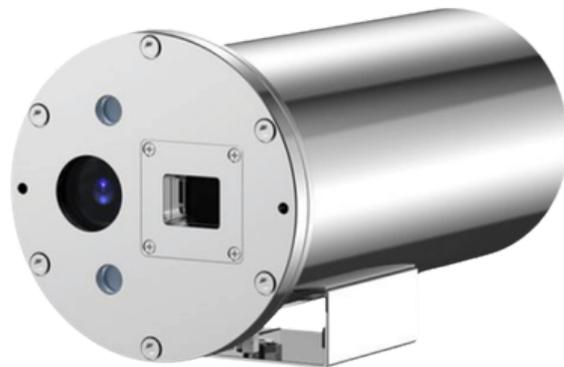


2MEPT04-TH35MM

Explosion-Proof Thermal and Optical Bi-Spectrum Network Camera Housing

Instruction Manual



2MEPT04-TH35MM Explosion-Proof Network Camera Housing

Security Assurance

This product is designed and manufactured to meet the following safety and performance requirements:

- It operates without causing harmful interference.
- Its operation cannot be adversely affected by external interference within a reasonable range.

Important Notices

- Do not disassemble this product under any circumstances. Removing the cover, bolts, or other components may result in water ingress, electric shock, or equipment damage. Always follow the operating instructions in this manual.
- Ensure the unit is used only within the specified atmospheric pressure, temperature, and humidity ranges outlined in Section 1.6.
- Confirm that the power supply meets the specifications listed on the product nameplate.
- Internal and external grounding must be securely connected.
- Ensure that the installation is stable and secure to prevent the camera from accidental damage.
- Do not modify any certified explosion-proof components. Unauthorized modification may compromise explosion-proof performance.

Please read this Instruction Manual in full before installing or operating this product.

Before use, ensure you understand all related safety guidelines, warnings, and operational requirements.

1. Installation Safety Precautions

- Disconnect power before performing any maintenance or repair. **DO NOT OPEN WHEN ENERGIZED.**
- Do not open the housing in environments with oil fumes, heavy dust, high temperatures, or condensation; these conditions may reduce image quality.
- Follow all wiring instructions provided in this manual. Incorrect wiring may cause faults or failures.
- When performing maintenance, protect the flame-proof joints and prevent metal shavings or foreign objects from entering the chamber.
- Do not disassemble or modify the product.

2. Construction Safety

- Follow all onsite construction safety regulations strictly.
- Immediately address any safety hazards discovered during installation. Suspend work if necessary.
- Inspect and repair safety equipment after severe weather conditions.
- Remove ice, fog, rain, and snow before operation.
- Establish warning zones when installing or removing protective housings and ensure designated personnel monitor the area.
- Installation may require working at elevated heights. All personnel must be properly trained and qualified.

3. Power Supply Requirements

- Installation and servicing must comply with local electrical safety standards.
- A conveniently accessible disconnecting device should be available for emergency power cutoff.
- Verify the power supply rating before powering on the device.
- Protect power cables from crushing, bending, or trampling—especially at plugs, sockets, and connection points.

4. Operating Environment Requirements

- Avoid directing the camera at strong light sources (such as lamps or sunlight). Although this is not a malfunction, it may shorten the lifespan of the CCD/CMOS sensor.
- Operate, transport, and store the device only within the allowed temperature and humidity ranges. Keep away from:
 - Excessive heat above +60°C
 - Extreme cold below -40°C
 - High moisture
 - Areas with strong electromagnetic interference or unstable lighting
- Prevent water or conductive liquids from entering the device to avoid electrical damage.
- Ensure proper ventilation and avoid overheating.
- Protect the device from impacts, crushing, or excessive vibration during transport or use.
- Pack the device using original or equivalent protective packaging during transportation.
- Use external lightning protection devices whenever possible.
- Internal and external grounding wires must be reliable, with a cross-sectional area of at least 4 mm².

5. Operation & Maintenance Requirements

- Do not disassemble the product; there are no user-serviceable parts inside.
- Do not touch the CCD/CMOS sensor directly. Use a blower to remove dust from the lens. If cleaning is necessary, gently wipe the lens with a soft cloth lightly moistened with alcohol. Always replace the lens cover when not in use.
- Clean the camera body with a soft, dry cloth. For stubborn dirt, use a mild detergent. Do not use corrosive chemicals or abrasive cleaners as they may damage the surface or reduce performance.
- Installation and repair should be performed only by authorized personnel. Replacement parts must be original or manufacturer-approved.
- Avoid exposing the CCD/CMOS sensor to laser beams, as this may cause permanent damage.

