

Please read this
instruction manual
before use!

Ex marking:   II2G Ex db IIC T6 Gb

 II2D Ex tb IIIC T80°C Db

Reference standards EN60079-0:2012+A11:2013, EN60079-1:2014,
EN60079-31:2014, IEC60079-0:2011,
IEC60079-1:2014, IEC60079-31:2013

SVEX-T100 without Wiper / SVEX-T300 with Wiper Explosion-proof Camera

Instruction Manual

Thank you for choosing VEILUX Ex products !

Please read this Instruction Manual carefully before installation and operation of this product,
following the instructions and keep this instruction manual properly.

Copyright Statement

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VEILUX remains the right to modify the content and technical specifications of the product in this Instruction Manual without any form of notification, to provide the newest and most advanced product. The end users can get the latest product information on our website: www.veilux.net

Quality Guarantee

For SVEX-T100 WITHOUT WIPER / SVEX-T300 WITH WIPER Explosion-proof Camera, we provide free maintain service in the guarantee period but we will ask the user to pay for the cost of labor and component in the follow conditions:

- Damage caused by improper operation that against the Instruction Manual.
- Damage caused by unauthorized disassembly.
- Thunder or other force majeure natural disasters.

If any other contracts between clients and us exist, we will follow the promise or regulation strictly.

Security Assurance

Operation of this product complies with the following requirements:

- No adverse interference in operation;
- The operation of this product cannot be interfered by external factors even adverse interference in a certain degree.

Notice

- The user shall not disassemble this product optionally, such

as removal of top cover or bolts may cause leakage of water or seepage. Please operate the product according to the requirements in this Instruction Manual;

- Ensure this product is always used in environment with atmosphere pressure, ambient temperature and relative humidity specified in Chapter 1.6;
- To be sure the power supply complies with the requirement indicated in the nameplate;
- The internal and external grounding shall be reliable;
- Ensure the installation is firm and reliable, to avoid unexpected damage of the camera;
- It's not allowed to do any modification on qualified products, otherwise Explosion-proof performance may be affected.



Safety Requirements

Please read this Instruction Manual carefully before installation and operation of this product. The safe service period is 5 years after date of manufacture, see nameplate of the date of manufacture.

Please read and understand associate knowledge, safety notices and cautions before put into service.

1. Safety cautions in installation

- Cut off the power supply before any maintenance or repair of the product. **DO NOT OPEN WHEN ENERGIZED!**
- Avoid opening of this product in environment where oil smoke, heavy dust, high temperature or dewing may exist. These will cause the decrease of the image definition.
- Connect the cables according to the requirement indicated in the Instruction Manual, otherwise fault may happen.
- Protect the flame proof joint in maintenance; avoid any metal fragment or other substances get access in the internal chamber.
- No disassembly or modification allowed.

2. Construction Safety

- The protective regulations on construction spot shall be followed strictly.
- Measurement shall be carried out immediately when any security risks found to eliminate the risks, stop construction if necessary.
- All kinds of safety facilities shall be inspected, calibrated or repaired in the event of severe weather.
- The ice, fog, rain and snow shall be removed clearly.
- Alert area shall be set and a person shall be specified to protect the area when protective casing and other safety facilities are constructed or dismantled.
- Work high above the ground may require in installation of this product, the operating personnel shall be qualified.

3. Power supply requirements

- Local electrical safety standard shall be followed in installation and service of this product.
- Convenient de-energizing device shall be adopted for emergency cutting off.
- Check if the power supply is suitable for operation before start.

- Protect the power cable from trample or compressing, especially for the plug, socket and joint out from devices.

4. Service condition requirements

- Please do not focus the camera to hard light (such as lamp or sunlight), which will cause too bright of the image, it's not malfunction but it does will affect the duration of the CCD (or CMOS).
- Transport, operate and store this product in applicable temperature and humidity range. Do not locate it in wet, overheated (over +60°C), extreme cold (less than -40°C) environment or area with strong electromagnetic radiation or unstable lighting conditions.
- The product shall be protected from any entry of water or other conductive fluid, which may damage the internal electrical element.
- Avoid overheated, the product shall be well ventilated.
- Avoid damage caused by compressing or violent vibration in transmission, storage or operation.
- The product shall be well packaged as new product or equivalent in transmission.
- We suggest using this product with Lightning Protection Devices.
- Internal and external grounding shall be reliable and the cross-sectional area shall be no less than 4mm².

