provides a reference for hardware trigger wiring.

Instructions

If hardware triggering is not required, the camera can be operated after completing the Power Supply & Network Connection and How to Run the Camera.

Hardware Trigger Requirements

1) Electrical Specifications for Hardware Triggering

Table 12: Electrical Specifications for Hardware Triggering.

Index	Minimum (V)	Typical (V)	Maximum (V)
TRIG_POWER Voltage	11.4	—	25.2
TRIG_OUT High Voltage	11.4	—	25.2
TRIG_OUT Low Voltage	-0.3	0	0.4
TRIG_IN High Voltage	11.4	—	25.2
TRIG_IN Low Voltage	-0.3	0	0.4

2) External Trigger Input Signal Requirements

To avoid abnormal hardware triggering, please use external trigger input signals that meet the following requirements:

- For rising-edge trigger, a high pulse square wave signal is required, with the rising-edge being effective. The pulse width should be within the range of 10 to 30 milliseconds. To prevent false triggering, the signal rise time should not exceed 5 microseconds.
- For falling-edge trigger, a low pulse square wave signal is required, with the falling-edge being effective. The pulse width should be within the range of 10 to 30 milliseconds. To prevent false triggering, the signal fall time should not exceed 5 microseconds.
- The trigger frequency must not exceed the device's processing capability (i.e., the frame rate in continuous mode). Otherwise, the camera will discard the trigger signals without processing them.

> **Note**
>
> The wire colors indicated in the following figures correspond to the colors of the cables provided by Percipio.

Trigger Input Wiring Reference

Rising Edge

The following presents the wiring method for rising-edge trigger input, taking a PNP (sourcing) type connector as an example. Connect the client output connector to the TRIG_IN 1 (blue) wire. The TRIG_OUT 1 (white) wire can be utilized as required.

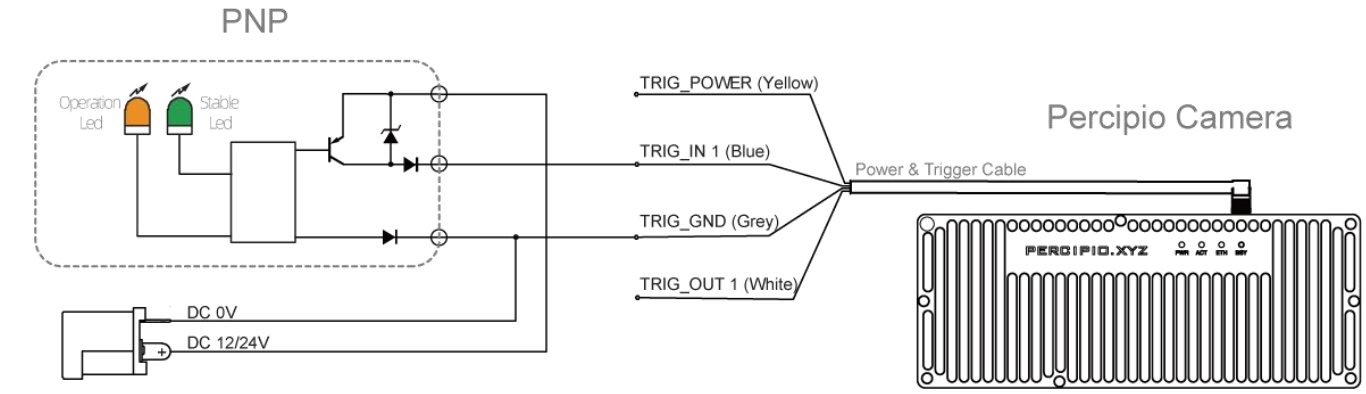


Figure 13: Rising-edge — PNP (Sourcing) Type Connector Control Trigger

Falling Edge

The following describes the falling-edge trigger input wiring method using an NPN (sinking) type connector as an example. The client output connector is connected to the TRIG_IN 2 (pink) wire, and the TRIG_OUT 2 (red) wire is used as needed.