6. Environmental Protection

- Components such as PCBs, electronic parts, plastics, and lubricants may cause environmental pollution. During maintenance or disposal:
 - Collect and classify these materials according to local environmental regulations.
 - Deliver waste materials to authorized government recycling or disposal facilities.
 - Do not discard them improperly to avoid environmental harm.

Special Announcements

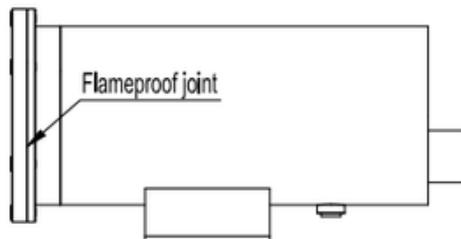
- Images in this manual are for reference only.
- We reserve the right to update product content and technical specifications without prior notice. Actual product details may vary after updates.
- Contact our customer service department for the latest software and documentation.
- If you encounter any operational issues, contact your distributor or customer service.
- While we strive for accuracy, some discrepancies may exist between actual product data and the information provided. For any questions or disputes, our company reserves the right to final interpretation.
- Users are responsible for any damage or loss resulting from misuse or failure to follow the instructions in this manual.

Explosion-Proof Structure Instructions

- Flameproof enclosure prevents explosive gases from entering the internal chamber.
- Internal explosions will not ignite surrounding hazardous gases.
- Explosion-proof performance ensured by reinforced housing, controlled joint gaps/flame paths, and limited surface temperature.
- Complies with IEC/EN 60079-1 static pressure test (1.5× pressure for ≥10 seconds); no leakage or deformation permitted.
- Maximum surface temperature: ≤ 80°C under normal operation.
- Meets impact test requirements of IEC 60068-2-27.
- Tempered glass viewing window complies with IEC/EN 60079-0 impact and thermal shock standards.
- Ingress protection rating: IP66 / IP68 (2m for 2h) / IP69.
- Equipped with both internal and external grounding points (clearly marked).
- Flameproof joint parameters comply with IEC/EN 60079-1.

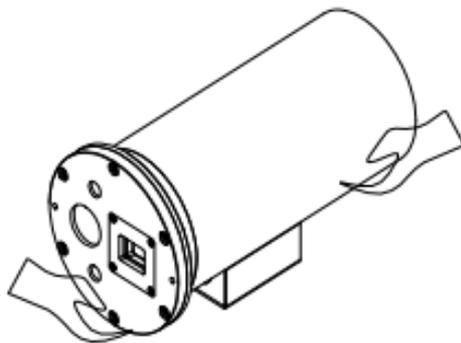
Maintenance:

- Protect flameproof surfaces; damage may compromise explosion-proof integrity.
- For anti-corrosion coated units, clean non-metallic surfaces with a damp cotton cloth only.
- Do not use strong corrosive liquids; avoid damaging protective coating.



How to Move This Product:

Before moving the unit, ensure it is fully de-energized. Hold and support the product from the bottom during transport. Do not apply force to the sunshade, wiper, or base. Avoid dragging, striking, or knocking the device to prevent damage. The flameproof enclosure of the explosion-proof camera is designed to



When the product is energized:

Do not open, move, knock, or drag the device under any circumstances while it is powered on.

1. General

Manufactured using advanced production techniques and supported by a robust quality management system, the camera delivers industry-leading performance, reliability, and appearance.

It is designed for use in environments containing flammable or explosive gases, vapors, or combustible dust, providing safe and reliable monitoring of hazardous areas.

1.1 Specification

Model: 2MEPT04-TH35MM

Ingress Protection: IP66, IP68(2m/2h), IP69

Ex Marking:

- Ex II 2 G Ex db IIC T6 Gb
- Ex II 2 D Ex tb IIIC T80°C Db

Camera Types Supported:

- HD Network
- Analog

1.2 Features

- Supports multiple communication protocols and transmission speeds for flexible system integration.
- Plays a critical role in security and surveillance systems.
- Operates within a wide voltage range for stable performance.
- Self-adaptive function ensures compatibility with most camera brands.
- Built-in surge protection enhances safety and system reliability.

