

# INSTALLATION MANUAL



# DISCLAIMER

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- While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions.
- We reserve the right to change the specifications of the hardware and software described herein at any time without prior notice.
- No part of this guide may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without prior written permission of us.
- We make no warranties for damages resulting from corrupted or lost data due to a mistaken operation or malfunction of the Speed Dome Cameras, peripheral devices, or unapproved/unsupported devices.

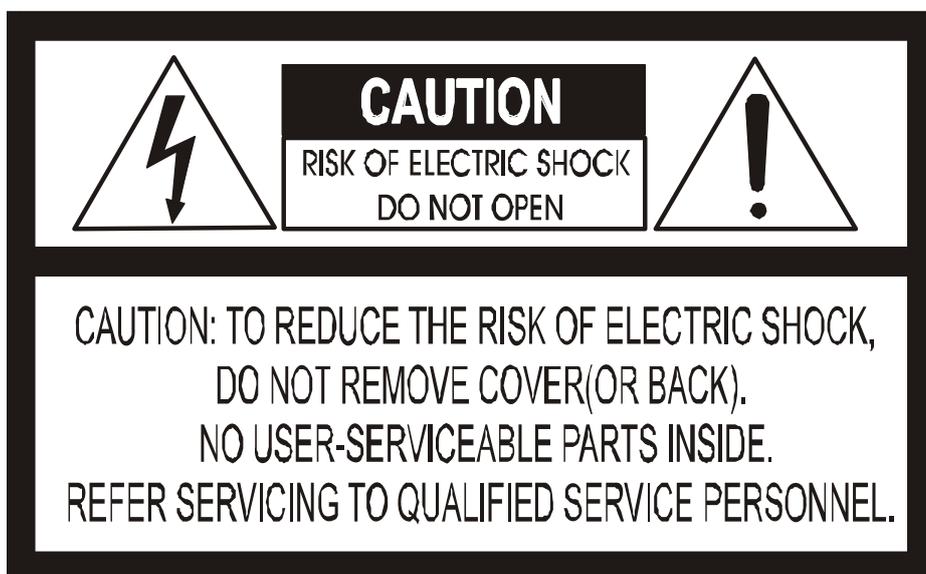
# WARNING AND CAUTION

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## WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OPENINGS ON THE EQUIPMENT.

## CAUTION



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

# FCC COMPLIANCE STATEMENT

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**FCC INFORMATION:** THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

**CAUTION:** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS A DIGITAL EQUIPMENT COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

# CE COMPLIANCE STATE

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**WARNING**

THIS IS A CLASS A PRODUCT. IN A DOMESTIC ENVIRONMENT THIS PRODUCT MAY CAUSE RADIO INTERFERENCE IN WHICH CASE THE USER MAY BE REQUIRED TO TAKE ADEQUATE MEASURES.

# IMPORTANT SAFEGUARDS

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1. Read these instructions.
2. Heed all warnings.
3. Follow all instructions.
4. Do not use this equipment near water.
5. Clean only with dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produce heat.
8. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the equipment.
10. Only use attachments/accessories specified by the manufacturer.
11. Unplug this equipment during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the equipment has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. CAUTION - THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.
14. Use Certified/Listed Class 2 power supply transformer only.

# TABLE OF CONTENTS

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DISCLAIMER .....	2
WARNING AND CAUTION .....	3
FCC COMPLIANCE STATEMENT .....	4
CE COMPLIANCE STATE .....	4
IMPORTANT SAFEGUARDS.....	5
TABLE OF CONTENTS.....	6
INTRODUCTION.....	7
CONTENT VERIFICATION .....	8
DIMENSIONS.....	8
ADJUSTING THE 3-AXIS BRACKET .....	9
WIRING DIAGRAM.....	10
REMOTE CONTROLLER KEYS & DESCRIPTIONS.....	12
ADJUSTING THE LENS & SETUP MENU.....	13
OSD MENU CONTROLS & NAVIGATION.....	14
FOCUS.....	15
WB SETUP (WHITE BALANCE SETUP).....	16
AE SETUP (AUTO EXPOSURE SETUP).....	17
SPECIAL .....	18
DISPLAY.....	20
FUNCTION .....	21
IR RADIATOR .....	26
TECHNICAL SPECIFICATION.....	27

# INTRODUCTION

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## Features

Our camera is equipped with high resolution 1/4" Super HAD CCD Imager for enhanced lowlight sensitivity. User-friendly, on-screen pull-down menus and short-cuts make it easy to setup and program functions.

\*Before installing and using this camera, please read this manual fully and carefully, and be sure to keep it handy for later use.

- 580 TV Lines
- True Night Shot function with ICR Day/Night Function
- Auto Focus & Auto Iris,DSS(x256)
- 0.2 Lux(Color w/ Normal Mode), 0.02 Lux(B/W), 0.00 Lux(IR LED On)
- OSD for Camera Setup
- 8 programmable presets, 4 privacy
- Home Function
- RS-485 Communication
- IR Remote Controller (Optional)
- Built-in Optical 22X (3.9~85.8mm), Digital 16X (total X352)
- 78 IR LEDs
- 1 Relay Out
- 2 Alarm In
- IR Adjustments: On/Off, & Brightness Level (Smart IR)
- IR Distance: Up to 300 ft
- Fan & Heater (Optional)
- Weatherproof – IP66
- 3 Axis bracket
- 12VDC / 24VAC

# CONTENT VERIFICATION

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Before installing the camera, please make sure that the following items are included in the box:

