

Epic Eye User Manual

Beijing Transfer Technology

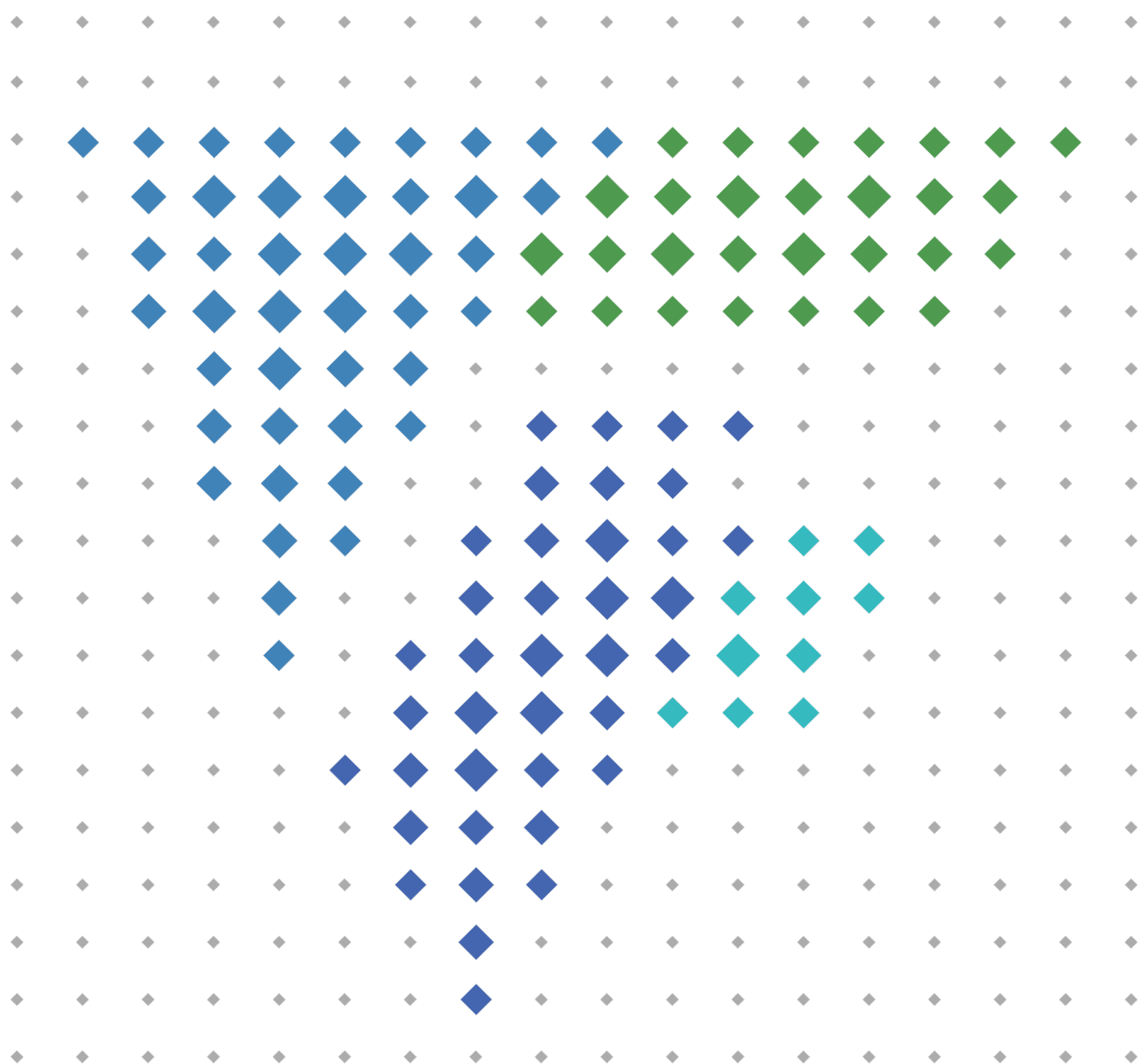


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1. Epic Eye

Epic Eye is a graphical interface software developed based on the Epic Eye API. It is used to control the Epic Eye industrial 3D camera to capture point clouds and 2D images, and to adjust the camera's 2D exposure, 3D exposure parameters, as well as encoding modes, point cloud smoothing, and other parameters. Starting the software just needs to connect the camera and enter the IP address of the camera in a browser.

[Release Notes](#)

View Epic Eye release notes.

[User Interface](#)

View the composition and layout of the Epic Eye interface.

[Getting Started](#)

Learn about how to use Epic Eye to acquire data.

[User Guide](#)

Browse the various operation guides for the Epic Eye software.

[Parameter Details](#)

Refer to the detailed descriptions of each parameter.

[Extension and Support](#)

Terms and concepts, the principles of 3D structured photorealistic camera image creation, and information on the camera IP management tool.

2. Camera Hardware Manual

Features and Applicable Scenarios

Series	Features	Applicable Scenarios
Pixel Pro	Lightweight, high precision, fast imaging, accurately captures transparent and reflective objects	Suitable for metal part loading, assembly, reflective scenes, and imaging of transparent objects
Pixel Mini	Compact, lightweight, high precision, fast imaging	Installed at the end of robotic arms
S-S	Extremely high precision, low noise	Suitable for imaging complex structures and small parts
X	Strong resistance to ambient light interference	Suitable for general objects
S-M	High precision	Suitable for imaging reflective metal objects
S-M Air	High precision	Suitable for recognition, positioning, and 3D modeling of medium and small objects
D-L	Wide field of view, high precision	Suitable for imaging boxes and bags
Laser L	Extremely strong resistance to ambient light interference, good imaging effect for black reflective objects	Suitable for imaging black and reflective objects

Camera Field of View Comparison

Series	Working Distance (mm)	Near Field of View (mm)	Far Field of View (mm)
Pixel Pro	600~1500	575×350@0.6m	1410×860@1.5m
Pixel Mini	300~700	575×350@0.6m	670×390@0.7m
S-S	300~500	140×130@0.3m	360×220@0.5m
X	600~1350	386×290@0.6m	1000×647@1.35m
S-M	600~1600	364×267@0.6m	1000×707@1.6m
S-M Air	600~1600	445×289@0.6m	1174×753@1.6m
D-L	1500~3500	1310×1200@1.5m	3190×2890@3.5m
Laser L	1200~3000	1260×1240@1.2m	3220×2950@3.0m

相机硬件手册

- [Epic Eye Pixel Pro](#)
- [Epic Eye Pixel Mini](#)
- [Epic Eye X](#)
- [Epic Eye S-S](#)
- [Epic Eye S-M](#)
- [Epic Eye S-M Air](#)
- [Epic Eye D-L](#)

2.1. Epic Eye Pixel Pro

Safety Instructions

Safety Declaration

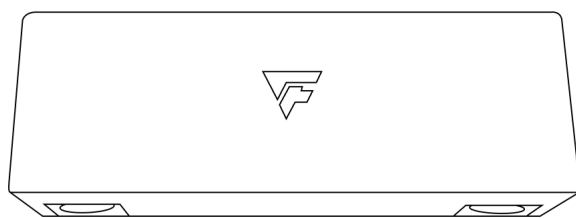
- Before using this product, please read the product manual and thoroughly understand the relevant safety instructions. Failure to follow the precautions may result in device damage or serious injury or death.
- Transfer will not be liable for any personal safety accidents, property losses, etc., caused by failure to comply with the content of this manual or improper use of the product.

Precautions

- Avoid using the camera in environments with excessive dust, strong electromagnetic interference, direct strong light, or outside the applicable temperature and humidity range.
- Do not directly look at the projection beam during camera operation, as it may cause eye damage.
- Keep the camera window clean. Use a lint-free cloth to clean the window if necessary.
- Never install, disassemble, or clean the camera while it is powered on.
- Avoid severe impacts or drops during transportation and installation.
- If any abnormal conditions (such as strange noises, smells, or smoke) are detected, immediately disconnect the power and inspect the device.
- Do not modify the camera or its power cables.

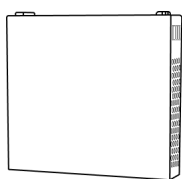
Packaging List

01



Epic Eye Pixel Pro

02



Guide power supply

03

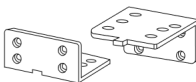
M8-4Pin-10m
power cableGuide power AC
power cable

04



Net cable

05

L-shaped
mounting kit

6 M6x16 hexagon
socket head screws
6 M6 hexagon nut
screws
6 M5x8 hexagon
socket head screws

Other

When unpacking, please check if the camera and its accessories are damaged, rusted, scratched, or show other defects. Verify that the materials match the packing list and that the tamper-evident label on the camera is intact. If any issues are found with the camera or its accessories, or if the actual materials do not match the packing list, please contact Transfer.

Technical Specifications

Technical Parameters

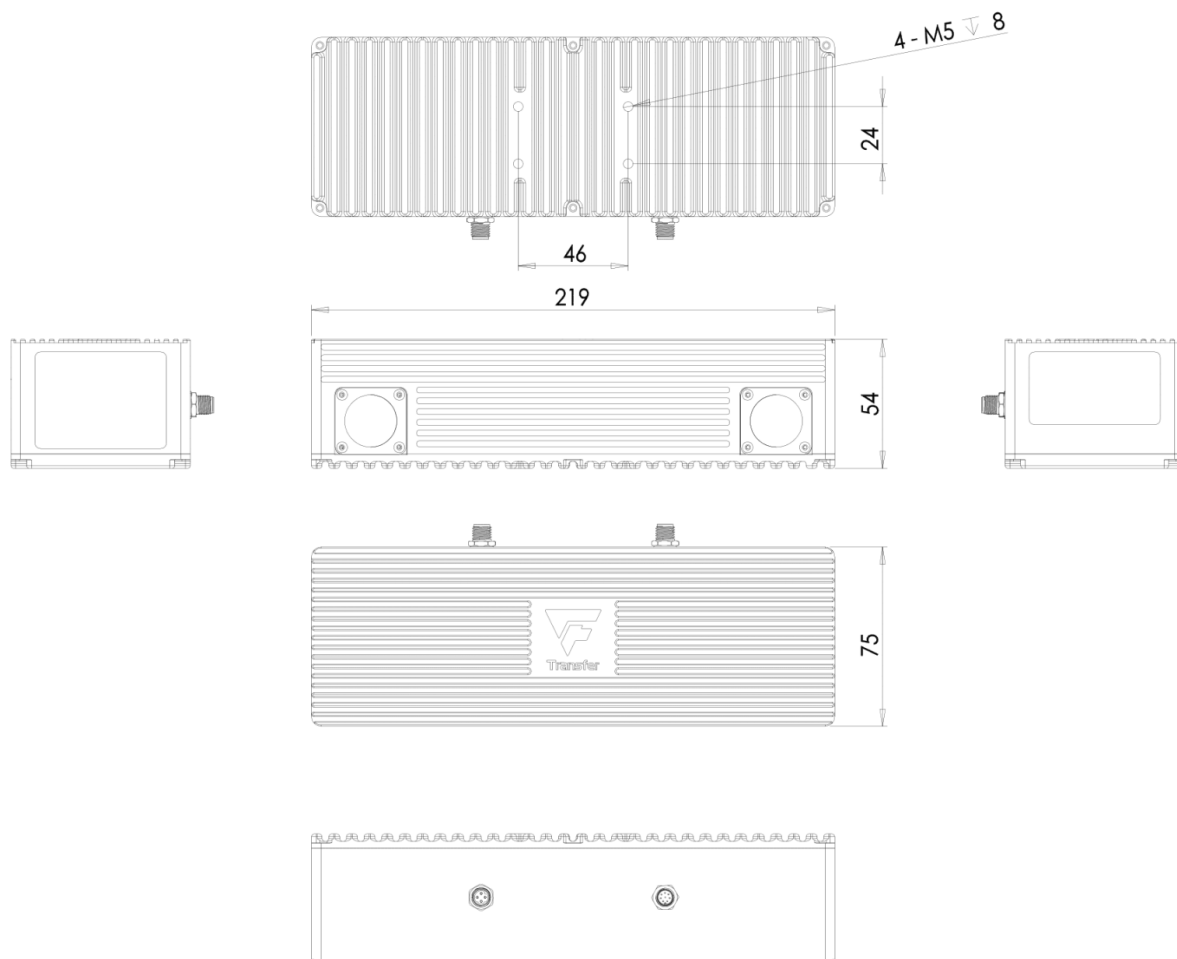
System Parameters	Baseline Length	170mm
	Recommended Working Distance	600mm~1500mm
	Optimal Working Distance	1100mm
	Near Field View	575mm×350mm@0.6m
	Far Field View	1410mm×860mm@1.5m
	VDI/VDE Measurement Accuracy ⁽¹⁾	0.1mm@1.1m
	Z-Axis Single-Point Repetition Accuracy	0.06mm@1.1m
	Pixel Count	2.3 million
	Resolution	1920×1200
	Typical Capture Time	0.3s~0.7s
	Power Supply	24V → 3.75A
	Peak Power	32W
	Average Power Consumption	4.5W
	Standby Power Consumption	2.4W
Hardware Parameters	Dimensions (L*W*H)	219mm×75mm×54mm
	Installation Method	Fixed Installation / End-Effector Installation
	Communication Interface	Gigabit Ethernet
	Light Source	LED
	2D Camera	Black & White
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90% RH, Non-condensing
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	0.86kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90% RH, Non-condensing

(1): Based on VDI/VDE 2634 Part II Standard

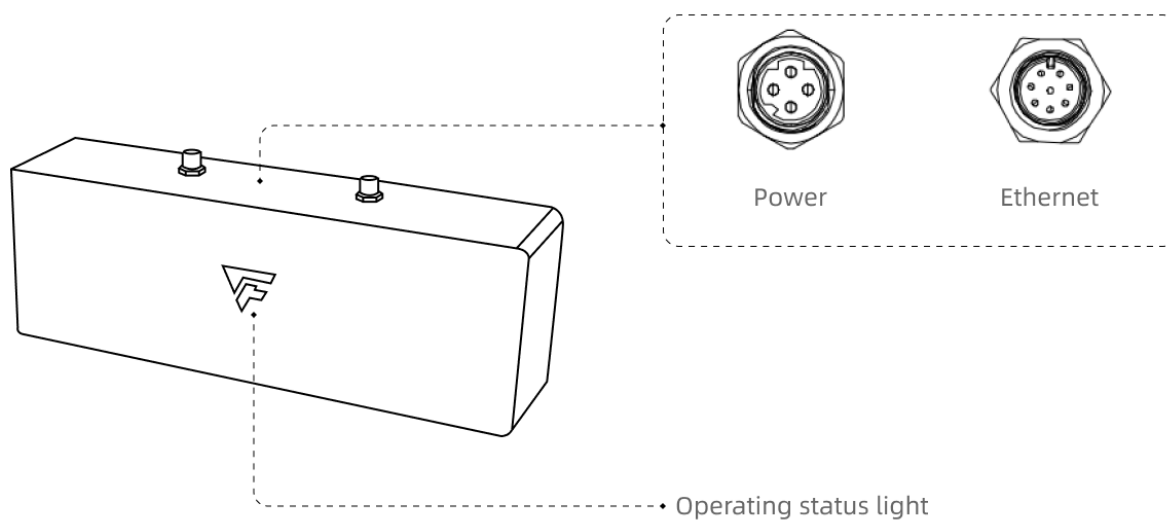
Subject to change without prior notice!

Dimensions

Unit: mm



Ports and Indicators



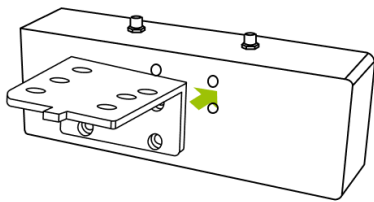
The status corresponding to the indicator light color is as follows:

Color	Status
Blinking Blue	Camera Initialization
Solid Blue	Normal Operation
Solid Red	Hardware Fault
Solid Yellow	Network Fault

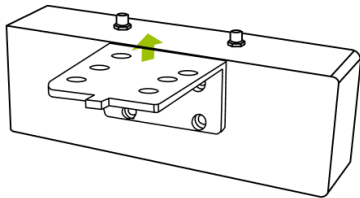
Installation and Connection

Installing the Camera

Installation Method 1:

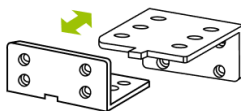


① Install the L-shaped mounting kit on the camera using M5 hex bolts.

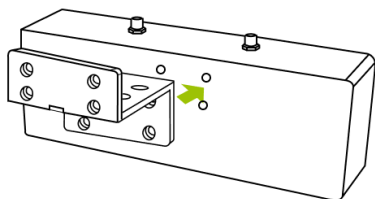


② Use M6 hexagon bolts of appropriate length to install the camera on the camera bracket or the end of the robot arm.

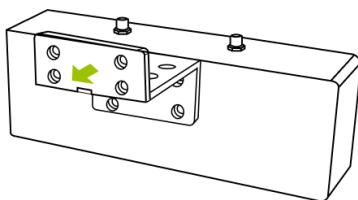
Installation Method 2:



① The combined L-shaped mounting kit is a Z-shaped mounting kit.



② Install the Z-mount on the camera using the M5 hex bolt.



③ Install the camera on the end of the camera bracket or arm using the appropriate length M5 hex bolt.

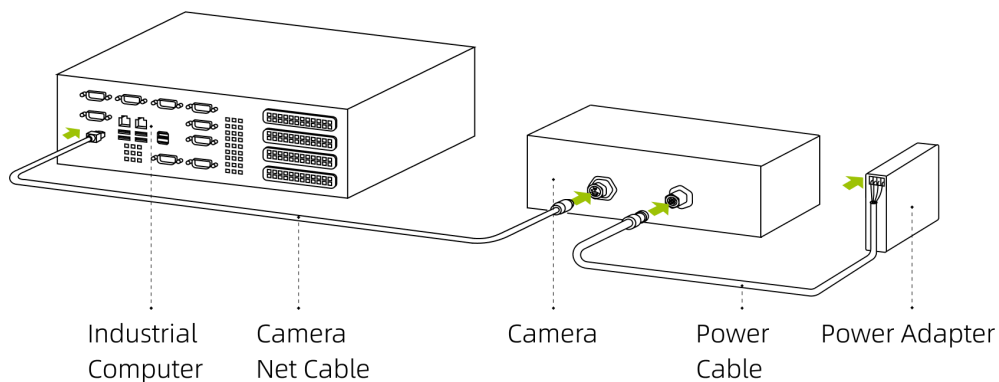
Connecting the Cables

Connection Notes

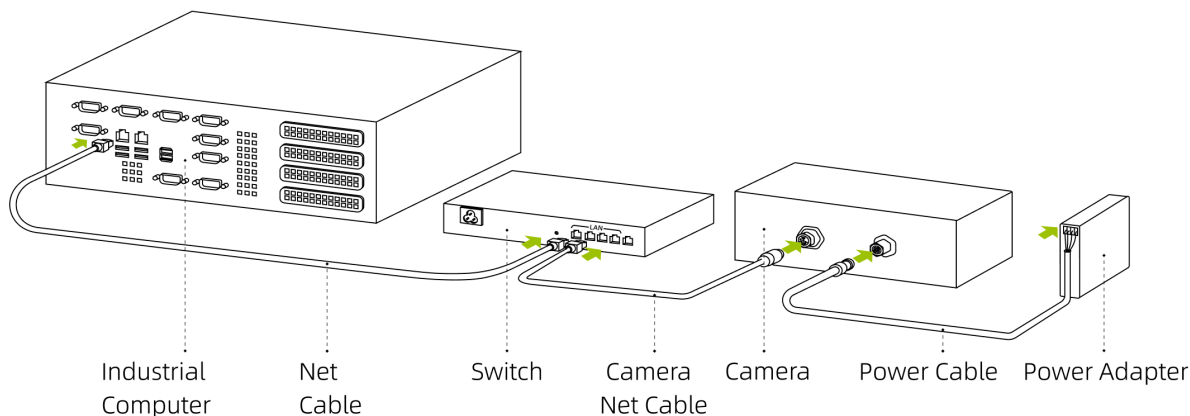
- Do not connect or disconnect cables when the device is powered on. Ensure all cables are connected before powering on.
- Align the connectors and slowly tighten, avoiding forceful twisting or pulling.
- It is recommended to use cable ties to secure the camera network cable, power adapter, and power cable.
- When using a router, ensure all network cables are plugged into the router's LAN port.

Connection Methods

- Direct Connection between Camera and Industrial PC



- Camera connected to Industrial PC through a Switch

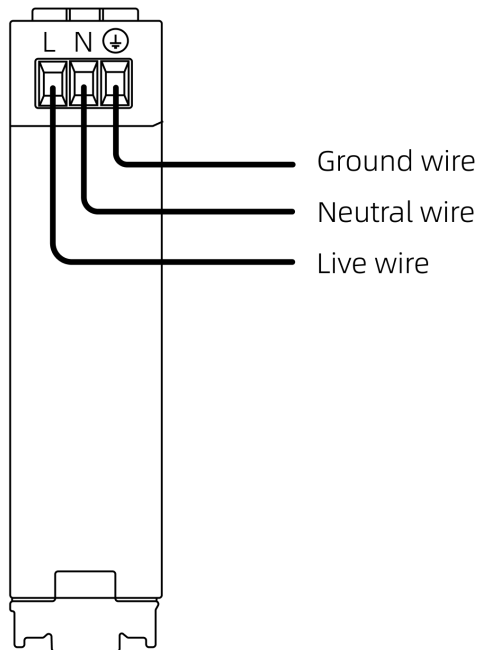


Power Adapter

Connection Guidelines

- Before connecting the cables, use a Phillips screwdriver to loosen the terminal ports. After connecting the cables, tighten the ports.
- After all ports are connected and secured, turn on the power. Please do not plug or unplug while powered on.

Input Connection

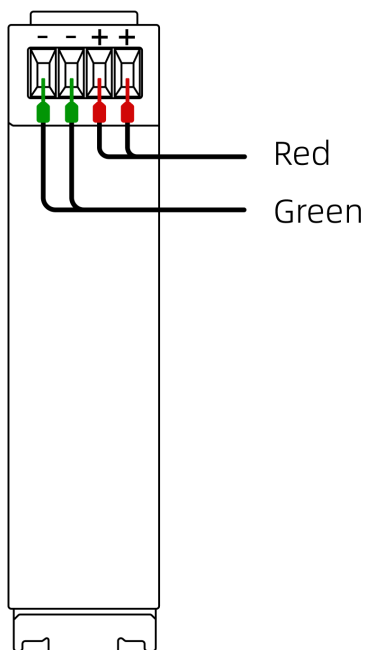


The live wire is connected to the L input terminal on the rail power supply.

The neutral wire is connected to the N input terminal on the rail power supply.

The ground wire is connected to the grounding terminal on the rail power supply (⊕) .

Output Connection



The red wire is connected to the positive output terminal of the rail power supply.

The green wire is connected to the negative output terminal of the rail power supply.

The yellow shielding wire is connected to the ground; this wire must not be connected to the negative terminal.

Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible

Power Supply) to prevent unexpected power outages.

- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of scratching or collision with surrounding objects.
- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.
- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



Disclaimer

Transfer is not responsible for any personal safety accidents, property losses, or other consequences resulting from the user's failure to follow safety regulations, improper operation, or unauthorized modification of the camera or power cables.

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2.2. Epic Eye Pixel Mini

Safety Instructions

Safety Declaration

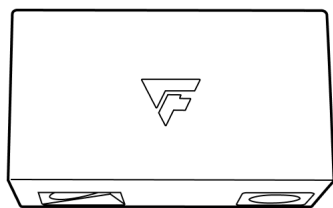
- Before using this product, please read the product manual and thoroughly understand the relevant safety instructions. Failure to follow the precautions may result in device damage or serious injury or death.
- Transfer will not be liable for any personal safety accidents, property losses, etc., caused by failure to comply with the content of this manual or improper use of the product.

Precautions

- Avoid using the camera in environments with excessive dust, strong electromagnetic interference, direct strong light, or outside the applicable temperature and humidity range.
- Do not directly look at the projection beam during camera operation, as it may cause eye damage.
- Keep the camera window clean. Use a lint-free cloth to clean the window if necessary.
- Never install, disassemble, or clean the camera while it is powered on.
- Avoid severe impacts or drops during transportation and installation.
- If any abnormal conditions (such as strange noises, smells, or smoke) are detected, immediately disconnect the power and inspect the device.
- Do not modify the camera or its power cables.

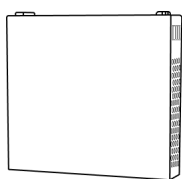
Packing List

01



Epic Eye Pixel Mini

02



Power Adapter

03



M8 4-Pin Power Cable, 10m



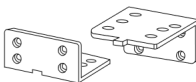
Power Cable for Rail Power AC Segment

04



Ethernet Cable

05



L-Shaped Mounting Bracket

6 M6×16 Hex Socket Screws
6 M6 Hex Nuts
6 M5×8 Hex Socket Screws

Others

Upon unboxing, please inspect the camera and its accessories for any damage, rust, or dents, and verify that all items are complete according to the packing list. If you find any damage, rust, or dents on the camera or its accessories, or if the actual items do not match the packing list, please contact Transfer.

Technical Specifications

Technical Parameters

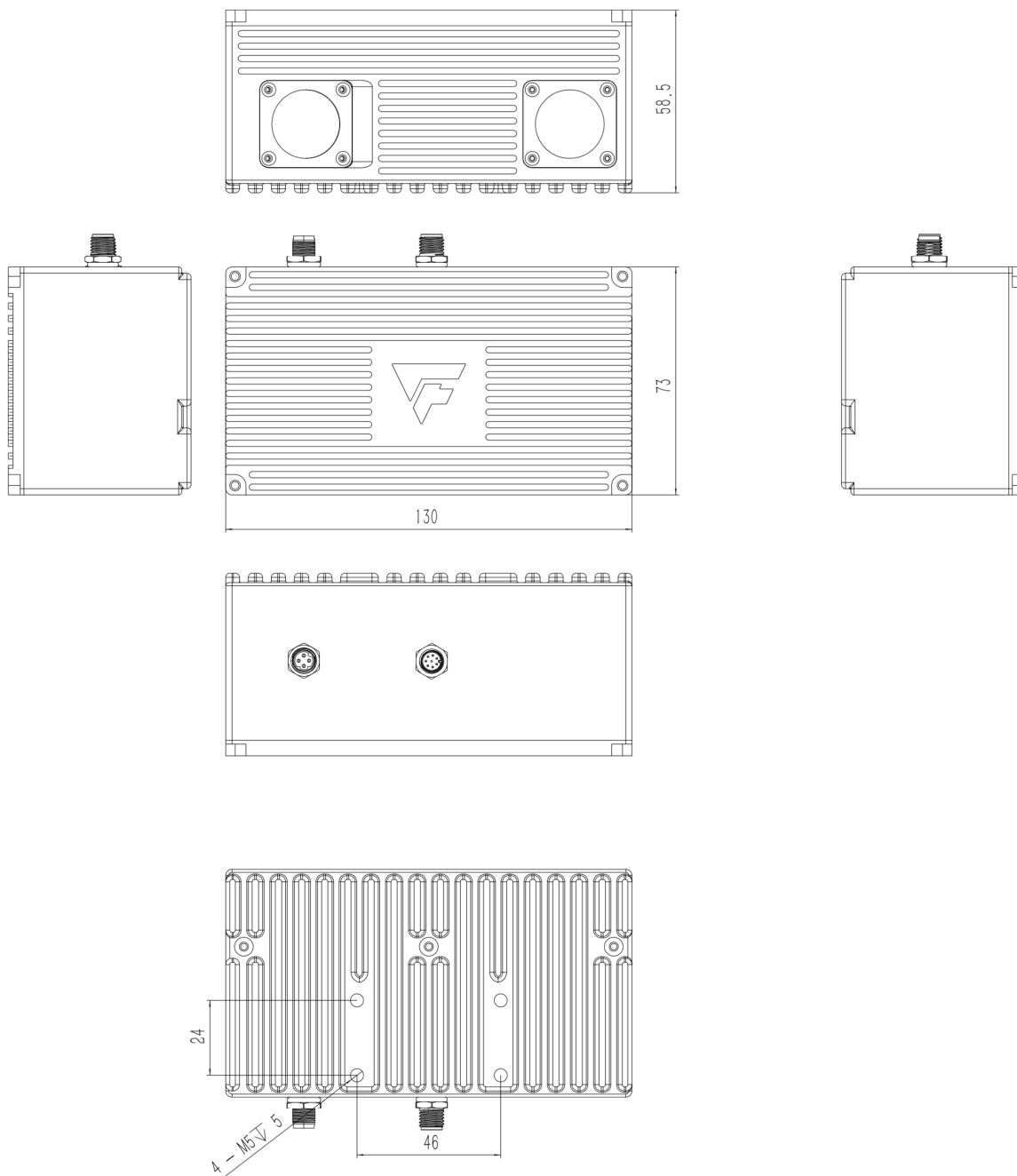
System Specifications	Baseline Length	85mm
	Recommended Working Distance	300mm~700mm
	Optimal Working Distance	500mm
	Near Field of View	295mm×175mm@0.3m
	Far Field of View	670mm×390mm@0.7m
	VDI/VDE measurement accuracy ⁽¹⁾	0.1mm@0.5m
	Z-axis Accuracy	0.03mm@0.5m
	Number of Pixels	160万
	Resolution	1600×1000
	Typical Acquisition Time	0.2s~0.7s
	Power supply	24V → 3.75A
	Peak power	32W
	Average power consumption	4.5W
	Standby power consumption	2.4W
Hardware Parameters	Dimensions(L*W*H)	130mm×59mm×73mm
	Installation Method	Fixed installation/End of robotic arm installation.
	Processing Unit	RK3588
	Communication Interface	Gigabit Ethernet
	Light Source	Blue Light DLP(440nm)
	2D Camera	Black and White
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90%RH No Condensation
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	0.8kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90%RH No Condensation

(1): Based on the VDI/VDE 2634 Part II standard.