5. Operation & maintenance requirements

- Do not dismantle this product; there is no user serviceable part inside.
- Do not touch the CCD (or COMS) directly; a proper way is to blow away the dust with a blower on the lens. If it is necessary to clean it, use soft cloth with a little alcohol to wipe the lens gently. Replace the cover when not use to protect the CCD (or COMS).
- Soft, dry cloth can be used for camera body cleaning. For dirt not easy to clean, some neutral detergent can be used, clear the dirt away then dry the camera body. Corrosive agent, abrasive cleaner cannot be used for camera cleaning, they may damage the surface or even decrease the service performance.
- This product shall be installed and repaired by authorized personnel, please do not dismantle or repair it by yourself. Only manufacturer indicated components / accessories can be used when replacement is necessary.

- The CCD (or COMS) may be damaged by laser beam, it's better to avoid the camera suffering radiation of laser beam.

6. Environmental protection

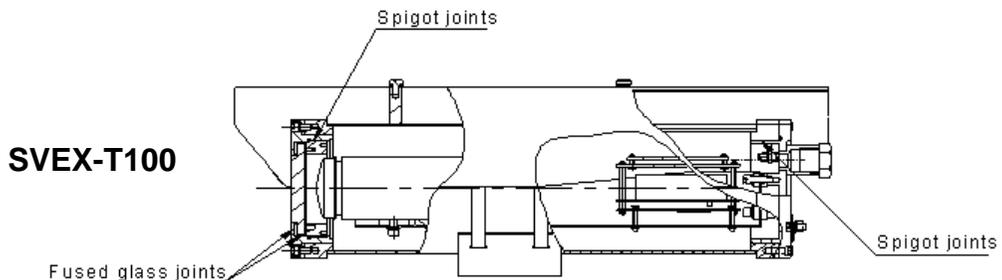
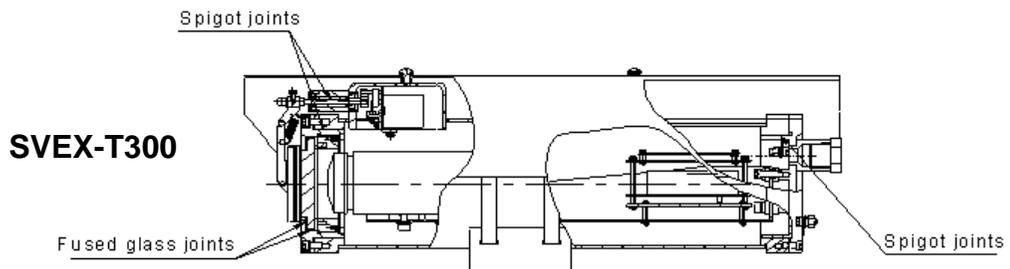
- For components of the products made by our company may pollute the environment, such as PCB, electrical elements, plastic and lubricant, collection and control measurement shall be taken in maintenance and scrapping of the products. These pollution sources shall be delivered to the government for further treatment, no casually discard allowed, avoid any adversative effect to the environment.

Special announcement

- Pictures in this manual is a diagram for reference only.
- We remain the right to modify the content and technical specifications of the product in this Instruction Manual without any form of notification when the product updates, there may exist little differences after updating.
- You can get the latest software and description document by consulting the customer service department.
- Any problem in operation of this product, please contact the distributor or customer service department @ 1-800-510-6528.
- We always tried to make this instruction manual as perfect as we can, but there still may be some de-tolerance between the real data and the data we provide, if you have any questions or disputes, please refer to our company for finally explanation.
- The operator or user shall be responsible for damages or losses caused by misuse or operations do not comply with this manual.