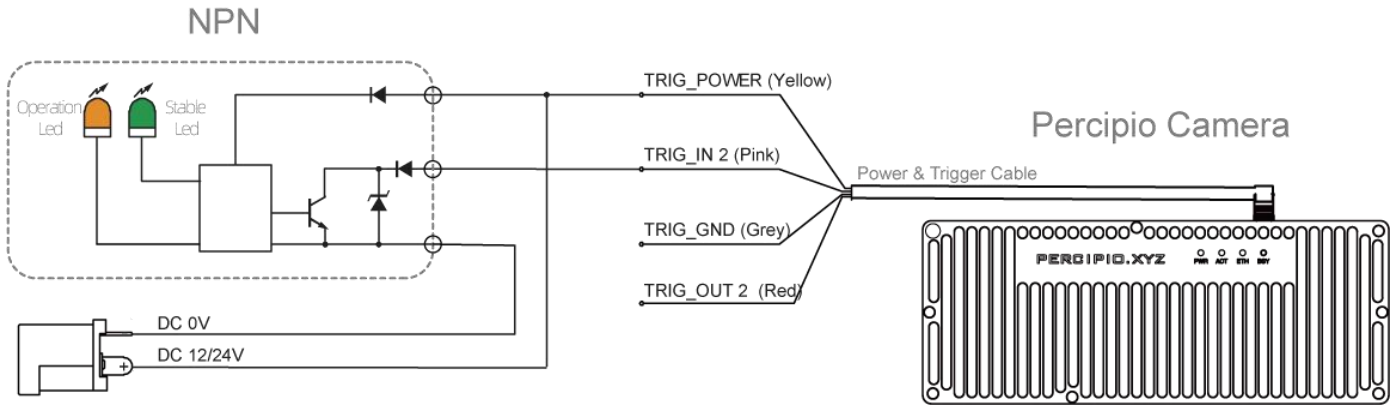


Figure 14: Falling-edge — NPN (Sinking) Type Connector Control Trigger

Trigger Output Wiring Reference

Rising Edge

The camera's rising-edge trigger output signal can drive an optocoupler. A reference wiring diagram is shown below, where RL is selected based on the trigger power supply conditions.

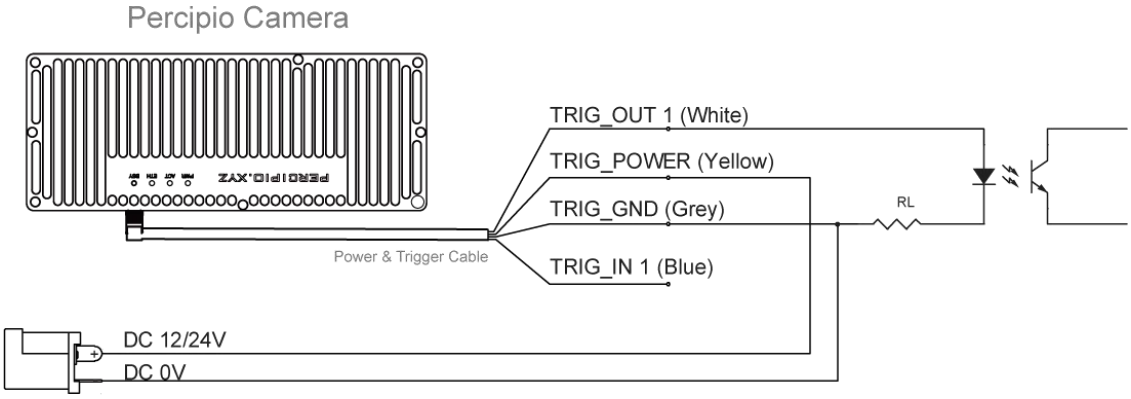


Figure 15: Rising-edge — Driving an Optocoupler

Falling edge

The camera's falling-edge trigger output signal can drive an optocoupler. A reference wiring diagram is shown below, where RL is selected based on the trigger power supply conditions.

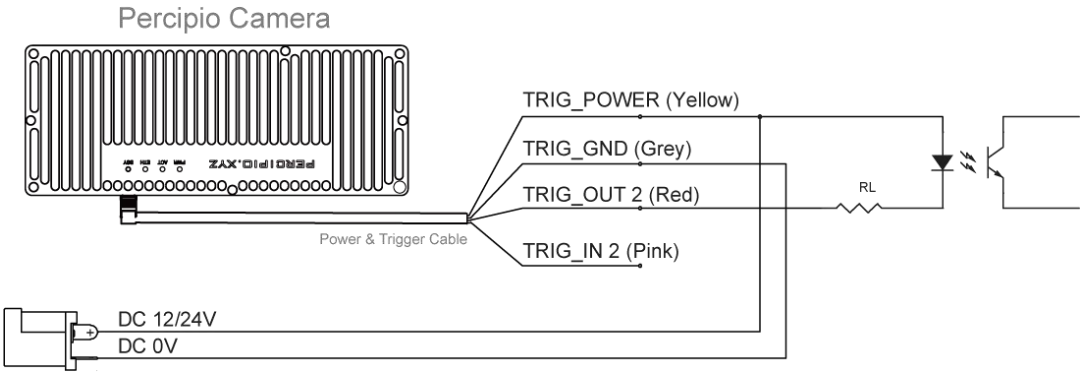


Figure 16: Falling-edge — Driving an Optocoupler

Camera Cascade Wiring Reference

Wiring reference diagram for camera cascade triggering (Master-Slave mode) is shown as follows.

