



ZDMS 0.8/20EX-WS ZDMS 0.8/30EX-WS

Automatic Fire Monitor

Explosion-Proof type

CATALOG

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Safety Instruction

- All personnel who may be expected to operate this equipment must be thoroughly trained in its safe and proper use.
- Read the operation manual carefully before installation.
- Make sure there are not obstructions in the scope of protection to shelter from the detect device.
- Before flowing water from this device, check that all personnel (fire service and civilian) are clear of the stream path. Also confirm stream direction will not cause avoidable property damage.
- Whenever possible, this equipment should be operated from remote location to avoid exposing personnel to dangerous fire conditions.
- Don't switch off any devices of the system before confirmation of the fire safety of power-off.
- Disconnect power before servicing and electric valve or electric valve controller.
- Any modifications to the electrical will destroy the fire safety rating and void warranty coverage of the enclosure and all components within.
- System devices should be inspected regularly according to the indicated date.

Be aware of importance and warning signs as below.

! IMPORTANCE
Before installing and operating this equipment, read this manual thoroughly. Proper installation is essential to safe operation.
! WARNING
Do not attempt to disconnect or work on any electrical equipment in this system unless power is removed or the area is known to be non-hazardous.

System Introduction

ZDMS series explosion-proof automatic fire extinguisher system devices is combination of image processing & transmission technology, ultraviolet sensing technology, signal processing technology, communication control technology, computer technology and mechanical transmission technology, this system could real time, all-weather and automatic monitor the fire.

Once fire happened, system would be activated, scanned the fire horizontally and Vertically, located the fire source, control unit gave fire signal, in the same time, activated the fire pump, opened the valve, the monitor aimed at the fire source and jetted water or foam to put out the fire.

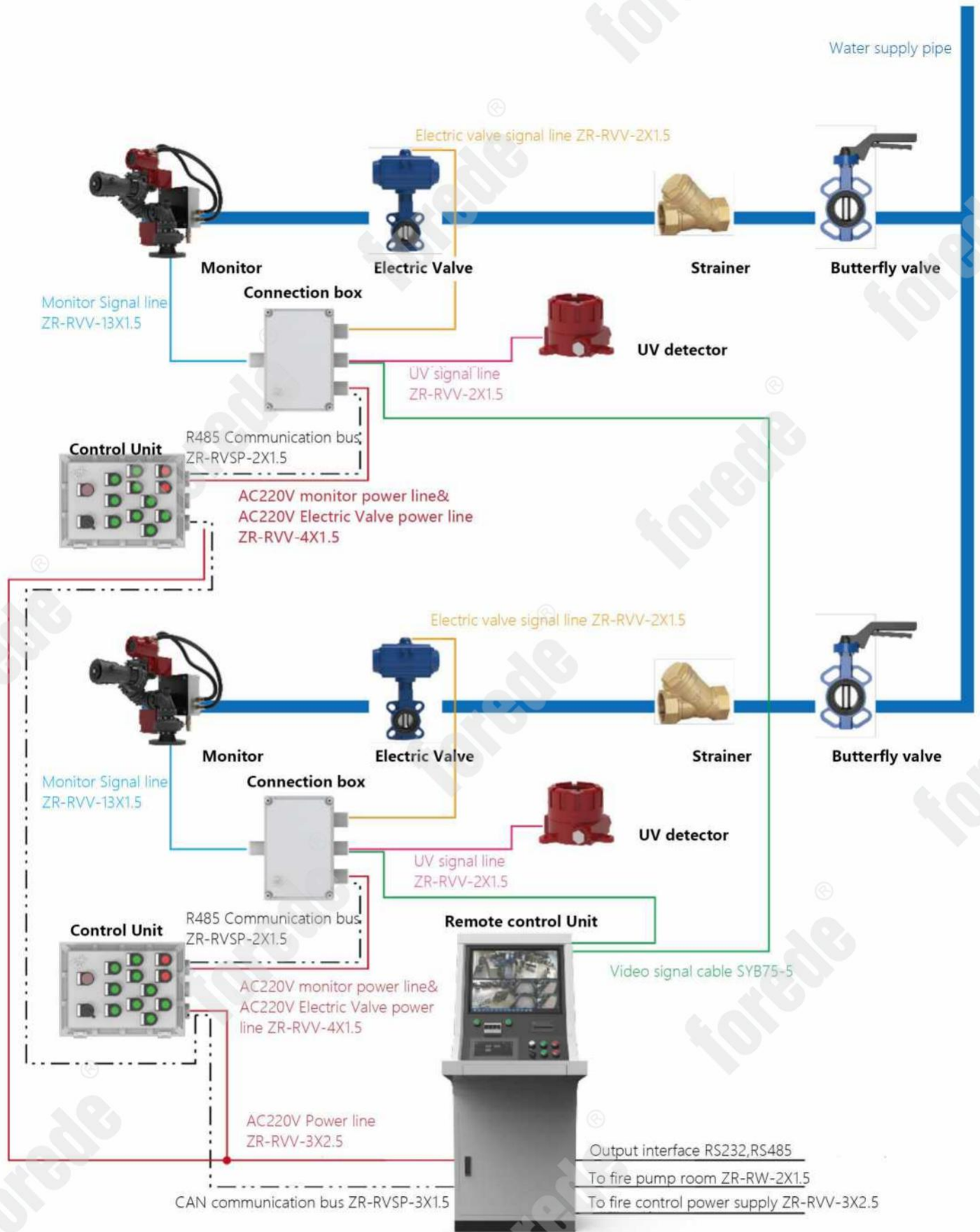
After put out the fire, the control unit gave signal to stop water jetting and returned to ready situation. any new fire sources would activate the system until all fire sources were put out.