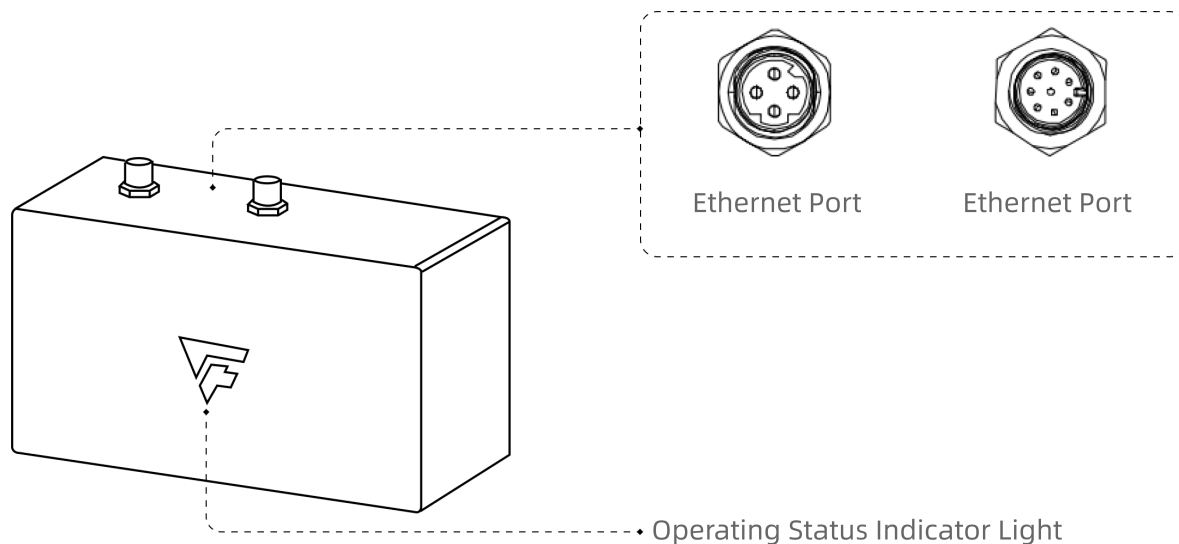
Subject to change without prior notice!

Dimensions

Unit: mm



Ports and Indicator Lights



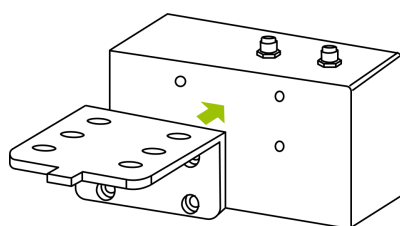
The status corresponding to the indicator light colors is shown in the table below:

Color	Status
Blue light flashing	Camera initializing
Blue light steady	Operating normally
Red light steady	Hardware fault
Yellow light steady	Network fault

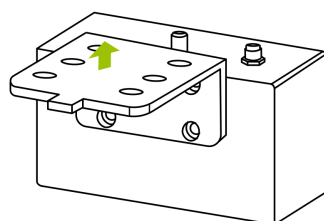
Installation and Connection

Install the Camera

Installation Method 1:

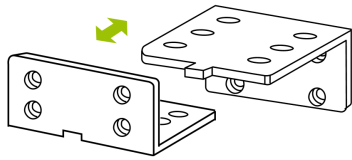


- ① Use M5 hex socket bolts to install the L-shaped mounting bracket onto the camera.

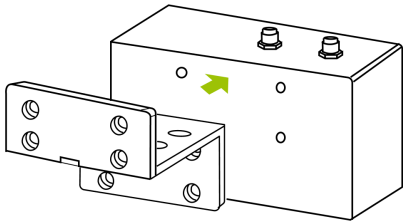


- ② Use appropriately sized M6 hex socket bolts to mount the camera onto the camera bracket or the end of a robotic arm.

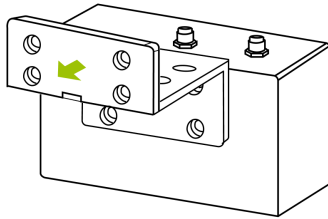
Installation Method 2:



- ① Combine the L-shaped mounting brackets to form a Z-shaped mounting bracket.



- ② Use M5 hex socket bolts to install the Z-shaped mounting bracket onto the camera.



- ③ Use appropriately sized M5 hex socket bolts to mount the camera onto the camera bracket or the end of a robotic arm.

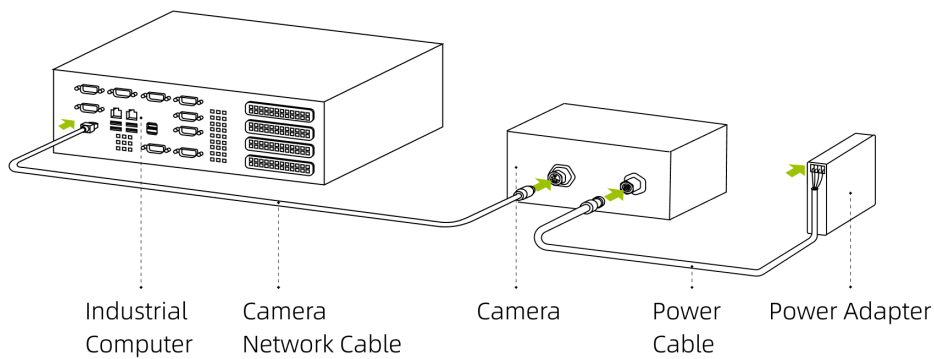
Connecting Cables

Connection Notes

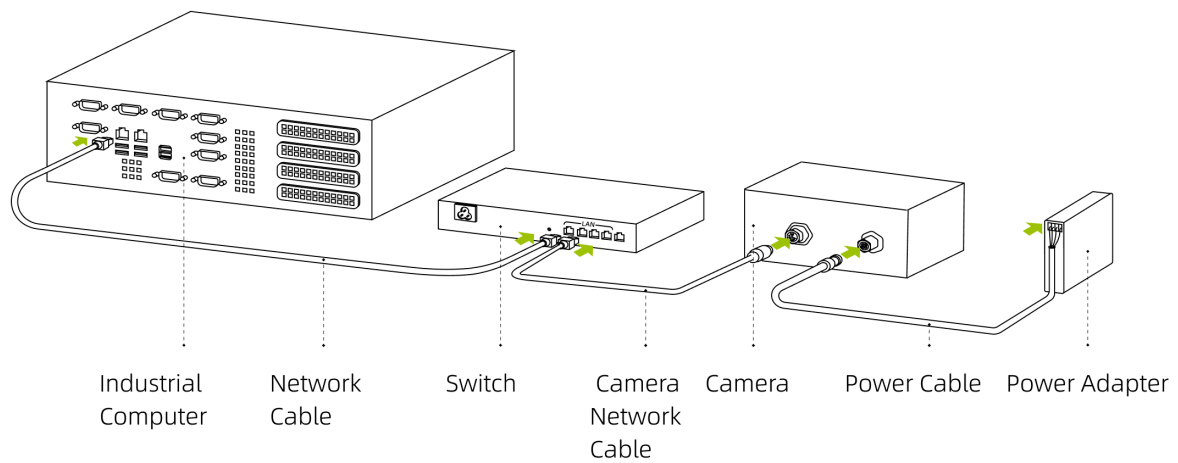
- Do not connect or disconnect cables when the device is powered on. Ensure all cables are connected before powering on.
- Align the connectors and slowly tighten, avoiding forceful twisting or pulling.
- It is recommended to use cable ties to secure the camera network cable, power adapter, and power cable.
- When using a router, ensure all network cables are plugged into the router's LAN port.

Connection Method

- Direct Connection between the Camera and the Industrial Computer



- Connection between the Camera and the Industrial Computer via a Switch

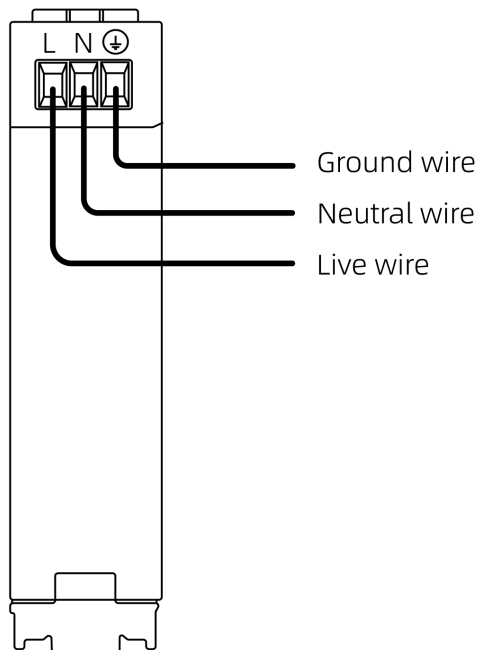


Power Adapter

Connection Guidelines

- Before connecting the cables, use a Phillips screwdriver to loosen the terminal ports. After connecting the cables, tighten the ports.
- After all ports are connected and secured, turn on the power. Please do not plug or unplug while powered on.

Input Connection

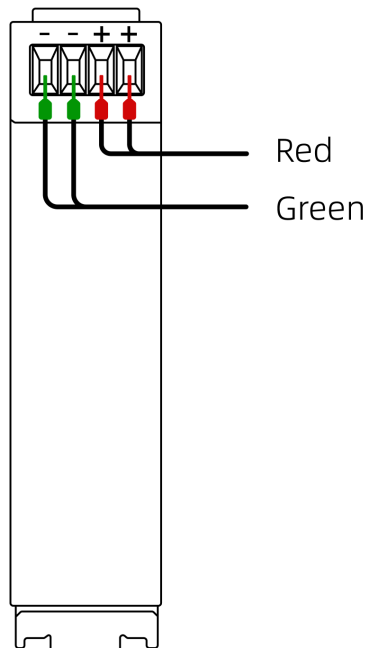


The live wire is connected to the L input terminal on the rail power supply.

The neutral wire is connected to the N input terminal on the rail power supply.

The ground wire is connected to the grounding terminal on the rail power supply (⊥) .

Output Connection



The red wire is connected to the positive output terminal of the rail power supply.

The green wire is connected to the negative output terminal of the rail power supply.

The yellow shielding wire is connected to the ground; this wire must not be connected to the negative terminal.

Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of scratching or collision with surrounding objects.
- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.
- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



Disclaimer

Transfer is not responsible for any personal safety accidents, property losses, or other consequences resulting from the user's failure to follow safety regulations, improper operation, or unauthorized modification of the camera or power cables.

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2.3. Epic Eye X

Safety Instructions

Safety Statement

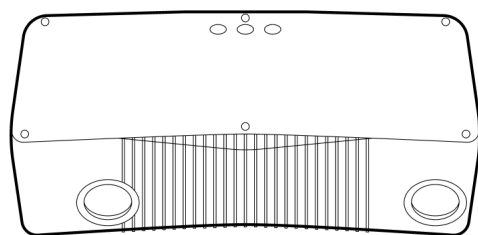
- Before using this product, please read the product manual and correctly understand the related information in the precautions. Failure to comply with the stipulated precautions may result in equipment damage or serious injury or death.
- Transfer will not assume any legal responsibility for personal safety accidents or property losses caused by non-compliance with the contents of this manual or improper operation of the product.

Precautions

- Avoid using this camera in environments with excessive dust, strong electromagnetic interference, direct sunlight, or outside the specified temperature and humidity range.
- Do not directly look at the projection beam during camera operation to avoid eye injury.
- Ensure the camera window is clean. If cleaning is necessary, use a lint-free cloth.
- Do not install, disassemble, or clean the camera while it is powered on.
- Avoid subjecting the camera to severe impacts or drops during transportation and installation.
- If any abnormal conditions are detected (such as unusual noises, smells, or smoke), immediately disconnect the power and perform an inspection.
- Do not modify the camera or its accompanying power cable.

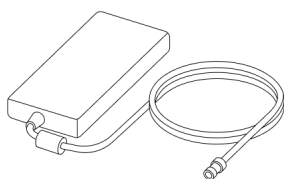
Packaging List

01



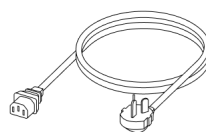
Epic Eye X

02



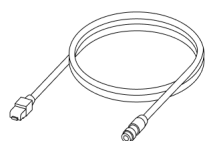
Power adapter

03



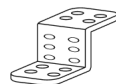
Power cord

04



Net cable

05

Z-type
mounting kitHexagon
socket bolt

Upon unboxing, please check the camera and its accessories for any damage, rust, or dents, and verify against the packing list to ensure all materials are complete. If you find any damage, rust, or dents on the camera or its accessories, or if the actual items do not match the packing list, please contact Transfer.

Technical Specifications

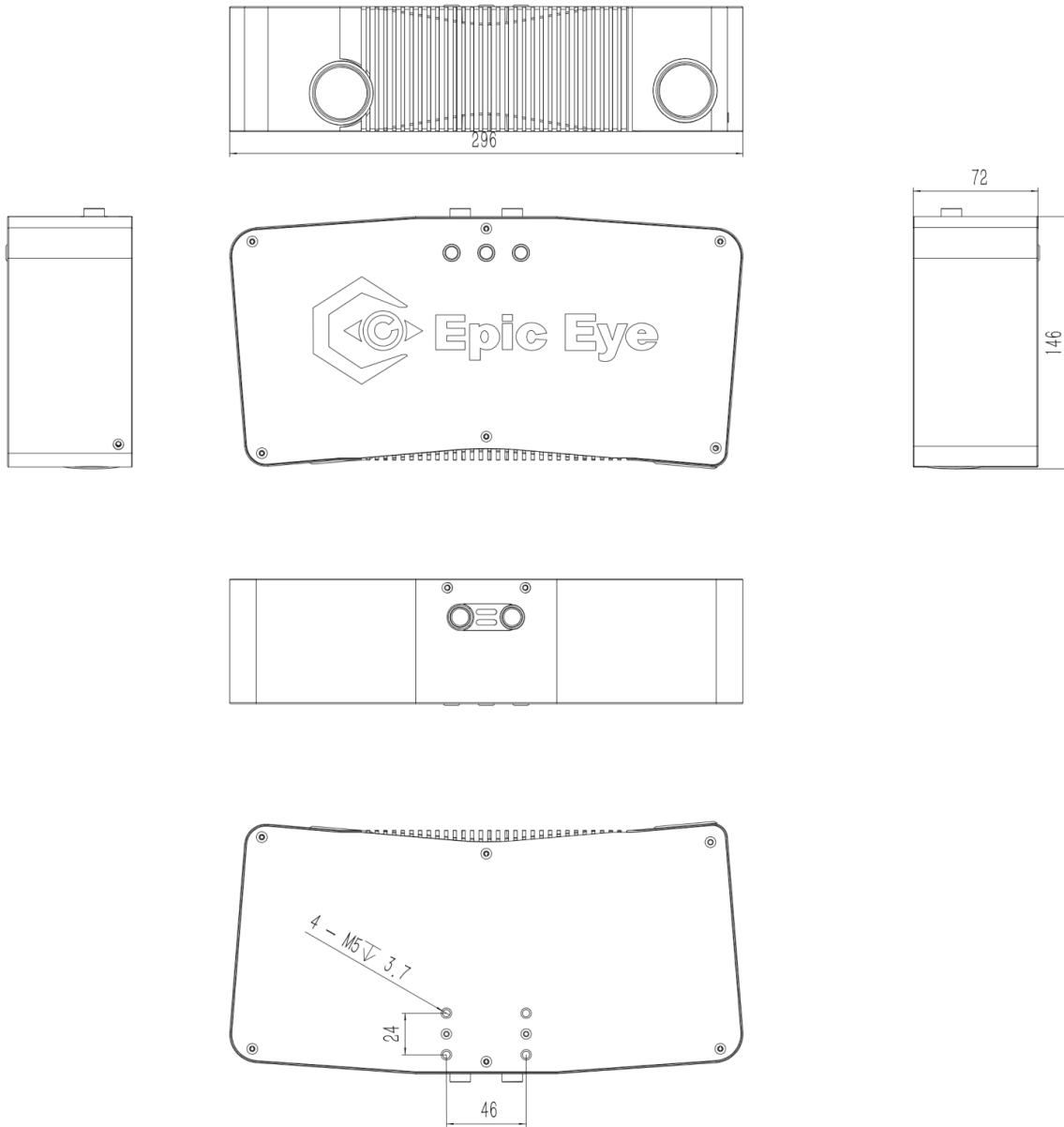
Product Parameters

System Parameters	Baseline Length	200mm
	Recommended Working Distance	600mm~1350mm
	Optimal Working Distance	1050mm
	Near Field View	386mm×290mm@0.6m
	Far Field View	1000mm×647mm@1.35m
	Z-Axis Accuracy	±0.33mm@1.05m
	Pixel Count	1.3 million
	Accuracy	
	Precision Error	<0.15%
	Typical Acquisition Time	1.6s~2.3s
	Power Supply	12V → 15A
Hardware Parameters	Dimensions (L*W*H)	297mm×146mm×72mm
	Installation Method	Fixed Installation
	Computing Unit	NVIDIA Jetson TX2
	Communication Interface	Gigabit Ethernet
	Light Source	White Light DLP
	2D Camera	Color
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90% RH, Non-condensing
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	2.0kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90% RH, Non-condensing

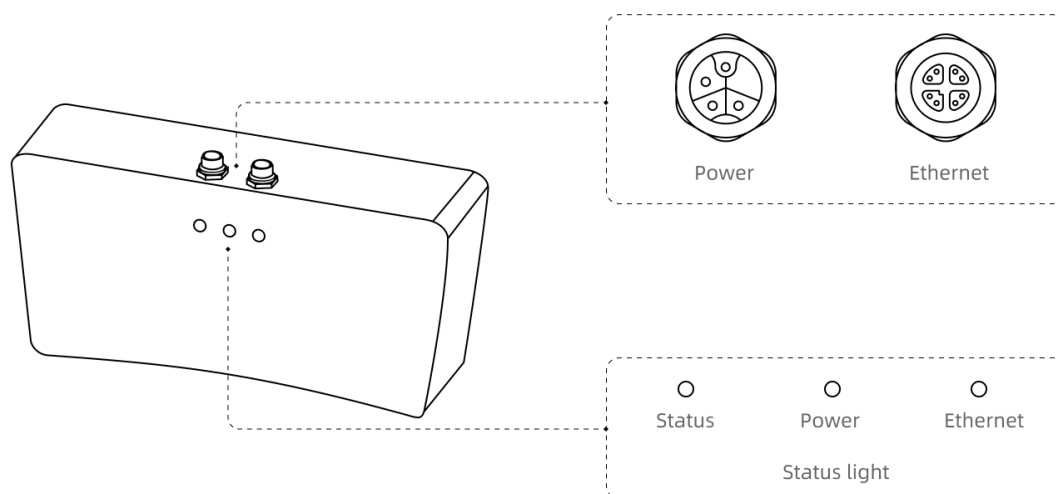
Subject to change without prior notice!

Dimensions

Unit: mm



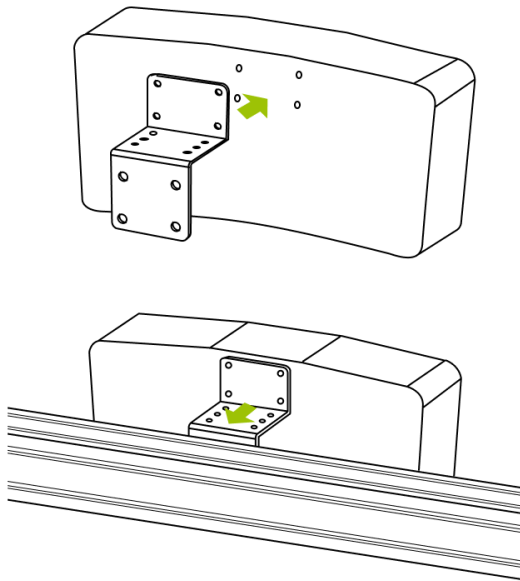
Ports and Indicators



Indicator Description: After correct wiring and power-up, a green indicator light indicates normal status. Any other color or no light indicates an abnormal status.

Installation and Connection

Installing the Camera



① Attach the Z-mount to the camera using the M5 hex bolt.

② Mount the camera to the camera holder using M6 hexagon bolts of appropriate length.



- It is recommended to install the camera directly above the center point of the stack (material basket), ensuring that there are no obstructions in the camera's field of view.
- It is advisable for the bottom surface of the camera to be parallel to the plane of the stack (material basket).

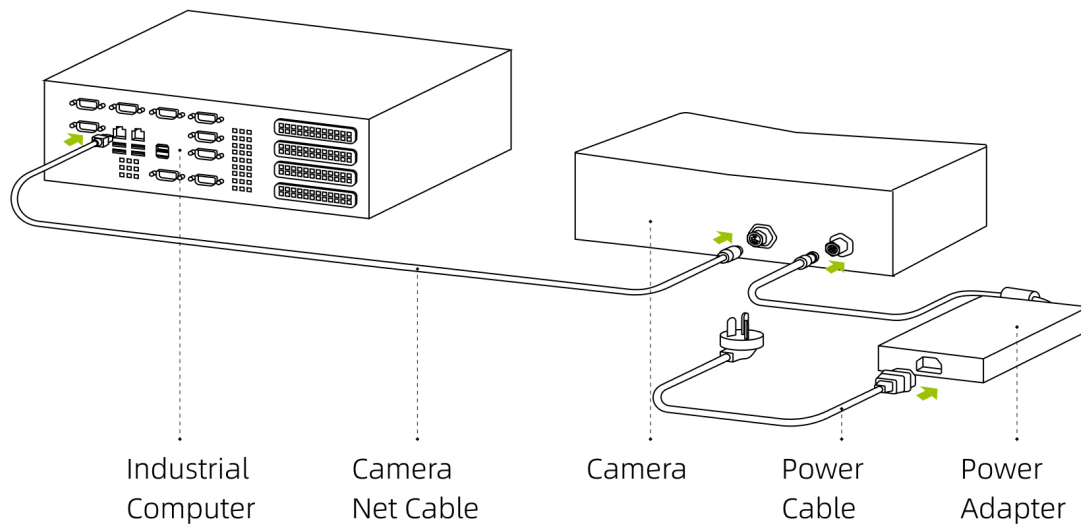
Connecting the Cables

Connection Instructions

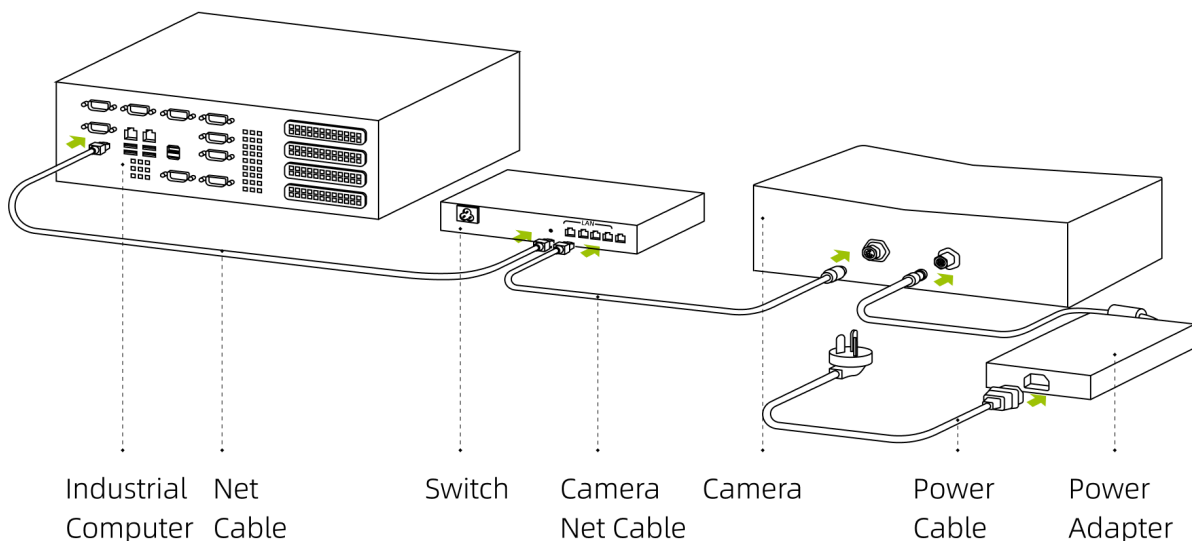
- Do not connect or disconnect cables while powered on. Ensure all cable connections are complete before turning on the power.
- Align the plug and socket, then slowly tighten; avoid using excessive force when connecting or disconnecting.
- It is recommended to use cable ties to secure the camera's network cable, power adapter, and power cable.
- When connecting via a router, ensure all network cables are plugged into the LAN ports of the router.

Connection Methods

- Direct Connection between Camera and Industrial PC



- Camera connected to Industrial PC through a Switch



Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of

scratching or collision with surrounding objects.

- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.
- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



Disclaimer

For any personal safety incidents or property losses caused by the user's failure to comply with safety regulations, improper operation of the camera, or unauthorized modifications to the camera, power cables, etc., Transfer will not bear any legal responsibility.

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2.4. Epic Eye S-S

Safety Instructions

Safety Statement

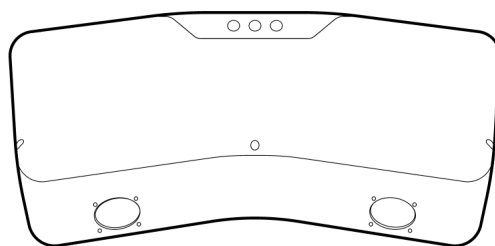
- Before using this product, please read the product manual and correctly understand the related information in the precautions. Failure to comply with the stipulated precautions may result in equipment damage or serious injury or death.
- Transfer will not assume any legal responsibility for personal safety accidents or property losses caused by non-compliance with the contents of this manual or improper operation of the product.