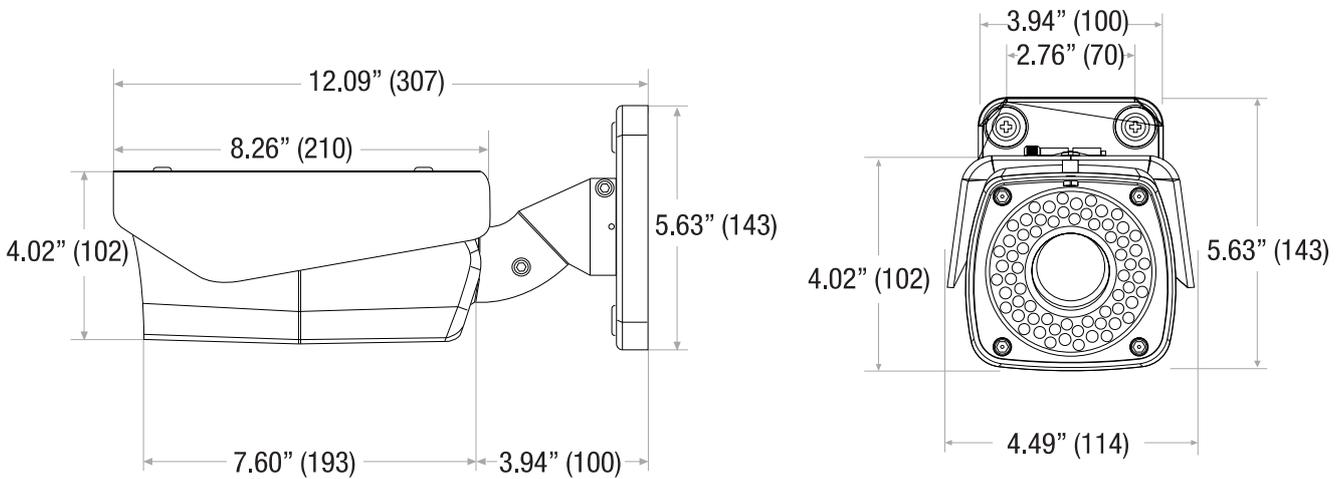
1. Integrated Camera
2. Sunshield
3. Remote Controller (Optional)
4. Instruction Manual
5. Mounting Hardware

If any of these materials are missing, please contact the vendor or customer service department immediately.

## DIMENSIONS

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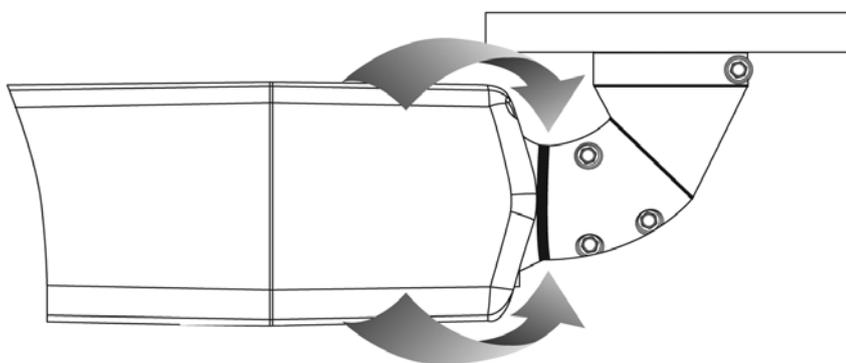
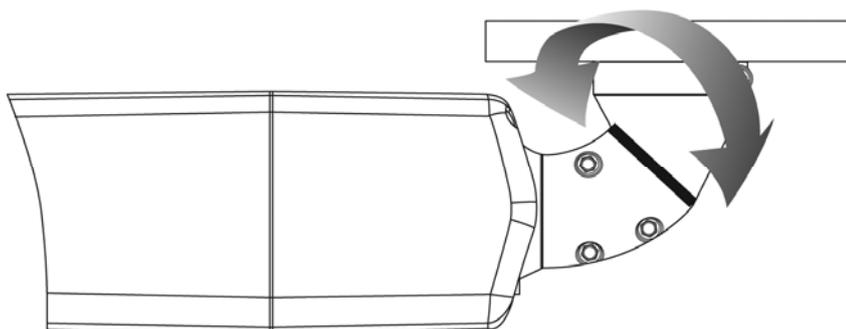
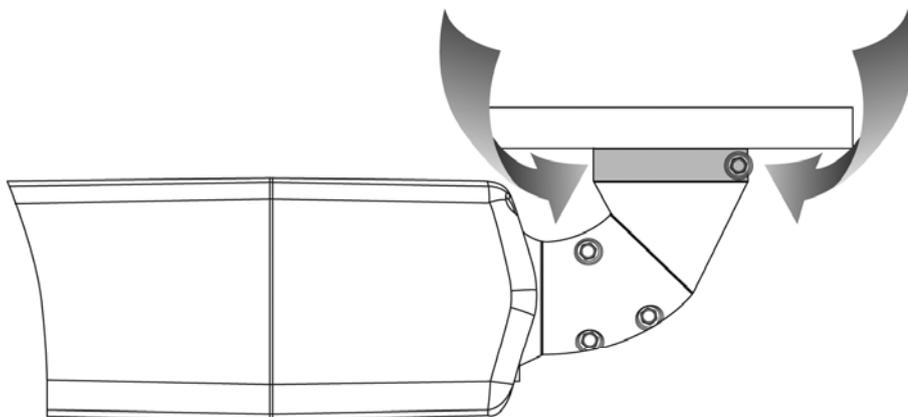
Unit : Inch (mm) :