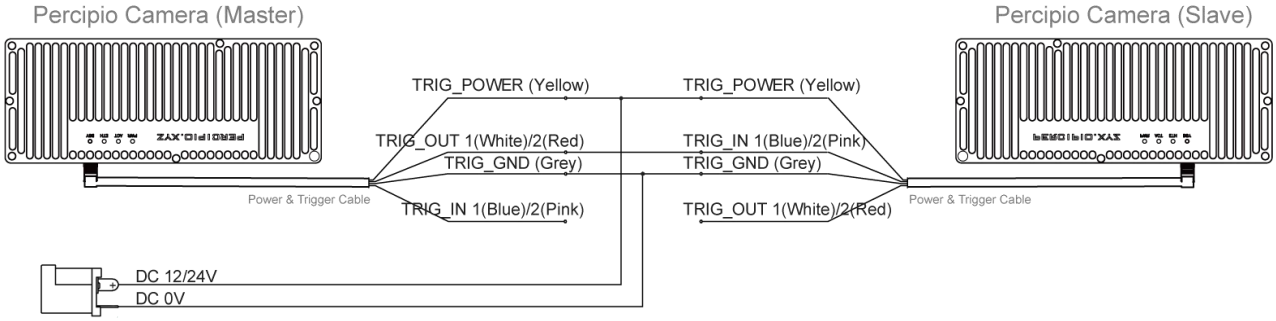


Figure 17: Camera Cascade Wiring Reference

How to Run the Camera

Users can use Percipio Viewer, a proprietary image viewing software developed by Percipio, to preview the camera's output in real-time, including depth maps, color images, infrared images, and point clouds. Additionally, users can control the camera through Percipio's SDK and a series of APIs.

Download Links:

Percipio Viewer Download Links: https://en.percipio.xyz/downloadcenter/

SDK Download Links: https://en.percipio.xyz/downloadcenter/

Tutorial Links:

Percipio Viewer User Guide: https://doc.percipio.xyz/cam/latest/en/viewer-en.html

SDK and API Documentation: https://doc.percipio.xyz/cam/latest/en/index.html

Download Center

Technical Documentations

Troubleshooting

If you encounter issues while operating the camera, you can refer to the Troubleshooting Guide to diagnose and resolve problems.

Troubleshooting Guide: https://doc.percipio.xyz/cam/latest/en/troubleshooting/index-en.html

Troubleshooting

Service and Maintenance

Service

The VMD02/VMD03 series camera is a precision optical instrument with no user-serviceable parts inside. Do not disassemble the camera.

Maintenance (Cleaning)

Clean the exterior of the camera as follows:

- Use lint-free cloth and water to wipe the camera window (glass panel) to keep it clean.

> **Note**
> Avoid using alcohol, gasoline or other corrosive and volatile solvents to clean the camera, as these substances may damage the camera's exterior and internal structure.

- It is recommended to regularly clean the dust on the camera surface to ensure efficient heat dissipation.

Maintenance (Storage)

- Do not immerse the camera in water or place it in a high-humidity environment, as this may cause malfunction. Store the camera in a cool, dry, and well-ventilated indoor location.
- Do not leave the camera outdoors for an extended period to avoid damage from water ingress due to rain or snow.
- The storage temperature range for the camera is -10°C to 55°C. Exceeding this range may affect the camera, leading to performance degradation or damage.
- Disconnect the camera from the power supply before storage to prevent fire hazards.
- Do not point the camera lens directly at the sun or other strong light sources for an extended period to avoid damage to the image sensor from intense light.