Precautions

- Avoid using this camera in environments with excessive dust, strong electromagnetic interference, direct sunlight, or outside the specified temperature and humidity range.
- Do not directly look at the projection beam during camera operation to avoid eye injury.
- Ensure the camera window is clean. If cleaning is necessary, use a lint-free cloth.
- Do not install, disassemble, or clean the camera while it is powered on.
- Avoid subjecting the camera to severe impacts or drops during transportation and installation.
- If any abnormal conditions are detected (such as unusual noises, smells, or smoke), immediately disconnect the power and perform an inspection.
- Do not modify the camera or its accompanying power cable.

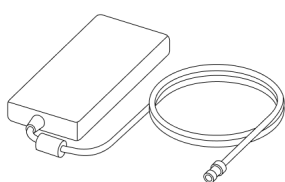
Packaging List

01



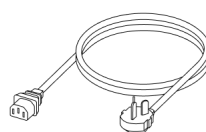
Epic Eye S-S

02



Power adapter

03



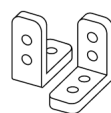
Power cord

04



Net cable

05

L-shaped
mounting kitHexagon
socket bolt

Upon unboxing, please check the camera and its accessories for any damage, rust, or dents, and verify against the packing list to ensure all materials are complete. If you find any damage, rust, or dents on the camera or its accessories, or if the actual items do not match the packing list, please contact Transfer.

Technical Specifications

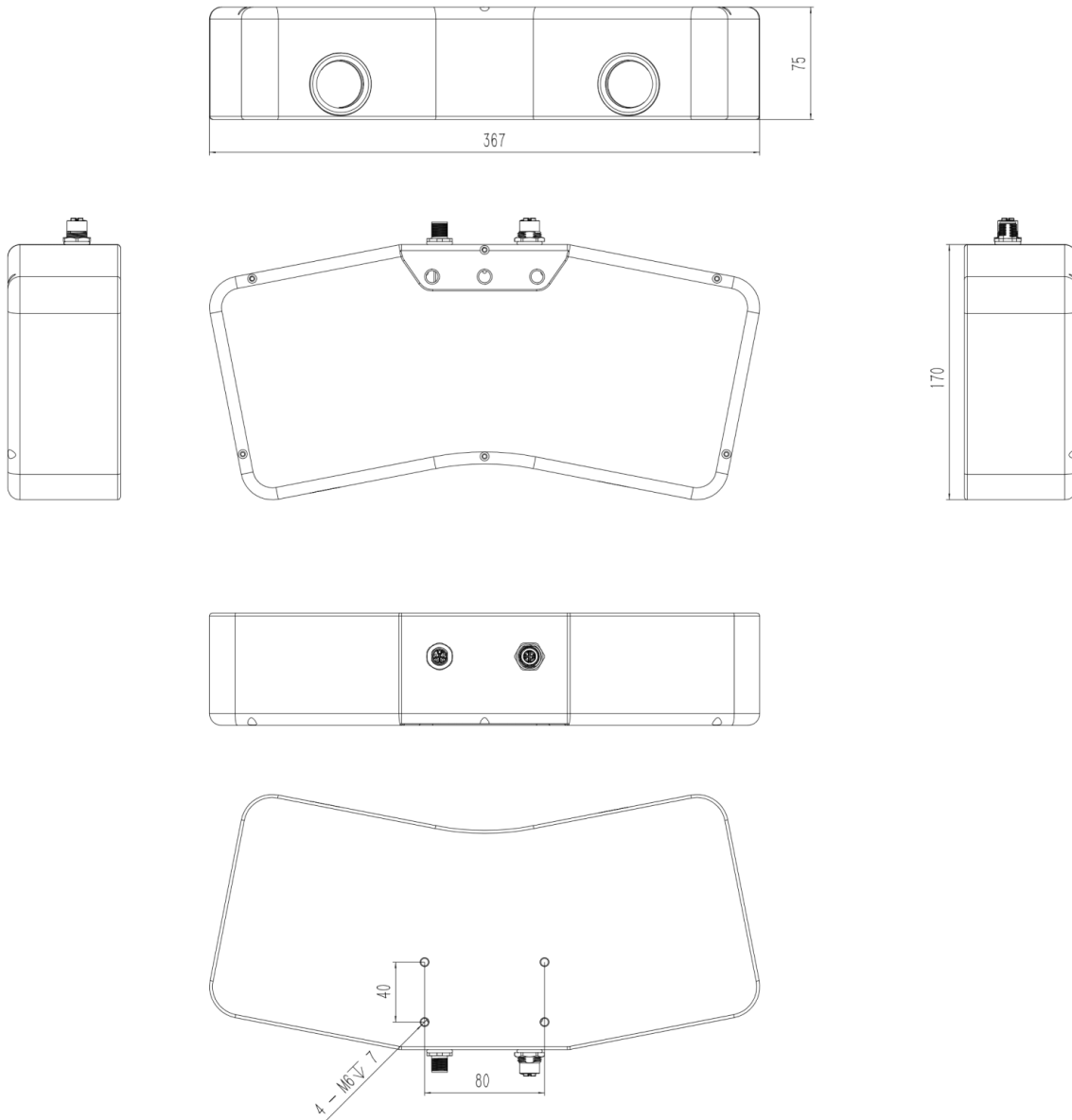
Product Parameters

System Parameters	Baseline Length	200mm
	Recommended Working Distance	300mm~500mm
	Optimal Working Distance	400mm
	Near Field View	140mm×130mm@0.3m
	Far Field View	360mm×220mm@0.5m
	Z-Axis Accuracy	±0.12mm@0.4m
	Pixel Count	3 million
	Accuracy	0.04mm@0.4m, 0.02mm@0.4m
	Precision Error	<0.15%
	Typical Acquisition Time	1.6s~2.3s
	Power Supply	12V → 15A
Hardware Parameters	Dimensions (L*W*H)	367mm×170mm×75mm
	Installation Method	Fixed Installation / Robotic Arm End-Effector Installation
	Computing Unit	NVIDIA Jetson TX2
	Communication Interface	Gigabit Ethernet
	Light Source	White Light DLP
	2D Camera	Color
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90% RH, Non-condensing
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	2.67kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90% RH, Non-condensing

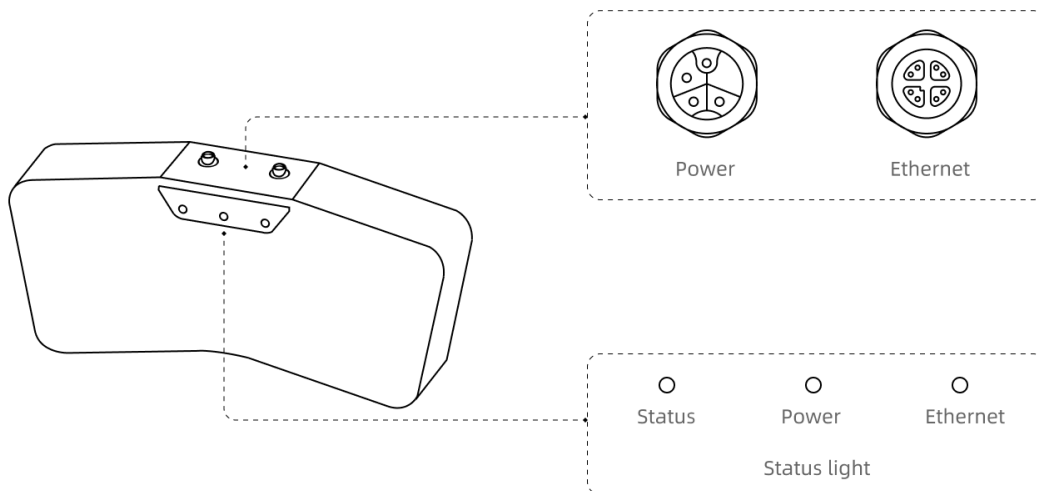
Subject to change without prior notice!

Dimensions

Unit: mm



Ports and Indicators

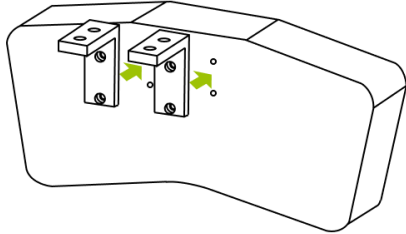


Indicator Description: After correct wiring and power-up, a green indicator light indicates normal status. Any

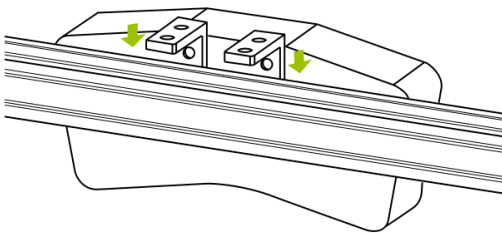
other color or no light indicates an abnormal status.

Installation and Connection

Installing the Camera



- ① Attach the L-shaped mounting kit to the camera using M6 hex bolts.



- ② Mount the camera to the camera holder using M6 hexagon bolts of appropriate length.



- It is recommended to install the camera directly above the center point of the stack (material basket), ensuring that there are no obstructions in the camera's field of view.
- It is advisable for the bottom surface of the camera to be parallel to the plane of the stack (material basket).

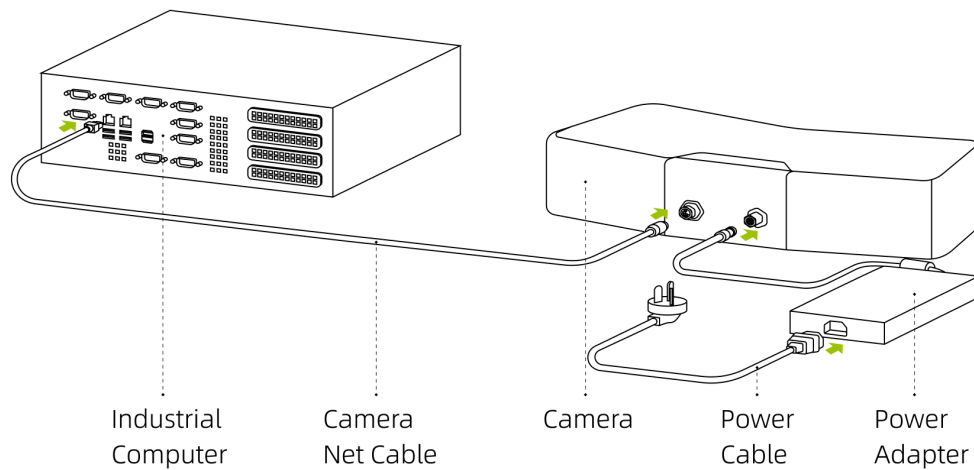
Connecting the Cables

Connection Instructions

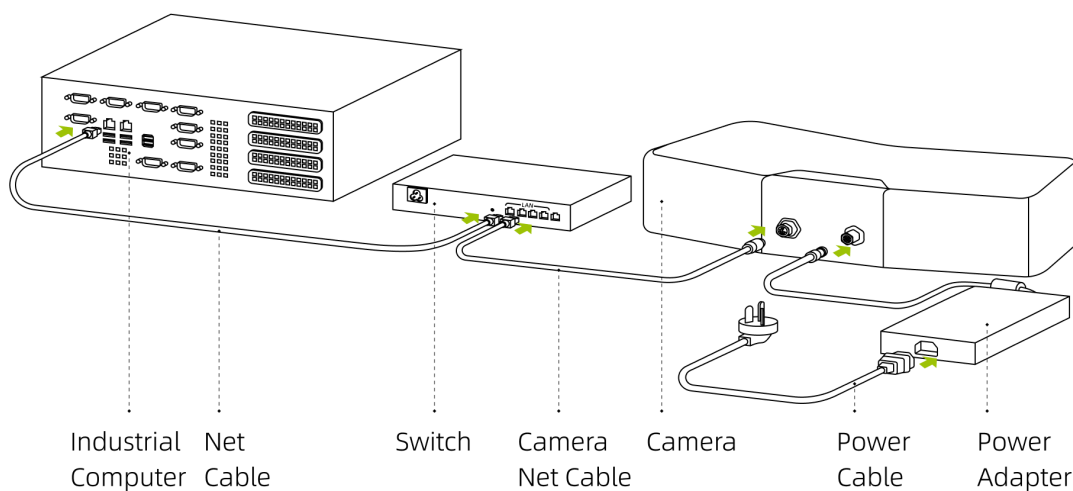
- Do not connect or disconnect cables while powered on. Ensure all cable connections are complete before turning on the power.
- Align the plug and socket, then slowly tighten; avoid using excessive force when connecting or disconnecting.
- It is recommended to use cable ties to secure the camera's network cable, power adapter, and power cable.
- When connecting via a router, ensure all network cables are plugged into the LAN ports of the router.

Connection Methods

- Direct Connection between Camera and Industrial PC



- Camera connected to Industrial PC through a Switch



Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of scratching or collision with surrounding objects.

- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.
- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



Disclaimer

For any personal safety incidents or property losses caused by the user's failure to comply with safety regulations, improper operation of the camera, or unauthorized modifications to the camera, power cables, etc., Transfer will not bear any legal responsibility.

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2.5. Epic Eye S-M

Safety Instructions

Safety Statement

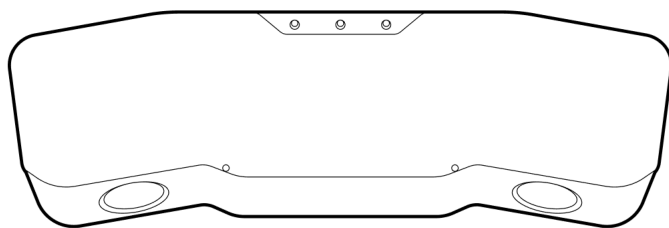
- Before using this product, please read the product manual and correctly understand the related information in the precautions. Failure to comply with the stipulated precautions may result in equipment damage or serious injury or death.
- Transfer will not assume any legal responsibility for personal safety accidents or property losses caused by non-compliance with the contents of this manual or improper operation of the product.

Precautions

- Avoid using this camera in environments with excessive dust, strong electromagnetic interference, direct sunlight, or outside the specified temperature and humidity range.
- Do not directly look at the projection beam during camera operation to avoid eye injury.
- Ensure the camera window is clean. If cleaning is necessary, use a lint-free cloth.
- Do not install, disassemble, or clean the camera while it is powered on.
- Avoid subjecting the camera to severe impacts or drops during transportation and installation.
- If any abnormal conditions are detected (such as unusual noises, smells, or smoke), immediately disconnect the power and perform an inspection.
- Do not modify the camera or its accompanying power cable.

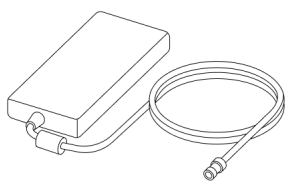
Packaging List

01



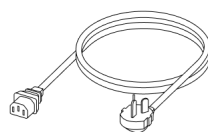
Epic Eye S-M

02



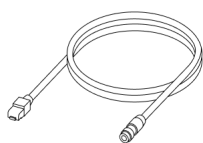
Power adapter

03



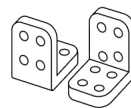
Power cord

04



Net cable

05

L-shaped
mounting kitHexagon
socket bolt

Upon unboxing, please check the camera and its accessories for any damage, rust, or dents, and verify against the packing list to ensure all materials are complete. If you find any damage, rust, or dents on the camera or its accessories, or if the actual items do not match the packing list, please contact Transfer.

Technical Specifications

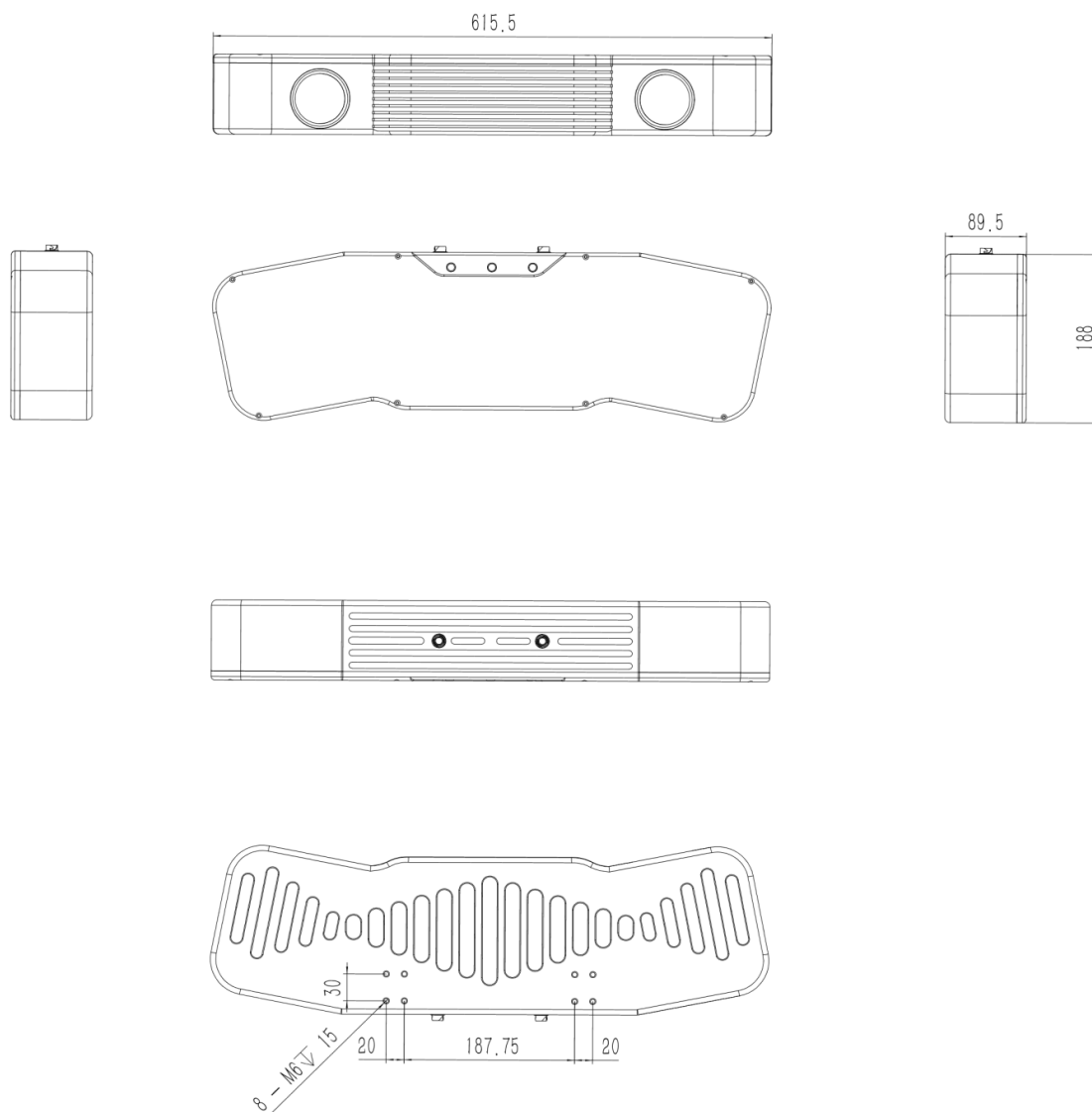
Product Parameters

System Parameters	Baseline Length	390mm
	Recommended Working Distance	600mm~1600mm
	Optimal Working Distance	1000mm
	Near Field View	346mm×267mm@0.6m
	Far Field View	1000mm×707mm@1.6m
	Z-Axis Accuracy	±0.35mm@1m
	Pixel Count	3 million
	Accuracy	0.08mm@1m, 0.01mm@1m
	Precision Error	<0.15%
	Typical Acquisition Time	1.6s~2.3s
	Power Supply	12V → 15A
Hardware Parameters	Dimensions (L*W*H)	616mm×190mm×90mm
	Installation Method	Fixed Installation
	Computing Unit	NVIDIA Jetson TX2
	Communication Interface	Gigabit Ethernet
	Light Source	White Light DLP
	2D Camera	Color
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90% RH, Non-condensing
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	4.05kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90% RH, Non-condensing

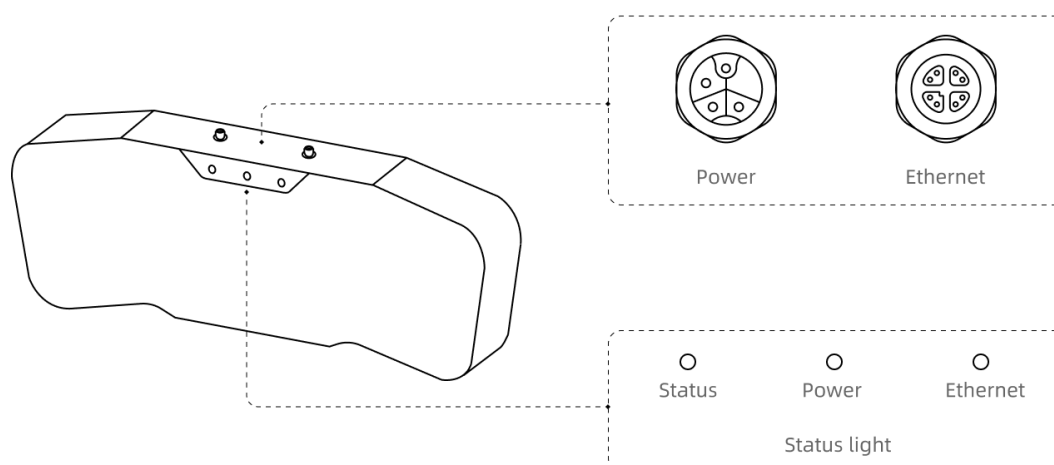
Subject to change without prior notice!

Dimensions

Unit: mm



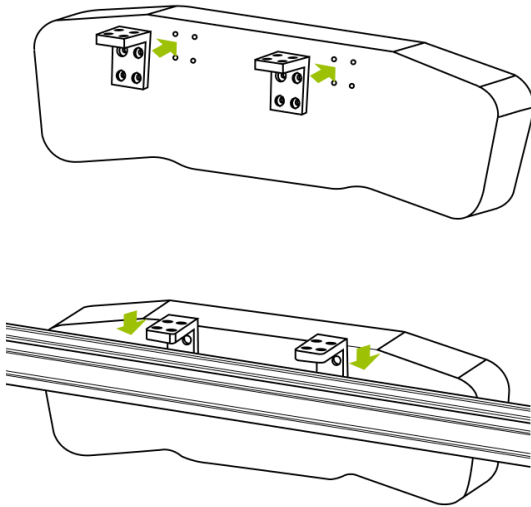
Ports and Indicators



Indicator Description: After correct wiring and power-up, a green indicator light indicates normal status. Any other color or no light indicates an abnormal status.

Installation and Connection

Installing the Camera



① Attach the L-shaped mounting kit to the camera using M6 hex bolts.

② Mount the camera to the camera holder using M6 hexagon bolts of appropriate length.



- It is recommended to install the camera directly above the center point of the stack (material basket), ensuring that there are no obstructions in the camera's field of view.
- It is advisable for the bottom surface of the camera to be parallel to the plane of the stack (material basket).

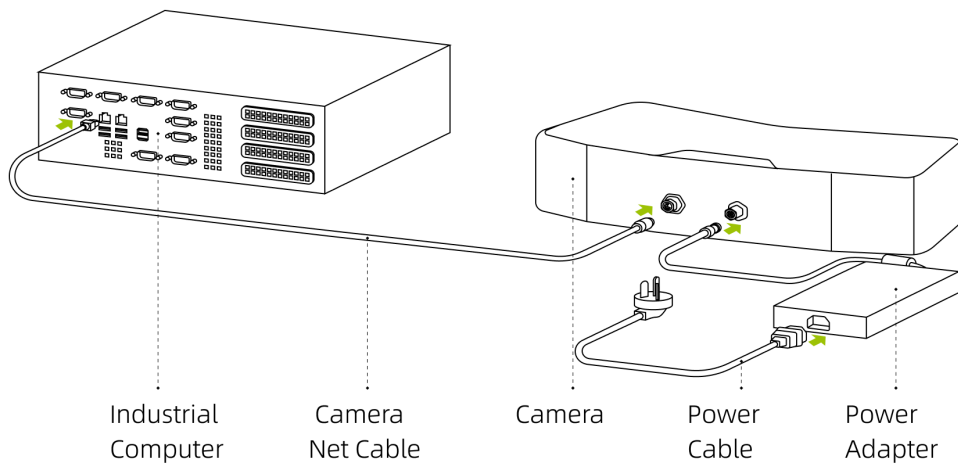
Connecting the Cables

Connection Instructions

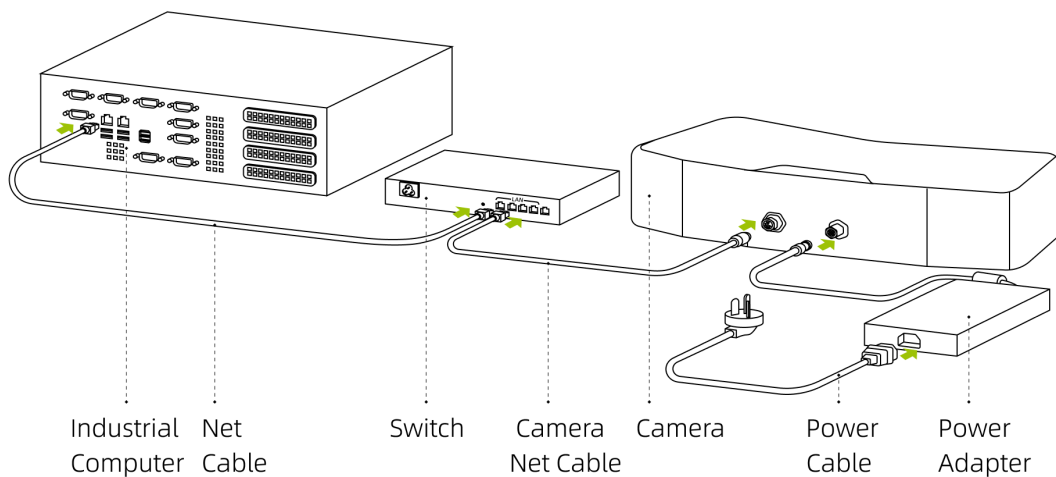
- Do not connect or disconnect cables while powered on. Ensure all cable connections are complete before turning on the power.
- Align the plug and socket, then slowly tighten; avoid using excessive force when connecting or disconnecting.
- It is recommended to use cable ties to secure the camera's network cable, power adapter, and power cable.
- When connecting via a router, ensure all network cables are plugged into the LAN ports of the router.

Connection Methods

- Direct Connection between Camera and Industrial PC



- Camera connected to Industrial PC through a Switch



Maintenance and Care

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Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of scratching or collision with surrounding objects.
- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or

wobbling.

- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

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Legal and Compliance

Certification Information



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2.6. Epic Eye S-M Air

Safety Instructions

Safety Statement

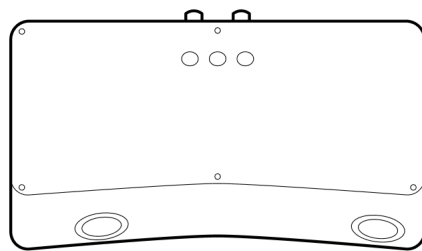
- Before using this product, please read the product manual and correctly understand the related information in the precautions. Failure to comply with the stipulated precautions may result in equipment damage or serious injury or death.
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Precautions

- Avoid using this camera in environments with excessive dust, strong electromagnetic interference, direct sunlight, or outside the specified temperature and humidity range.
- Do not directly look at the projection beam during camera operation to avoid eye injury.
- Ensure the camera window is clean. If cleaning is necessary, use a lint-free cloth.
- Do not install, disassemble, or clean the camera while it is powered on.
- Avoid subjecting the camera to severe impacts or drops during transportation and installation.
- If any abnormal conditions are detected (such as unusual noises, smells, or smoke), immediately disconnect the power and perform an inspection.
- Do not modify the camera or its accompanying power cable.