# ADJUSTING THE 3-AXIS BRACKET

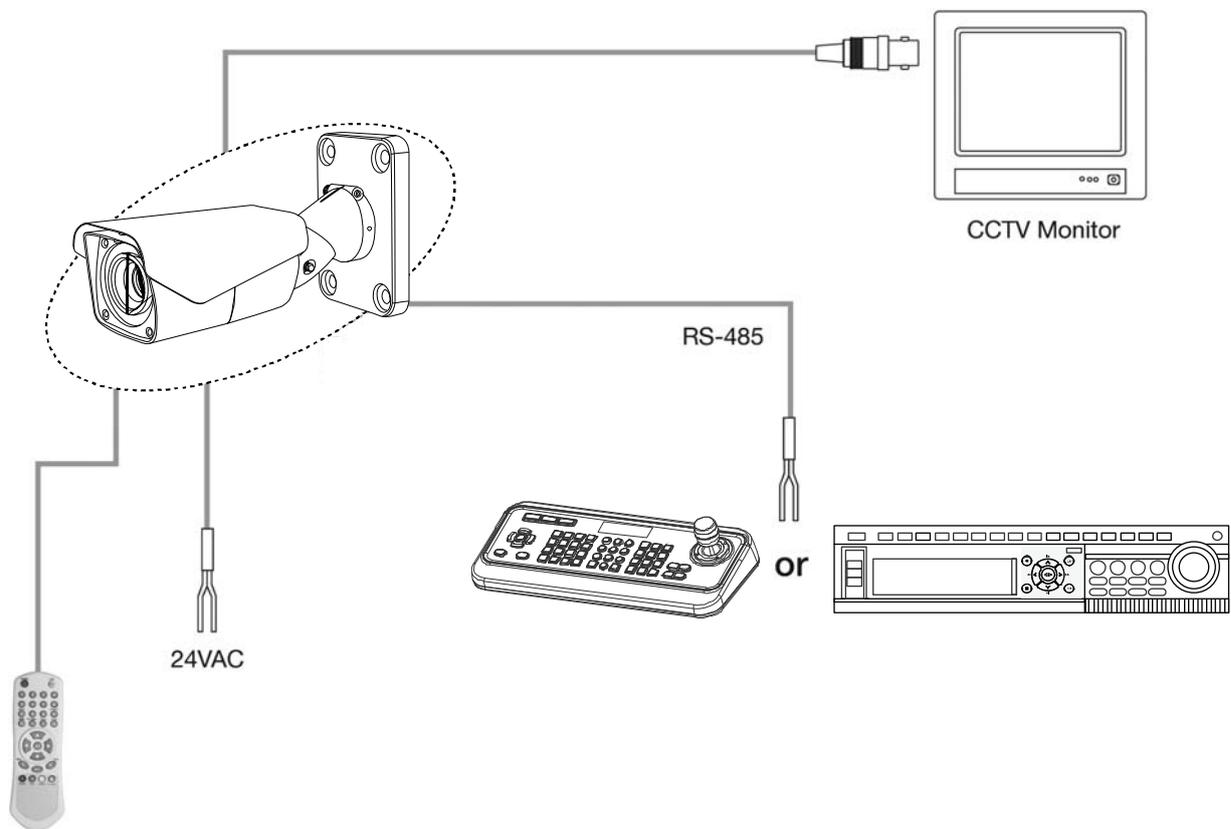
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Loosen the corresponding screws before attempting to make Pan, Tilt and Rotation adjustments.



# WIRING DIAGRAM

## GENERAL OVERVIEW



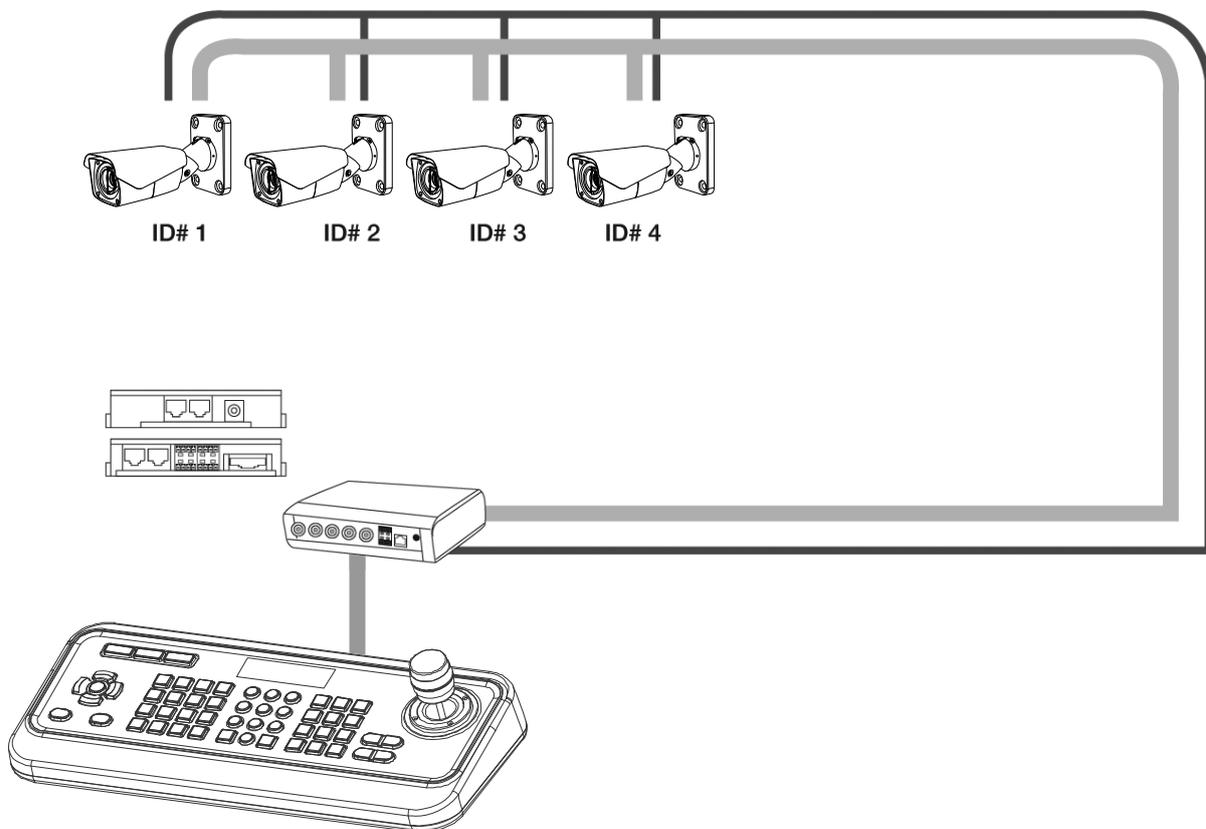
### Use minimum of power source 12VDC, 5A / 24VAC, 2.5A