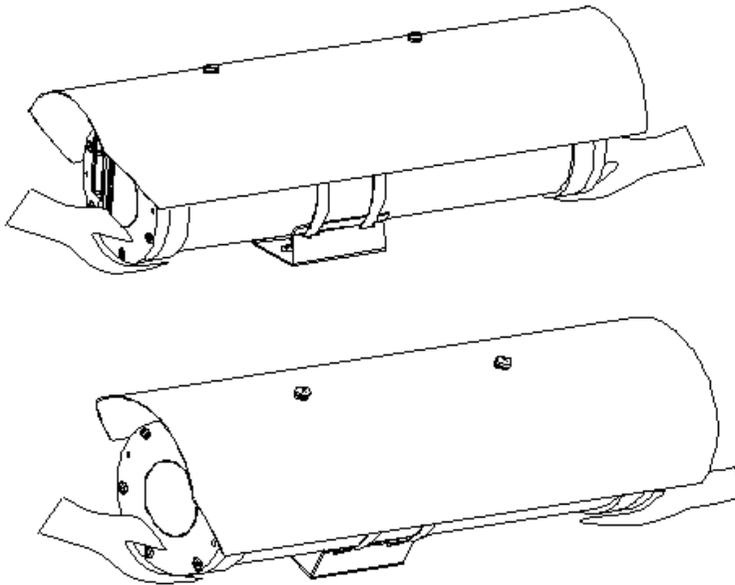
Ex structure instruction

- We have made adequate consideration in flameproof enclosure design of the explosion-proof camera to prevent explosive gases getting into the inner volume, the explosion inside the enclosure cannot cause the explosion of the external explosive gases. We ensure the explosion-proof performance by strengthen enclosure the strength, adjust the length and gap of the joint of associate components and limit the maximum surface temperature.
- The enclosure is able to subject to static pressure test (1.8MPa for at least 10s) specified in EN60079-01:2014/IEC60079-1: 2014, no leakage or deformation allowed after test.
- The maximum surface temperature will no more than 80°C in normal operation.
- Tempering glass is adopted in observation port, the tempering glass shall pass the impact and thermal shock test.
- Ingress protection level: IP68 (1.2m/45min).
- Protection the flameproof surface in maintaining of this product, otherwise the damaged flameproof surface will affect the Explosion-proof performance.



How to move this product

Power down the product, move holding the bottom part of the camera housing; do not hold from the sunshade, wiper or wiper base; do not drag or toss.



When the product is POWERED: DO NOT open, move, knock or drag this product.

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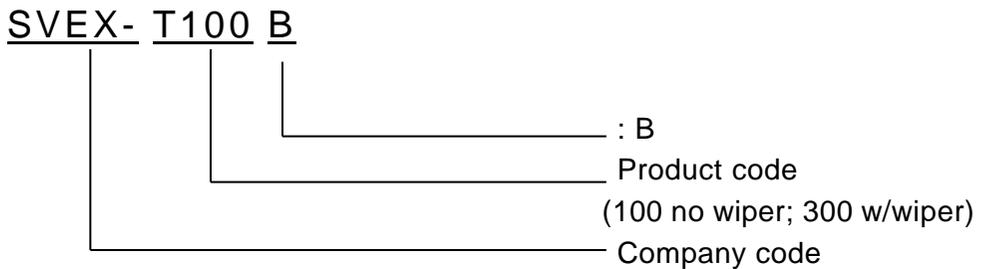
1. General

SVEX-T100 WITHOUT WIPER / SVEX-T300 WITH WIPER Explosion-proof Camera (hereinafter referred to as camera) is a new generation of Explosion-proof monitoring device, it adopts advanced manufacturing process, with a mature quality management system as a guarantee, the quality, performance and appearance are in leading position. The product can be used in flammable and explosive gas or flammable dust environment, to achieve the purpose of monitoring the hazardous area.

The camera is designed and manufactured according to EN60079-0:2012+A11: 2013, EN60079-1: 2014, EN60079-31: 2014, IEC60079-0: 2011, IEC60079-1: 2014, IEC60079-31: 2013. The compact structure, small size make it convenient for installation and maintenance. It's applicable for petrol industry, chemical industry, wharf, harbor, non-coal mine, aerospace industry, aircraft industry, military industry, food processing industry and so on.

All associate technical document, drawings and samples of the camera are tested and certified by China National Quality Supervision and Test Center for Explosion Protected Electrical Apparatus (CQST), ATEX certification number:  2460 Presafe 17 ATEX 11326X.

1.1. Specification



Model: SVEX-T300A, SVEX-T300.

Model: SVEX-T100 WITHOUT WIPER /
SVEX-T300 WITH WIPER

Ingress Protection IP68(1.2m/45min)

Level:

Ex marking:   II2G Ex db IIC T6 Gb

 II2D Ex tb IIIC T80 °C Db

Camera type HD network/Analog

1.2. Characters

This camera integrated a variety of communication protocols and speed, it plays an important role in security systems.