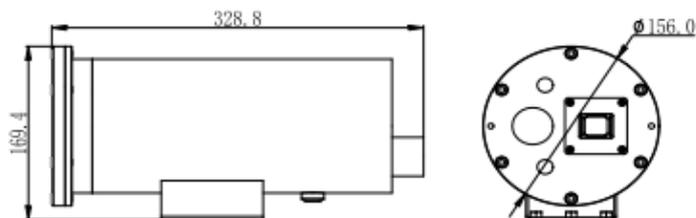
1.3 Scope of Application

This product is suitable for:

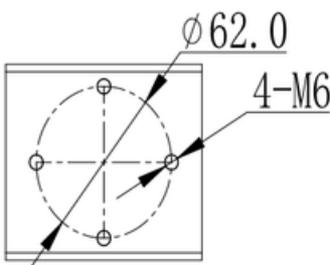
- Zone 1 and Zone 2 hazardous areas containing explosive gas mixtures of groups IIA, IIB, IIC, temperature classes T1–T6.
- Zone 21 and Zone 22 hazardous areas where combustible dust may be present.

1.4 Mechanical Parameters

- **Material:** Stainless Steel 304 / 316L
- **Automatic Heating (Optional):** Activates automatically below -10°C
- **Net Weight:** 6.3 kg



- **Installation holes**



1.5 Electrical Parameters

- **Working voltage:** 100~240V a.c. 50/60Hz or 24V a.c. 50/60Hz or 24V d.c. or 12V d.c. or PoE++(48V d.c.)
- **Working current:** ≤3A
- **Consumption:** ≤36W(excl. the heating fan)
- **Electrical connection:** Composite cable
- **Communication type:** RS-485
- **Control communication speed:** 2400~19200bps adjustable
- **Control communication protocol:** PELCO-D/PELCO-P
- **Fast Ethernet electrical signal interface(optional):** full duplex TCP/IP Protocol Ethernet interface transmission
- **Video signal (optional):** 1-way video output
- **Audio(optional):** 1-way input, 1-way output
- **Alarm(optional):** 2-way alarm input, 1-way alarm output
- **Address code:** 0/1

1.6 Service condition

- **Atmospheric pressure:** 80 ~ 110kPa
- **Ambient temperature:** -40°C ~ +60°C
- **Relative humidity:** no more than 95% (+25°C)

1.7 Electrical Safety (Under Normal Atmosphere)

- **Insulation Resistance:** The resistance between the power terminals and the enclosure shall be ≥ 50 MΩ.
- **Dielectric Strength:**
- **A 50 Hz, AC 1500 V test shall be applied between power terminals and the enclosure for 1 minute with no breakdown or flashover.**
- **A 50 Hz, AC 500 V test shall be applied between wiring terminals and the enclosure with no breakdown or flashover.**

1.8 Special Conditions for Safe Use

- Engaged length and thread engagement exceed the minimum requirements specified in IEC/EN 60079-1.
- The width of flameproof joints exceeds the minimum values specified in IEC/EN 60079-1.
- Yield stress of all fasteners in the flameproof enclosure is ≥ 450 MPa.
- Service temperature: -40°C to +60°C.

2 Installation & Debugging

2.1 Pre-Installation Cautions

Accessories included in package:

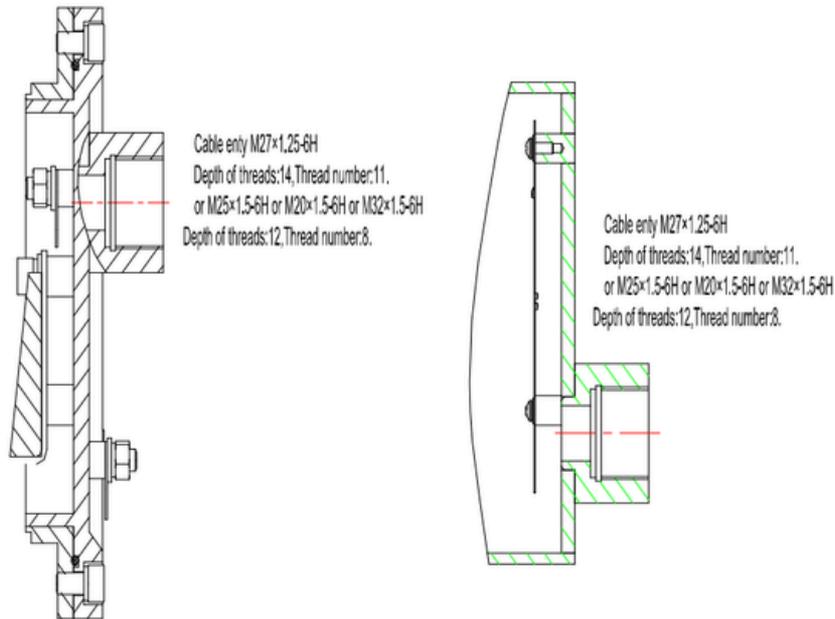
- Camera housing – 1 pc
- M6 inner hexagon spanner – 1 pc
- Stopping plugs - 1pcs
- F-type wrench, 248 × 16 × 10 mm – optional
- Wall mounting support – optional