- Connect the VIDEO-OUT jack to the VIDEO-INPUT of the device.
- As the connecting method varies with the equipment, refer to the manual supplied with the equipment.
- Always make sure that the camera's power is off when connecting the cables.
- The camera is supplied with second video output on the camera housing. To use this feature along with a service monitor, second monitor cable is required.

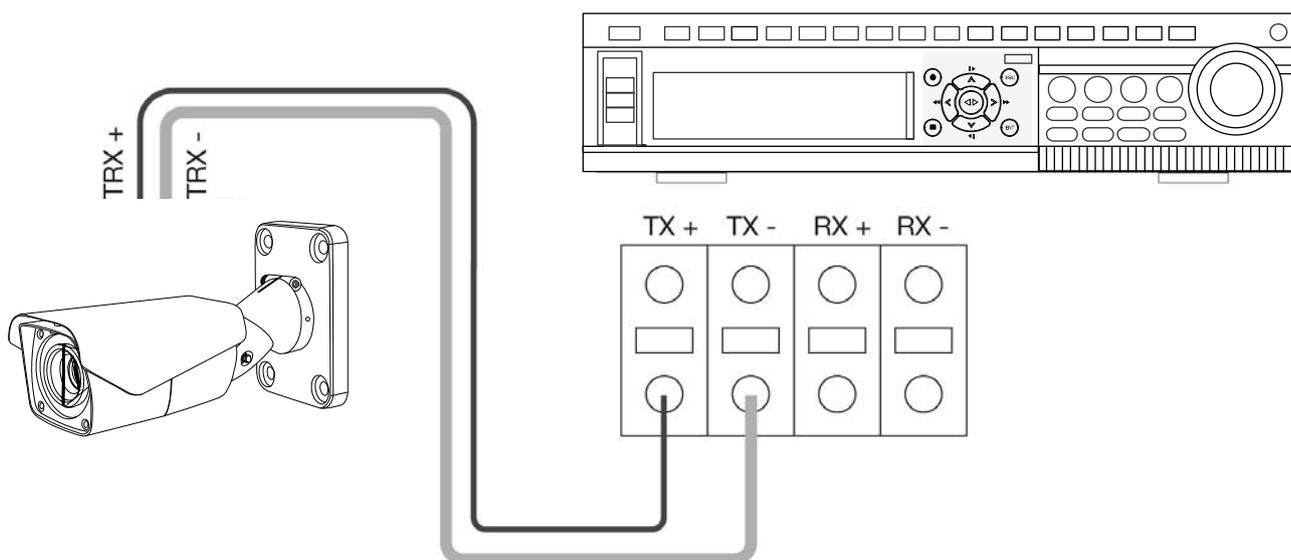
Using a RS-485 communication, it will be able to control the ZOOM/FOCUS and OSD menu from the controller or through the DVR. RS-485 does not allow star connection layout. It must be in a daisy-chain configuration. An amplifier/repeater is required to extend over 1.2km in distance.

# WIRING DIAGRAM

## CONNECTING TO THE CONTROLLER



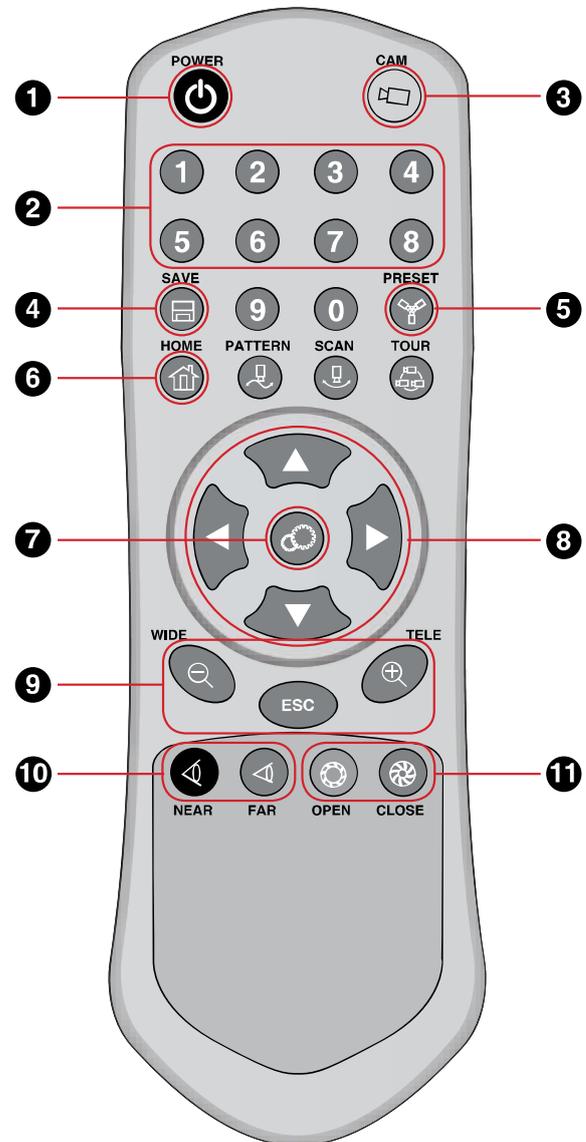
## CONNECTING TO THE DVR



# REMOTE CONTROLLER KEYS & DESCRIPTIONS

Loosen the corresponding screws before attempting to make Pan, Tilt and Rotation adjustments.