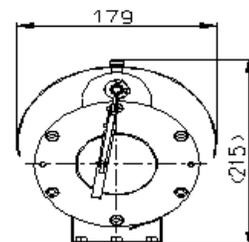
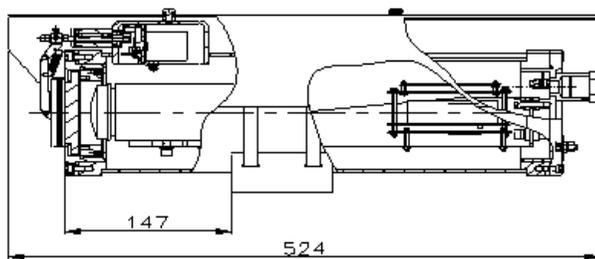
This camera can work at wide voltage range and its self-adaptation function will satisfy most brands of the video camera. The surge protection device provided with the camera will make it safer and more reliable.

1.3. Scope

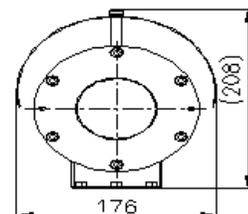
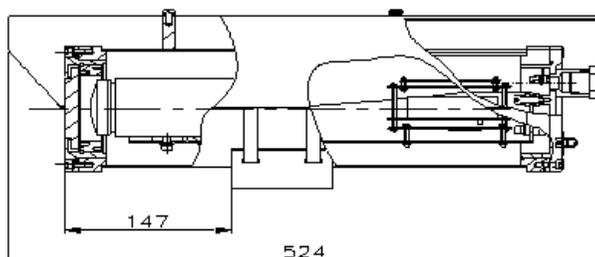
This product is applicable for Zone 1 and Zone 2 hazardous areas that explosive mixture of group IIA, IIB, IIC, T1~T6 gases, vapors and air may exists, Zone 21 and Zone 22 hazardous areas that explosive dust may exist

1.4. Mechanical parameters

Material:	Stainless steel 304, 316 or 316L
Automatic heating(optional):	Heating automatically below -10 °C
Wiper:	Speed: 30 ± 10 times/min
Weight(net):	SVEX-T300: 16kg; SVEX-T100: 15kg
Weight(gross):	SVEX-T300: 17.5kg; SVEX-T100: 16.5kg



SVEX-T300



SVEX-T100

Figure 1.4.1 Dimensions of SVEX-T100 WITHOUT WIPER / SVEX-T300 WITH WIPER Explosion-proof Camera

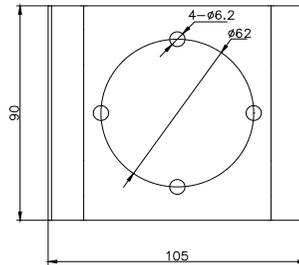


Figure 1.4.2 Distribution of installation holes of SVEX-T100 WITHOUT WIPER / SVEX-T300 WITH WIPER Explosion-proof Camera

1.5. Electrical parameters

Voltage and current:	100~240V AC or 24V AC; Max. 1.5A
Consumption:	≤36W(excl. the heating fan)
Electrical connection:	Comprehensive 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

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

1.7. Electrical safety (in normal atmosphere)

Insulation resistance: the insulation resistance between power terminal and the enclosure shall be no less than 50 MΩ;

Dielectric strength: dielectric test of 50Hz, AC1500V shall be conducted between power terminal and the enclosure for 1min; dielectric test of 50Hz, AC500V shall be conducted between wiring terminals and the enclosure; no breakdown or flashover allowed.

1.8. Special conditions for safe use

- Engaged length and engaged threads are greater than values in IEC/EN 60079-1;
- Width of the flameproof joints are greater than values specified in EN/IEC60079-1;
- Yield stress of the flameproof enclosure fasteners shall be no less than 450MPa;
- Ambient temperature: -40°C~+60°C.