This device has advantage of far range, wide scope of protection, great extinguishing ability, explosionproof, dustproof and waterproof, it is typically used in place like petroleum industry, chemical industry or nuke industry where is surrounded by explosive gases .

Configuration List

ITEM	NAME	MODEL NO	FUNCTION	Configuration
	ZDMS monitor Explosionproof	ZDMS 0.8/20EX-WS ZDMS 0.8/30EX-WS	Fire image detection, locate and put out the fire	Standard
	Connecting box Explosionproof	JXH(EX)-SX-20	Wiring	Standard
	UV detector Explosionproof	ZWTC(EX)-SX-20	Detect fire, activate devices	Standard
	Electric Valve Explosionproof	DDF(EX)-SX	opening and closing water supply	Optional
	Control unit Explosionproof	XCKZ(EX)-SX	Install on site, receive and send signal, control monitor and electric valve. could control 1 monitors.	Standard
	Remote Control Unit	YCKZ-SX	Install on control center, remote monitor and control the devices. could control 240 control box.	Optional
	Strainer	GLQ-SX	water filter	Optional

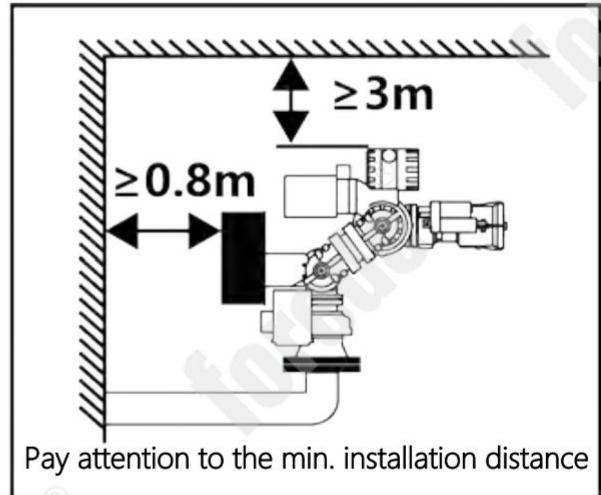
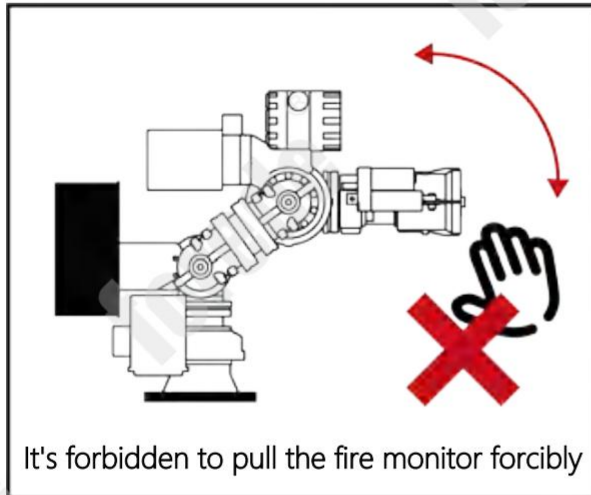
Installation Drawing



Installation Steps

- ZDMS fire extinguishing device:

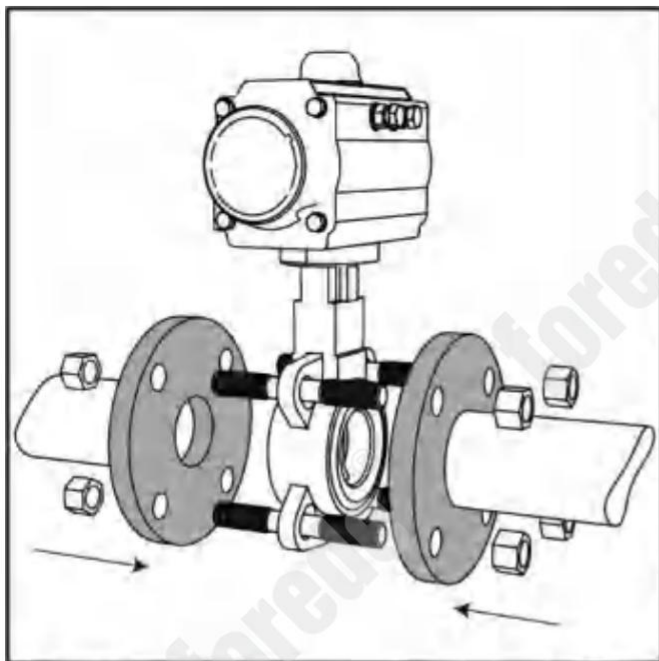
! WARNING



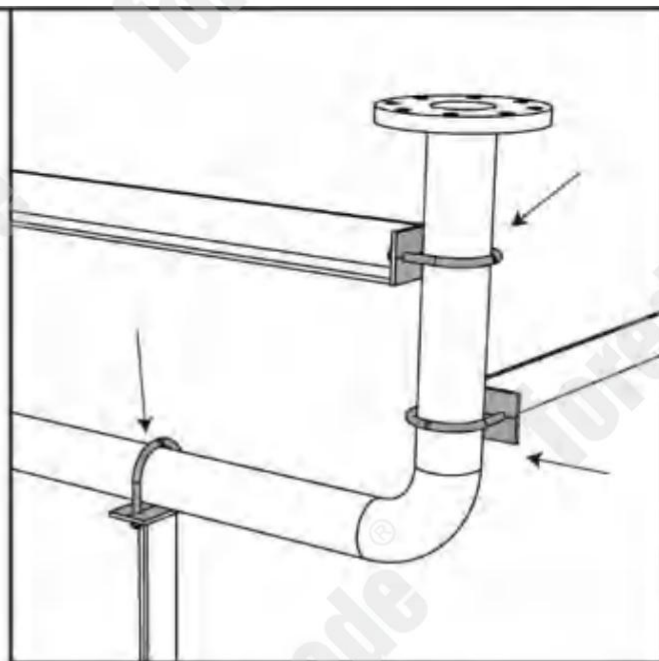
- It is forbidden to directly rotate the fire extinguishing device shell or force the monitor nozzle during installation to avoid damage to the gear transmission structure and the motor.
- There should be no obstacles within 0.8m radius of the fire extinguishing device installation point, so as not to affect the rotation of the monitor body; the gap between the ceiling or beam above the fire extinguishing device should be no less than 3 meters to ensure effective protection radius.

! ATTENTION

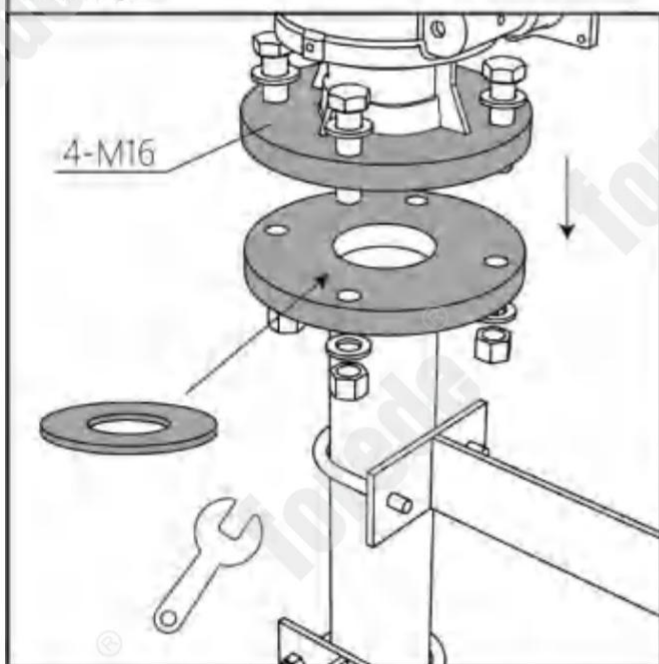
- The fire extinguishing device itself has a certain weight. When installing, consider the load-bearing capacity of the pipe network at the installation point. The fixed support direction of the pipe network shall not be less than 2 and the support frame shall not be less than 2.
- The fire extinguishing device should be installed after the pipeline is flushed and pressure tested
- Keep the fire extinguishing device properly before installation, and take corresponding dust-proof, moisture-proof and anti-corrosion measures
- The pipe connected to the flange of the fire extinguishing device should be upright to ensure that the fire extinguishing device sprays mouth is horizontal.
- The plane of the pipe flange connected with the fire extinguishing device flange must be level to prevent tilting;
- The direction of the monitor nozzle should face the protection range after installation.
- Handle with care during installation to prevent impact.