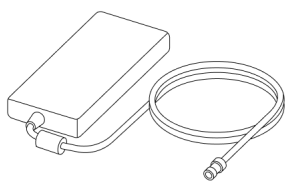
Packaging List

01



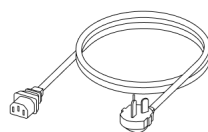
Epic Eye S-M Air

02



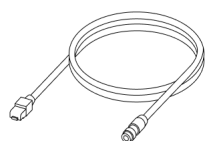
Power adapter

03



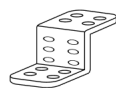
Power cord

04



Net cable

05

Z-type
mounting kitHexagon
socket bolt

Upon unboxing, please check the camera and its accessories for any damage, rust, or dents, and verify against the packing list to ensure all materials are complete. If you find any damage, rust, or dents on the camera or its accessories, or if the actual items do not match the packing list, please contact Transfer.

Technical Specifications

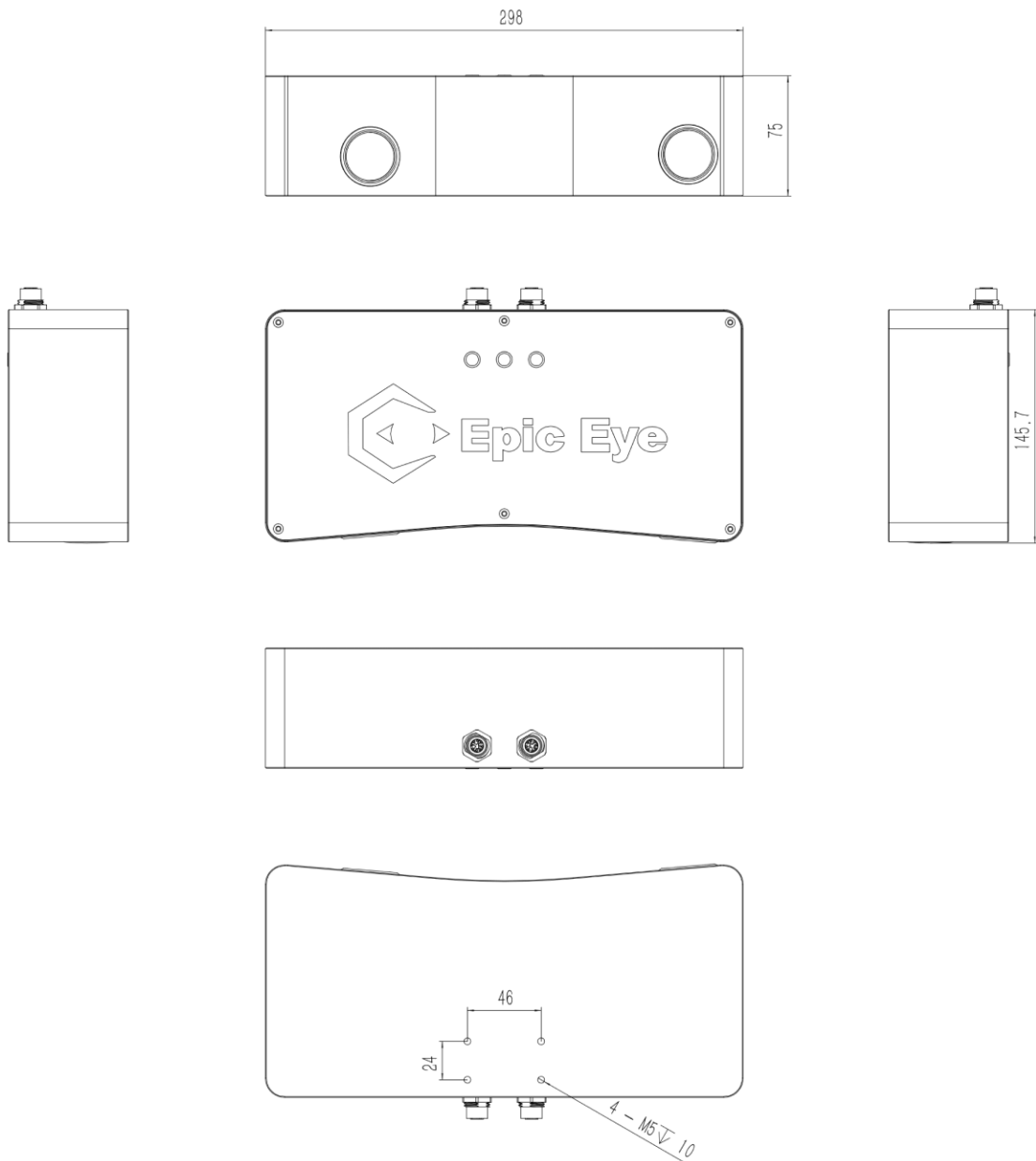
Product Parameters

System Parameters	Baseline Length	200mm
	Recommended Working Distance	600mm~1600mm
	Optimal Working Distance	1000mm
	Near Field View	445mm×289mm@0.6m
	Far Field View	1174mm×753mm@1.6m
	Z-Axis Accuracy	0.10mm@1m, 0.013mm@1m
	Pixel Count	3 million
	Accuracy	0.10mm@1m, 0.013mm@1m
	Precision Error	<0.15%
	Typical Imaging Time	1.6s~2.3s
	Power Supply	12V → 15A
Hardware Parameters	Dimensions (L*W*H)	298mm×146mm×75mm
	Installation Method	Fixed Installation
	Computing Unit	NVIDIA Jetson TX2
	Communication Interface	Gigabit Ethernet
	Light Source	White Light DLP
	2D Camera	Color
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90% RH, Non-condensing
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	2.65kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90% RH, Non-condensing

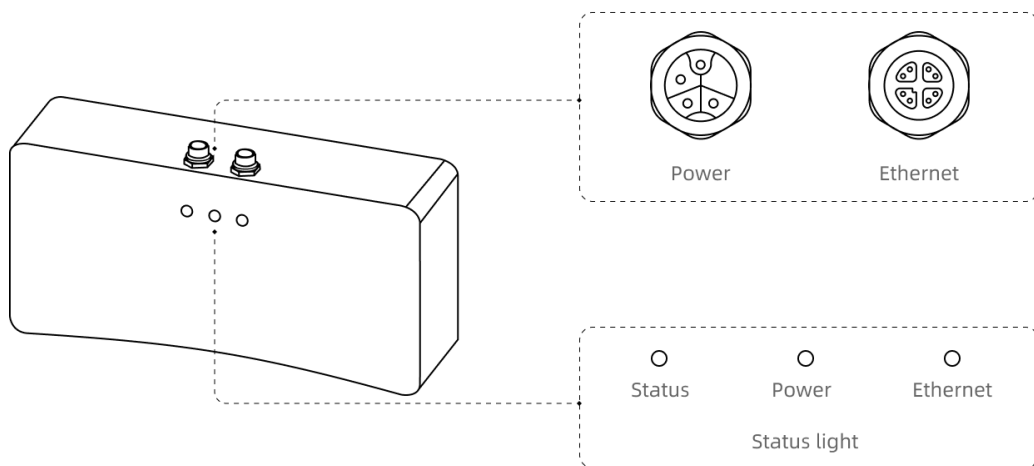
Subject to change without prior notice!

Dimensions

Unit: mm



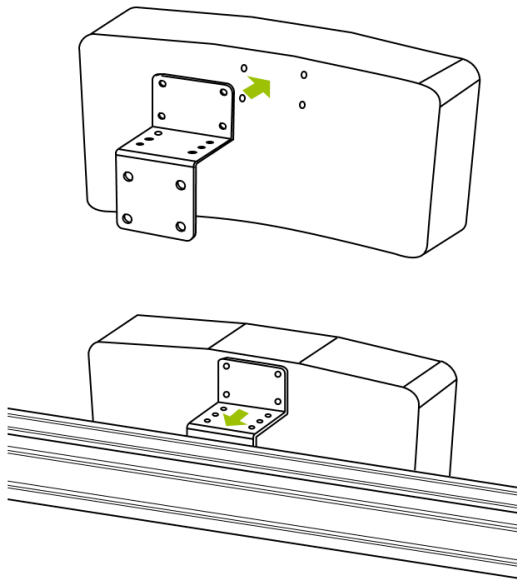
Ports and Indicators



Indicator Description: After correct wiring and power-up, a green indicator light indicates normal status. Any other color or no light indicates an abnormal status.

Installation and Connection

Installing the Camera



① Attach the Z-mount to the camera using the M5 hex bolt.

② Mount the camera to the camera holder using M6 hexagon bolts of appropriate length.



- It is recommended to install the camera directly above the center point of the stack (material basket), ensuring that there are no obstructions in the camera's field of view.
- It is advisable for the bottom surface of the camera to be parallel to the plane of the stack (material basket).

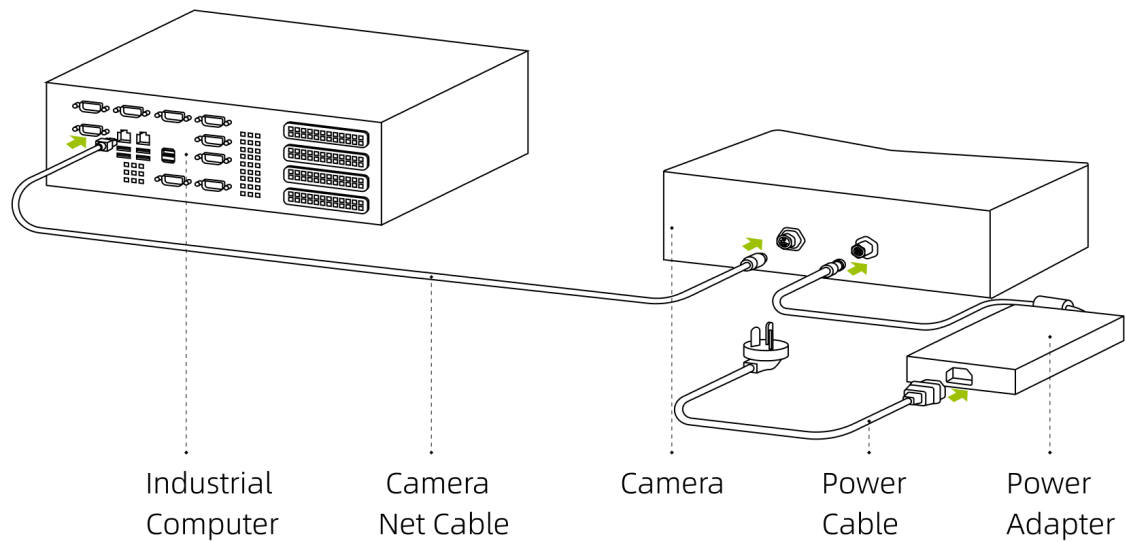
Connecting the Cables

Connection Instructions

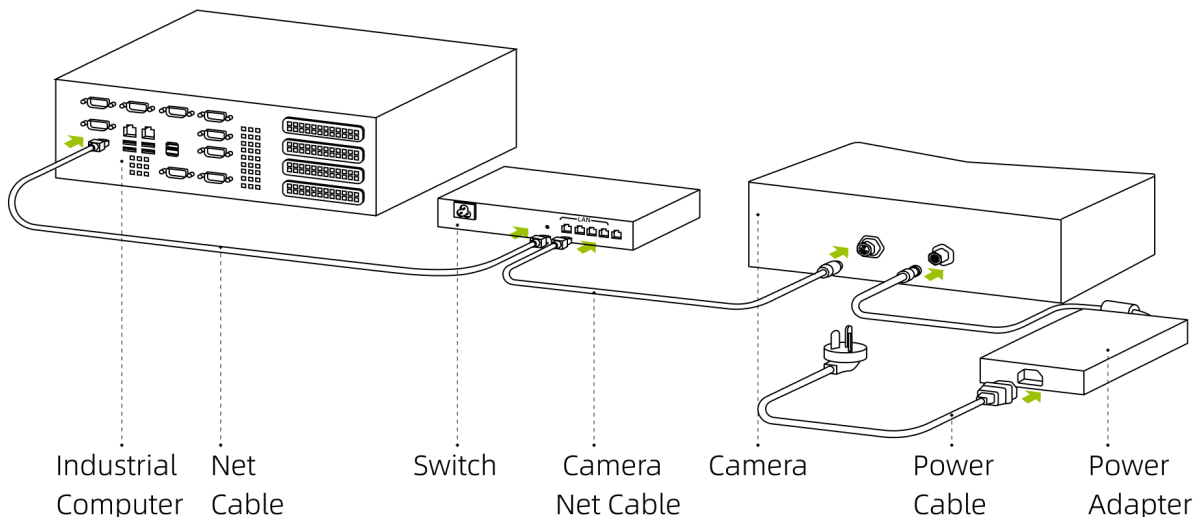
- Do not connect or disconnect cables while powered on. Ensure all cable connections are complete before turning on the power.
- Align the plug and socket, then slowly tighten; avoid using excessive force when connecting or disconnecting.
- It is recommended to use cable ties to secure the camera's network cable, power adapter, and power cable.
- When connecting via a router, ensure all network cables are plugged into the LAN ports of the router.

Connection Methods

- Direct Connection between Camera and Industrial PC



- Camera connected to Industrial PC through a Switch



Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of

scratching or collision with surrounding objects.

- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.
- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



Disclaimer

For any personal safety incidents or property losses caused by the user's failure to comply with safety regulations, improper operation of the camera, or unauthorized modifications to the camera, power cables, etc., Transfer will not bear any legal responsibility.

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2.7. Epic Eye D-L

Safety Instructions

Safety Statement

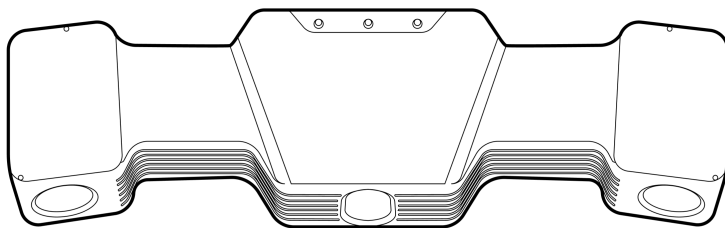
- Before using this product, please read the product manual and correctly understand the related information in the precautions. Failure to comply with the stipulated precautions may result in equipment damage or serious injury or death.
- Transfer will not assume any legal responsibility for personal safety accidents or property losses caused by non-compliance with the contents of this manual or improper operation of the product.

Precautions

- Avoid using this camera in environments with excessive dust, strong electromagnetic interference, direct sunlight, or outside the specified temperature and humidity range.
- Do not directly look at the projection beam during camera operation to avoid eye injury.
- Ensure the camera window is clean. If cleaning is necessary, use a lint-free cloth.
- Do not install, disassemble, or clean the camera while it is powered on.
- Avoid subjecting the camera to severe impacts or drops during transportation and installation.
- If any abnormal conditions are detected (such as unusual noises, smells, or smoke), immediately disconnect the power and perform an inspection.
- Do not modify the camera or its accompanying power cable.

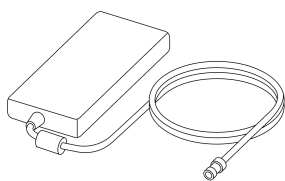
Packing List

01



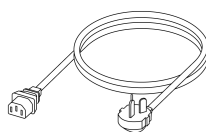
Epic Eye D-L

02



Power Adapter

03



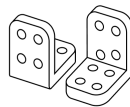
Power Cord

04



Ethernet Cable

05

L-shaped
Mounting BracketHex Socket
Bolt

Upon unboxing, please check the camera and its accessories for any damage, rust, or dents, and verify against the packing list to ensure all materials are complete. If you find any damage, rust, or dents on the camera or its accessories, or if the actual items do not match the packing list, please contact Transfer.

Technical Specifications

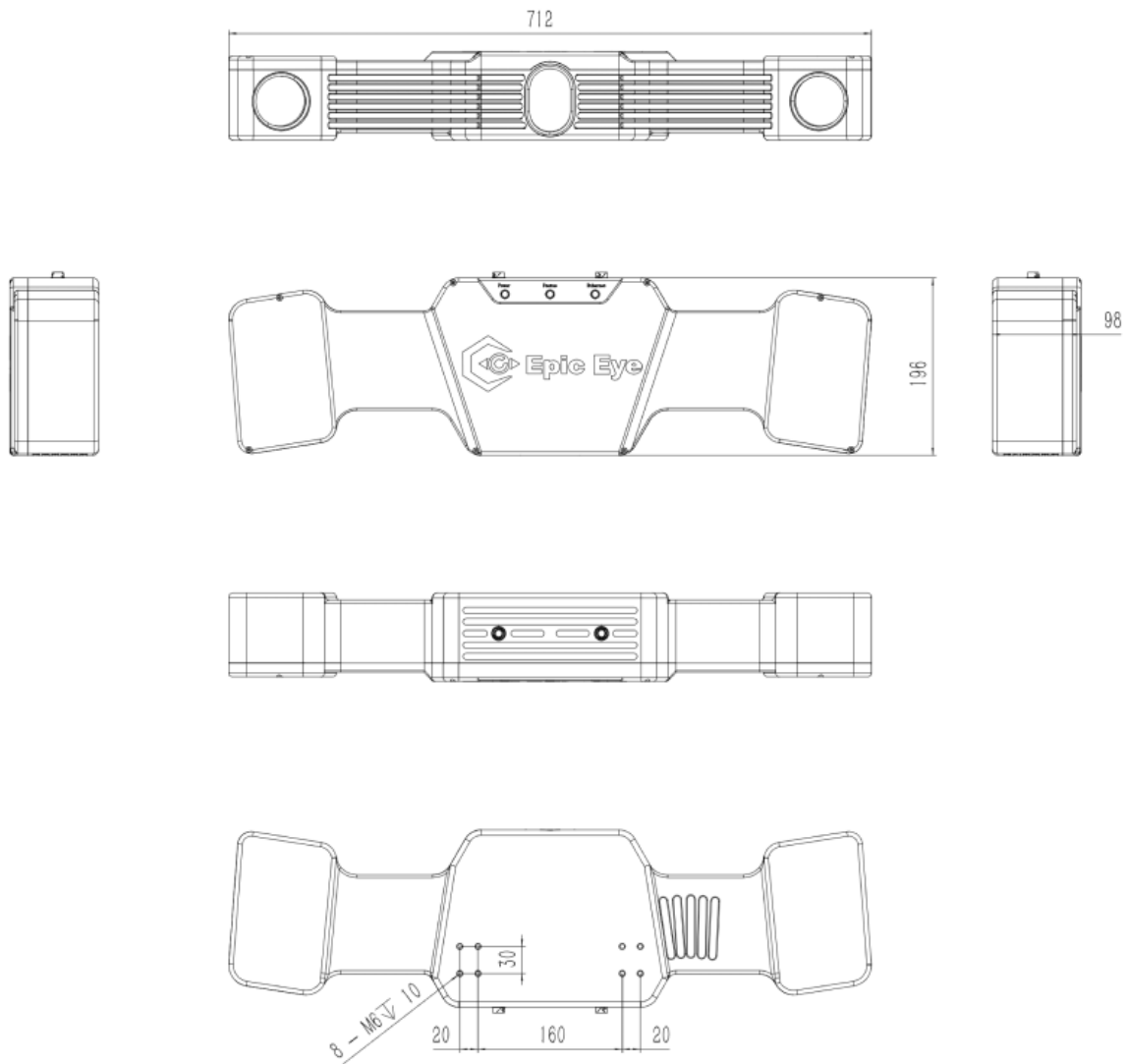
Technical Parameters

System Parameters	Baseline Length	600mm
	Recommended Working Distance	1500mm~3500mm
	Optimal Working Distance	2000mm
	Near Field of View	1310mm×1200mm@1.5m
	Far Field of View	3190mm×2890mm@3.5m
	Z-axis Accuracy	±0.43mm@2m
	Pixel Count	3 million
	Accuracy	0.27mm@2m, 0.02mm@2m
	Precision Error	<0.15%
	Typical Acquisition Time	1.6s~2.3s
	Power Supply	12V → 15A
Hardware Parameters	Dimensions (L*W*H)	712mm×196mm×98mm
	Installation Method	Fixed Installation
	Computing Unit	NVIDIA Jetson TX2
	Communication Interface	Gigabit Ethernet
	Light Source	White Light DLP
	2D Camera	Color
Environmental Parameters	Operating Temperature Range	0°C~50°C
	Operating Humidity Range	20%~90% RH non-condensing
	Protection Level	IP65
	Cooling Method	Passive
	Weight	5.55kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20% - 90% RH non-condensing

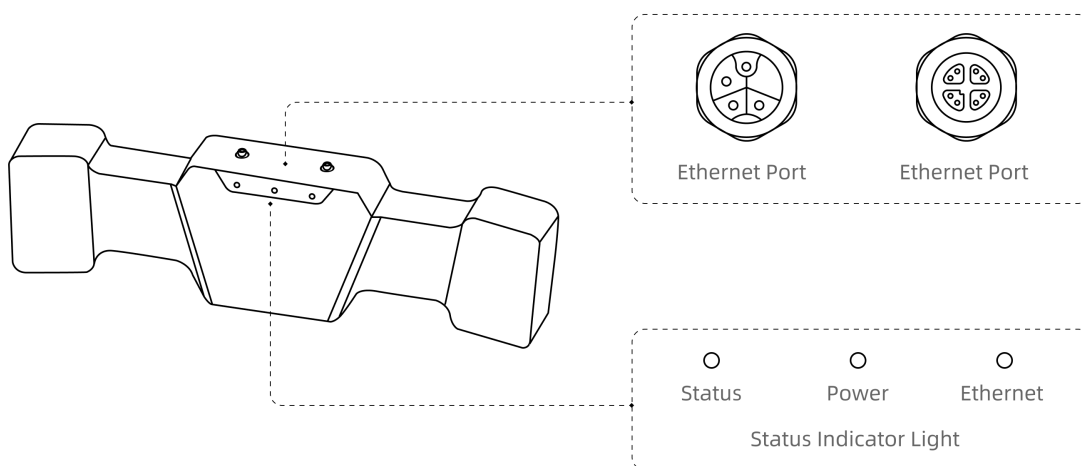
If there are any changes, no further notice will be given!

Dimensions

Unit: mm



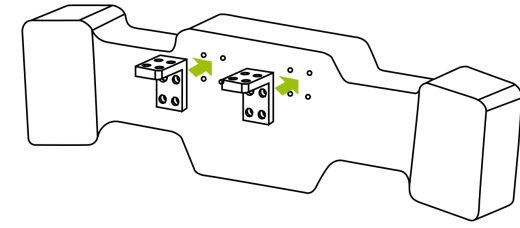
Interfaces and Indicators



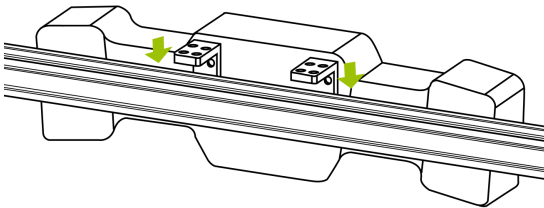
Indicator Light Description: After proper connection and power on, a green indicator light represents normal status, while other colors or no light indicates an abnormal status.

Installation and Connection

Install the Camera



- ① Use M6 hex socket bolts to install the L-shaped mounting bracket onto the camera.



- ② Use appropriately sized M6 hex socket bolts to mount the camera onto the camera bracket.



- It is recommended to install the camera directly above the center point of the stack (material basket), ensuring that there are no obstructions in the camera's field of view.
- It is advisable for the bottom surface of the camera to be parallel to the plane of the stack (material basket).

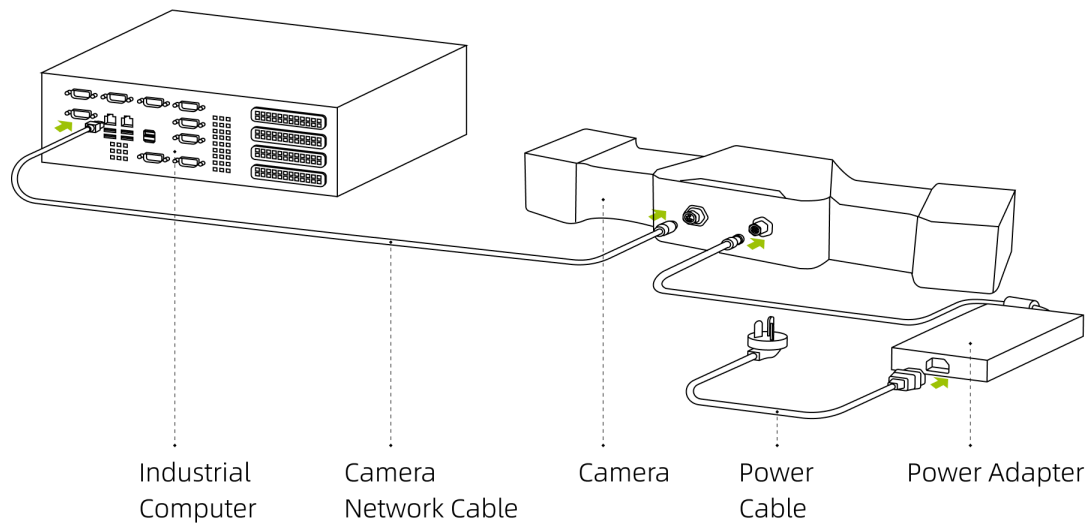
Connection Cables

Connection Instructions

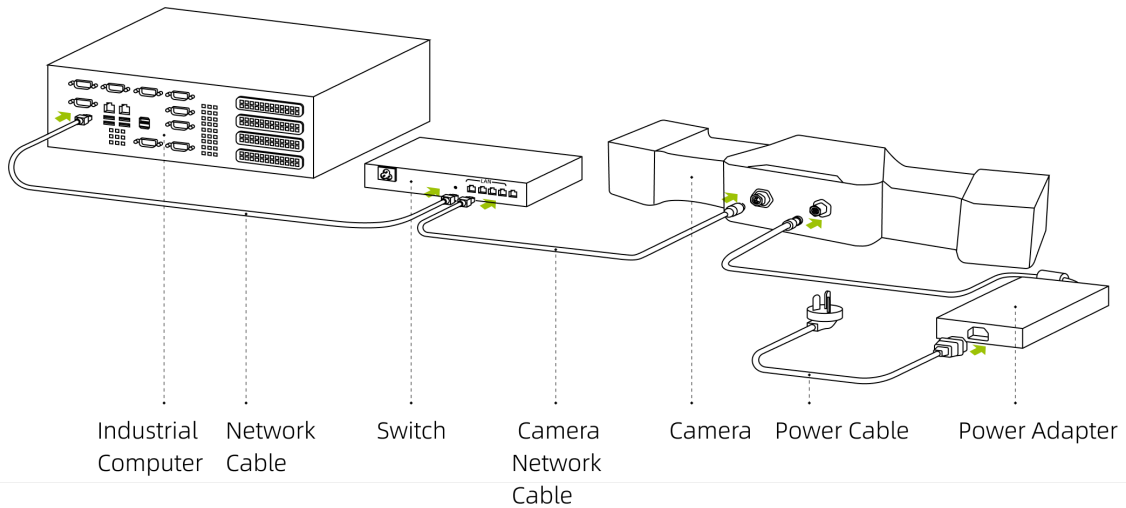
- Do not connect or disconnect cables while powered on. Ensure all cable connections are complete before turning on the power.
- Align the plug and socket, then slowly tighten; avoid using excessive force when connecting or disconnecting.
- It is recommended to use cable ties to secure the camera's network cable, power adapter, and power cable.
- When connecting via a router, ensure all network cables are plugged into the LAN ports of the router.

Connection Method

- Direct Connection between the Camera and the Industrial Computer



- Connection between the Camera and the Industrial Computer via a Switch



Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.
- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of scratching or collision with surrounding objects.
- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.

- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



Disclaimer

For any personal safety incidents or property losses caused by the user's failure to comply with safety regulations, improper operation of the camera, or unauthorized modifications to the camera, power cables, etc., Transfer will not bear any legal responsibility.

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2.8. Epic Eye Laser L

Safety Instructions

Safety Declaration

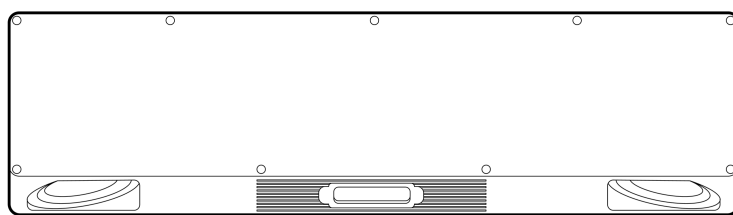
- Before using this product, please read the product manual and thoroughly understand the relevant safety instructions. Failure to follow the precautions may result in device damage or serious injury or death.
- Transfer will not be liable for any personal safety accidents, property losses, etc., caused by failure to comply with the content of this manual or improper use of the product.

Precautions

- Avoid using the camera in environments with excessive dust, strong electromagnetic interference, direct strong light, or outside the applicable temperature and humidity range.
- Do not directly look at the projection beam during camera operation, as it may cause eye damage.
- Keep the camera window clean. Use a lint-free cloth to clean the window if necessary.
- Never install, disassemble, or clean the camera while it is powered on.
- Avoid severe impacts or drops during transportation and installation.
- If any abnormal conditions (such as strange noises, smells, or smoke) are detected, immediately disconnect the power and inspect the device.
- Do not modify the camera or its power cables.

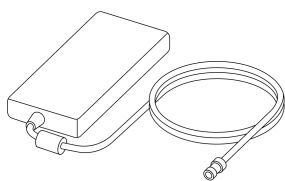
Packaging List

01



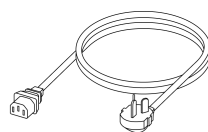
Epic Eye Laser L

02



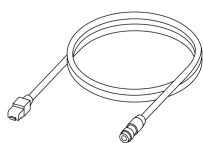
Power Adapter

03



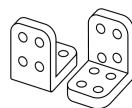
Power Cord

04



Ethernet Cable

05

L-shaped
Mounting BracketHex Socket
Bolt

When unpacking, please check if the camera and its accessories are damaged, rusted, or scratched, and verify the materials against the packing list. If you find any issues or discrepancies with the packing list, please contact Transfer.

Technical Specifications

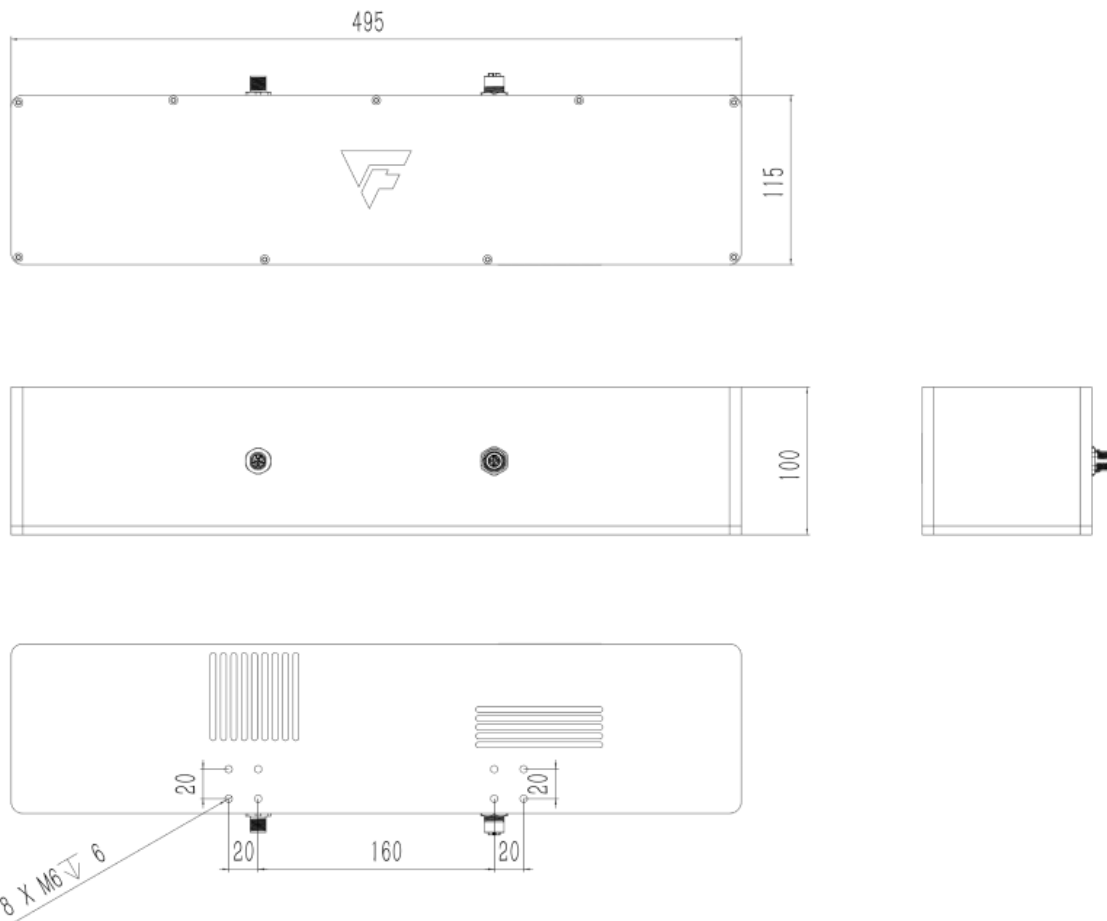
Technical Parameters

System Parameters	Baseline Length	400mm
	Recommended Working Distance	1200mm~3000mm
	Optimal Working Distance	
	Near Field View	1260mm×1240mm@1.2m
	Far Field View	3220mm×2950mm@3.0m
	Z-axis Accuracy	
	Pixel Count	3 million
	Accuracy	0.32mm@2.4m, 0.08mm@2.4m
	Calibration Error	<0.15%
	Typical Capture Time	0.9s~2.4s
	Power Supply	24V → 5A
Hardware Parameters	Dimensions (L*W*H)	495mm×115mm×100mm
	Installation Method	Fixed Installation
	Compute Unit	NVIDIA Jetson TX2
	Communication Interface	Gigabit Ethernet
	Light Source	Blue (450nm) Laser
	2D Camera	Black & White
Environmental Parameters	Operating Temperature Range	-10°C~45°C
	Operating Humidity	20%~90% RH, non-condensing
	Protection Rating	IP65
	Cooling Method	Passive
	Weight	3.66kg
	Storage Temperature	-20°C~70°C
	Storage Humidity	20%~90% RH, non-condensing

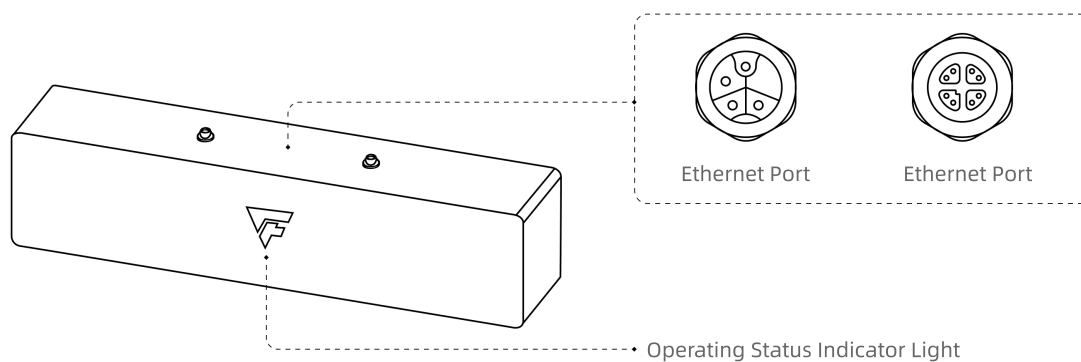
Changes are subject to change without notice!

Dimensions

Unit: mm



Ports and Indicators

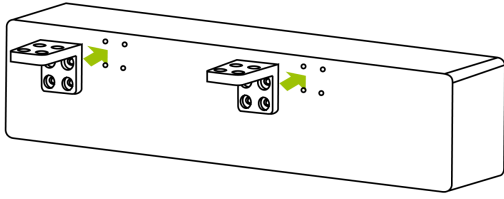


The status corresponding to the indicator light color is as follows:

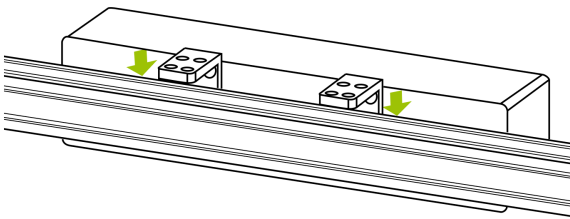
Color	Status
Blinking Blue	Camera Initialization
Solid Blue	Normal Operation
Solid Red	Hardware Fault
Solid Yellow	Network Fault

Installation and Connection

Installing the Camera



- ① Use M6 hex socket bolts to install the L-shaped mounting bracket onto the camera.



- ② Use appropriately sized M6 hex socket bolts to mount the camera onto the camera bracket.



- It is recommended to install the camera directly above the center of the pallet (material basket), with no obstructions in the camera's field of view.
- The bottom surface of the camera should be parallel to the plane of the pallet (material basket).

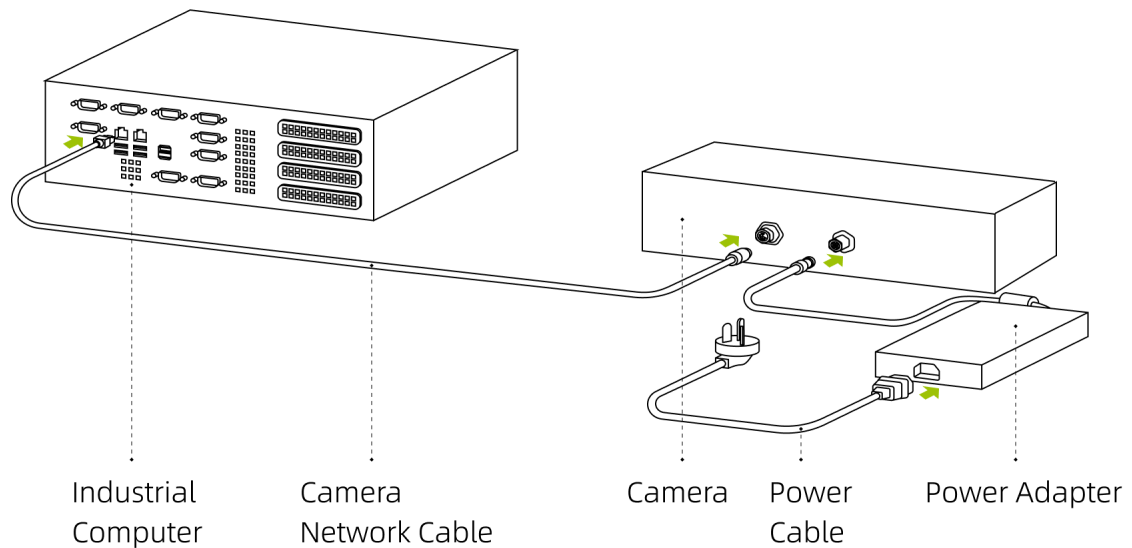
Connecting the Cables

Connection Notes

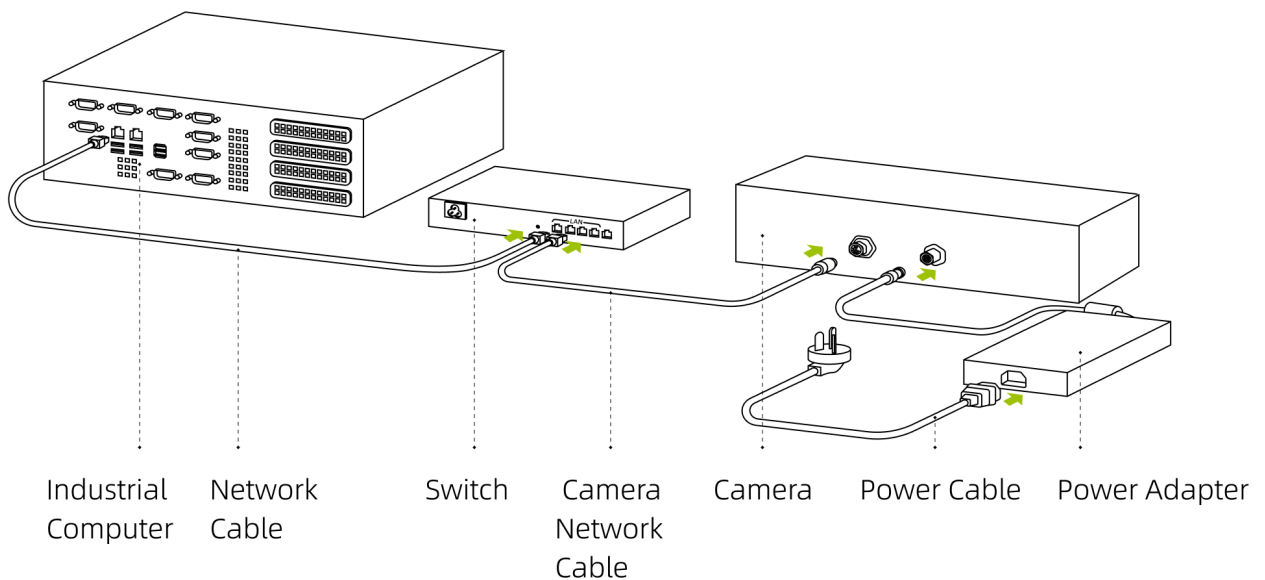
- Do not connect or disconnect cables when the device is powered on. Ensure all cables are connected before powering on.
- Align the connectors and slowly tighten, avoiding forceful twisting or pulling.
- It is recommended to use cable ties to secure the camera network cable, power adapter, and power cable.
- When using a router, ensure all network cables are plugged into the router's LAN port.

Connection Methods

- Direct Connection between Camera and Industrial PC



- Camera connected to Industrial PC through a Switch



Maintenance and Care

Regular maintenance of industrial 3D camera hardware is crucial for ensuring stable operation and measurement accuracy. It not only extends equipment service life but also helps in timely detection and prevention of potential issues, reducing equipment failure rates and ensuring continuous stable operation of production lines. Please strictly follow the maintenance regulations and keep proper records.

Daily Inspection

- Check power supply status regularly, inspect power cable connections for proper contact, ensure stable power voltage output meeting power supply specifications. When necessary, use UPS (Uninterruptible Power Supply) to prevent unexpected power outages.
- Verify network connection stability and ensure network transmission rates meet requirements.
- Monitor working environment temperature and humidity for compliance with specifications, ensure good ventilation for proper camera cooling.

- Inspect camera housing integrity, ensure no damage, deformation, or corrosion, and avoid risks of scratching or collision with surrounding objects.
- Check camera mounting and adapter fixtures for tightness, ensure no deformation, looseness, or wobbling.
- Inspect cable connector stress conditions, ensure reasonable cable routing without excessive bending, and check cable sheathing for aging or cracking.

Regular Cleaning

Clean the camera regularly to ensure the lens is clean, free from visible dust and stains. Use a clean soft cloth to wipe the camera body, and clean the camera lens with a clean, soft, lint-free cloth dampened with lens cleaner or glass cleaner to avoid scratching the lens.

Cautions

- Power off the equipment before cleaning.
- Do not use alcohol or other corrosive cleaning agents.

Storage and Transportation

- Use original packaging or professional shock-proof cases for camera storage and transportation.
- Ensure storage environment temperature and humidity meet standards.
- Avoid severe vibration and impact, keep away from strong magnetic fields.
- Maintain correct placement orientation, avoid direct exposure of lens to strong light sources such as sunlight.
- Conduct thorough cleaning before long-term storage, perform regular power-on checks (every 3 months).

Fault Prevention and Maintenance

Fault Prevention

- Establish equipment maintenance records, document all maintenance operations and abnormal conditions.
- Regularly check camera internal parameters, recalibrate when necessary.

Equipment Maintenance

Unauthorized disassembly of equipment is strictly prohibited. In case of equipment malfunction, please contact our technical support staff promptly. Transfer assumes no responsibility for equipment damage or accuracy degradation caused by unauthorized disassembly.

Legal and Compliance

Certification Information



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of the camera or power cables.

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3. Epic Eye

3.1. Release Notes

Epic Eye 3.4.5 Release Notes

Upgrade Method

Do not power off or close the terminal during the update process to avoid update failure.

1. [Download Camera Firmware Update Package](#)
2. Complete the camera firmware upgrade.



Ensure the camera is not powered off during the upgrade process.

Update Contents

New Features

Epic Eye 3.4.5 introduces the following new features:

- The virtual camera can read real intrinsic parameters.
- Added detection for the maximum alignment error and average alignment error of stereo camera intrinsic parameters.
- Added switch for displaying the ROI setting status.
- Added explanation for error status codes.

Feature Optimizations

Epic Eye 3.4.5 optimizes the following contents:

- Interaction Experience Optimization:
 - Layout adjustment for the intrinsic parameter check interface.
 - A loading prompt will appear after firmware upgrade, remaining until the camera restarts.
 - The automatic fill mechanism for numerical input will be triggered when the mouse loses focus.
 - Optimized interaction experience for fixed view after taking a photo.
 - Optimized Epic Eye abnormal operation notification mechanism.
- Log Function Optimization:
 - Added system log download functionality.
 - Log content now includes results before and after intrinsic parameter calibration.
 - Log content now includes camera reboot and Epic Eye software reboot logs.
 - Log content now includes timestamp when Epic Pro requests camera service.

Bug Fixes

Epic Eye 3.4.5 fixes the following issues:

- Fixed the issue of black lines in the point cloud when using line-move mode with the Pro camera.

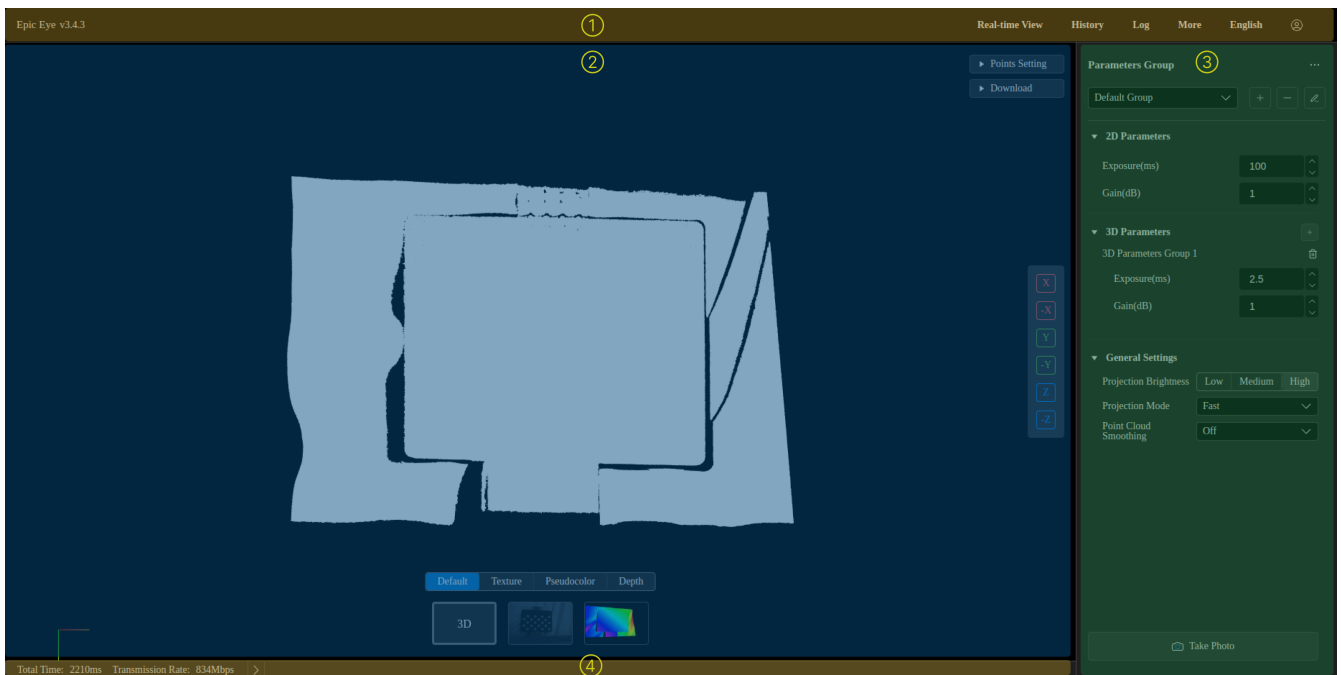
- Fixed the issue where the ROI setting became unavailable after power cycling.
- Fixed compatibility issues between Epic Eye and Epic Pro versions.
- Fixed the issue where the language was reset to Chinese after camera power cycling.
- Fixed memory leak issue with Pixel Mini camera under precise encoding.
- Fixed the issue where values outside the allowed range could be set via the SDK interface.
- Fixed the issue with default values of advanced parameters after camera firmware upgrade.



Language settings and ROI settings may be reset when using incognito mode in the browser, changing the camera IP, or switching browsers.

3.2. User Interface

The Epic Eye interface consists of the following four parts:



Number	Area Name	Description	
1	Toolbar	Real-time View	Displays 2D images in real-time and allows adjustment of 2D parameters.
		Historical Images	Record images captured by the camera and the parameters corresponding to each image. A total of 20 images are retained in chronological order. In the historical view, you can view the images recorded by the software, download each image, and adjust the display of point clouds.
		View Logs	A log file is generated after every one hundred captures, which records detailed running information of the software.
		More Functions	From the drop-down menu, you can View Camera Information , Collecting raw data (.debugraw files), Check Camera Parameters , and Restart Software and Camera .
		Help	Open User Manual.
		Language Switch	Chinese, English, Japanese, and Korean are supported.
		Login Management	Click  to change the login password or log out.
2	View Window	Display 2D images, depth maps, and point clouds. You can switch data display styles in the view window.	
3	Parameter Bar	The parameter bar allows you to control image capture , manage parameter schemes , and adjust 2D parameters , 3D parameters , and general settings parameters .	
4	Information Bar	The information bar displays transmission time, transmission speed, reconstruction time, and position information of points in the point cloud.	

3.3. Getting Started

This Getting Started tutorial will walk you through the following tasks and experience the basic process of using Epic Eye to collect data in Ubuntu.



Getting Started

Before starting this tutorial, make sure you have installed the camera and connected the cables.

Confirming the Camera IP Address

Whether the camera is connected directly to the industrial computer or connected to the industrial computer through a router, you can use [Camera IP Management Tool](#) to query and modify the camera IP address.

For more network configuration instructions, please refer to [How to Get and Set the Camera IP](#).

Login to Epic Eye

Perform the following steps to log in to Epic Eye.

1. Open a browser (Chrome is recommended) and enter the current camera IP address and port number (such as: 192.168.3.10:5000).
2. You need to set a login password for the first login to Epic Eye. After setting, enter the login password in the login interface and click [Login].

Acquire Data

Click [Capture] in the lower right corner of the software interface to control the camera to collect data once.

For more instructions, please refer to [How to Capture and View Data](#).

Adjust Parameters

If the data obtained in the previous step is not ideal, you can adjust the parameters to improve the data quality.

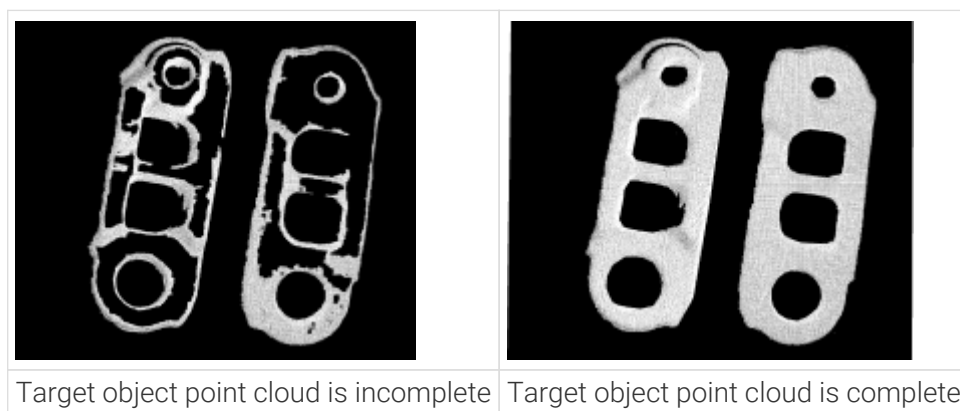
- The 2D image should not be too bright or too dark, and the surface features of the target object can be clearly seen.



If the 2D image is too dark, please increase the exposure time in the 2D parameter bar; if the 2D image is too bright, please reduce the exposure time.

By continuously adjusting the exposure time, you can observe the corresponding change trend of the 2D image and find the best parameter value suitable for the current scene.

- In the depth map and point cloud, the target object data should be complete.



If the target object is dark or not reflective, increase the exposure time in the 3D parameter bar; if the target object is light or reflective, decrease the exposure time.

By continuously adjusting the exposure time, you can observe the change trend of the depth map and point cloud, and find the best parameter value for the current scene.

For more parameter adjustment instructions, please refer to [How to Adjust Parameters](#).

3.4. User Guide

This section introduces the operations of the Epic Eyesoftware in detail, giving you a comprehensive understanding of how to use the software.

Operation	Description
How to Obtain and Set the Camera IP	Obtain and set the camera IP.
How to Capture and View Data	Single data capture, depth map and point cloud display adjustment, data download, and historical data viewing.
How to Adjust Parameters	Workflow of parameter adjustment and parameter scheme management descriptions.
How to View and Download Logs	View and download logs.
How to View Camera Information	View camera information and modify camera name.
How to Check Camera Intrinsic	Check and calibrate camera intrinsics.
How to Restart the Software or Camera	Restart the software or camera.
How to Upgrade Camera Firmware	Upgrade the camera firmware.
How to set the camera ROI	Set camera ROI.

3.4.1. How to Obtain and Set the Camera IP

- Obtain Camera IP

You can check the camera IP in the [Camera IP Management Tool](#) or [router configuration management interface](#).

- Set Camera IP

You can set the camera IP in the [Camera IP Management Tool](#), [router configuration management interface](#), or [local information](#).



When setting the IP, ensure that **the IP address of the camera** and **the IP address of the PC's network port connected to the camera** are in the same subnet.

3.4.2. How to Capture and View Data

This chapter introduces operations related to capturing and viewing data, including single data capture, downloading data, viewing historical data, and adjusting data display.

Single Data Acquisition

Click [**Capture**] in the lower right corner of the software interface to capture an image.

View Real-Time Data

Click [Real-Time View] to see the 2D image and modify 2D parameters.



In this window, you can modify 2D parameters (For the laser camera, turn on or turn off the LED), and find suitable parameter values by modifying parameters in real-time and viewing the data effects.

Download Data

After capturing data, you can download the data. Click [Download] and you can download the following content:

PNG	Download color or grayscale images.
PLY	Point cloud.
RAW	Default saving format.
Download All	Download the above three formats.