2. Installation & debugging

2.1. Cautions before installation

Accessories in packaged product:

- 1) SVEX-T100A or SVEX-T100B main set, 1pcs;SVEX-T100
- 2) M6 inner hexagon spanner, 1pcs;
- 3) Stopping plugs, 2pcs;
- 4) CoC, instruction manual (with ATEX cert.), 1pcs for each;
- 5) F type wrench, 248×16×10, optional□;
- 6) Wall mounting support, universal joint, optional□ (require: 9×M6×14 screws with flat washers and spring washers; 5×M6 nuts, pcs)

Other tools in installation:

- 1) Cross screw driver: 6×150, 1pcs;
- 2) Outer hexagon adjustable wrench: 300×36, 1pcs.

Cautions in service:

- It's not suggested for users to dismantle this product at will, please follow the Instruction for operation.
- The power must comply with requirements specified in 1.5.
- Please use this product in conditions (atmosphere pressure, temperature and humidity) specified in chapter 1.6.
- Since Ex product is very special, debugging with power before installation if available.

- No extra load on the camera, extra load may cause malfunction or damage!
- DO NOT OPEN WHEN EXPLOSIVE GAS OR DUST MAYBE PRESENT!

2.2. Cable entry

There are two cable entries in the rear cover that blocked by stopping plugs in packaged product, please replace the stopping plug with ATEX certified cable glands with sealing compound, the Ex marking shall be Ex db IIC Gb/Ex tb IIIC Db IP68 or higher protection level. Follow the instruction of the cable gland for correct installation.

2.3. Preparation of supports before installation

The debugging is done before package, only installation in the intended location is required. We strongly suggest you select supports from VEILUX, it will ease your installation process significantly.

It's the user's responsibility to ensure the support for the camera is strong enough, and the fasteners comply with associate load and anti-rust requirements. Installation of the camera shall ensure that it's out of reach by human beings and there is no other subject may affect the rotation of the camera; otherwise, falling or damage may happen, even personnel safety may be harmed.

2.3.1. Support installation

Select installation holes in proper positions, the first step is to mount the universal joint with the base of the camera; after that adjust the fasteners of the universal joint based on the area to be monitored to ensure the direction of the camera is correct; at last fasten the support with anchors or plug bolts. Junction box is always installed in positions that easy for installation and maintenance, as per Figure 2.3.1.1. The cable is connected to junction box by wire casings or bridges.

Specification of the support see Figure 2.3.1.2, 2.3.1.3 and 2.3.1.4; universal joint see Figure 2.3.1.5.