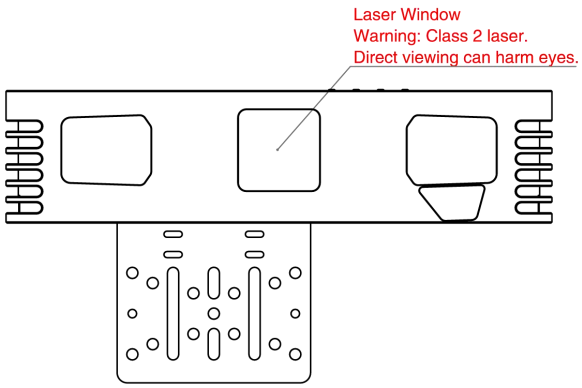
Appendix: Specifications

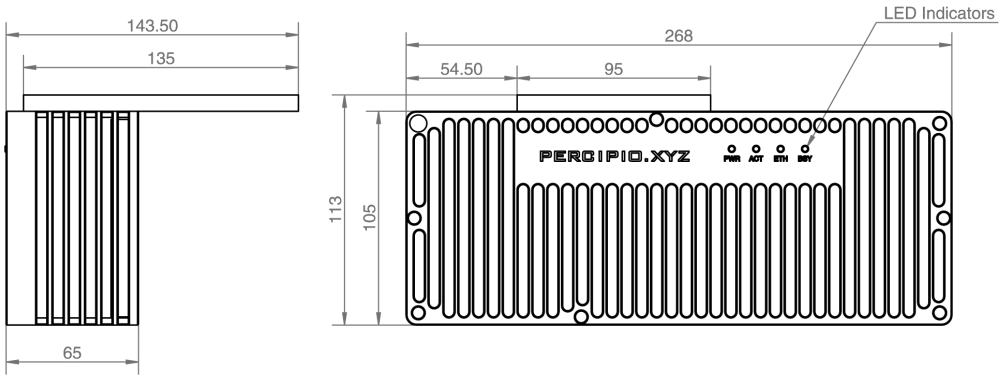
VMD02-4070

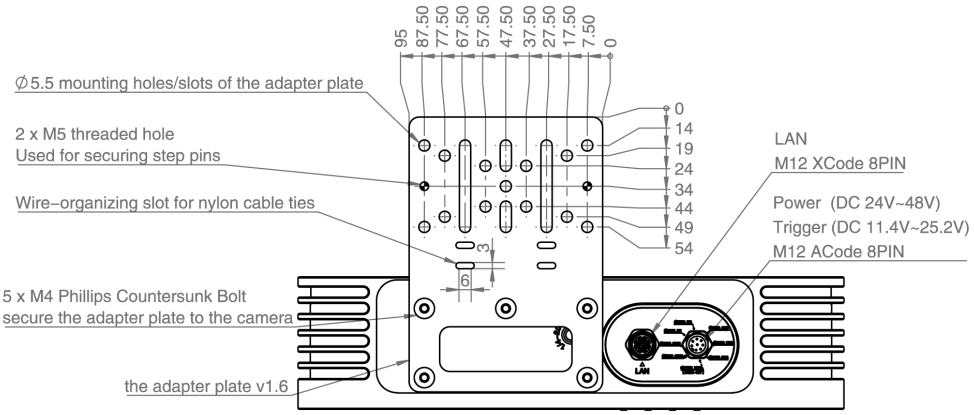
Table 18: VMD02-4070 Specifications

Index	Specifications		
Technology Principle	Active Stereo+structured light with fringe patterns		
Working Distance	400 mm ~ 700 mm		
Field of View	Near Field of View: 352 mm x 307 mm @ 400 mm (H/V: Approx. 58°/48°) Field of View @ Optimal Working Distance: 469 mm x 375 mm @ 490 mm (H/V: Approx. 51°/41°) Far Field of View: 675 mm x 532 mm @ 700 mm (H/V: Approx. 51°/42°)		
Z Accuracy	0.023 mm @ 490 mm (Optimal Working Distance)		
XY Point-to-Point Distance	0.25 mm @ 490 mm (Optimal Working Distance)		
Latency of image acquisition	1882 ms ~ 2697 ms		
Frame Rate @ Resolution (Depth)	Quality Mode: 0.63 fps @ 2048 x 1536 0.63 fps @ 1024 x 768 0.63 fps @ 512 x 384	Standard Mode: 0.76 fps @ 2048 x 1536 0.76 fps @ 1024 x 768 0.76 fps @ 512 x 384	Fast Mode: 1.05 fps @ 2048 x 1536 1.05 fps @ 1024 x 768 1.05 fps @ 512 x 384
Power Supply	External DC Power Supply：DC 24V (±10%), ≥ 30W		
Dimensions (Incl. Connectors)	268 mm x 105 mm x 65 mm		
Weight	2080 g		
Power Consumption	≤ 24 W		
Ingress Protection	IP65		
Temperature	Recommended Operating Temperature: 22 °C ~ 25 °C; Operating Temperature: 0 °C ~ 45 °C Storage Temperature: -10 °C ~ 55 °C		
Laser safety	CLASS 2 (IEC 60825-1：2014)		

Screws List		
Specification	Qty	Remarks
∅6*8 (M5*6) Ext. Threaded Step Pin	2	For adapter plate alignment. Secure using a 0.8mm flathead screwdriver.
M4*14 Phillips Countersunk Bolt	5	For securing the adapter plate to the camera.
M5*14 Phillips Hex Flange Bolt with Serrations	4	For securing adapter plates to profiles with T–nuts using a cross screwdriver or 8mm hex wrench.
20–Series T–nut (M5)	4	Fits 20 single–slot / 40 double–slot aluminum profiles.
30–Series T–nut (M5)	4	Fits 30 single–slot / 60 double–slot aluminum profiles.
40–Series T–nut (M5)	4	Fits 40 single–slot / 80 double–slot aluminum profiles.







Adapter Plate and Profile Assembly Instructions

1. Place the corresponding T–nuts into the slots of the profile. Insert 2 nuts into each slot.
2.Select adapter plate mounting holes based on the profile slot spacing. Position the adapter plate and adjust T–nuts for precise alignment.
3. Secure the adapter plate to the profile by tightening the M5 x 14 Phillips hex flange bolts from the reverse side.

Notes:

Wiring Clearance Requirements:

– ⩾40mm when using angled cables.
– ⩾200mm when using straight cables.