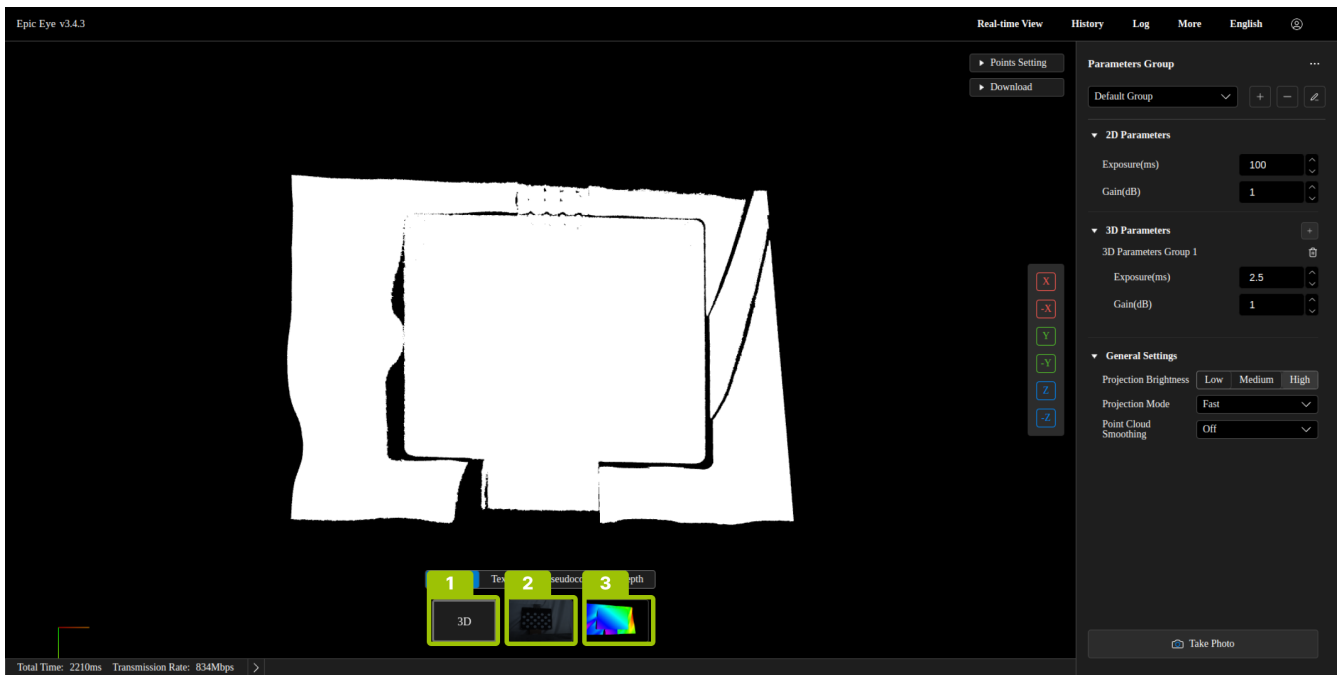
View Historical Data

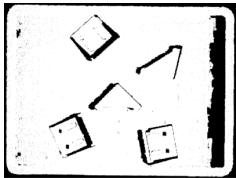
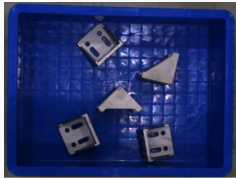
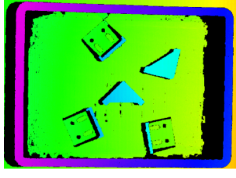
Click [Historical View] in the toolbar, 20 images and corresponding parameters are recorded in chronological order. In addition, you can download data, adjust the point cloud display and the color range of the depth map.

Adjust Data Display

Switch Point Cloud, 2D Image, Depth Map

In the view switching bar, click the corresponding view to switch the displayed data type.



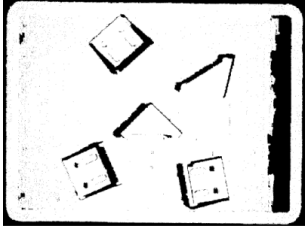
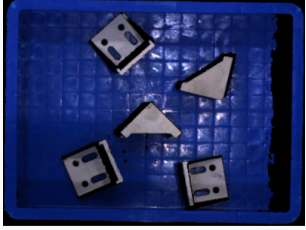
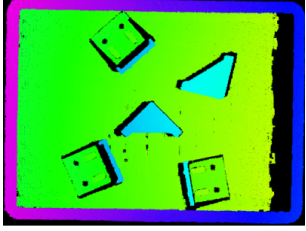
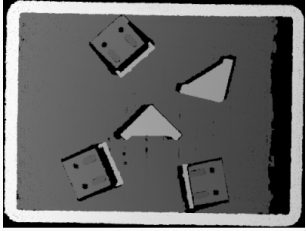
	Data Type	Description	Example
1	Point Cloud	A collection of data points consisting of discrete points that represent the spatial location of objects.	
2	2D Image	A 2D image consists of pixels, used for capturing information about the appearance of an object.	
3	Depth Map	A special 2D image that contains depth information about objects.	

Adjust Point Cloud

Switch Point Cloud Display Style

Click [Point Cloud] in the view switch bar, and select the corresponding display style.

The supported display styles are as followings:

Style	Description	Example
Default	Default display style, showing the basic shape of the object.	
Texture	Texturing the point cloud, making the image true-to-reality.	
False Color	Indicate the properties and features of point clouds.	
Grayscale	Depth values are displayed in different shades of gray.	

Adjust Point Cloud Opacity

Click [**Point Cloud Settings**] and set the value of **Point Cloud Opacity** or adjust the slider.

Control the visibility of the point cloud as needed to achieve more flexible and personalized point cloud visualization effects.

Adjust Point Cloud Size

Click [**Point Cloud Settings**] and set the value of **Point Cloud Size** or adjust the slider.

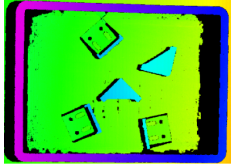
Control the size of each point in the point cloud as needed to achieve more flexible and personalized point cloud visualization effects.

Adjust Depth Map

Switch Depth Map Display Styles

After selecting the depth map in the view switching bar, click the corresponding label to switch the display style of the depth map.

The supported display styles are as followings:

Style	Description	Example
False Color	Indicate the depth information of the depth map.	
Grayscale	Displays the depth map as a grayscale image, highlighting the density and distribution of depth information.	

Adjust Depth Coloring Range

- Description:

Epic Eye automatically adjusts the color distribution of the depth map based on the obtained depth data. In the depth shader, you can manually adjust the depth range of the color distribution to better observe the changes in depth data within a specific range.

- Follow these steps to adjust the color rendering range of the depth data:

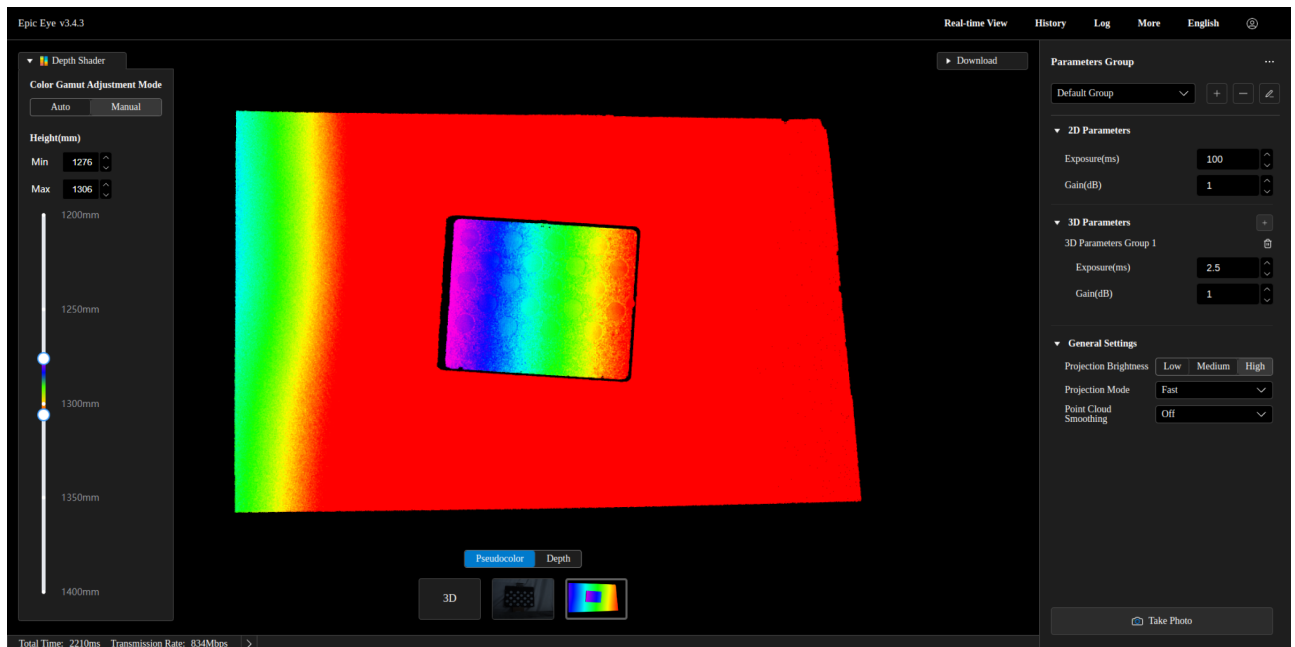
1. Click [**Depth Shader**] to expand the depth shader panel.
2. Click [**Manual**] under the color gamut adjustment mode.
3. Left-click on the point cloud or depth map in the view, check the Z coordinate value in the information bar, and confirm the approximate depth range of the target object.
4. Drag the slider or enter the maximum and minimum values to adjust the depth coloring range.



If the position of the camera or the target object changes, you need to re-confirm the depth range.

- Adjustment Example:

After modifying the maximum and minimum values in the depth shader according to the approximate range of the target object's Z coordinate value, you can view the changes in the target object's depth data.



3.4.3. How to Adjust Parameters

This chapter introduces operations related to parameters, including the general workflow of adjusting parameters, and managing parameter groups.

General Workflow of Adjusting Parameters

Follow thses steps to adjust parameters:

1. Create a parameter group.

Click [+] to create a parameter group, which is used to record and save parameters that are only suitable for the current scenario.

2. Acquire data.

Acquire data as a reference for parameter adjustment.

Click [**Capture**] in the lower right corner of the software interface to acquire data.

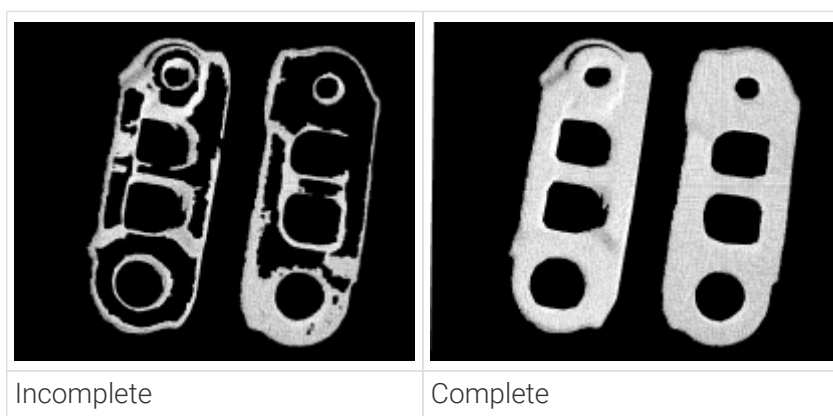
3. Check the data quality.

After acquiring data, please make sure that the 2D image, depth map and point cloud are meet the requirements.

- 2D image: The surface features of the target object should be clearly visible.



- Depth map and point cloud: target object data should be complete.



4. Adjust parameters.

If the data quality is poor, you must adjust the corresponding parameters in the Parameter tab on the right.

For detailed parameter adjustment instructions, please refer to [Parameter Details](#).

5. Check the data quality after parameter adjustment.

After adjusting the parameters, you need to acquire data to check whether the data quality meets the requirements. Click [**Capture**] in the lower right corner of the software interface to acquire data, then check the data quality.

6. Repeat adjustment.

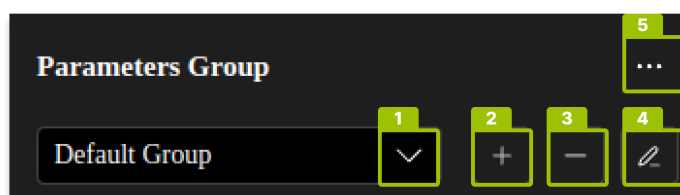
Repeat the above steps until the data quality meets the requirements.



You can adjust 2D parameters (open or close LED for laser camera) and view the data in the [View Real-Time Data](#), to find appropriate parameters.

Manage Parameter Group

A parameter group is used to store parameter values applicable to different scenarios, workpieces, and solutions. When the scenario or workpiece changes, simply switch the parameter group to quickly apply the corresponding parameter values



Descriptions about parameter group are as follows:

Switch Parameter Group(1)

1. Click [] next to the parameter group name to expand the drop-down menu.
2. Select any parameter group from the drop-down menu.

Create a New Parameter Group(2)

1. Click btn[+].
2. In the pop-up window, enter the name of the parameter group and click [OK].
3. The newly created parameter group will be added to the parameter group drop-down menu.

Delete Parameter Group(3)

Click [-] to delete the current parameter group.

Rename Parameter Group(4)

1. Click .
2. In the popup window, enter the new parameter group name.
3. Click [OK], and the parameter group name will be updated.

Export Parameter Group(5)

1. Click [...].
2. Click [Export data], choose the save path, and the software will export the data of all parameter groups into a file.

Import Parameter Group(5)

1. Click [...].
2. Click [Import Data], select the parameter group file to import, and the software will automatically load the parameter values.

Reset Parameter Values(5)

Resetting parameter values restores all parameters in the current parameter group to their default values.

After clicking [...], click [Reset Data].

Store Parameter Group

After modifying parameter values, the software automatically saves the changes.

3.4.4. How to View and Download Logs

The software generates a log file after every 100 captures, which records detailed information about the software's operation.

Click [View Logs] in the toolbar to open the camera logs window, where you can view and download the generated log files.

3.4.5. How to View Camera Information

Click menu: More Functions[Camera Information Management] on the toolbar to open the Camera Information Management window.

In this window, you can view the name, brand model, serial number, IP address, firmware version, and hardware version of the currently connected camera.

Additionally, in this window you can:

- **Change Camera Name:** Enter the camera name in the text input box to the right of the camera name, then click [**Confirm**].
- **Change Camera IP Address:**

Click the  in the **Modify IP** section to open the window, where you can set the camera IP to **Dynamic IP (DHCP)** or **Static IP**.

To prevent the router from reassigning an IP address to the camera in the event of a power outage or other abnormal situations, and to ensure stable operation of the camera, it is recommended to assign a static IP address to the camera.

- **Dynamic IP (DHCP)**

- **Description**

A dynamic IP address is assigned to the camera by a DHCP (Dynamic Host Configuration Protocol) server. Each time the camera connects to the network, the DHCP server allocates an IP address from an available pool of IP addresses. This IP address may change with each connection.

- **Operation**

Set the **IP Assignment Type** to **DHCP**, click the [**Confirm**], and wait for the camera IP modification to succeed.

- **Static IP**

- **Description**

A static IP address is a fixed IP address that is manually assigned and configured. When setting a static IP, ensure that the **camera's IP address is unique**.

- **Operation**

Set the **IP Assignment Type** to **Static IP**, enter the IP address and subnet mask, click [**Confirm**], and wait for the camera IP modification to succeed. Afterward, return to the login page.



When the local machine's IP address is set to Dynamic IP (DHCP) mode, ensure that there is a device in the network (such as a router or DHCP server) capable of automatically assigning IP addresses. This device will allocate a valid IP address to the connected camera, which can be used to access the camera.

3.4.6. How to Check Camera Intrinsic

Camera intrinsic refers to the internal parameters of the camera, which are used to describe the internal optical characteristics and geometric structure of the camera and are important in the imaging process. Only when the intrinsic is accurate can the calculated coordinates of each point be accurate.

When image quality deteriorates, distortion becomes severe, or measurement accuracy is low, you can use the camera intrinsic check tool to inspect the camera intrinsic. If the intrinsic is not qualified, you can recalibrate them.

Preparations

Before checking the intrinsic, prepare the calibration board that came with the camera and follow these steps:

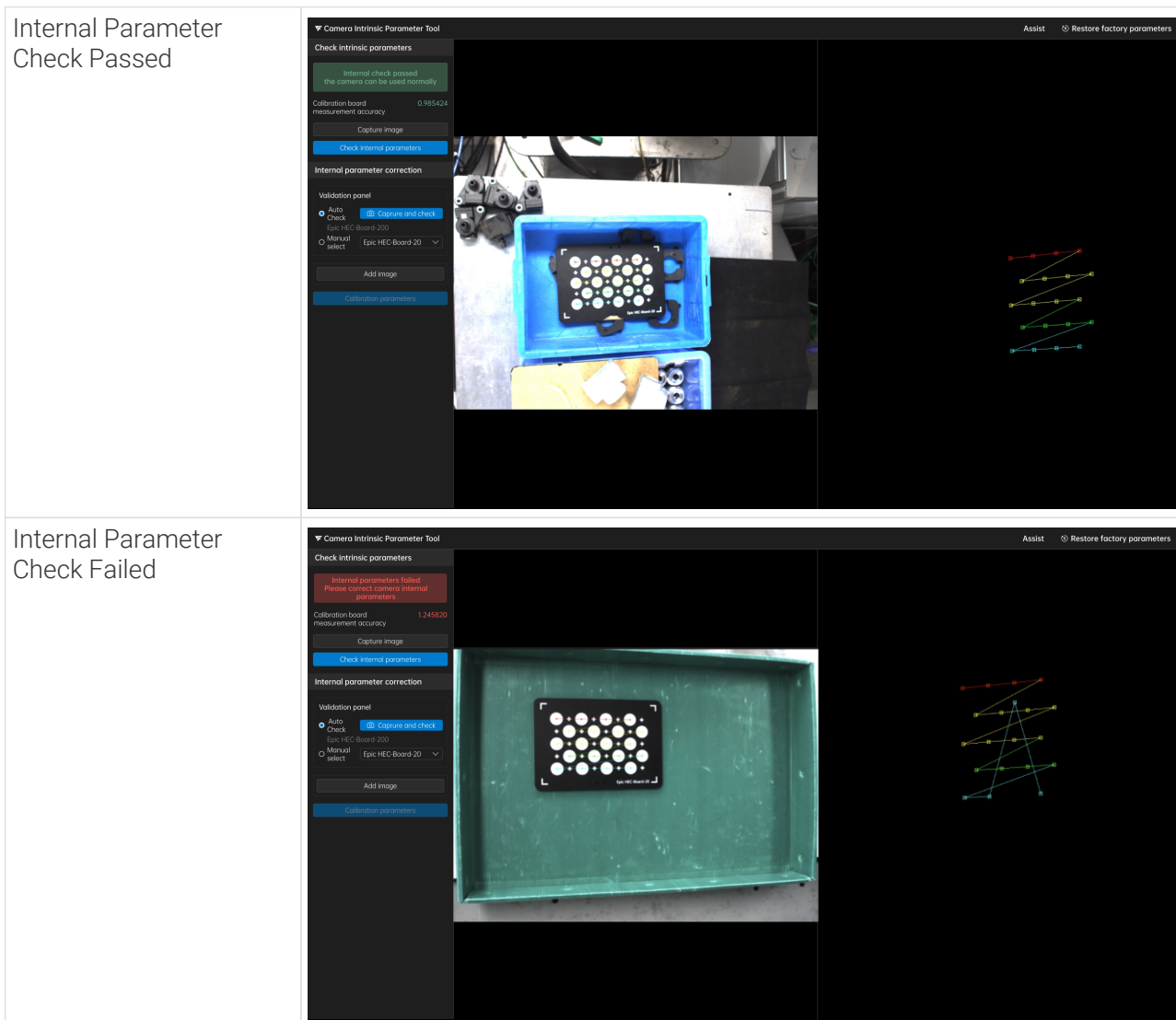
1. Place the calibration board within the camera's field of view.

- Capture a 2D image and point cloud of the calibration board. Ensure that the captured images meet the following standards. If the requirements are not met, please adjust the position of the calibration board or the 2D parameters.
 - The area containing circles on the calibration board is fully captured.
 - The circles on the calibration board are clearly visible.
 - The point cloud information of the calibration board is complete.
- Click More Functions > Advanced Options > Camera Intrinsic Tool in the toolbar to open the camera intrinsic tool.

Check Intrinsics

Monocular Camera

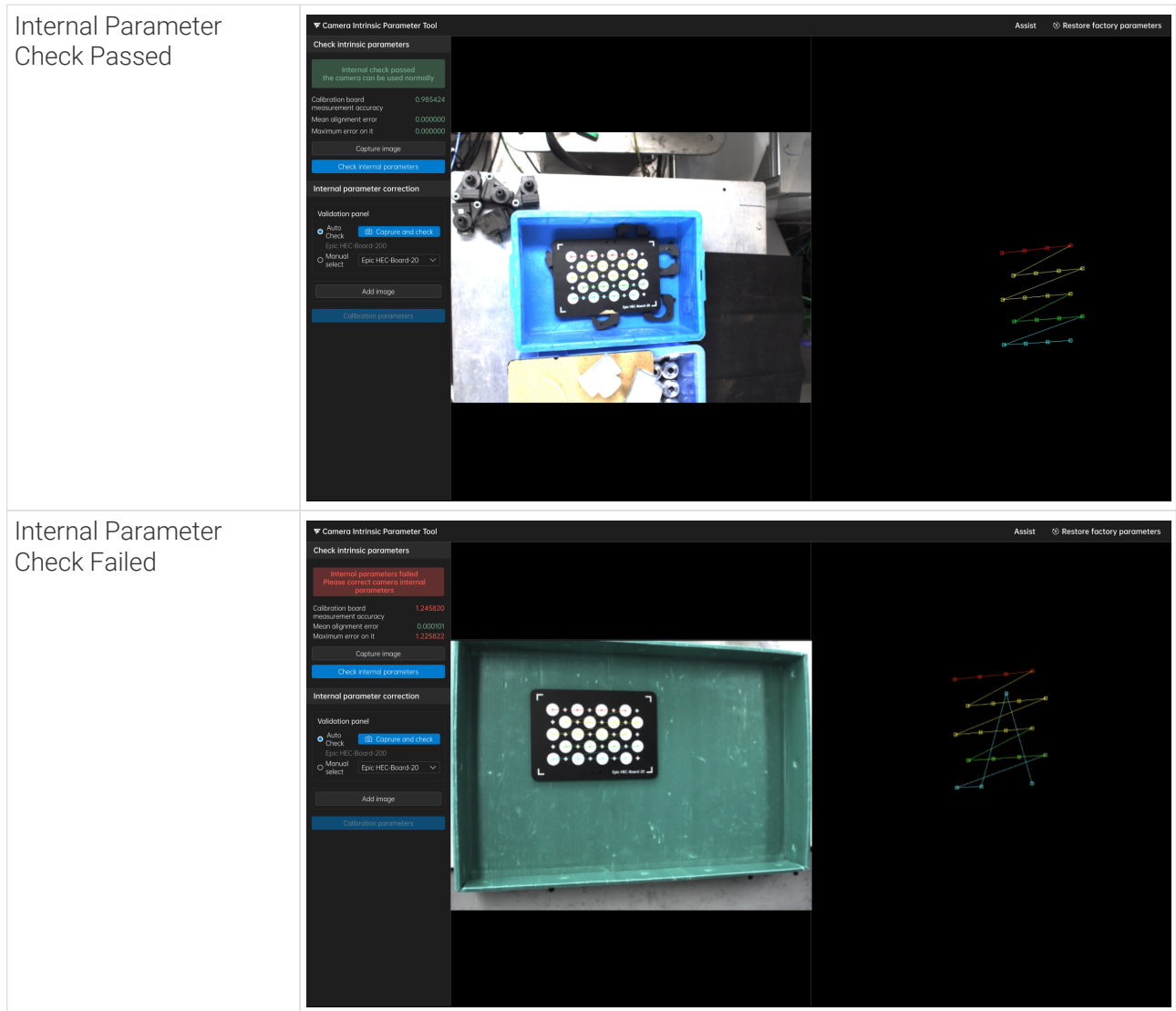
- Click [Capture Image].
- Click [Check Internal Parameters].
- Confirm the check result. If the internal parameter check result is not qualified, please refer to [Correct Internal Parameters](#).



Stereoscopic Camera

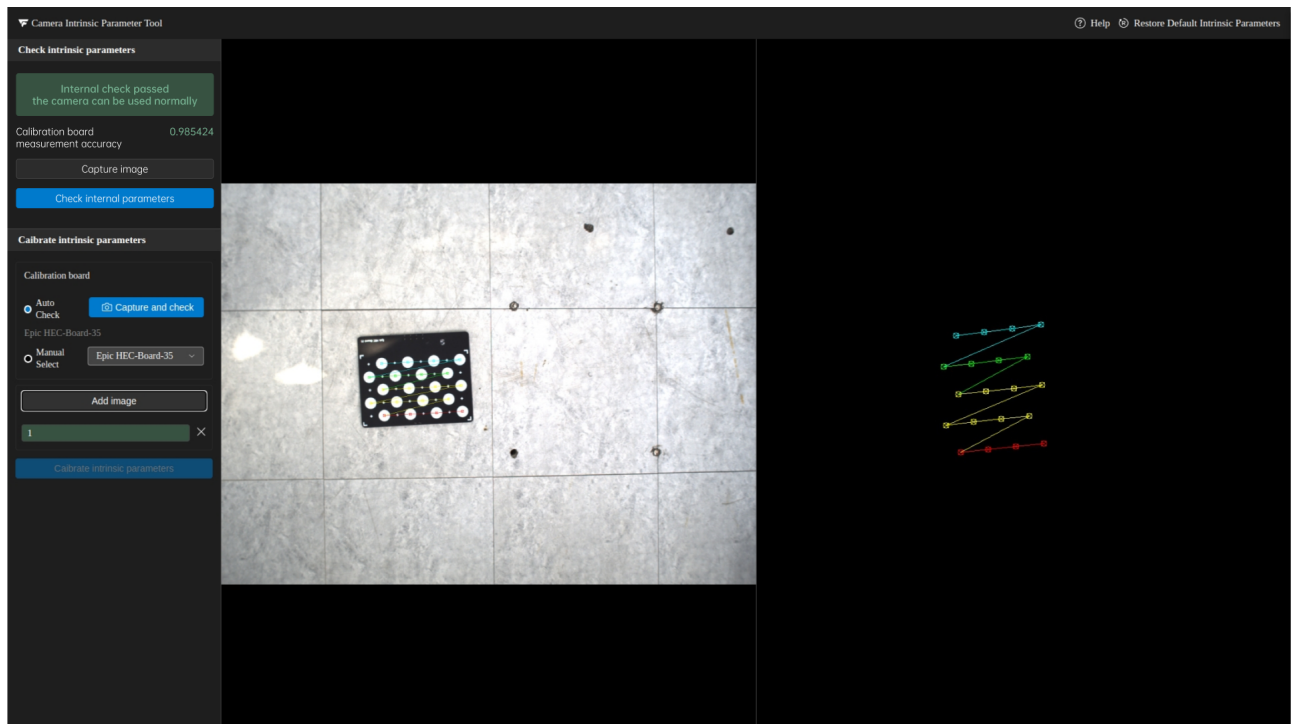
- Click [Capture Image].

2. Click [**Check Internal Parameters**].
3. Confirm the check result. If the internal parameter check result is not qualified, please refer to [Correct Internal Parameters](#).



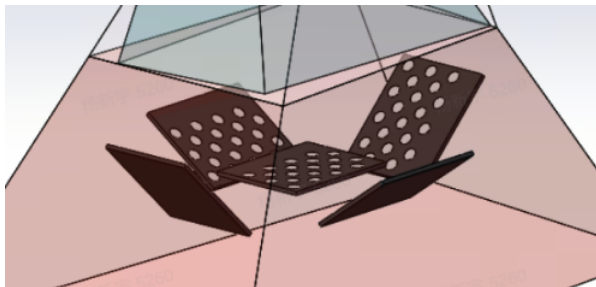
Calibrate Intrinsic

1. Confirm calibration board model
 - Automatic recognition: Click [**Capture and Identify Calibration Board**] to obtain the calibration board model.
 - Manual selection: Choose the calibration board model from the dropdown menu.
2. Click [**Add image**], Capture the first image.