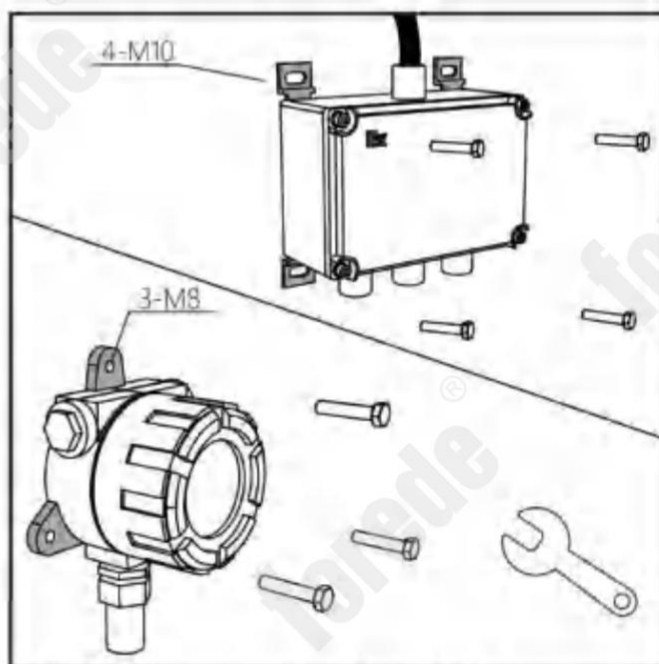
1. Place the electric valve between the two pre-installed flanges and center, insert the stud bolts and nuts into the corresponding flange holes at both ends, and tighten the nuts in a cross-balanced manner. Note that the electric valve should not be installed upside down, and the sealing surface fits completely.



2. Install the fixed bracket. The bracket installation shown in the figure is for reference only. Due to the different installation environment, the fixed bracket has different installation methods, please choose the most suitable installation style according to your site situation.



3. Put the sealing ring between the flanges, align the mounting holes and insert the M16 bolt (with flat washer), then put the flat washer on the other side and screw on the nut, pre-tighten, and repeat the installation of the remaining 3 bolts. And tighten the nuts in a cross-balanced manner;

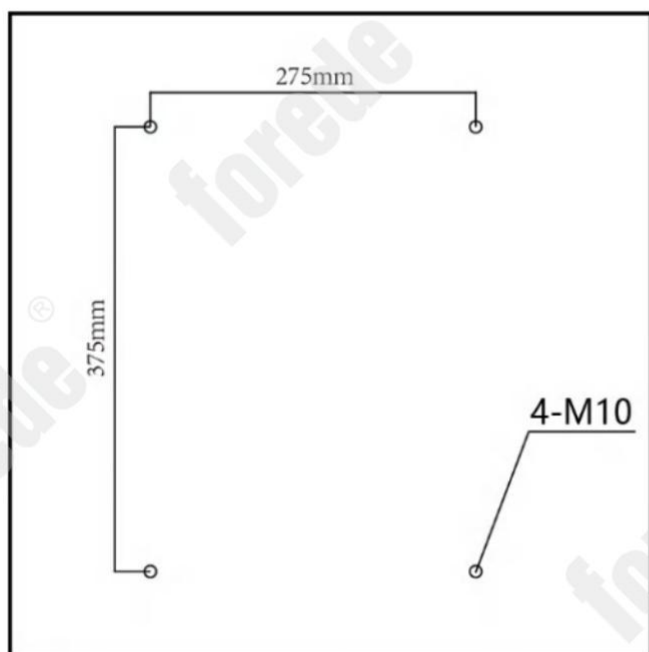


4. Fix the junction box and the ultraviolet detector according to the on-site situation, and the detector faces the protected area and is unobstructed. Adjust the length of the wiring harness of the junction box to ensure that the fire extinguishing device is not restricted within the rotation range and has a slight margin.

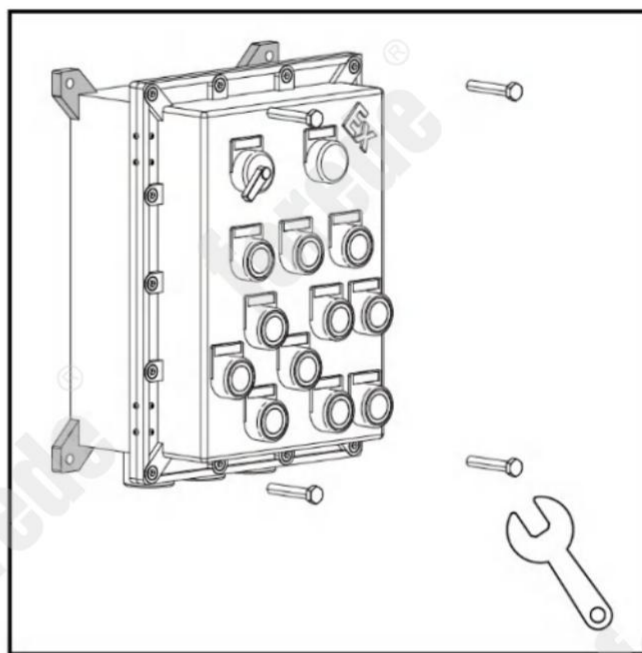
- On-site control box installation:

! ATTENTION

- It is recommended that the control box of the site area be wall-mounted near the fire extinguishing device, so that the action of the fire extinguishing device can be clearly observed, and it is close to the exit or a place that is convenient for evacuation.
- The installation height of the control box in the field area is 1.5 meters from the ground of the fire compartment.



1. Make sure to install the wall, and put 4*M10 expansion bolts on the wall, the installation dimensions are shown in the figure



2. Fix the control box on the wall with expansion bolts of appropriate length

- Remote control host installation:

The remote control host is installed and placed in the central control room to centrally control multiple on-site area control boxes. The main structure is a cabinet with incoming and outgoing wires in the lower part.