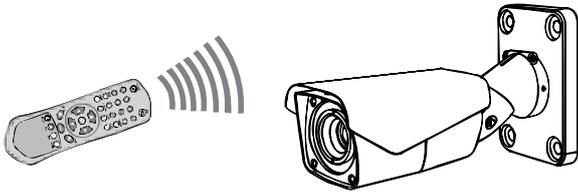
- ① **POWER** – Not used
- ② **NUMBERS** – Use Numbers when changing the ID of the remote controller. They are also used to save or recall presets.
- ③ **Camera Address (ID)** - Use CAM button to change the ID of the remote controller when controlling multiple cameras.  
**Example:** To control CAM ID#2, Press 2 and CAM button in sequence.
- ④ **SAVE** - Saves preset position.  
**Example:** To save Preset #1, Press 1 and SAVE in sequence.
- ⑤ **PRESET** - Recall preset. Example: To recall Preset #1, Press 1 and PRESET in sequence.
- ⑥ **HOME** - Immediately calls Home function.
- ⑦ **MENU** – Recalls On Screen Display Menu.
- ⑧ **DOWN / UP / LEFT / RIGHT**  
Moves up/down in the menu.  
Moves left/right in the menu.  
Decreases/increases control.
- ⑨ **ZOOM** - Zoom In / Out
- ⑩ **FOCUS** – Adjusts focus.
- ⑪ **IRIS** – Adjusts Iris.



**Note:** When you use the remote controller, set the camera ID number up to 99.

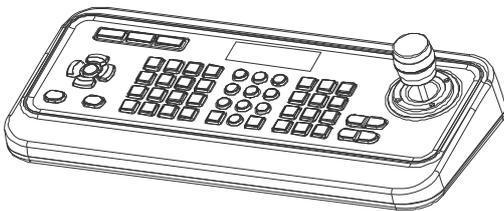
# ADJUSTING THE LENS & SETUP MENU

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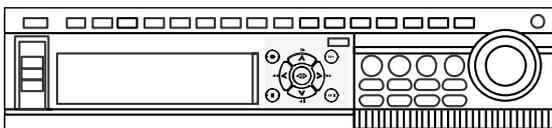
## VIA IR REMOTE CONTROL

Point the Remote Controller to the Camera to control the zoom. You can also use the remote controller to enter and make changes in the OSD Setup Menu.



## VIA CONTROLLER

Use the controller to adjust the zoom by twisting the joystick. You can also enter and make changes in the OSD Setup Menu.



## VIA DVR

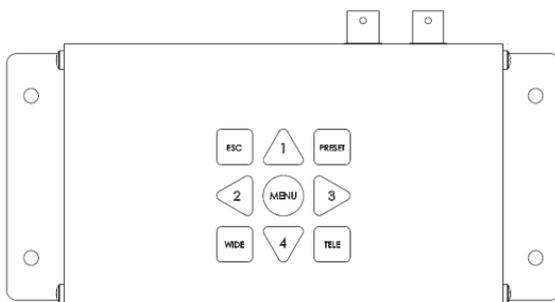
Use the DVR's PTZ menu to adjust the zoom using the + and -. You can also enter and make changes in the OSD Setup Menu.

**NOTE:** Make sure that the RS485 connection is connected to the Controller or DVR.

## VIA EZ-Coax™ transceiver

Use the EZ-Coax transmitter to adjust the zoom.

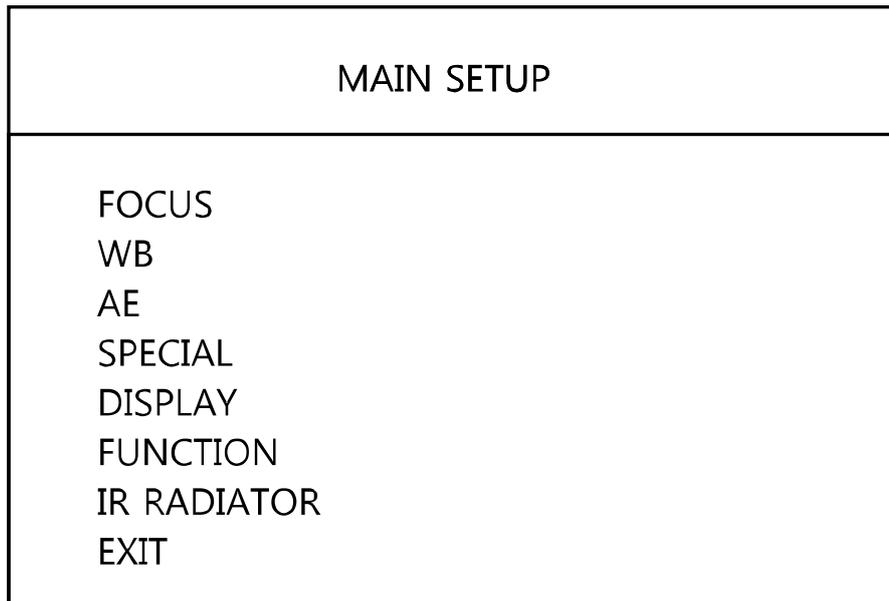
You can also enter and make changes in the OSD Setup Menu.