Cautions during use:

- Users should not dismantle the camera arbitrarily; follow the instructions carefully.
- Ensure the power supply meets specifications in Section 1.5.
- Use the camera only within the operating conditions specified in Section 1.6.
- Pre-installation power debugging should be done cautiously, as this is an explosion-proof product.

2.2 Cable Entry

- The main housing includes one or two cable entries.
- Thread specifications available: M20×1.5, M25×1.5, M27×1.25, or M32×1.5.
- Use only ATEX/IECEx-certified cable glands with sealing compound.
- Required Ex marking: Ex db IIC Gb / Ex tb IIIC Db, with protection rating IP66, IP68, or higher.
- Follow the cable gland manufacturer's installation instructions to ensure proper and safe installation.



2.3 Handling of cables

Use explosion-proof flexible conduit

Refer to Figure 2.3.1.1. Strip the cable sheath to an appropriate length to expose the cable core according to the installation requirements. Pass the stripped cables through the entry points one by one as shown in the figure. The connector is pre-welded to the product.

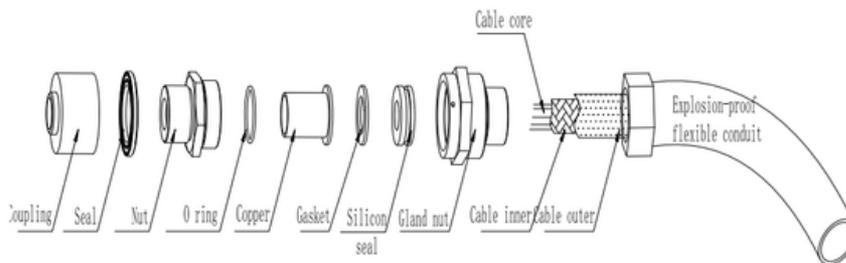
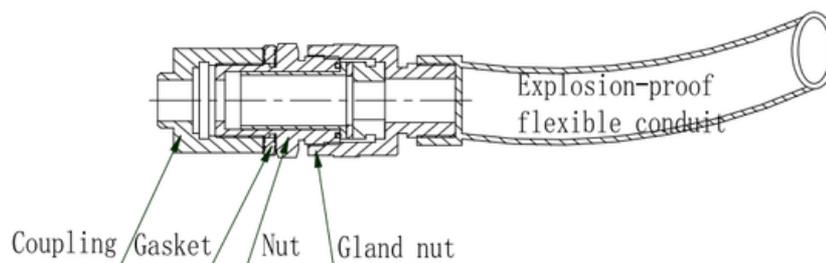


Figure 2.3.1.1 Installation diagram of explosion-proof packing box with explosion-proof flexible conduit

Tighten each part in turn



Use armored cables

According to installation requirements, strip the outer sheath and shielding layer of the armored cable to an appropriate length. Cut 15 mm circumferentially along the outer sheath and expose 15 mm of the shielding layer. Then strip the inner sheath as needed to expose the cable core.

Pass the prepared cable through the components in sequence as shown in Figure 2.3.2.1. Remove the exposed 15 mm shielding layer, fold it back over Sleeve 2, then screw it into Sleeve 1 (see Figure 2.3.2.2). Finally, tighten the remaining components in sequence. The coupling is pre-welded to the product.

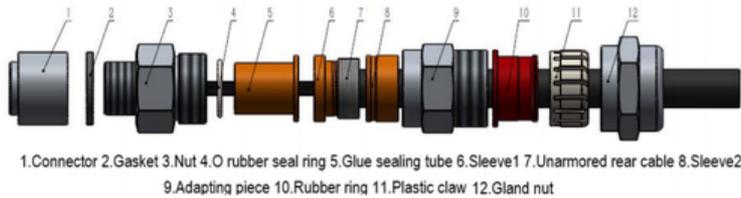


Figure 2.3.2.1 Schematic diagram of armored cable installation

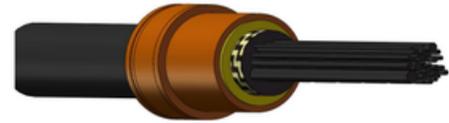


Figure 2.3.2.2 Schematic diagram of shielding layer fixation

2.3 Preparation of Supports Before Installation

- The camera is pre-debugged before shipment; only final installation at the intended location is required.
- We recommend using supports provided by the manufacturer to simplify installation.
- Users are responsible for ensuring the support is strong enough and that fasteners meet load-bearing and corrosion-resistant requirements.
- Install the camera out of reach to prevent tampering, and ensure no objects obstruct its rotation. Improper installation may cause the camera to fall, resulting in equipment damage or personal injury.