Unit: mm

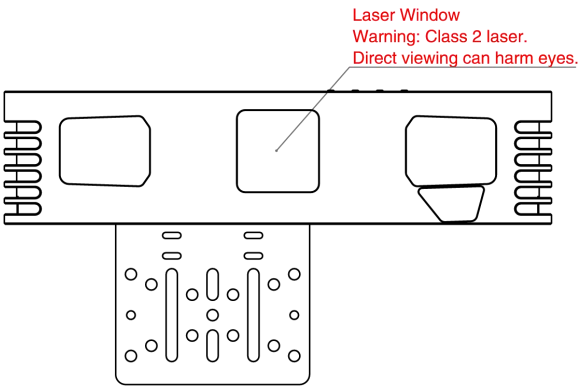
Figure 19: VMD02-4070 Mechanical Dimensions with the Adapter Plate

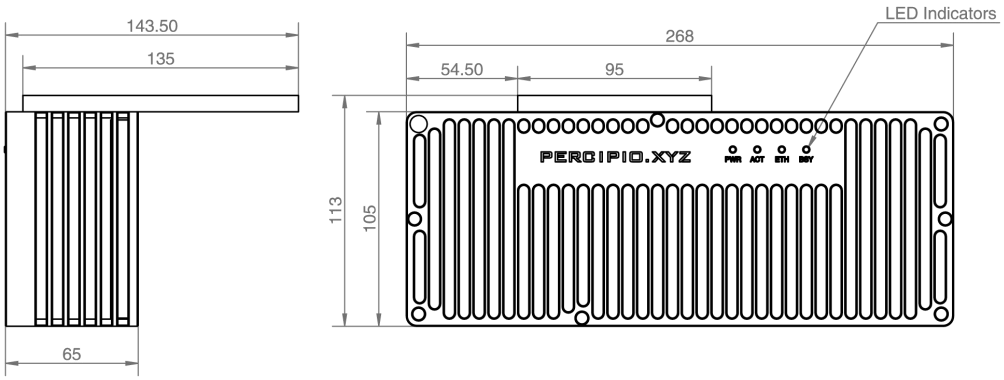
VMD02-5011

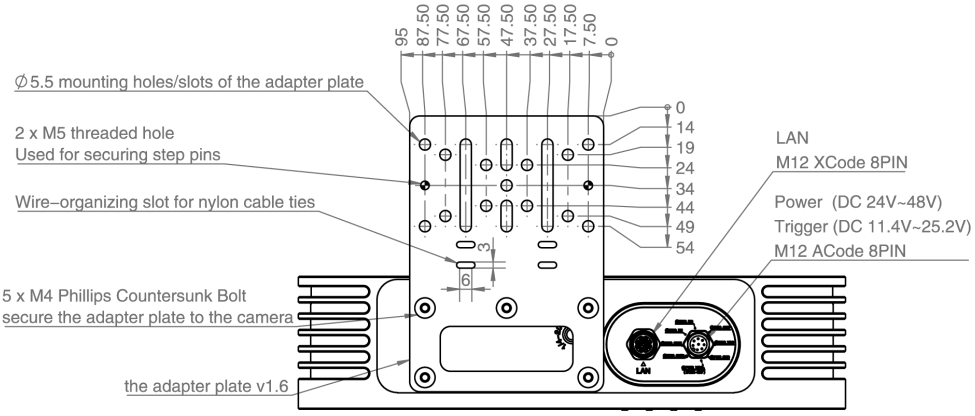
Table 20:VMD02-5011 Specifications

Index	Specifications		
Technology Principle	Active Stereo+structured light with fringe patterns		
Working Distance	Standard Mode: 500 mm ~ 1100 mm Quality Mode: 500 mm ~ 1100 mm Fast Mode: 500 mm ~ 1000 mm		
Field of View	Near Field of View: 482 mm x 382 mm @ 500 mm (H/V: Approx. 51°/42°) Field of View @ Optimal Working Distance: 644 mm x 502 mm @ 660 mm (H/V: Approx. 52°/42°) Far Field of View: 986 mm x 831 mm @ 1100 mm (H/V: Approx. 48°/41°)		
Z Accuracy	0.057 mm @ 660 mm (Optimal Working Distance)		
XY Point-to-Point Distance	0.33 mm @ 660 mm (Optimal Working Distance)		
Latency of image acquisition	1889 ms ~ 2677 ms		
Frame Rate @ Resolution (Depth)	Quality Mode: 0.63 fps @ 2048 x 1536 0.63 fps @ 1024 x 768 0.63 fps @ 512 x 384	Standard Mode: 0.76 fps @ 2048 x 1536 0.76 fps @ 1024 x 768 0.76 fps @ 512 x 384	Fast Mode: 1.05 fps @ 2048 x 1536 1.05 fps @ 1024 x 768 1.05 fps @ 512 x 384
Power Supply	External DC Power Supply：DC 24V (±10%), ≥ 30W		
Dimensions (Incl. Connectors)	268 mm x 105 mm x 65 mm		
Weight	2080 g		
Power Consumption	≤ 24 W		
Ingress Protection	IP65		
Temperature	Recommended Operating Temperature: 22 °C ~ 25 °C; Operating Temperature: 0 °C ~ 45 °C Storage Temperature: -10 °C ~ 55 °C		
Laser safety	CLASS 2 (IEC 60825-1：2014)		