1. Move the calibration board and click Add Image to capture the second image.

When moving the calibration plate, it is recommended to translate and rotate the calibration plate at the same time. The recommended positions are the center and four sides of the field of view.



2. Repeat the above steps to capture at least 4 images.



Unqualified images are marked in red. Click [X] to delete an image.

3. Click [**Calibrate Intrinsic**] and wait for the calibration to complete.
 - If the calibration is successful, please recheck the intrinsics.
 - If the calibration fails, please try to capture more images or recapturing the images.

Restore Factory Intrinsics

If multiple calibration attempts fail, you can click [**Restore Factory Intrinsics**] at the top right corner of the interface to reset the camera intrinsics to their factory settings.

3.4.7. How to Restart the Software or Camera

When the software or camera experiences performance issues such as lagging or slow response, you can try restarting the software or camera.

- Restart Software:
 1. Click More Functions > Restart Configuration > Restart Software in the toolbar.
 2. In the pop-up window, click [OK].
- Restart Camera:
 1. Click More Functions > Restart Configuration > Restart Camera in the toolbar.
 2. In the pop-up window, click [OK].

3.4.8. How to Upgrade Camera Firmware

The camera firmware version should match the software version; otherwise, the software will not function properly.



For the compatibility between camera firmware and software versions, please refer to the [release notes](#).

The firmware upgrade procedure is as follows:

1. Contact technical support to obtain the camera firmware file.
2. Click More Functions > Advanced Options > Camera Firmware Upgrade in the toolbar.
3. In the firmware upgrade window:
 - a. Click [Upload Firmware] and select the firmware file.
 - b. Click [OK] and wait for the camera to restart.

3.4.9. How to set the camera ROI

ROI (Region of Interest) is a specific area within the data. Setting the ROI can improve processing efficiency and accuracy, as well as save resources.



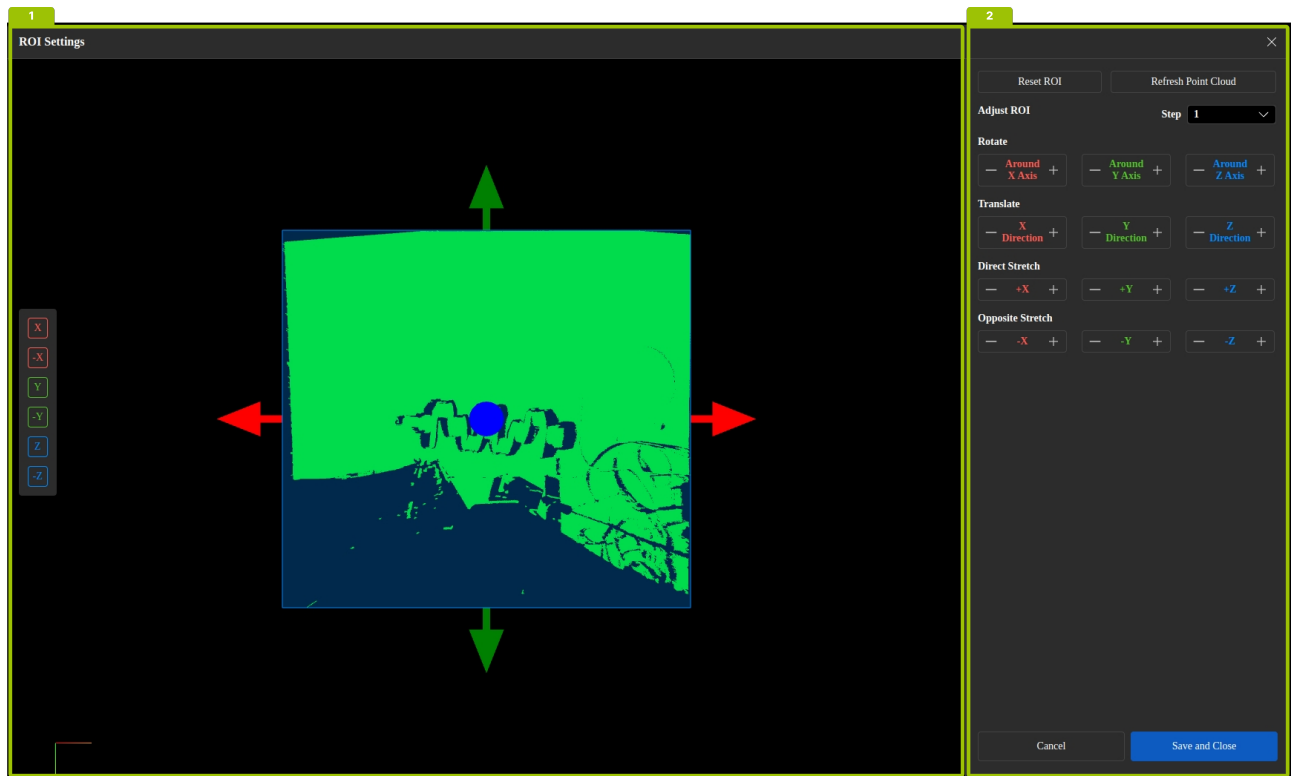
To set the camera's ROI, you need to trigger a photo once to capture the relevant data.

1. Enter ROI settings:

Click the toolbar More features > Advanced options > ROI Settings

2. Interface and operations:

The ROI settings interface is mainly composed of the following sections.



- 3D display area (①)

- Adjust view

Rotate view: Press and hold the left mouse button, then drag in any direction.

Pan view: Press and hold the right mouse button, then drag in any direction.

Zoom view: Scroll the mouse wheel.

Switch X/Y/Z views: Click the $\pm X/\pm Y/\pm Z$ buttons on the left side of the interface.

- Adjust ROI

Move the mouse pointer to the red/green/blue arrows, press and hold the left mouse button, and drag the arrows to adjust the ROI size.

- Parameter settings area (②)

In this area, the following operations can be performed:

- Reset ROI

Resetting the ROI will restore its size and position to the default initial state.

- Refresh point cloud

Refreshing the point cloud will trigger the camera to perform data acquisition and update the point cloud in the 3D display area.

- ROI size display

The current length, width, and height of the ROI are displayed in the ROI data field.

- ROI adjustment

Step adjustment: Select the step size from the dropdown menu on the right. The step size affects the amount of offset during each ROI adjustment.

Rotation, translation, and scaling adjustments: Click the corresponding[+]/[-]buttons.

3. Set ROI height

- a. Click[Y], to switch to the +Y view.
- b. Move the mouse pointer to the blue arrow, press and hold the left mouse button, and drag the arrow to adjust the ROI height.

4. Set ROI angle

In the parameter settings area, click the [-] button around the Y-axis to adjust the ROI angle.

5. Click in the pop-up window [Save and close].



After completing the ROI settings, you can enable or disable the ROI setting status display switch in the point cloud settings.

3.5. Parameter Details

Please check the corresponding parameters according to the camera model.

- [Epic Eye Pixel Mini/X/S-S/S-M/S-M Air/D-L Series Parameters](#)
- [Epic Eye Laser L Series Parameters](#)

3.5.1. Pixel Mini/X/S-S/S-M/S-M Air/D-L

2D Parameters

2D parameters affect the data quality of 2D images. The 2D image should have appropriate brightness, and the surface features of the target object in the image should be clear without being too bright or too dark.

By setting the exposure time and gain in the 2D parameter group, you can adjust the imaging quality of the 2D image.



When confirming the 2D exposure parameters, you can open the real-time view and gradually adjust the 2D parameters while observing the changes in image quality until the desired effect is achieved.

Exposure Time

- Description:

Exposure time is the duration for which the camera sensor is exposed to light in each frame. It determines the exposure level of the sensor to light, thus affecting the image brightness. The longer the exposure time, the higher the image brightness; the shorter the exposure time, the lower the image brightness.

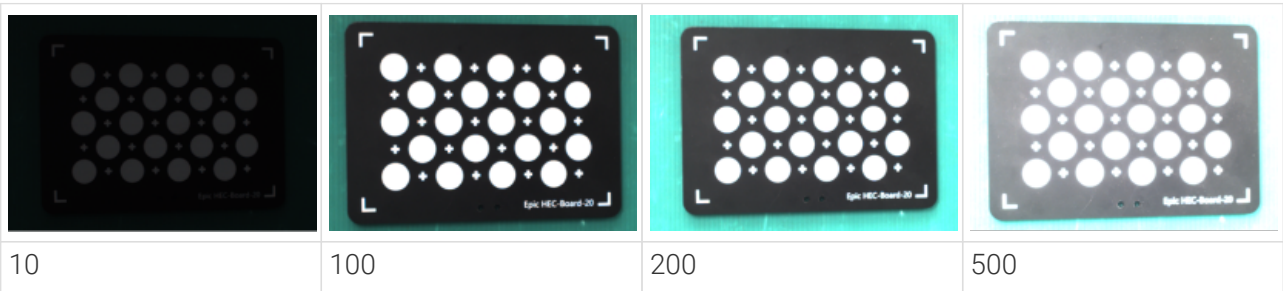
- Default Value: 500ms
- Range: 0.1~1000ms
- Adjustment Instructions:

Adjust according to the on-site environment. Generally, use longer exposure time in darker environments

and shorter exposure time in brighter environments.

• Example:

The following content only demonstrates the effect of changing exposure time on the point cloud. In actual situations, image effects will vary depending on the scene and parameter settings.



Gain

• Description:

Gain is the factor by which the camera amplifies the signal during image capture. It is used to increase the image brightness.

• Range: 0~24dB (0~16 for X series)

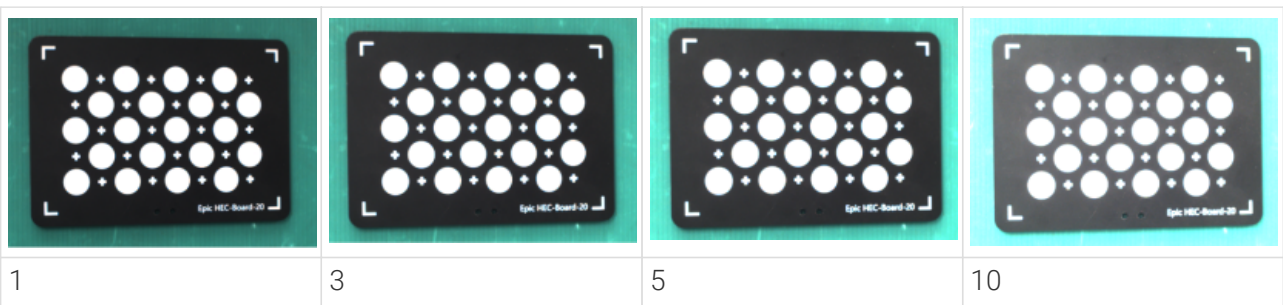
• Adjustment Instructions:

Increase gain appropriately in darker environments, but note that increasing brightness also increases noise in the image. Therefore, adjust according to the actual situation to minimize noise while ensuring brightness.

- If the on-site image is too dark and the 2D exposure time is already appropriately increased, increase the camera gain to further enhance the image brightness.
- If there are high-speed requirements on-site, decrease the exposure time and increase the gain to maintain image brightness.

• Example:

The following content only demonstrates the effect of changing gain on the image. In actual situations, image effects will vary depending on the scene and parameter settings.



3D Parameters

3D parameters affect the data quality of point clouds and depth maps. Point clouds and depth maps should contain complete surface information of the object.

By setting the exposure time, gain, and exposure parameter group in the 3D parameters, you can adjust the imaging quality.

Exposure Time

- Description:

Exposure time affects the density, quality, and noise level of the point cloud. Longer exposure time produce denser point clouds but may lead to decreased quality and increased noise; shorter exposure time improve quality and reduce noise but may result in lower point cloud density. Exposure time that are too short or too long can result in missing point cloud information.

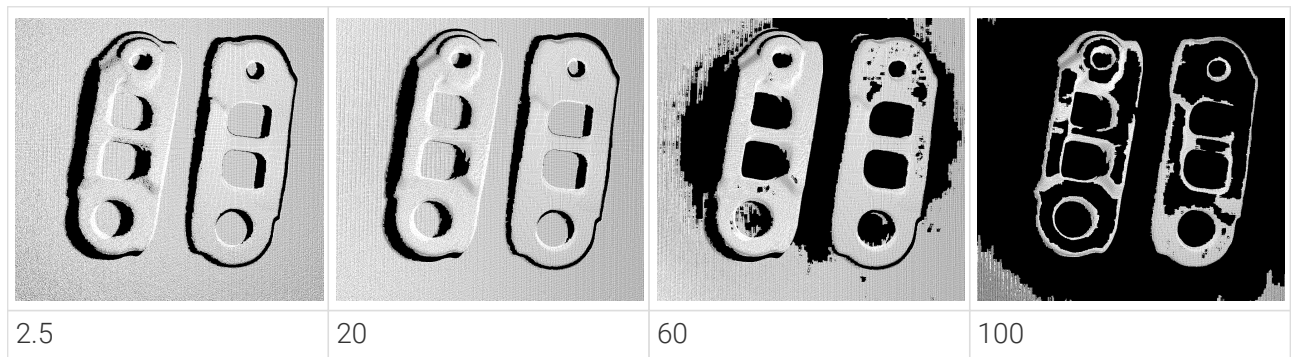
- Range: 2.5~1000ms

- Adjustment Instructions:

Adjust according to the workpiece situation. Darker workpieces typically use longer exposure time, while lighter workpieces use shorter exposure time.

- Example:

The following content demonstrates the effect of changing exposure time on the point cloud. In actual situations, the point cloud effect will vary depending on the scene and parameter settings.



Gain

- Description:

Camera gain affects the brightness, contrast, and noise level of the point cloud. Higher gain enhances brightness and contrast but may increase noise; lower gain has the opposite effect.

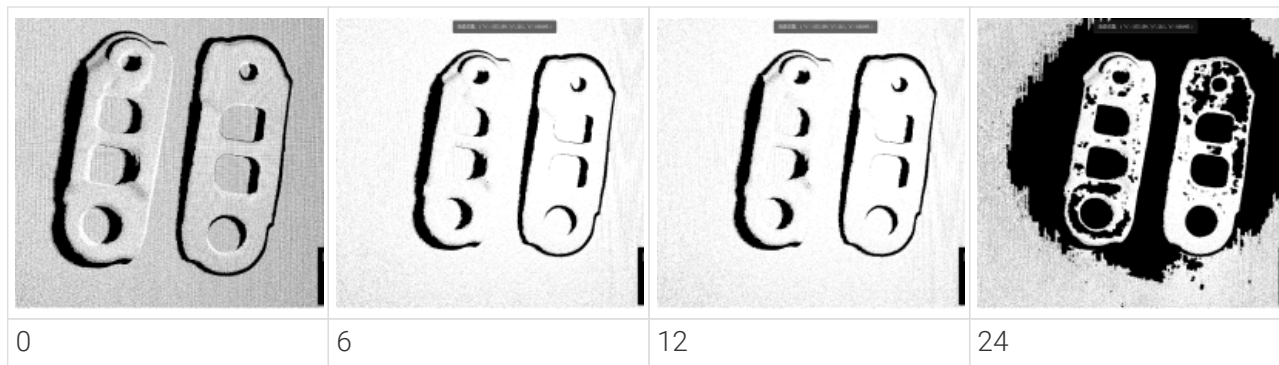
- Range: 0~24dB

- Adjustment Instructions:

Select appropriate gain to balance brightness and noise, ensuring point cloud quality.

- Example:

The following content demonstrates the effect of changing gain on the point cloud. In actual situations, the point cloud effect will vary depending on the scene and parameter settings.



Exposure Parameter Group

To obtain a complete and high-quality point cloud of the object, especially when the object has both dark and light parts, you can increase the number of exposure parameter groups. By performing multiple exposures, each using different combinations of exposure time and gain, and then fusing the point cloud effects obtained under these different exposure conditions, you get the final complete point cloud.

Up to three groups of exposure parameters can be used, with different values set for each group. Increasing the number of groups will increase the shooting time, so try to minimize the number of exposures while ensuring image quality.

General Settings

Projection Mode

- Description:

Controlling the coding method of the projection system during projection mainly affects the scanning speed and precision.

- Options: Fast Coding, Precise Coding
- Adjustment Instructions:

Projection Mode	Acquisition Speed	Point Cloud Quality	Applicable Scenarios
Fast Coding	Fast	Low	High requirements for point cloud quality.
Precise Coding	Slow	High	High requirements for point cloud.

Projection Brightness

- Description: the brightness of the structured light during projection.
- Options: Low, Medium, High
- Adjustment Instructions:
 - Medium ambient light, Dark-colored objects: High projection brightness is appropriate.
 - Medium ambient light, Light-colored objects: Medium projection brightness is appropriate.
 - Low ambient light, Dark-colored objects: High or medium projection brightness is appropriate.
 - Low ambient light, Light-colored objects: Medium or low projection brightness is appropriate.

Point Cloud Smoothing

- Description:

Point cloud smoothing can be used to reduce depth fluctuations in the point cloud, making it closer to the

real surface of the object, but it will lose some surface details of the object.

- Options: Off, Low, Medium, High, Ultra
- Adjustment Instructions:

Higher smoothing strength results in more loss of surface details; lower strength results in less loss of surface details.

Point Cloud Filling

- Parameter Instructions:

Used to fill in gaps in the point cloud.

- Parameters: Off, Weak, Medium, Strong, Super Strong
- Adjustment Instructions: The higher the point cloud filling strength, the more complete the generated surface point cloud of the object will be.

Noise Filtering

- Parameter Instructions:

Used to clean up noise in the point cloud data, specifically those points that are isolated from the target point cloud.

- Parameters: Off, Weak, Medium, Strong, Super Strong
- Adjustment Instructions: The noise filtering strength determines the intensity of cleaning noise in the point cloud. The higher the strength, the more noise is removed; the lower the strength, the fewer points are removed.

3.5.2. Laser L

2D Parameters

2D parameters affect the quality of the 2D image. The brightness of the 2D image should be appropriate, rather than too bright or too dark, to ensure that the surface features of the objects are clearly visible.

You can adjust the image quality of the 2D image by setting the exposure time and gain under the 2D parameters group.



When confirming the 2D exposure parameters, you can adjust the 2D parameters in the real-time view and observe the changes in image quality until the ideal effect is achieved.

Exposure Time

- Description:

Exposure time is the duration for which the camera's sensor is exposed to light for each frame. It determines the level of exposure to light, thus affecting the brightness of the image. The longer the exposure time, the brighter the image; the shorter the exposure time, the darker the image.

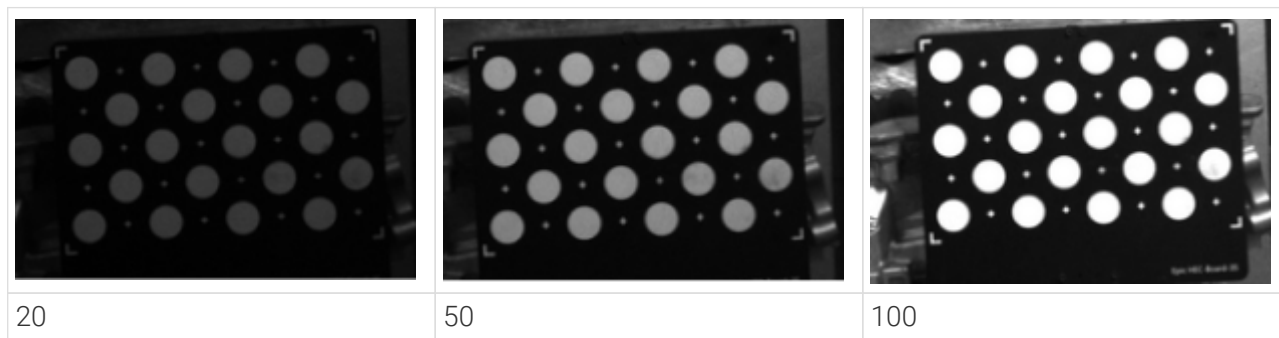
- Range: 0.1~1000ms
- Adjustment Instructions:

Make Adjustment according to the on-site environment. Generally, longer exposure time are used in

darker environments, and shorter exposure time are used in brighter environments.

- Example:

The following content only demonstrates the effect of changing exposure time on the image. In actual situations, image effects will vary depending on the scene and parameter settings.



Gain

- Description:

Gain is the multiple by which the signal is amplified during image acquisition. It is used to increase the brightness of the image.

- Range: 0~24dB

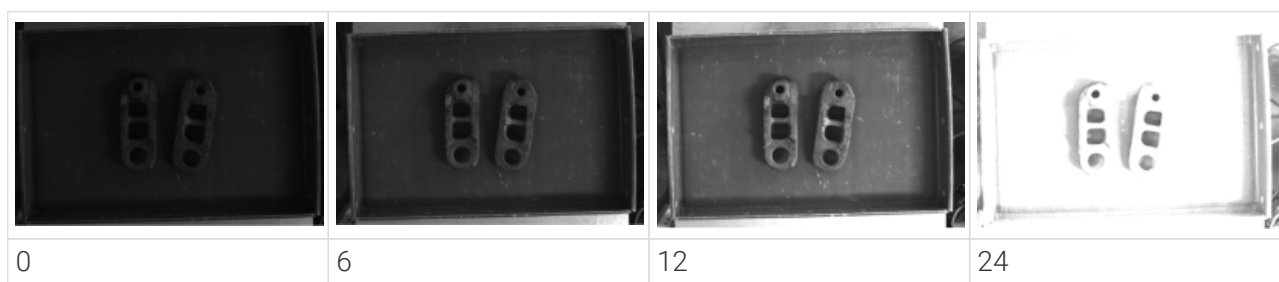
- Adjustment Instructions:

When the environment is dark, the image gain can be appropriately increased, but it should be noted that increasing the brightness will increase the noise in the image. Therefore, it is necessary to adjust it according to the actual situation to minimize the impact of noise while ensuring the brightness.

- If the on-site image is dark and the 2D exposure time is already appropriately increased, you can increase the camera gain to enhance the image brightness.
- If there is a high requirement for speed, you can reduce the exposure time and increase the gain to ensure adequate brightness while maintaining the necessary speed.

- Example:

The following content only demonstrates the effect of changing gain on the image. In actual situations, image effects will vary depending on the scene and parameter settings.



3D Parameters

3D parameters affect the quality of the point cloud and depth map. The point cloud and depth map should contain complete surface information of the object.

You can adjust the quality by setting the exposure time, gain, and exposure parameter group in the 3D parameters.

Exposure Time

- Description:

Exposure time affects the density, quality, and noise level of the point cloud. Longer exposure time produce denser point clouds but may decrease quality and increase noise; shorter exposure time improve quality and reduce noise but may result in lower point cloud density. Exposure time that are too short or too long can lead to missing point cloud information.

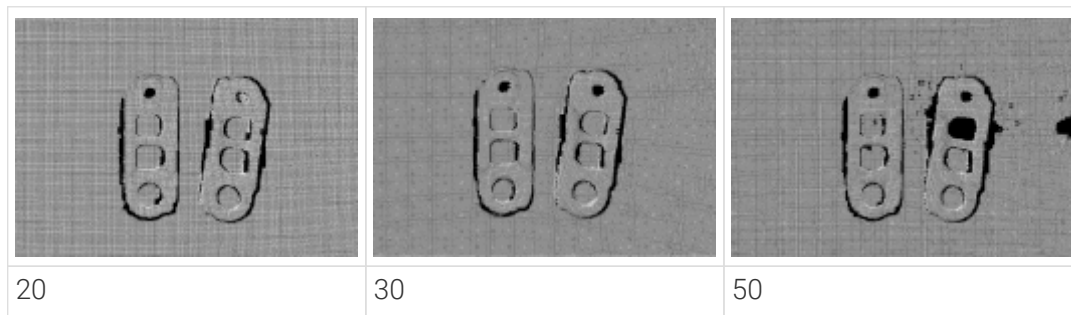
- Range: 20~200ms

- Adjustment Instructions:

Adjust according to the characteristics of the workpiece. Dark-colored workpieces typically use longer exposure time, while light-colored workpieces typically use shorter exposure time.

- Example:

The following content only demonstrates the effect of changing exposure time on the point cloud. In actual situations, point cloud effects will vary depending on the scene and parameter settings.



Gain

- Description:

Gain affects the brightness, contrast, and noise level of the point cloud. High gain increases brightness and contrast but may increase noise; low gain has the opposite effect.

- Range: 0~24dB

- Adjustment Instructions:

Select an appropriate gain to balance brightness and noise, ensuring point cloud quality.

3D Exposure Parameter Group

To obtain a complete and high-quality point cloud of an object, especially when the object has both dark and light parts, you can use the 3D exposure parameter group. This involves taking multiple exposures, each with different combinations of exposure time and gain, and then merging the point cloud results from these different exposure conditions to get the final complete point cloud image.

Up to three groups of 3D exposure parameters can be used, with different parameter values set for each group. Increasing the number of exposure parameter groups will increase the capture time, so minimize the number of exposures while ensuring image quality.

General Settings

Laser projection partition

- Parameter description:

Control the camera to scan each sub-area sequentially and integrate the data of each sub-area to generate complete data. Using laser partitioning to take pictures can reduce ambient light interference, thereby improving image quality and signal-to-noise ratio.

- Parameter items: 1 partition, 2 partitions, 3 partitions, 4 partitions
- Adjustment instructions:

The more partitions, the higher the data quality, but the shooting time will be correspondingly longer. Please select parameters that can meet the image accuracy and beat requirements according to the actual situation.

Encoding method

- Parameter description:

Control the encoding method of the laser projection system during scanning, which mainly affects the scanning speed and accuracy.

- Parameters: Fast Encoding, Precise Encoding
- Adjustment Instructions:

Projection Mode	Acquisition Speed	Point Cloud Quality	Applicable Scenarios
Fast Encoding	Fast	Low	Non-reflective Objects, High Requirements for Beat
Precise Encoding	Slow	High	Non-reflective Objects, High Requirements for Point Cloud Quality

Smoothing Parameters

- Parameter Instructions:

Point Cloud Smoothing can be used to reduce the depth fluctuation of the point cloud, so that the point cloud is closer to the real object surface, but some surface details of the object will be lost.

- Parameters: Off, Weak, Medium, Strong, Super Strong
- Adjustment Instructions:
 - The higher the point cloud smoothing intensity, the more surface details of the object will be lost; the lower the intensity, the less surface details of the object will be lost.
 - The higher the point cloud smoothing intensity, the longer the calculation time; the lower the intensity, the shorter the calculation time.

Point Cloud Filling

- Parameter Instructions:

Used to fill in gaps in the point cloud.

- Parameters: Off, Weak, Medium, Strong, Super Strong
- Adjustment Instructions: The higher the point cloud filling strength, the more complete the generated surface point cloud of the object will be.

Noise Filtering

- Parameter Instructions:

Used to clean up noise in the point cloud data, specifically those points that are isolated from the target point cloud.

- Parameters: Off, Weak, Medium, Strong, Super Strong
- Adjustment Instructions: The noise filtering strength determines the intensity of cleaning noise in the point cloud. The higher the strength, the more noise is removed; the lower the strength, the fewer points are removed.