2.3.1 Support Installation

- Select the appropriate positions for support installation. Ensure the camera is correctly oriented.
- Fasten the support using anchors or plug bolts.
- Install the junction box in a location that allows easy access for installation and maintenance. Connect the cable to the junction box using wire casings or bridges.
- Refer to Figures 2.3.1.1–2.3.1.4 for support specifications and installation details.

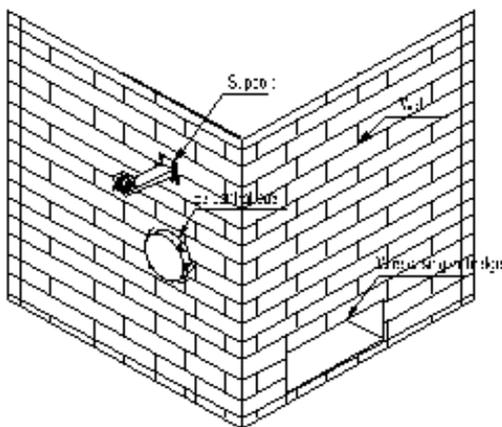


Figure 2.3.1.1 Installation of support

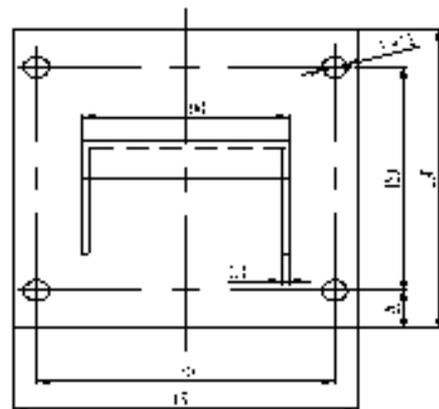


Figure 2.3.1.2 Dimension of support

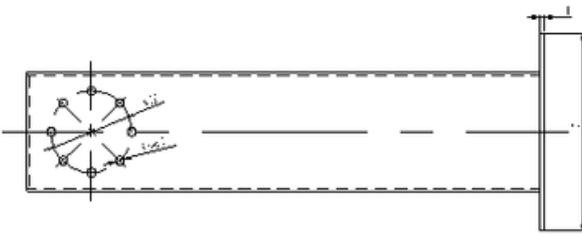


Figure 2.3.1.3 Front view of support

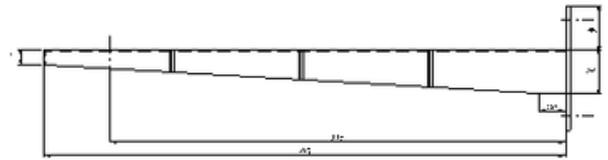
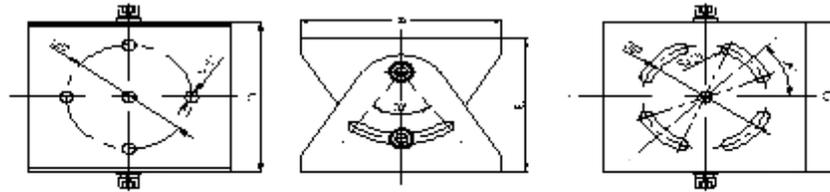