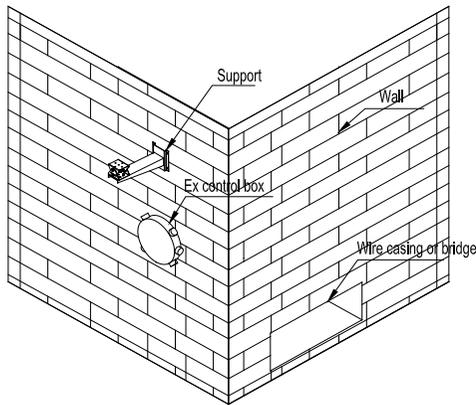


Figure 2.3.1.1 Installation of support

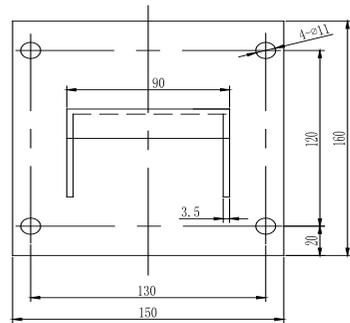


Figure 2.3.1.2 Dimension of support

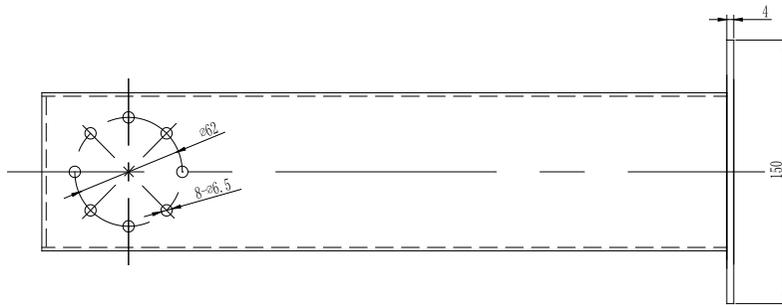


Figure 2.3.1.3 Front view of support

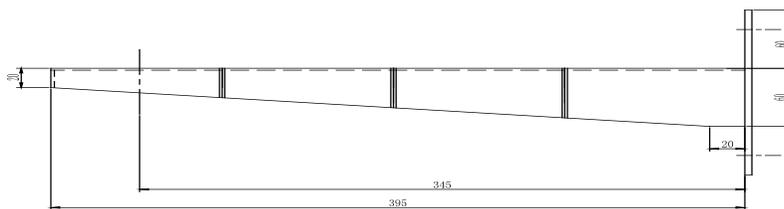


Figure 2.3.1.4 Side view of support

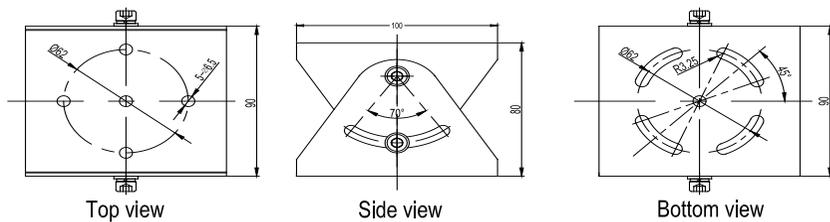


Figure 2.3.1.5 Universal joint

2.4. On-spot installation and fixing

Since Ex product is very special, adjust with power indoors before installation in the intended locations if available.

2.4.1. Instruction for installation

See Figure 2.3.1.2 for distribution of installations holes under the camera, take SVEX-T300A as example: pass the reserved cable of the camera through the cable in the support, the cable connected from camera to junction box could be protected by metal pipes; cable from junction box to control room could be protected by metal pipes or by cable casing, see Figure 2.4.1.