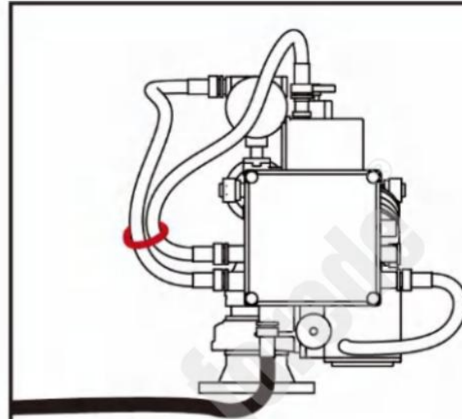
Wiring Steps

- Wiring of fire extinguishing device junction box:

! WARNING



No live electricity operation



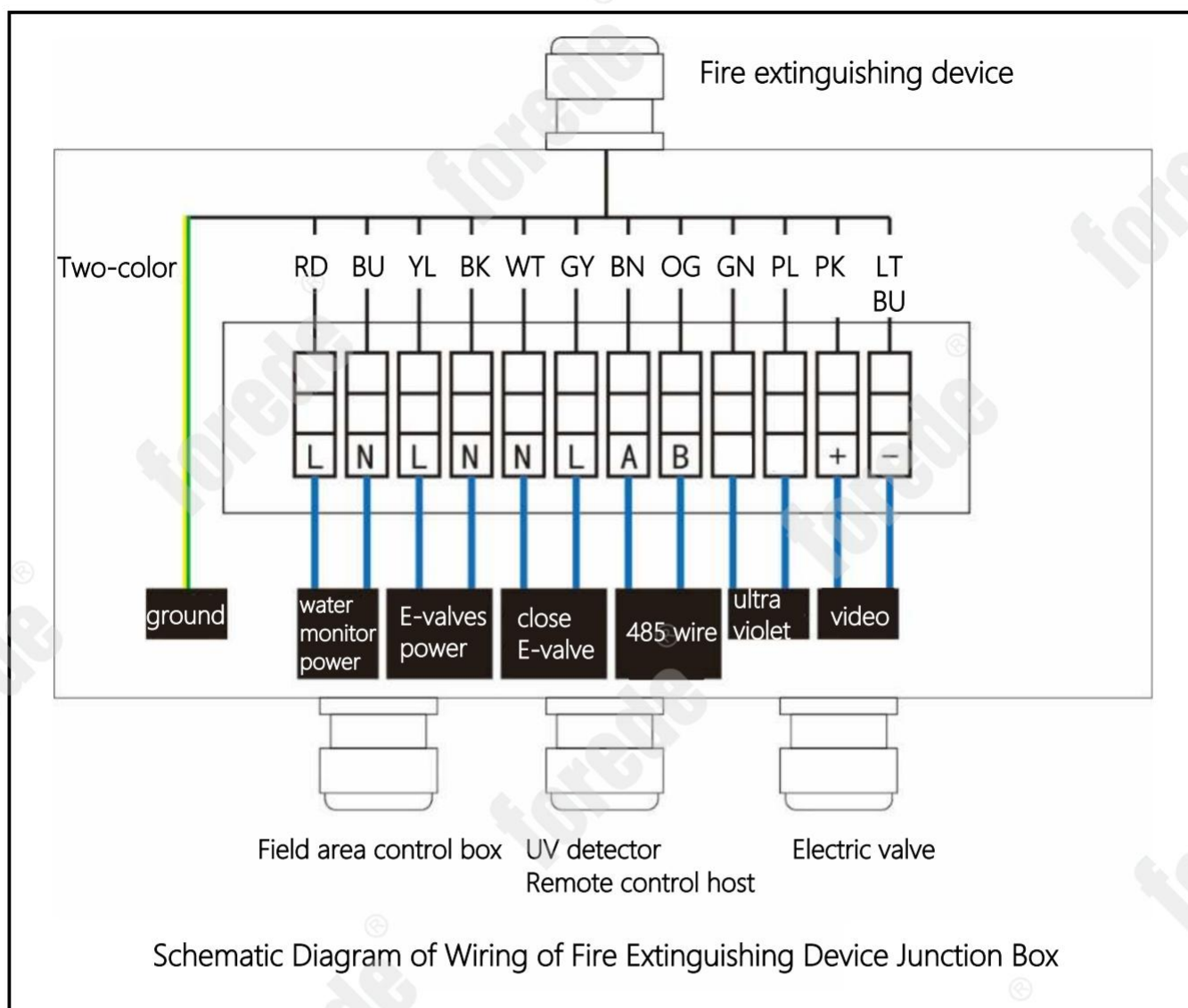
Pay attention to the length of the reserved wire

- The junction box contains 220V high-voltage power, live operation is prohibited during installation;
- In order to ensure the normal rotation of the device, the supporting wire of each device must be reserved for a certain length and then fixed to prevent the device from being trapped and unable to rotate normally due to the short wire, and to ensure that there are no obstacles around the device when it is rotating. To prevent the wear and tear of the wire sheath and affect the normal operation of the system.