Screws List		
Specification	Qty	Remarks
∅6*8 (M5*6) Ext. Threaded Step Pin	2	For adapter plate alignment. Secure using a 0.8mm flathead screwdriver.
M4*14 Phillips Countersunk Bolt	5	For securing the adapter plate to the camera.
M5*14 Phillips Hex Flange Bolt with Serrations	4	For securing adapter plates to profiles with T–nuts using a cross screwdriver or 8mm hex wrench.
20–Series T–nut (M5)	4	Fits 20 single–slot / 40 double–slot aluminum profiles.
30–Series T–nut (M5)	4	Fits 30 single–slot / 60 double–slot aluminum profiles.
40–Series T–nut (M5)	4	Fits 40 single–slot / 80 double–slot aluminum profiles.







Adapter Plate and Profile Assembly Instructions

1. Place the corresponding T–nuts into the slots of the profile. Insert 2 nuts into each slot.
2.Select adapter plate mounting holes based on the profile slot spacing. Position the adapter plate and adjust T–nuts for precise alignment.
3. Secure the adapter plate to the profile by tightening the M5 × 14 Phillips hex flange bolts from the reverse side.

Notes:

Wiring Clearance Requirements:

– ⩾40mm when using angled cables.
– ⩾200mm when using straight cables.

Unit: mm

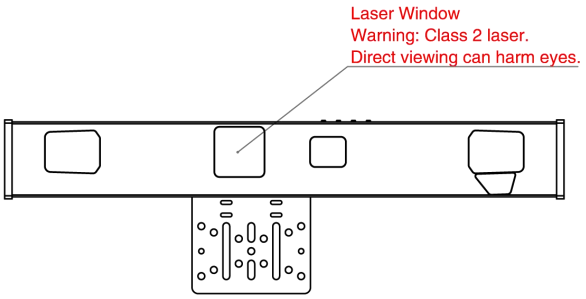
Figure 21: VMD02-5011 Mechanical Dimensions with the Adapter Plate