**NOTE:** Use only one of RS485 and EZ-Coax control. When you use together, it may happens a malfunction.

# OSD MENU CONTROLS & NAVIGATION

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- **Menu Key** - Used to access menu mode.
- **Up / Down Key** - Used to scroll through the desired menu selection and to move the cursor up or down during the OSD menu.
- **Left / Right Key** - Used to adjust the desired sub-menu selection, and to move the cursor left or right during the OSD menu. Also use to confirm the setting changes.
- **Note:** When you change an option of the menu, the setting change is saved immediately except the communication menu.
- **Entering the Main Menu**  
To enter the main menu, press the **MENU Key**.
- **Entering and Navigating the Sub-Menu**  
To enter the sub-menu from the Main menu, press the **Left / Right key** at the selected line. While in the OSD menu, scroll up/down the available options by using the corresponding navigational keys.
- **Go to the Up-Menu from the Sub-Menu**  
To go to the up-menu from the sub- menu, press the **Left / Right Key** at the RETURN line.
- **Exiting OSD Menu**  
Once all of the desired changes have been made, move the cursor over to the SAVE AND EXIT or END line to save and exit.

# FOCUS

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This camera can be set up to automatically focus to the changing environment or just once at a preset field of view. (e.g., a man walking across the monitored area closer to the camera.) **Important:** Continuous use of the Auto Focus feature under heavy movement conditions will significantly shorten the lifespan of the lens.

**IMPORTANT: Continuous use of the Auto Focus feature under heavy movement conditions will significantly shorten the lifespan of the lens.**

FOCUS SETUP	
MODE	ONE-PUSH
D-ZOOM	OFF
LENS INIT.	
END	

**MODE:** You can select the most suitable zoom mode.

- **ONE-PUSH:** Focus is automatically adjusted just once, after zoom position is set.
- **MANUAL:** After the desired field of view is set, focus can be manually adjusted.
- **AUTO:** Focus is automatically adjusted with moving zoom.

**D-ZOOM:** When this feature is set to ON, it will digitally magnify images after the optical magnification has reached its limit.

**LENS INIT:** Use this feature to initialize the lens.

## WB SETUP (WHITE BALANCE SETUP)

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The WB SETUP is used to control the white balance under different illumination sources. Adjust this setting to calibrate the camera for correct color rendering.

WB SETUP	
MODE	ATW
R GAIN	- -
B GAIN	- -
END	

**MODE:** The five white balance control modes are as follows:

- **ATW( Wide Auto White Balance Control):** Select the ATW mode if the color temperature of the light source is between 2,400°K ~ 12,000°K (i.e. fluorescent Light, Sodium vapor Lamps)
- **AWC (Auto White Balance Control):** AWC mode has no color temperature range. This mode has manual(LOCK) and Auto mode.
- **INDOOR:** This mode can be used within the color temperature range 3200°K.
- **OUTDOOR:** This mode can be used within the color temperature range 5600°K
- **MANUAL:** To fine tune, select the Manual mode. You can increase or decrease the red or blue factor while monitoring the difference on the screen. Increase or decrease the value of red(R-Gain) and blue(B-Gain), to achieve the best color while watching the changes in the picture.

### RED(0~255)

- This field displays the current RED value of the WB mode. Only in the Manual mode can the RED value be altered to user preference. The red value ranges from 0~255.

### BLUE(0~255)

- This field displays the current BLUE value of the WB mode. Only in the Manual mode can the BLUE value be altered to user preference. The blue value ranges from 0~255.

## AE SETUP (AUTO EXPOSURE SETUP)

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AE SETUP	
MODE	AUTO
SHUTTER	- - - -
IRIS	- - -
AGC	-
DSS	X2
BRIGHTNESS	48
FLICKERLESS	OFF
END	

**MODE:** AUTO, SHUTTER, IRIS, MANUAL

- **AUTO:** Exposure is controlled by Shutter Speed, Iris, and Gain to meet the Brightness.
- **SHUTTER:** The shutter speed is fixed. Exposure is controlled by Iris and Gain.
- **IRIS:** The IRIS is fixed. Exposure is controlled by Shutter Speed and Gain.
- **MANUAL:** Shutter Speed, IRIS, and Gain is fixed as the setting value regardless of the illuminance.

**SHUTTER:** It can be set the shutter in the shutter and manual mode.

**IRIS:** It can be set the IRIS in the IRIS and manual mode.

**AGC (Auto Gain Control):** It can be set the gain in manual mode from 0 to 30 in the manual mode.

**DSS (Digital Slow Shutter):** This feature ensures clear images at low Lux environment. Position the indicator over 'DSS'. Set 'DSS' to the desired mode from X2 to X256 and OFF. This value is the maximum slow shutter level.

**BRIGHTNESS:** Use this feature to adjust image brightness. Position the indicator over 'BRIGHTNESS'. Brightness level from 0 to 90 is adjustable by using the left or right directional buttons while verifying the changes on screen.

**FLICKERLESS:** Set ON or OFF in the auto mode only.

# SPECIAL

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SPECIAL SETUP	
BACKLIGHT	OFF
DAY / NIGHT	AUTO-L
SHARPNESS	08
COMMUNICATION	
FACTORY DEFAULT	
ACCESS CONTROL	
END	

**BACKLIGHT:** Select between OFF(Default), LOW, MID., HIGH

- **OFF:** BLC is off
- **LOW, MID., HIGH:** The BLC divides the frame and calculates each zone according to its exposure level to counterbalance excessive background light to distinguish the subject in the foreground. You can adjust the sensitivity for the IR Cut Filter lighting conditions.

**DAY/NIGHT:** Select between AUTO-L(Default), AUTO-M, AUTO-H, COLOR, B/W.

- **COLOR:** Keeps Color mode.
- **B/W:** Keeps B/W mode.
- **AUTO-L, M, H:** The camera automatically detects lighting conditions and selects the mode accordingly. You can adjust the sensitivity for the IR Cut Filter lighting conditions.