LED Fill Light

- Description:

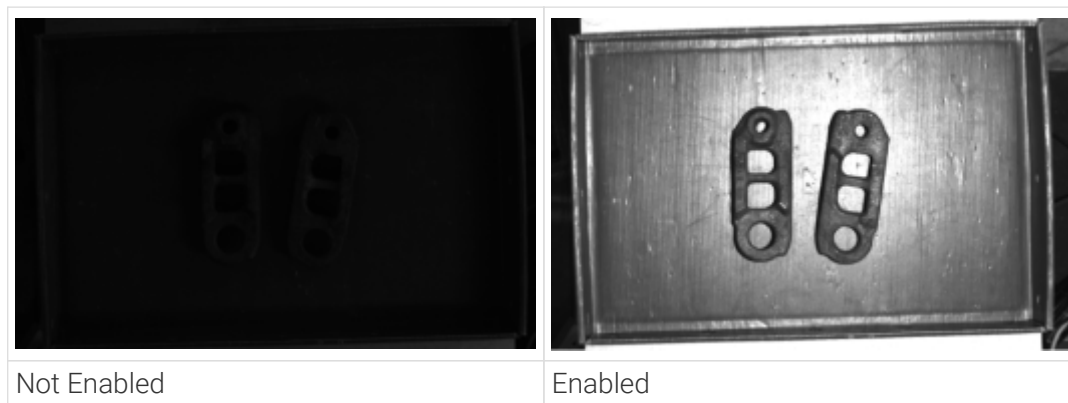
After the LED is turned on, there will be better lighting conditions during image capture to improve the image quality.

- Adjustment Instructions:

Consider enabling the LED fill light function in low-light environments where image quality cannot be improved even by adjusting exposure time and image gain.

- Example:

The following content only demonstrates the effect of LED fill light on the image. In actual situations, image effects will vary depending on the scene and parameter settings.



4. Extension and Support

4.1. Terms and Concepts

- **Point Cloud**

Point clouds are used to describe the geometric structure and surface characteristics of objects in three-dimensional space. A point cloud consists of many discrete points, each of which containing position information in a three-dimensional coordinate system (usually XYZ coordinates), as well as possible other attributes such as color, normal vectors, curvature, etc.

- **Depth Map**

A depth map is a two-dimensional image where each pixel value represents the distance from the camera to the corresponding point, used to describe the depth information of points in a scene.

- **Texture**

Texture refers to an image or pattern applied to the surface of a three-dimensional model to add detail and realism, making the model surface more complex and lifelike.

- **False Color**

False color is a technique used to enhance the contrast and details of an image by mapping grayscale values from a grayscale image to color values. It is commonly used to highlight features in depth maps or other monochrome images.

- **Exposure**

Exposure refers to the length of time that the light-sensitive element (such as CMOS or CCD) of a camera is exposed to light when capturing an image. Exposure time determines the duration of exposure to light when capturing an image, affecting the brightness and clarity of the image. It is typically measured in milliseconds (ms).

- **Gain**

Camera gain refers to the multiple applied to the signal on the image sensor. Higher gain results in brighter images, but can also increase image noise. Gain is often used to increase the brightness of an image in low light conditions.

- **Camera Intrinsic Parameters**

Camera intrinsic parameters are parameters that describe the internal optical characteristics and geometric structure of a camera, including focal length, principal point, pixel size, etc. Camera intrinsic parameters are typically obtained through camera calibration and are used for image distortion correction and camera pose calculation, among other things.

- **Camera Firmware**

Camera firmware is the software program inside the camera that controls the camera's functions and operations. It includes camera drivers, operating systems, and other necessary software modules to implement various camera functions, such as image capture, parameter adjustment, data transmission, etc.

4.2. Troubleshooting

- [Camera Network Status Light Is Normal, but Epic Eye Software Cannot Start](#)
- [Camera Network Status Light Abnormalities](#)
- [Slow Transfer Speed, Long Transfer Time](#)
- [Camera Power Entering Protection Mode Due to Strong Electromagnetic Interference](#)
- [Hand-Eye Scenario: Occasional Camera Connection Failure in Host System](#)
- [\[support:troubleshooting-error code-description:::\]](#)

4.2.1. Camera Network Status Light Abnormalities

Issue Symptoms

- D-L/S-M Air/X series cameras have the network status light off, or in a color other than green.
- Laser L camera logo light is green, yellow, or purple.



For camera status light explanations, refer to [Camera Hardware Manual](#).

Possible Causes

- The camera network cable is not connected to the LAN port of the router.
- The network cable is damaged.

Solution

1. Check if the camera network cable is connected to the LAN port of the router.
2. [Check the network cable](#).

4.2.2. Camera Network Status Light Is Normal, but Epic Eye Software Cannot Start

Issue Symptoms

The camera network status light is normal, but the Epic Eye software cannot start.

Possible Causes

- The camera IP address is being used by another device.
- The camera IP address has changed.

Solution

Use the **Ping xxx** command in the terminal to check if the camera is online.



xxx refers to the camera's IP address and port number, e.g., 192.168.10.1:5000.

- If the camera cannot be pinged, its IP address may have changed. In this case, the new camera IP address needs to be found using the router's configuration tool or the camera IP management tool.
- If the camera can be pinged but the Epic Eye software still cannot start, the IP address may be in use by another device on the local network. In this case, check the router's configuration interface for duplicate IP addresses and differentiate the camera's IP address from others.

If the issue persists after trying the above methods, please contact technical support.

4.2.3. Slow Transfer Speed, Long Transfer Time

Issue Symptoms

After capturing an image in Epic Eye, the transfer time and transfer speed will be displayed at the top left of the interface.

Under normal conditions, the transfer time and speed based on different bandwidths are as shown in the table below:

Network Bandwidth	Transfer Time	Transfer Speed
Gigabit	~300ms	1000Mbps
Fast Ethernet	1000ms	100Mbps

If the transfer time and speed differ significantly from the above table, it indicates an abnormal transfer speed.

Possible Causes

The issue may be due to damage to the camera's internal wiring, the camera's Ethernet cable, the Ethernet cable connecting the computer and the router, or the camera's Ethernet port.

Solution

1. Check if the camera's Ethernet cable plug is damaged. If damaged, repair it with a tool or contact Transfer to replace the camera's Ethernet cable.
2. Check if the camera's Ethernet port is damaged. If damaged, contact technical support to replace the camera.
3. Check if the Ethernet cable connecting the computer and the router is a gigabit cable (you can verify this in Settings > Network > Wired) and if it is damaged. If it's a Fast Ethernet cable, replace it with a gigabit Ethernet cable.
4. If none of the above checks reveal an issue, the camera's internal Ethernet cable may be damaged. In this case, contact technical support to replace the camera.

4.2.4. Camera Power Entering Protection Mode Due to Strong Electromagnetic Interference

Issue Symptoms

The camera power is affected by strong electromagnetic interference on-site, causing the camera power to enter protection mode and preventing normal use.

Possible Causes

Strong electromagnetic interference on-site has affected the stability of the camera power supply, triggering the protection mechanism.

Solution

Unplug and re-plug the 220V power supply to restore the normal operation of the camera power.

4.2.5. Hand-Eye Scenario:Occasional Camera Connection Failure in Host System

Issue Description

In the hand-eye scenario, the host system intermittently fails to call the camera during operation.

Possible Causes

- Camera power failure
- Abnormal software service operation

Solution

- Check the camera log for a **System restarted** entry.
 - If this entry appears, inspect whether the camera power cable has been tugged by the robot. After securely reconnecting the power cable, restart the camera.
- Check the camera log for a **Software restart** entry.
 - If this entry appears, attempt to power off the camera, then reconnect and restart it.

4.2.6. Error Status Code Explanation

Hexadecimal Status Code	Decimal Status Code	Status Information	Status Meaning
0x01	1	CUDA_ERROR	CUDA function execution error
0x02	2	INPUT_ERROR	Function input error
0x10-0x1F	16-31	CAMERA_2D_ERROR	2D camera error
0x11	17	CAMERA_2D_DAHENG_LIB_ERROR	2D camera call failure
0x12	18	CAMERA_2D_TIMEOUT_ERROR	Image acquisition timeout error
0x20-0x2F	32-47	PROJECTOR_ERROR	Projection failure
0x21	33	PROJECTOR_LASER_SERIAL_ERROR	Laser camera projection module communication failure
0x22	34	PROJECTOR_I2C_ERROR	Pixel series camera projection communication failure
0x23	35	PROJECTOR_CONNECT_ERROR	Camera projector connection failure
0x24	36	PROJECTOR_TRIGGER_ERROR	Camera projector trigger failure
0x30-0x3F	48-63	CONFIG_ERROR	Parameter setting error
0x31	49	CONFIG_JSON_ERROR	Parameter file format error
0x32	50	CONFIG_MISSING_FIELD_ERROR	Missing field in parameter file
0x34	52	CONFIG_VALUE_ERROR	Invalid parameter value
0x40-0x4F	64-79	EPICEYE_ERROR	Epic Eye error
0x50-0x5F	80-95	RECONSTRUCTOR_ERROR	Image reconstruction error



If any of the above issues occur, please try restarting the software or restarting the camera to resolve them.

4.3. 3D Structured Light Camera Imaging Principle

The 3D structured light camera mainly is composed of the following parts:

Imaging Sensor	Used to capture light in the scene and convert it into digital images.
Projector	Used to project structured light or encoded patterns onto the object being captured. These patterns can be used for subsequent 3D reconstruction and measurement.
Control Circuit and Processor	These components are used to control the camera's functions and parameters and process the data obtained from the imaging sensor. The processor typically executes algorithms such as depth image processing and 3D reconstruction.

The imaging process is as follows:

1. **Projection of Encoded Light:** The projector emits light with specific encoding, which can be in the form of grids, stripes, or other specific patterns. This encoding is known optically and can be used for subsequent computation and analysis.
2. **Reflection from Object Surface:** The encoded light projected onto the object's surface reflects back to the imaging sensor in different ways. Differences in the shape of the object surface result in variations in the position and shape of the reflected light.
3. **Image Capture by Imaging Sensor:** The imaging sensor captures the reflected light to form a structured light image. This image contains variations of the encoded light on the object's surface, representing distortions of the projected pattern on the object's surface.
4. **Extraction of Depth Information:** By analyzing the distortions of the encoded light in the structured light image, depth information of the object surface can be inferred. This process typically involves using computer vision and image processing algorithms such as triangulation and phase analysis.
5. **Calculation of Position Information:** In addition to depth information, structured light images can also be used to calculate the position of the object. By analyzing the shapes and positions of the encoded patterns in the image, the object's position in the camera coordinate system can be inferred.

4.4. Network Configuration

4.4.1. How to Get and Set the Camera IP

You can use [Camera IP Management Tool](#) or [Router Configuration Tool](#) to query and set the camera IP address.

Camera IP Management Tool

Whether the camera is connected directly to the industrial computer or connected to the industrial computer through a router, you can use [Camera IP Management Tool](#) to query and modify the camera IP address.

Install the IP Management Tool for Cameras

Ubuntu

1. [Download the EpicEyeSearchTool software installation package.](#)
2. Enter the following command in the terminal to install the **IP Management Tool for Cameras**.

```
sudo dpkg -i epiceye-searchtool_1.0.1_amd64.deb
```

3. Search for **epiceye-searchtool** in the application list, and click the corresponding icon to launch the IP Management Tool for Cameras.

Windows

1. [Download the EpicEyeSearchTool software installation package.](#)
2. Right-click the downloaded software installation file (the.exe file), run it as an administrator, set the installation path in the installation wizard, and then click [**Install**]. Wait for the installation to complete.
3. After the installation is completed, double-click the EpicEyeSearchTool icon on the desktop to launch the IP Management Tool for Cameras.

Set the Camera IP

Set a Static Camera IP



The camera IP is dynamically allocated by default. In order to prevent the router from reallocating the IP address to the camera in the event of a power outage or other abnormal conditions and to ensure the stable use of the camera, you can add a static IP to the camera.

Follow the steps below to set a static camera IP:

1. Start the **Camera IP Management Tool**.
2. Click  in the **Modify IP** column.
3. In the Modify Camera IP window:
 - a. Set the IP allocation type to **Static IP**.
 - b. Enter the IP address.
 - c. Click [**Confirm**].

Dynamically Allocate Camera IP

Perform the following steps to set the dynamically allocated camera IP:

1. Launch the **Camera IP Management Tool**.
2. Click  in the **Modify IP** column.
3. In the Modify Camera IP window:
 - a. Set the IP allocation type to **DHCP**.
 - b. Click [**Confirm**].

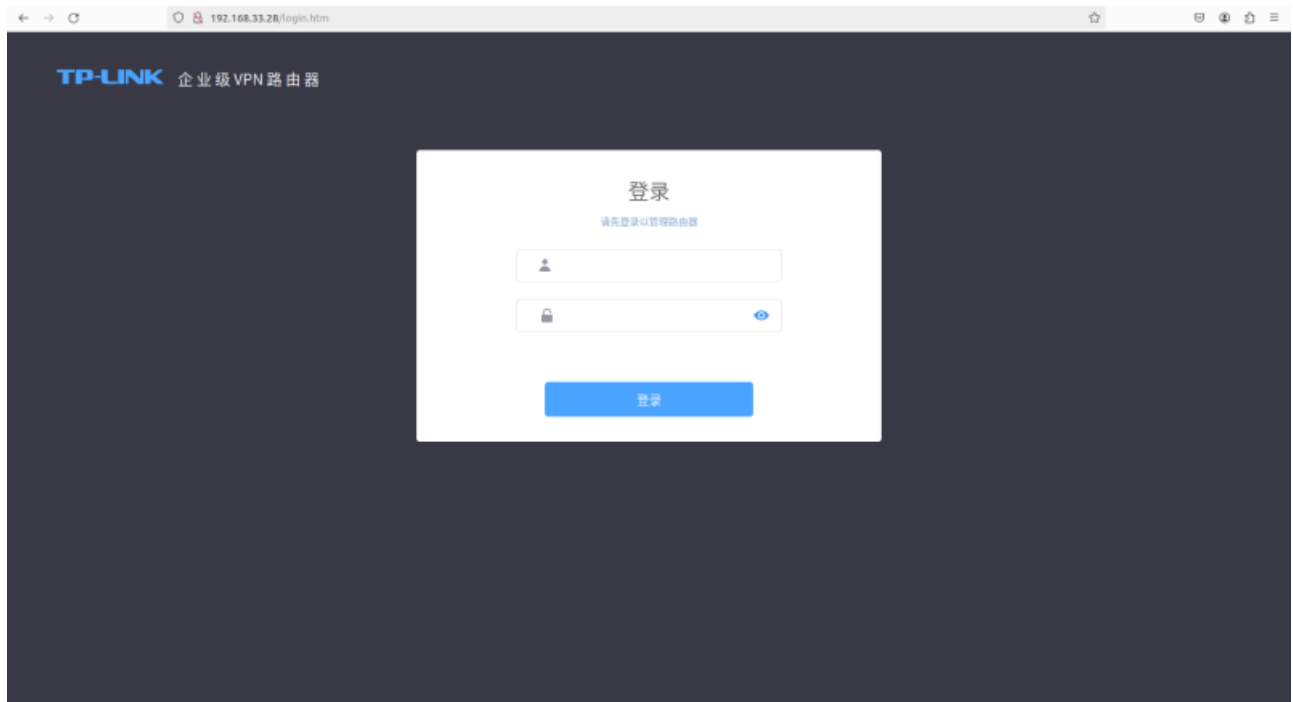
Router Configuration Tool

When the camera is connected to the industrial computer through a router, query and modify the camera IP in the router configuration interface.

Confirm the Camera IP

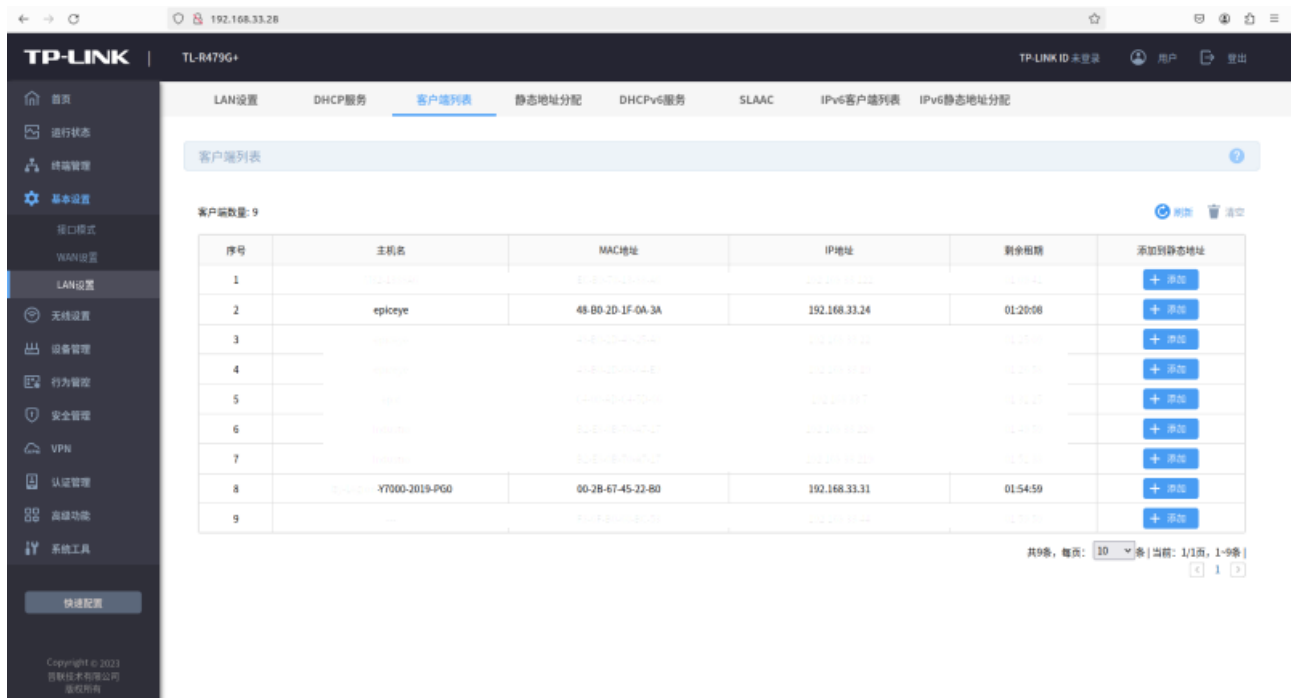
Get the confirmed IP address in the router configuration interface. The steps are as follows:

1. Open the browser and enter tplogin.cn or the default IP address of the router 192.168.1.1 in the address bar.
2. In the router login interface, enter the account and password, and click [Login].



3. Click Basic Settings > LAN Settings > Client List.

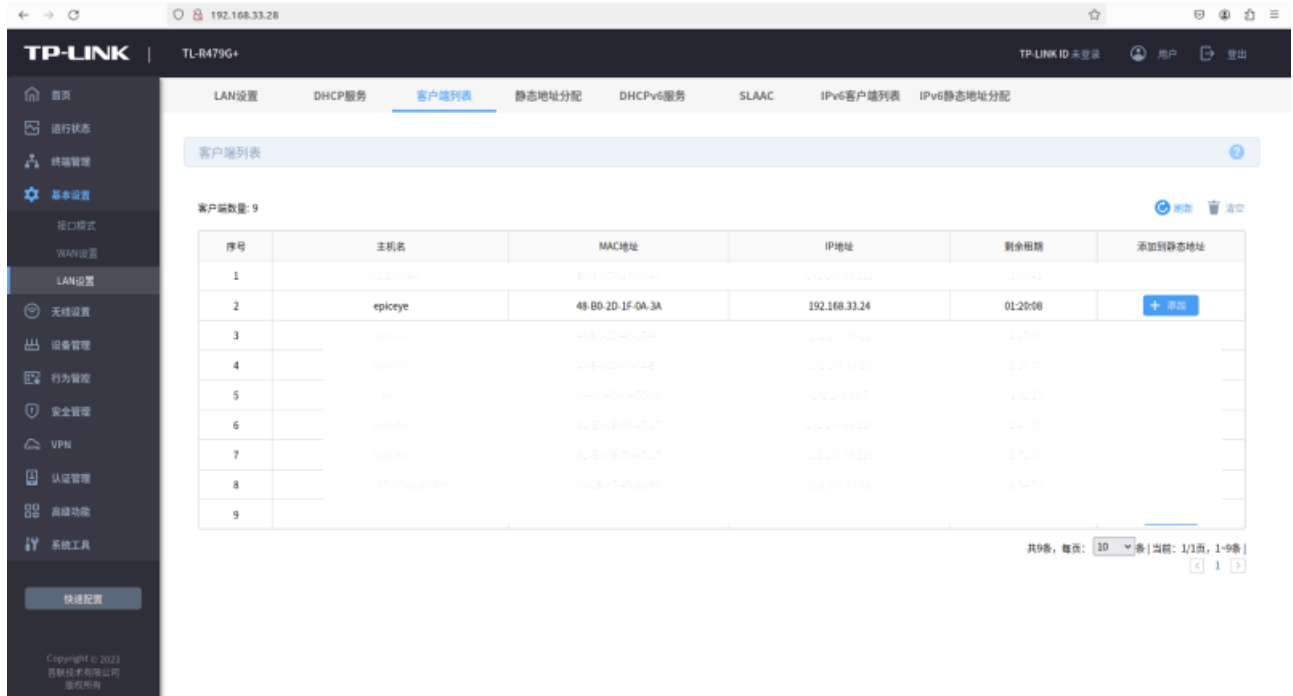
In this list, you can confirm the camera IP address and industrial computer IP address.



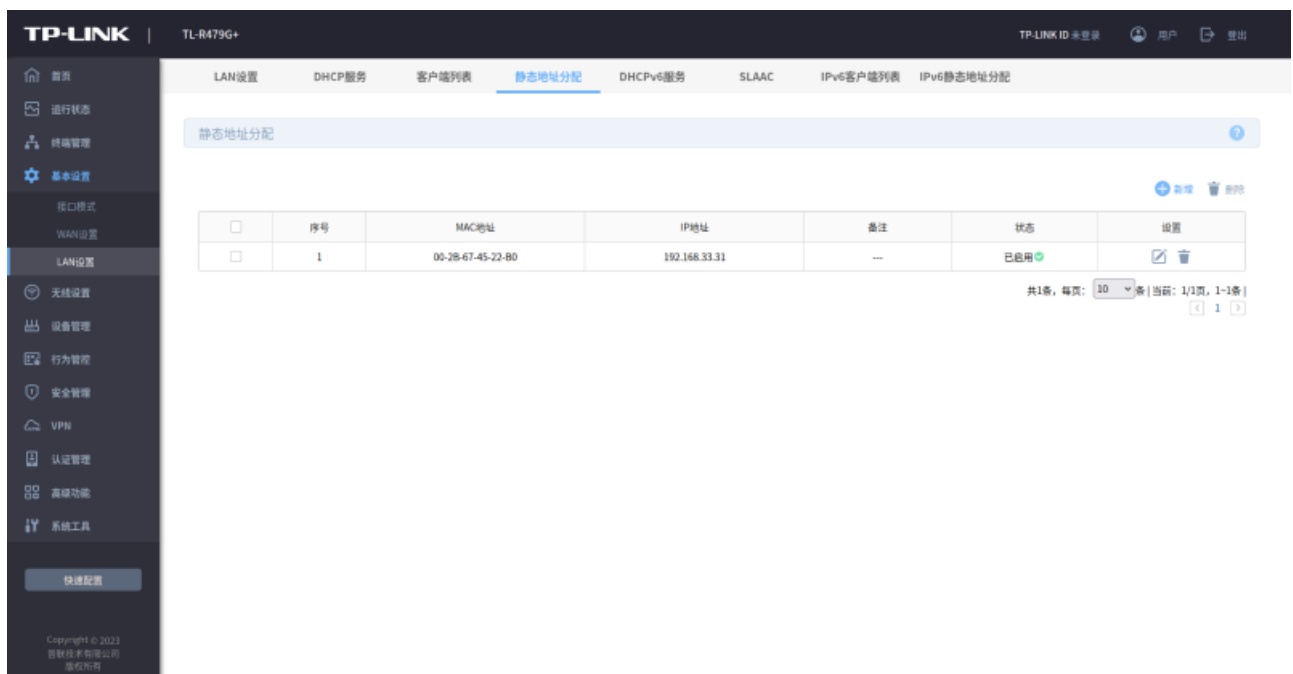
Set the Camera IP

The camera IP is dynamically allocated by default. In order to prevent the router from reallocating the IP address to the camera in the event of a power outage or other abnormal conditions and to ensure the stable use of the camera, you can add a static IP to the camera.

1. Find the corresponding camera in the client list of the router configuration interface.
2. Click [Add] on the right.



3. In the static address allocation, you can view and modify the added static IP address.



4.4.2. How to Set Industrial PC IP

When setting the camera IP, please ensure that the following two IP addresses are unique and in the same network segment.

- The IP address of the camera.
- The IP address of the industrial computer port connected to the camera.

Ubuntu

To set the IP address of the industrial PC network port connected to the router in the Ubuntu system, follow these steps:

1. Open the network settings window and click .
2. In the wired settings window, click [**IPv4**].
 - If set to dynamically assign IP, check **Automatic (DHCP)** and then click [**Apply**].
 - If set to a static IP, check **Manual** and enter the IP, then click [**Apply**].

Windows

In the Windows system, follow these steps to set the IP of the industrial computer network port connected to the router.

1. Enter "Network" in the search box in the lower left corner of the desktop and select "Network Status" to enter the "Network Status" window.
2. Click [**Change adapter options**] under "Advanced network settings".
3. Right-click on the network port connected to the camera, and click [**Properties**] in the shortcut menu.
4. In the popped-up properties window, double left-click [**Internet Protocol Version 4 (TCP/IPv4)**] with the left mouse button.
5. In the popped-up properties window:
 - If set to **dynamically assign IP**, check **Obtain an IP address automatically**, then click [**OK**].
 - If set to **static IP**, check **Use the following IP address**, enter the IP, then click [**OK**].

Firewall Settings

To ensure normal communication between the industrial PC and the camera, the firewall needs to be turned off.

1. Enter "Network" in the search box in the lower left corner of the desktop and select "Network Status" to enter the "Network Status" window.
2. In the network status window, click [**Windows Firewall**].
3. In the firewall and network protection window:
 - a. Click [**Domain Network**].
 - b. Set **Microsoft Defender Firewall** to **Off**.
4. Refer to the step 3 to set Private Network and Public Network to Off.

4.4.3. Camera IP Management Tool

Whether the camera is connected directly to the industrial computer or connected to the industrial computer through a router, you can use this tool to query and modify the camera's IP address.

Install the IP Management Tool for Cameras

Ubuntu

1. [Download the EpicEyeSearchTool software installation package.](#)
2. Enter the following command in the terminal to install the **IP Management Tool for Cameras**.

```
sudo dpkg -i epiceye-searchtool_1.0.1_amd64.deb
```

3. Search for **epiceye-searchtool** in the application list, and click the corresponding icon to launch the IP Management Tool for Cameras.

Windows

1. [Download the EpicEyeSearchTool software installation package.](#)
2. Right-click the downloaded software installation file (the.exe file), run it as an administrator, set the installation path in the installation wizard, and then click [**Install**]. Wait for the installation to complete.
3. After the installation is completed, double-click the EpicEyeSearchTool icon on the desktop to launch the IP Management Tool for Cameras.

Use

Click the  in the **Modify IP** section to open the window, where you can set the camera IP to **Dynamic IP (DHCP)** or **Static IP**.

In order to prevent the router from reallocating the IP address to the camera in case of power outage or other abnormal conditions and ensure the stable use of the camera, it is recommended to add a static IP to the camera.

Dynamic IP (DHCP)

- Description

A dynamic IP address is an IP address dynamically assigned to the camera by a DHCP (Dynamic Host Configuration Protocol) server. Each time the camera connects to the network, the DHCP server assigns an IP address to the camera from a pool of available IP addresses. This IP address may change each time the camera is connected.

- Operation

Set the **IP Assignment Type** to **DHCP**, click [**Confirm**], and wait for the camera IP assignment type to be successfully modified.

Static IP

- Description

A static IP address is a fixed IP address that is manually assigned and configured. When setting a static IP, ensure that the camera's IP address is unique.

- Operation

Set the **IP Assignment Type** to **Static IP**, enter the IP address and subnet mask, click [**Confirm**], and wait for the camera IP assignment type to be successfully modified.