Figure 2.3.1.4 Side view of support



Top View

Side View

Bottom View

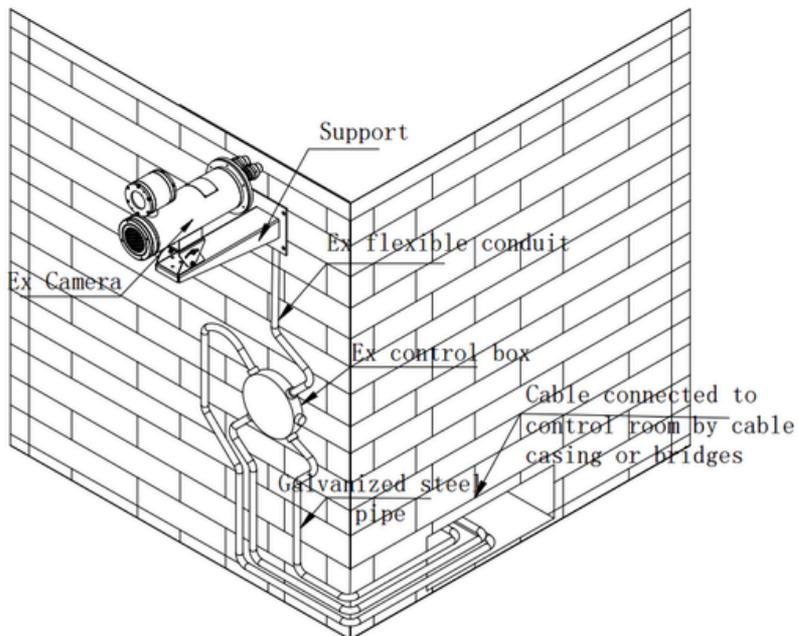
Figure 2.3.1.5 Universal joint

2.4 On-Site Installation and Fixing

- As this is an explosion-proof (Ex) product, it is recommended to perform power adjustments indoors before installing the camera at its final location, if feasible.

2.4.1 Installation Instructions

- Refer to Figure 2.3.1.2 for the layout of installation holes under the camera.
- Pass the reserved camera cable through the support structure.
- Connect the cable from the camera to the junction box, protecting it with metal pipes or cable casing.



2.5 Adjusting and Operation

2.5.1 System Connection:

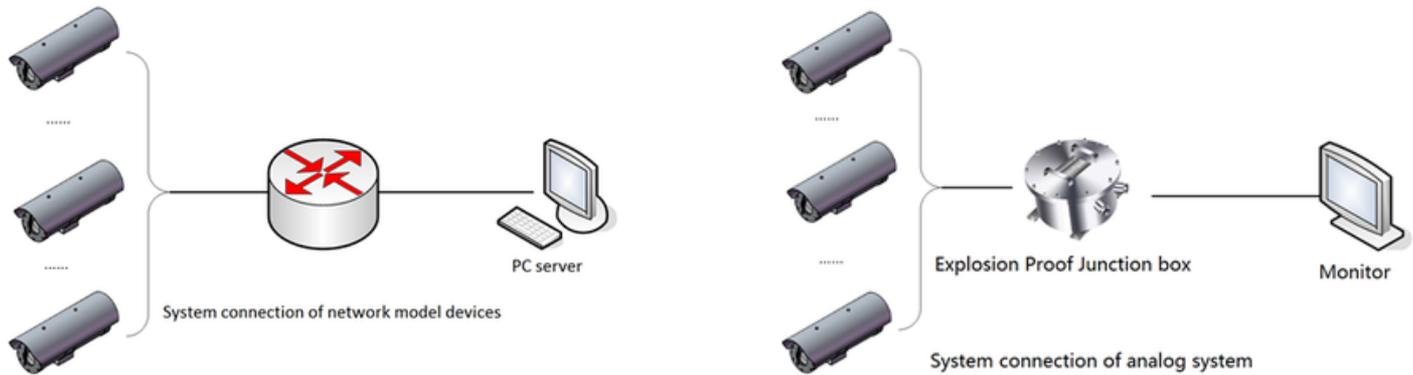


Figure 2.5.1 System connection

- **Network Model Camera:**

For network model cameras, the device can transmit digital video signals via wired (Ethernet) or wireless networks. Users can monitor or record video at any time, whether on a local area network (LAN) or a wide area network (WAN) such as the Internet.

- **Analog System Camera:**

Analog cameras are controlled using an explosion-proof control keyboard and explosion-proof control box, allowing users to monitor the scene in real time.

2.5.2 Cable Specification

- The camera is supplied with a comprehensive cable as part of the package.
- The cable is routed from the side of the base bottom and has a minimum length of 2 meters.
- Before operation, connect the comprehensive cable to the system bus inside the junction box.
- Refer to Tables 2.5.2 and 2.5.3 for detailed cable specifications.