**SHARPNESS:** Increasing this value sharpens object edges. Too high of a setting, however, produces noise and may obscure the image.(0~15)

**COMMUNICATION:** Use this feature to select communication protocol. Position the indicator over 'COMMUNICATION'.

COMMUNICATION	
ID	01
BAUDRATE	9600
PROTOCOL	AUTO
TERMINATION	OFF
SAVE AND EXIT	

# SPECIAL

---

**ID:** Assign ID number to the camera. It is available to set an ID from 1 to 99.

**BAUDRATE:** Configure baud rate from 2400, 4800, 9600, 19200, 38400bps.

**PROTOCOL:** Assign protocol to the camera. It is available to set at AUTO, NUVICO, Pelco-D, Pelco-P.

**TERMINATION:** Set it ON if this unit is installed at the end when you control the camera by the RS485 cable.

**SAVE AND EXIT:** Save and exit.

**FACTORY DEFAULT:** To reset your camera to factory default condition.

**ACCESS CONTROL:** Use this mode to limit access to the Remote Controller

ACCESS CONTROL	
REMOTE CONTROL	ON
PASSWORD CHECK	OFF
CHANGE PASSWORD	
END	

**REMOTE CONTROL:** The REMOTE CONTROL feature is set to ON for REMOTE CONTROL free operating mode. But, if it is set to OFF, it is REMOTE CONTROL for limited operating mode.

**PASSWORD CHECK:** The PASSWORD CHECK feature is set to ON, pressing MENU to enter the main menu setup mode will display the password confirmation screen. The factory default for the password is "9 PRESET 9 PRESET 9 PRESET 9 PRESET".

**CHANGE PASSWORD:** Use this feature to change password. Press number (1~9) and press **PRESET** key.

INPUT PASSWORD
-

# DISPLAY

---

DISPLAY	
CAMERA TITLE	ON
EDIT TITLE	
CAMERA ID	ON
FUNCTION NAME	ON
ZOOM MAGNIFICATION	OFF
END	

**CAMERA TITLE:** Use this feature to designate a name for the camera, which will display on the monitor screen.

TITLE : CAMERA
ABCDEFGHIJKLMNOPS TUVWXYZabcdefghijklm nopqrstuvwxyz0123456 789()<>[]+ -=/#!?;,.:  ←→ ↑ ↓ : Sel TELE/WIDE: Move MENU or ENTER : Complete ON/OFF : Ins/Del ESC:Quit

**EDIT TITLE:** You can enter up to 15 characters.

A title may be entered by pressing the MENU/ENTER key while highlighting the desired letter, number, or symbol shown above. The title entered will be displayed in real-time in the TITLE section.

**CAMERA ID:** Set to ON to display the ID of the camera.

**FUNCTION NAME:** Set to ON to display the preset title of the camera.

**ZOOM MAGNIFICATION:** Set to ON to display the zoom ratio of the camera for several seconds.

# FUNCTION

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FUNCTION SETUP	
HOME PRESET	
PRESET	
ALARM	
MOTION	
PRIVACY MASK	
END	

**HOME PRESET:** The HOME function invokes predefined Preset function after the remote controller or the controller has been idle for programmed time.

HOME PRESET	
FUNCTION	1(EMPTY)
WAITING TIME	060SEC
OPERATION	OFF
END	

**FUNCTION:** Set the preset number for the home.

**WAITING TIME:** Set the dwell time before it goes into Home Function.(10-240SEC)

**OPERATION:** Set to ON to execute the home.

# FUNCTION

**PRESET:** Preset memorizes zoom, focus, iris and backlight, and title settings. Once programmed, pressing combination of

PRESET SETUP	
NO.	1(EMPTY)
FOCUS	ONE-PUSH
IRIS	AUTO
BACKLIGHT	OFF
TITLE	PRESET 1
SAVE	
END	

**1 ~ 8** numbers and a **PRESET** button on your remote control or the controller automatically calls up the preset position. Presets may be assigned to alarm or motion actions.

**No.:** Select the desired preset number using LEFT/RIGHT keys.

**FOCUS:** Select the desired focus mode (ONE-PUSH, AUTO, MANUAL) for preset.

**IRIS:** Select the desired IRIS mode (AUTO, MANUAL) for preset.

**BACKLIGHT:** Select the desired backlight mode (OFF, LOW, MID., HIGH) for preset.

**TITLE:** Press right to enter the preset title mode. After selecting the desired preset title using zoom keys, press ESC to exit.

TITLE : PRESET 1
ABCDEFGHIJKLMNOPQRS TUVWXYZabcdefghijklmnop nopqrstuvwxyz0123456 789()<>[]+ -= /#*!?,.:
← → ↑ ↓ : Sel TELE/WIDE: Move MENU or ENTER : Complete ON/OFF : Ins/Del ESC:Quit

**SAVE PRESET:** Press right to save the preset.

**ALARM:** Magnetic, PIR or other external sensor devices can be used to signal the camera reacting to an event.

# FUNCTION

---

ALARM SETUP	
TYPE	ALARM1
INPUT	OFF
OUTPUT	ON
PRESET	-
HOLD TIME(SEC.)	03
END	

**TYPE:** Set the desired alarm input number. ( ALARM1, ALARM2)

**INPUT:** Use this feature to designate dry contact relays (OFF, N/O and N/C) for alarm input.

**OUTPUT:** Set to ON to activate the relay output for alarm.

**PRESET:** Select the desired preset number for alarm action.

**HOLD TIME:** Set the dwell time of the relay output for alarm output.(1~60seconds)

**MOTION:** This camera has a feature that allows you to observe movements of objects on the screen, and motion icon appears on the screen when movement is detected.