! ATTENTION

- The 485 control cable of the junction box adopts twisted-pair shielded cable. When connecting each end, it must be connected strictly according to the attached cable label. The shielding layer must be connected, and each end must be insulated and wrapped after welding. This cable is a weak current cable and cannot be laid together with the power cable. Separate cable troughs must be used when laying in a trough.
- When wiring, keep the detection component of the fire extinguishing device clean, do not wipe the light-receiving surface of the detection component directly by hand.
- The leading video cable must use copper core copper net, select SYB75-5 type line within 300 meters, if it exceeds 300 meters, you need to use optical fiber.

Wiring steps are as follows:



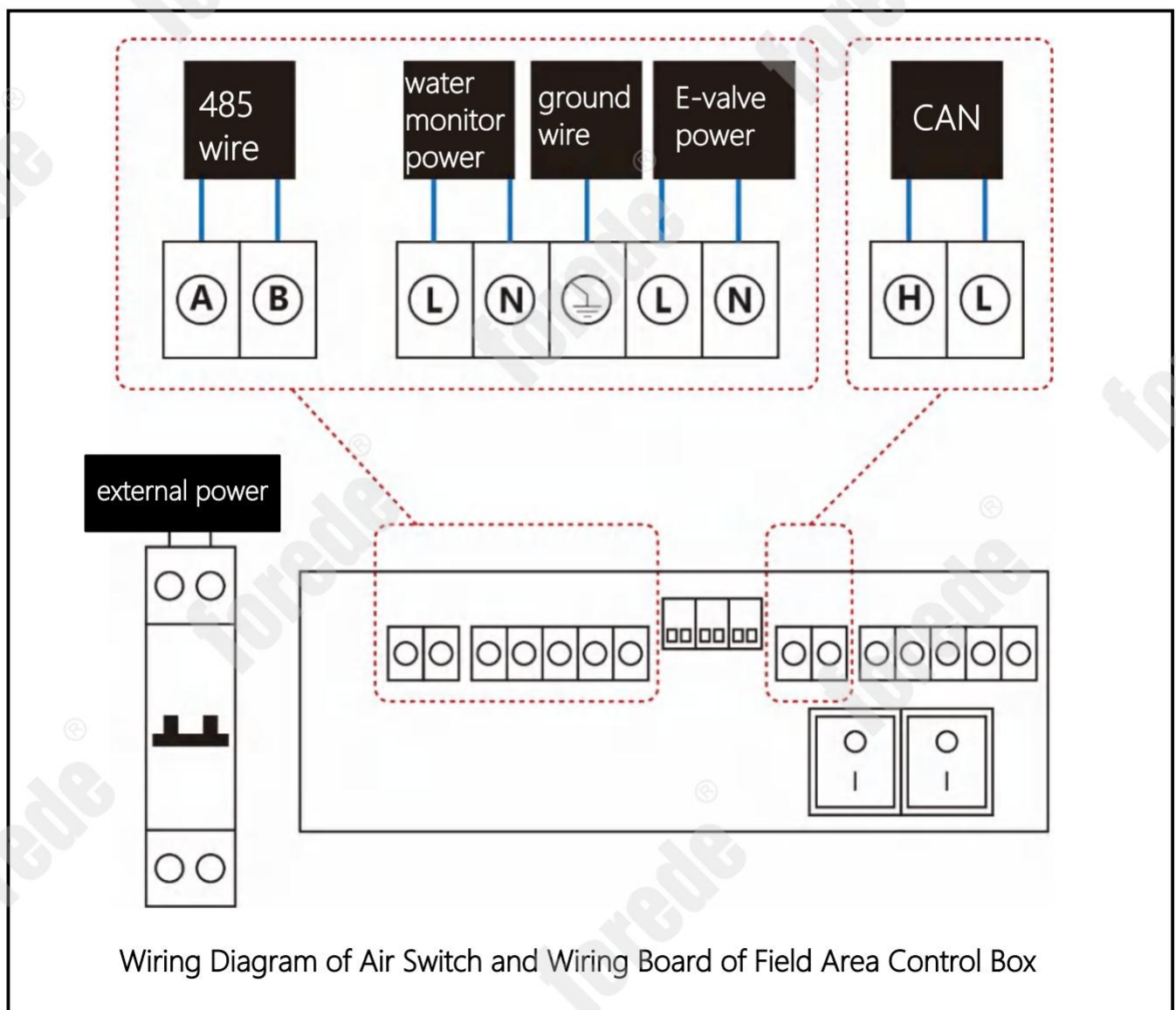
- 1.The fire extinguishing device leads 1 cable into the junction box, the wiring method is shown in the figure above;
- 2.The junction box leads out 4 cables into the field area control box, which are 485 communication line ZR-RVSP2× 1.5 (twisted pair with shielding layer), water monitor power cord ZR-RVV2× 1.5, electric valve power cord ZR-RVV2× 1.5 and grounding wire, the wiring method is shown in the figure above;
- 3.The junction box leads out 1 electric valve signal wire ZR-RVV2× 1.5 into the electric valve, the wiring is shown in the figure above;
- 4.The junction box leads out a video signal line SYB75-5 to the remote control host, the wiring is shown above;
- 5.The junction box leads out a UV signal line ZR-RVV2× 1.5 to the UV detector, the wiring method is shown in the figure above;