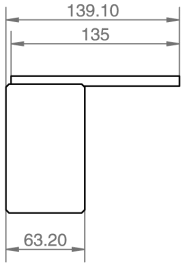
VMD03-8521C

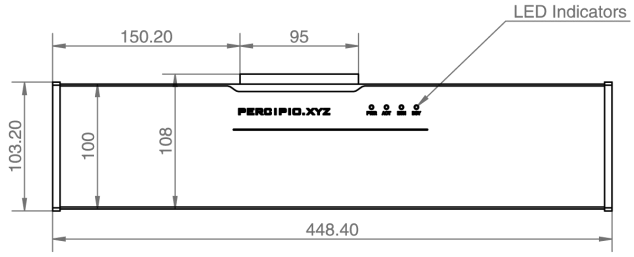
Table 22:VMD03-8521C Specifications

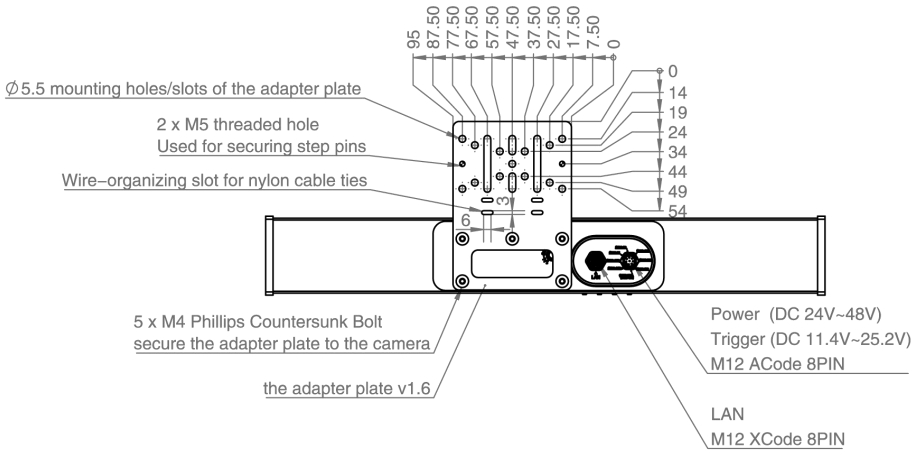
Index	Specifications		
Technology Principle	Active Stereo+structured light with fringe patterns		
Working Distance	Quality Mode/Standard Mode: 850 mm ~ 2100 mm Fast Mode: 1000 mm ~ 2000 mm		
Field of View	Near Field of View: 796 mm x 646 mm @ 850 mm (H/V: Approx. 50°/42°) Field of View @ Optimal Working Distance: 1138 mm x 898 mm @ 1190 mm (H/V: Approx. 51°/41°) Far Field of View: 1805 mm x 1574 mm @ 2100 mm (H/V: Approx.47°/41°)		
Z Accuracy	0.074 mm @ 1190 mm (Optimal Working Distance)		
XY Point-to-Point Distance	0.6 mm @ 1190 mm (Optimal Working Distance)		
Latency of image acquisition	1891 ms ~ 2749 ms		
Frame Rate @ Resolution (Depth)	Quality Mode: 0.63 fps @ 2048 x 1536 0.63 fps @ 1024 x 768 0.63 fps @ 512 x 384	Standard Mode: 0.76 fps @ 2048 x 1536 0.76 fps @ 1024 x 768 0.76 fps @ 512 x 384	Fast Mode: 0.99 fps @ 2048 x 1536 0.99 fps @ 1024 x 768 0.99 fps @ 512 x 384
Frame Rate @ Resolution @ Image Format (Color)	5 fps @ 2560 x 1920 @ YUYV 7 fps @ 2560 x 1920 @ CSI BAYER12GBRG 9 fps @ 1920 x 1440 @ YUYV 15 fps @ 1280 x 960 @ YUYV 15 fps @ 640 x 480 @ YUYV		
Power Supply	External DC Power Supply：DC 24V (±10%), ≥ 30W		
Dimensions (Incl. Connectors)	449 mm x 104 mm x 64 mm		
Weight	2307 g		
Power Consumption	≤ 24 W		
Ingress Protection	IP65		
Temperature	Recommended Operating Temperature: 22 °C ~ 25 °C; Operating Temperature: 0 °C ~ 45 °C; Storage Temperature: -10 °C ~ 55 °C		
Laser safety	CLASS 2 (IEC 60825-1：2014)		

Screws List		
Specification	Qty	Remarks
∅6*8 (M5*6) Ext. Threaded Step Pin	2	For adapter plate alignment. Secure using a 0.8mm flathead screwdriver.
M4*14 Phillips Countersunk Bolt	5	For securing the adapter plate to the camera.
M5*14 Phillips Hex Flange Bolt with Serrations	4	For securing adapter plates to profiles with T–nuts using a cross screwdriver or 8mm hex wrench.
20–Series T–nut (M5)	4	Fits 20 single–slot / 40 double–slot aluminum profiles.
30–Series T–nut (M5)	4	Fits 30 single–slot / 60 double–slot aluminum profiles.
40–Series T–nut (M5)	4	Fits 40 single–slot / 80 double–slot aluminum profiles.









Adapter Plate and Profile Assembly Instructions

1. Place the corresponding T–nuts into the slots of the profile. Insert 2 nuts into each slot.
2.Select adapter plate mounting holes based on the profile slot spacing. Position the adapter plate and adjust T–nuts for precise alignment.
3. Secure the adapter plate to the profile by tightening the M5 × 14 Phillips hex flange bolts from the reverse side.

Notes:

Wiring Clearance Requirements:

– ⩾40mm when using angled cables.
– ⩾200mm when using straight cables.

Unit: mm

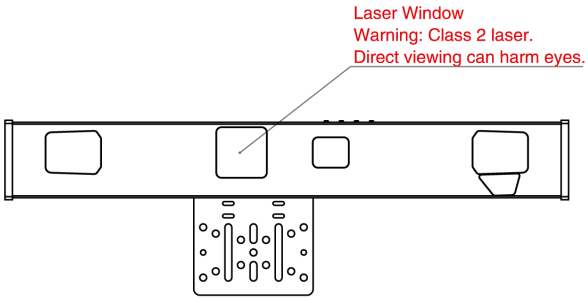
Figure 23: VMD03-8521C Mechanical Dimensions with the Adapter Plate