Part name	Color	Function
Alarm audio 485(optional)	purple	Audio output
	black	Audio grounding
	white-purple	Audio input
	white-blue	Alarm input 1
	blue	Alarm input 2
	white-black	Alarm input grounding
	orange	Alarm output COM1
	white-orange	Alarm output OUT1
	yellow	485 output A
	white	485 output B
Fast Ethernet (POE)	orange-white	Network cable 1
	orange	Network cable 2
	green-white	Network cable 3
	blue	Network cable 4
	blue-white	Network cable 5
	green	Network cable 6
	brown-white	Network cable 7
	brown	Network cable 8
Power	thick brown	100-240V AC
	thick yellow-green	grounding
	thick blue	100-240V AC

2.5.3 Parameter setting

Open the rear cover with the inner hexagon spanner will find the toggle switch

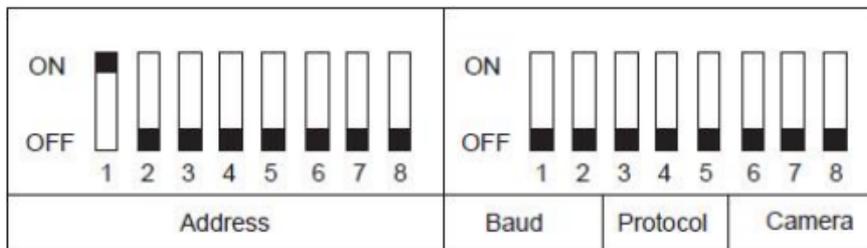


Figure 2.5.3.1 Toggle switch

Address setting of toggle switch, total 255 addresses in maximum by binary system, see Table below:

Table 2.5.3.1 Address setting

Digit Address	1	2	3	4	5	6	7	8
1	ON	OFF						
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
...	...							
...	...							
...	...							
124	OFF	OFF	ON	ON	ON	ON	ON	OFF
125	ON	OFF	ON	ON	ON	ON	ON	OFF
126	OFF	ON	ON	ON	ON	ON	ON	OFF
127	ON	OFF						
128	OFF	ON						
...	...							
255	ON							

Baud rate setting: toggle switch SW2, digit 1-2, see Table 2.5.3.2.

Table 2.5.3.2 Baud rate setting

Digits of SW2		Baud rate (bps)
1	2	
OFF	OFF	2400
ON	OFF	4800
OFF	ON	9600
ON	ON	19200

Camera model setting: toggle switch SW2, digit 6-8, see Table below

Table 2.5.3.4 Camera model setting

Digits of SW2			Camera model
6	7	8	
OFF	OFF	OFF	SONY
ON	OFF	OFF	HITACHI
OFF	ON	OFF	Samsung SCC-4223P
ON	ON	OFF	LG
OFF	OFF	ON	SAERIM
ON	OFF	ON	Camera support PELCO-D Protocol
OFF	ON	ON	Samsung
ON	ON	ON	SANYO

2.5.4 Cable Connection

Before connecting the cables, remove the plug and route the cable through the cable inlet according to the instructions in Chapter 2.2. Connect the power cable to the side terminal of the drawer. The acceptable wire cross-sectional area for the power terminal is 0.2–2.5 mm², as shown in Figure 2.5.4.1.

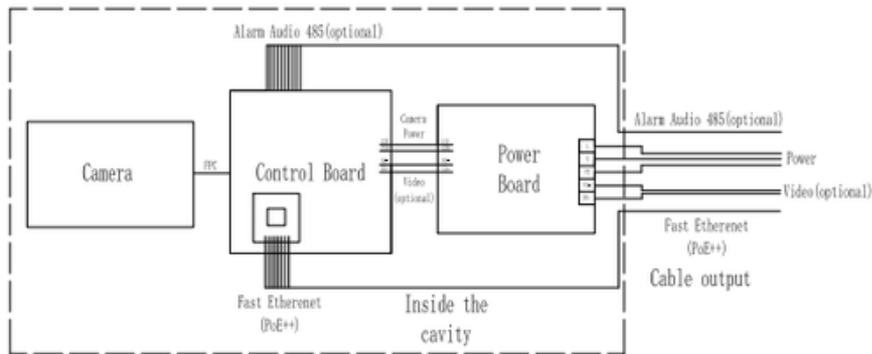


Figure 2.5.4.1 Cable connection

The unshielded or shielded twisted pair cable (AWG24) should be terminated with a plug after passing through the entry hole. The cable color coding is as follows: 1 – orange/white, 2 – orange, 3 – green/white, 4 – blue, 5 – blue/white, 6 – green, 7 – brown/white, 8 – brown. Refer to Figure 2.5.4.2 for details.