- Field area control box wiring:

! ATTENTION

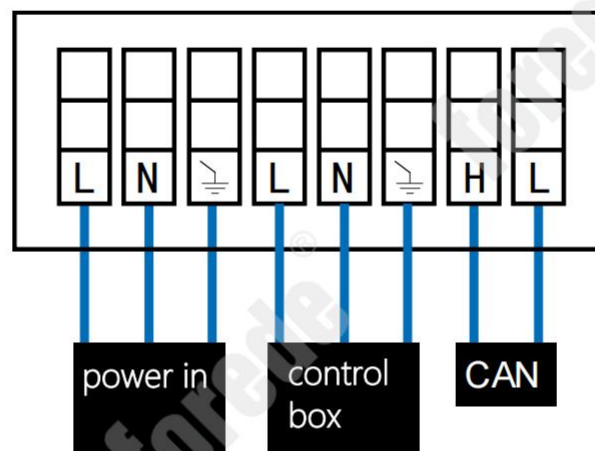
- Same as junction box, the control box in the field area contains 220V high-voltage power, and no live operation is allowed during installation
- When multiple local control boxes are connected to the remote control host, the CAN industrial bus between the control box and the control box needs to be connected hand in hand
- The ground wire must be grounded

Wiring steps are as follows



1. The field area control box leads 3 cables into the junction box, which are 485 communication line ZR-RVSP2× 1.5 (twisted pair with shielding layer), water monitor power cord ZR-RVV2× 1.5 and electric valve power cord ZR-RVV2× 1.5, the wiring method is shown in the schematic diagram;
2. Two cables from the field area control box are connected to the remote control host which are 220VAC power cord ZR-BV-3× 2.5 (connect to other external power sources when the remote control host is not installed) and CAN industrial bus ZR-RVSP3× 1.5, wiring See the schematic diagram;
3. For grounding, the two-color grounding wire and the shell must be effectively grounded.

● Remote control host wiring:



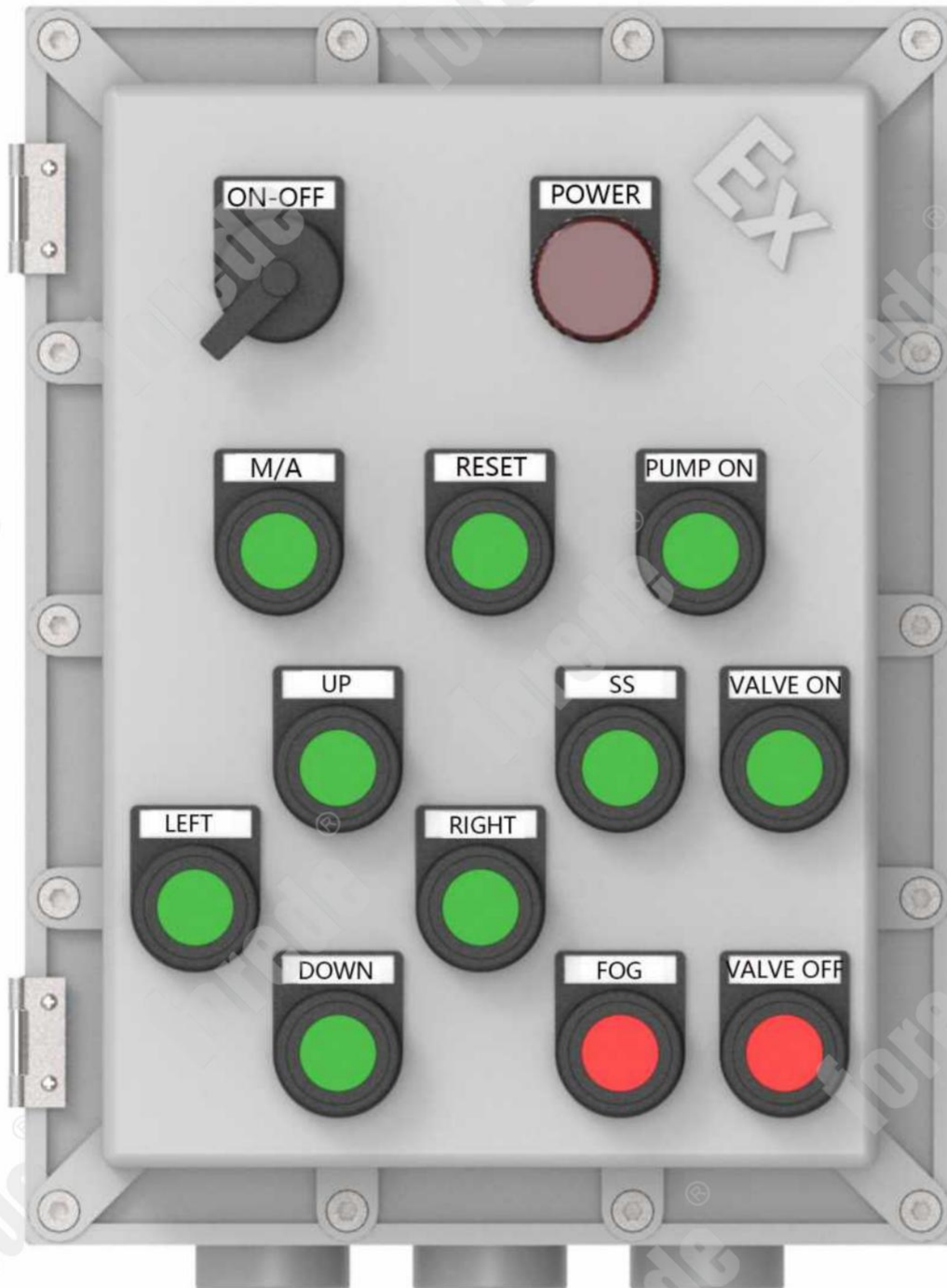
Wiring Diagram of Remote Control Host Terminal