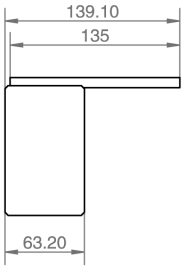
VMD03-1230C

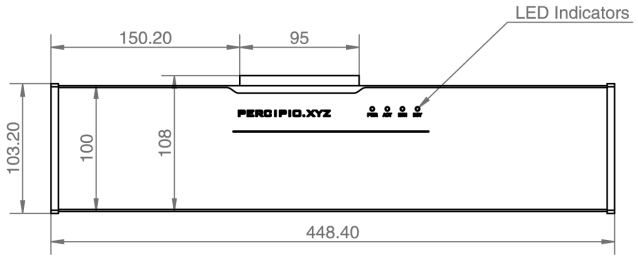
Table 24: VMD03-1230C Specifications

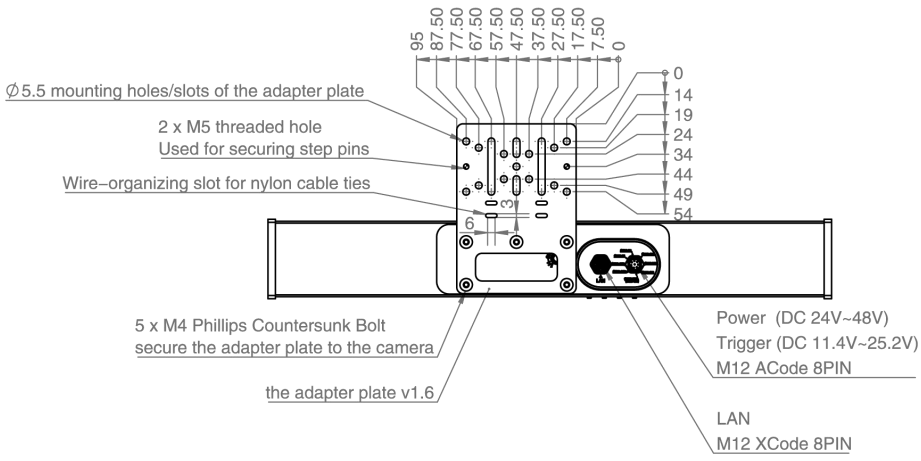
Index	Specifications		
Technology Principle	Active Stereo+structured light with fringe patterns		
Working Distance	1200 mm ~ 3000 mm		
Field of View	Near Field of View @ Optimal Working Distance: 1146 mm x 906 mm @ 1200 mm (H/V: Approx. 51°/41°) Far Field of View: 2463 mm x 2243 mm @ 3000 mm (H/V: Approx.45°/41°)		
Z Accuracy	0.074 mm @ 1200 mm (Optimal Working Distance)		
XY Point-to-Point Distance	0.6 mm @ 1200 mm (Optimal Working Distance)		
Latency of image acquisition	1860 ms ~ 2590ms		
Frame Rate @ Resolution (Depth)	Quality Mode: 0.63 fps @ 2048 x 1536 0.63 fps @ 1024 x 768 0.63 fps @ 512 x 384	Standard Mode: 0.76 fps @ 2048 x 1536 0.76 fps @ 1024 x 768 0.76 fps @ 512 x 384	Fast Mode: 0.99 fps @ 2048 x 1536 0.99 fps @ 1024 x 768 0.99 fps @ 512 x 384
Frame Rate @ Resolution @ Image Format (Color)	5 fps @ 2560 x 1920 @ YUYV 7 fps @ 2560 x 1920 @ CSI BAYER12GBRG 9 fps @ 1920 x 1440 @ YUYV 15 fps @ 1280 x 960 @ YUYV 15 fps @ 640 x 480 @ YUYV		
Power Supply	External DC Power Supply：DC 24V (±10%), ≥ 30W		
Dimensions (Incl. Connectors)	449 mm x 104 mm x 64 mm		
Weight	2307 g		
Power Consumption	≤ 24 W		
Ingress Protection	IP65		
Temperature	Recommended Operating Temperature: 22 °C ~ 25 °C; Operating Temperature: 0 °C ~ 45 °C Storage Temperature: -10 °C ~ 55 °C		
Laser safety	CLASS 2 (IEC 60825-1：2014)		

Screws List		
Specification	Qty	Remarks
∅6*8 (M5*6) Ext. Threaded Step Pin	2	For adapter plate alignment. Secure using a 0.8mm flathead screwdriver.
M4*14 Phillips Countersunk Bolt	5	For securing the adapter plate to the camera.
M5*14 Phillips Hex Flange Bolt with Serrations	4	For securing adapter plates to profiles with T–nuts using a cross screwdriver or 8mm hex wrench.
20–Series T–nut (M5)	4	Fits 20 single–slot / 40 double–slot aluminum profiles.
30–Series T–nut (M5)	4	Fits 30 single–slot / 60 double–slot aluminum profiles.
40–Series T–nut (M5)	4	Fits 40 single–slot / 80 double–slot aluminum profiles.









Adapter Plate and Profile Assembly Instructions

1. Place the corresponding T–nuts into the slots of the profile. Insert 2 nuts into each slot.
2.Select adapter plate mounting holes based on the profile slot spacing. Position the adapter plate and adjust T–nuts for precise alignment.
3. Secure the adapter plate to the profile by tightening the M5 × 14 Phillips hex flange bolts from the reverse side.

Notes:

Wiring Clearance Requirements:

– ⩾40mm when using angled cables.
– ⩾200mm when using straight cables.

Unit: mm

Figure 25: VMD03-1230C Mechanical Dimensions with the Adapter Plate