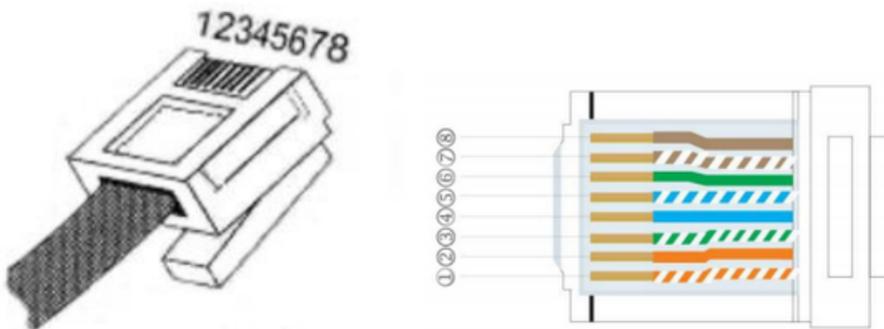


Figure 2.5.4.2 Crystal head making method

2.5.6 Service Status and Inspection During Operation

- After powering on, the camera will automatically perform a self-check to ensure all systems are functioning correctly.
- Inspect the camera visually to confirm proper operation, correct positioning, and that there are no obstructions or visible damage.
- Regular inspections are recommended to maintain optimal performance and safety.

2.5.7 Camera and Software Settings

- For detailed configuration of the camera, Internet Explorer (IE) browser, and client software, refer to the camera manufacturer's instruction manual.
- Follow the manufacturer's guidelines for adjusting image parameters, network settings, and other operational features.
- Ensure all settings comply with explosion-proof and environmental requirements specified in this manual.

3. Trouble-shooting

Phenomenon	Analysis	Solution
No image	No power supply	Check the power supply
	Poor connection of video signal cable	Check the video signal cable
Cannot switch to night viewing model	Strong light in optical angle/ in manual night viewing switch model	Remove the strong light Set to auto night viewing switch model
Unclear image	Camera is in manual focus model/ dust or stain on window	Set to auto model/ clear the window
Unstable image	Poor connection of video signal cable	Check the video signal cable
	Bad connection of signal cable	Check signal cable connection
	Signal attenuation caused by long distance	Use repeater to lengthen the communication distance
	Signal reflection	Short-circuit the 120-jumper wire of the farthest camera communication PCB, add 120Ω to eliminate the reflection

4. Transportation, Storage, and Maintenance

4.1 Transportation

- The packaged camera can be transported using any standard mode of transport.
- Avoid exposing the product to direct rain or snow during transit.

4.2 Storage

- The camera may be stored for up to one year under the following conditions:
 - Free from corrosive substances.
 - No significant vibrations.
 - Temperature range: 0°C to +40°C.
 - Relative humidity: ≤ 90%.

4.3 Maintenance

- Every 6 months after commissioning:
 - a. Inspect all fasteners to ensure they are secure.
 - b. Check the cables to ensure the protective sheath is intact and that cables do not interfere with moving parts during rotation.
- Every 5 years after commissioning:
 - If the camera is installed in harsh conditions, the rubber sealing ring should be replaced.
 - Contact your local distributor to perform this replacement.

5. Declaration

- We have made every effort to make this instruction manual comprehensive; however, it may not cover all potential issues that could arise during installation or maintenance. For guidance on issues not included in this manual, please contact us directly.
- The operator or user is responsible for any damage or loss caused by misuse or failure to follow the instructions provided in this manual.

Part name	《Measures for the Administration of Pollution Control of Electronic Information Products》 Substances or restriction element identification table					
	Lead (Pb)	Mercury (Hg)	cadmium (Cd)	chromium VI (Cr VI)	Polybromide (PPB)	Polybrominated diphenyl ethers (PBDE)
Metal part	×	○	○	○	○	○
Plastic part	○	○	○	○	○	○
PCB	×	○	○	○	○	○
Glass (if applicable)	○	○	○	○	○	○
power (if applicable)	×	○	○	○	○	○
Accessory (if applicable)	×	○	○	○	○	○

Annex: Table of poisonous and harmful substances or elements

Remark

1. Symbol ○ – Indicates that the content of poisonous or harmful substances or elements in the component (homogeneous material) is below the limit specified in the standard.
2. Symbol × – Indicates that the content of poisonous or harmful substances or elements in the component (specific homogeneous material) exceeds the limit specified in SJ/T11363-2006.
 - The release or alteration of these substances during the product's service life is not expected, and they will not pose a risk to the user's health or property.
 - Disposal or treatment of such components must not be performed by the user. Please deliver them to an authorized department, follow local laws or regulations, or return them to the product distributor.