1. The remote control host cabinet is equipped with wiring terminals. One cable AC220V power cord ZR-RVV-3× 2.5 is introduced, and two cables are led out into the field area control box. They are AC220V power cord ZR-RVV-3× 2.5 and CAN. Industrial bus ZR-RVSP3× 1.5, the wiring is shown in the figure above;
2. For grounding, the two-color grounding wire and the shell must be effectively grounded;
3. Connect the video signal cable from each fire extinguishing device to a dedicated video plug, and then insert the plug into the video input port of the VCR.



Operating Instructions

- The monitor is mainly controlled by the control unit in installation site.
Instruction as below:



4, the operation buttons on right side of control unit

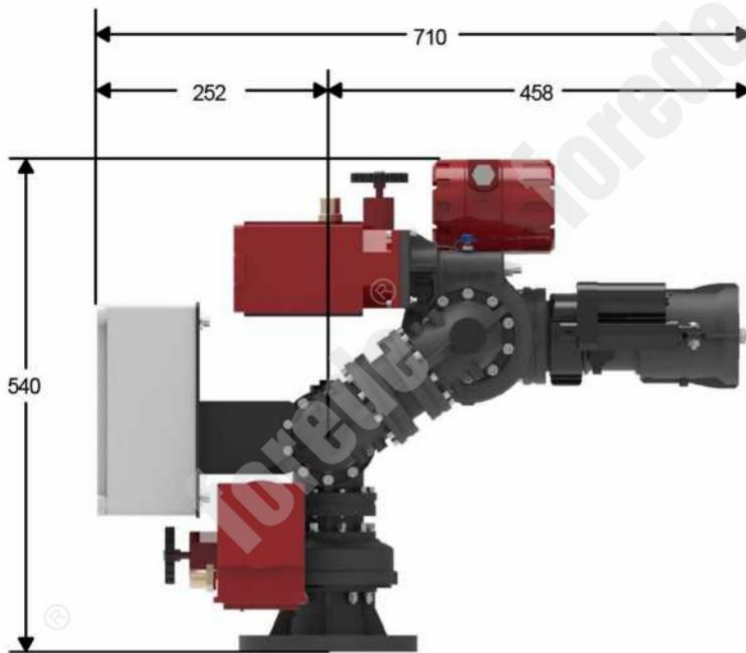
MARK	Color	DESCRIPTION
ON-OFF	Black	ON:power on OFF:power off
POWER	RED	ON:running OFF:power off
M/A	GREEN	switch mode: manual / automatic
RESET	GREEN	Reset to ready situation
PUMP ON	GREEN	turned on or off the pump
UP	GREEN	manual control the monitor upward
DOWN	GREEN	manual control the monitor downward
LEFT	GREEN	manual control the monitor leftward
RIGHT	GREEN	manual control the monitor rightward
SS	GREEN	Straight stream pattern
FOG	RED	Fog pattern
VALVE ON	GREEN	Turn on electric valve,usable in manual mode
VALVE OFF	RED	Turn ff electric valve,usable in manual mode

- **The remote control operations are controled by the remote control unit.**

Technical Parameter

Model NO.:	ZDMS 0.8/20EX-WS	ZDMS 0.8/30EX-WS
Working Pressure	0.8MPa	0.8MPa
Flow	20L	30L
Jetting Radius	56m	62m
Protection Radius	50m	55m
Monitoring Radius	80m	80m
Pattern	Straight Stream/Fog	
Mounting Height	8~15m	
positioning time	≤60s	
Horizontal Motion	0°~360°	
Vertical Motion	-90°~+30°	
Working Voltage	AC220V	
Working Mode	field manual/ remote manual control/Automatic	
Communication Mode	RS485	
Power Consumption	Monitoring 1W, Detecting 15 W	
Detector type	Image detect & UV sensor technology	
Connection	DN65 Flange	
Standard	GB 25204-2010	
Explosive-proof grade	Exd II BT4GB	

Dimension



Rotation Envelop