MOTION SETUP	
OPERATION	OFF
OUTPUT	ON
PRESET	-
HOLD TIME(SEC.)	10
SENSITIVITY	04
DETECT AREA	
END	

**OPERATION:** Set to ON to enable the motion.

**OUTPUT:** Set to ON to activate the relay output during the motion action.

**PRESET:** Select the preset number after detecting the motion.

**HOLD TIME:** Set the dwell time of the motion action from 03 to 60 seconds.

**SENSITIVITY:** Use this feature to select motion sensitivity from 1 to 8.

# FUNCTION

**DETECT AREA:** Press right to enter the detect area.

A white grid with 48 squares will appear. Choose the desired area by moving the highlighting the specific square colored in gray using arrow keys and pressing the NEAR or FAR key to change the color. The transparent block means active and gray block is inactive area. The blinking gray block indicates current position. Press MENU or ENTER key to complete and exit.

	←→↑↓: Adj	NEAR/FAR: Sel				
	MENU or ENTER : Complete					

**PRIVACY MASK:** Mask privacy area using this feature.

PRIVACY SETUP	
ZONE NO.	1
ENABLE	OFF
MASK SIZE	
MASK TONE	05
END	

**ZONE NO.:** Select zone number for privacy mask (1~4).

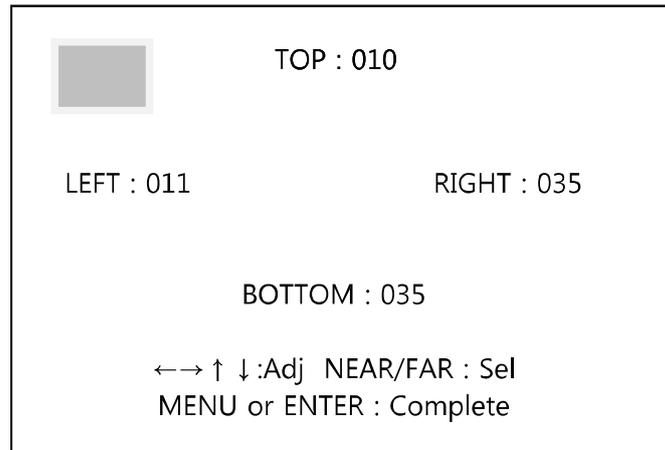
**ENABLE:** Use this feature to enable on/off.

**MASK SIZE:** Use this feature to designate mask size for privacy only when the enable option is ON.

**MASK TONE:** Use this feature to designate mask tone for mask privacy. Configure mask tone from 0~15 using this feature.

# FUNCTION

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To setup the Privacy Zone masks, follow the simple instructions below.

1. Select the ZONE NUMBER (1-4), then scroll down to ENABLE and press the LEFT/RIGHT Key to turn the ENABLE to 'ON' to display the selected privacy zone mask.
2. Select the MASK TONE from 1 to 15, and go into MASK SIZE by pressing the LEFT/RIGHT Key to enter the move screen.
3. Mask size Adjustment

Select direction will be highlighted and default will be TOP/LEFT. Change the target into BOTTOM/RIGHT can be done by NEAR/FAR button.

When the mask is not visible, use the WIDE button to see it.

TOP/LEFT Selected : UP(enlarge to TOP) / DOWN (shrink in BOTTOM)

LEFT(enlarge to LEFT) / RIGHT(shrink in RIGHT)

BOTTOM/RIGHT Selected: DOWN(enlarge to BOTTOM) / UP (shrink in TOP)

RIGHT(enlarge to RIGHT) / LEFT(shrink in LEFT)

3. Repeat steps 1-3 many times as necessary to conceal all the unwanted areas.

# IR RADIATOR

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IR RADIATOR	
LINE-1	-
LINE-2	-
LINE-3	-
LINE-4	-
CONTROL	AUTO
END	

Use this feature to adjust IR brightness. When manual mode is selected, user is able to control the brightness per each line of LEDs. Line 1 set-up from 0 to 9 is set-up of outside LED and Line 4 is inside. 0 means that IR is turned off and 9 is the at IR's brightest mode.

**Note:** For best result, please adjust the IR LEDs intensity levels while viewing the changes on a monitor.

# TECHNICAL SPECIFICATION

Video Format	NTSC	PAL
Image Sensor	1/4" CCD	1/4" CCD
Sync System	Internal	Internal
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)
Scanning system	525, 2:1 Interlace	625, 2:1 Interlace
Electronic Shutter	1/60 ~1/100,000 sec	1/50 ~1/100,000 sec
Video Output	1.0 Vp-p Composite, 75 ohm	
Horizontal Resolution	580 TV Lines	
Min. Illumination	0.2 Lux(Color), 0.02 Lux(B/W) @ F1.6, 50IRE DSS ON : 0.004 Lux(Color), 0.0004 Lux(B/W)	
S/N Ratio	More than 50dB (AGC off)	
Day/Night Function	ICR	
IR LEDs	78	
LED Distance	Up to 300 ft.	
Lens	22x A/F Optical Zoom Lens(3.9~85.8mm)	
	16X Digital Zoom(Total:352X)	
Angle of View	49.5°(wide), 2.4°(tele)	
Aperture Ratio	F1.6(Wide) ~ F3.7(Tele)	
Min.Focus Distance	1m	
Camera Setup	OSD	
Presets	8	
Communication	RS-485	
Camera Control	IR Remote Controller, Controller Keyboard DVRs(supported model),EZ-Coax	
Alarm Input	2 Input	
Relay	1 Relay Output(N/C,N/O)	
Operating Temperature	0°C~+45°C(Normal),-40°C~55°C(w/Fan & Heater)	
Operation Humidity	Within 90% RH (Non-condensing)	
Weatherproof	IP66	
Input Voltage	12VDC / 24VAC	
Power Consumption	Max 40W	
Power Requirement	12VDC, 5A / 24VAC 2.5A	



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