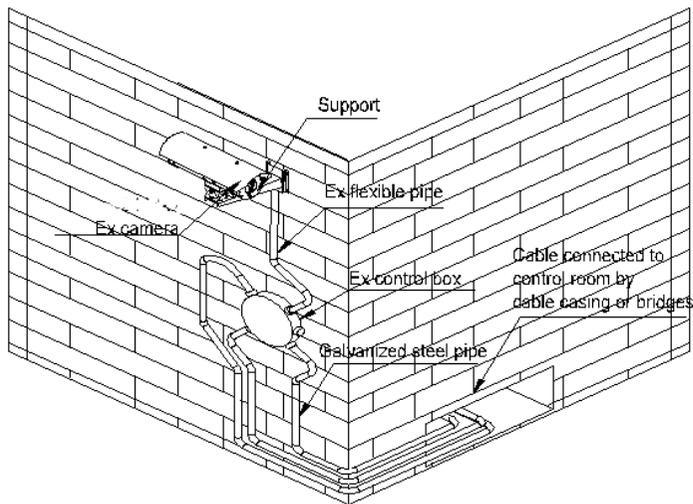


Figure 2.4.1 installation of camera

2.5. Adjusting and operation

2.5.1. System connection

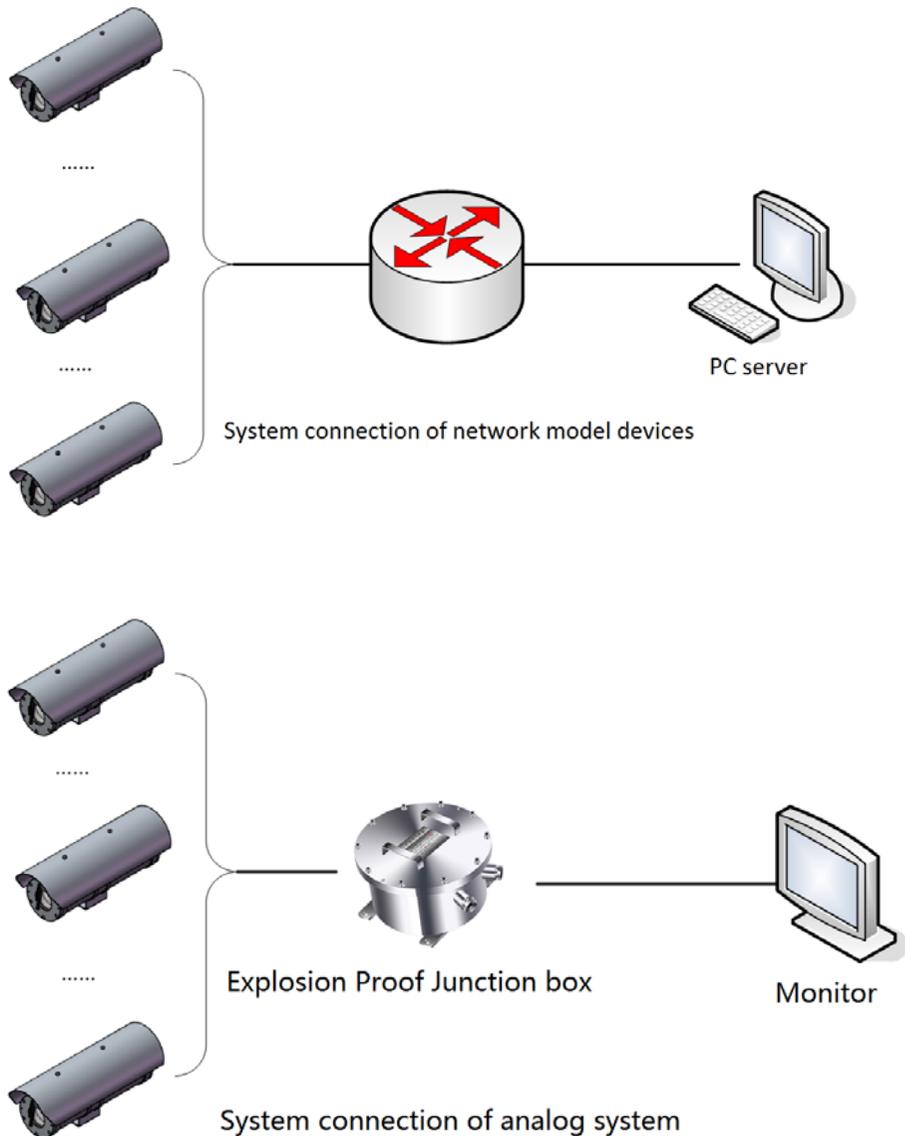


Figure 2.5.1 System connection

Network model device adopts cable network or wireless network as the main network for digital video signal transmission, it's available for users to monitor or record the videos at any time by network, no matter in local area network (LAN) or wide area network (WAN), such as internet.

Analog system is controlled by Explosion-proof control keyboard and Explosion-proof control box, it's available for user to monitor the scene condition.

2.5.2. Inspection and examination before power on

Check if the power and network cable are connected correctly, if the toggle switch settings are correct before power on.

2.5.3. Service status and inspection in service

The camera will start self-checking automatically after power on.

2.5.4. Settings of camera, IE browser and client software

See camera manufacturer's instruction manual for camera, IE browser and client software setting.

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
	Incorrect address	Set according to instruction manual of camera
	Incorrect protocol	
Incorrect baud rate		
Uncontrolled camera	Incorrect model of camera	Set according to instruction manual of camera
	Incorrect setting of control model (SW1)	

4. Transportation, storage and maintenance

4.1. Transportation

The packaged product can be delivered in all modes of transportation but without direct rain or snow.

4.2. Storage

This product can be stored for one year in such environment: no corrosive substance, no obvious vibration, temperature range: 0°C~+40 °C and humidity no more than 90%.

4.3. Maintenance

- Six months after putting into service:
 1. Check all the fasteners;
 2. Inspect the cables ensure the protective sheath are not damaged and the cables will not affect other objects during rotation.
- Five years after putting into service: the rubber sealing ring need to be replaced if the camera was installed in severe conditions, please contact the local distributor for this work.

5. Declaration

- We always tried to make this instruction manual as perfect as we can, but we cannot include all the possible problems may raise in installation and maintenance, please contact us for detailed information on problems not included in this instruction manual.
- The operator or user shall be responsible for damages or losses caused by misuse or operations do not comply with this manual.

Remark:

1. Symbol ○ means the content of the poisonous, harmful substances or elements in the component (homogeneous material) is lower than the limit specified in the standard;
2. Symbol × means the content of the poisonous, harmful substances or elements in the component (some certain homogeneous material) is more than the limit specified in the standard SJ/T11363-2006. Leakage or mutation of this poisonous, harmful substances or elements will not happen in the environmental life and will not harm the user's health or properties. Treatment of this poisonous, harmful substances or elements cannot be carried out by user selves, please deliver it to the appointed department according to the local laws or regulations or distributors of this product.



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