HIGH PERFORMANCE
WDR DOME CAMERA

OPERATION MANUAL

Thank you for choosing our high quality camera.
Before attempting to connect or operate this unit, please read and follow these instructions.

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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.

Use Class 2 Power Supply Only

1. CAUTIONS

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note

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.

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.

Caution

Any changes or modifications in construction of this devices which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

⚠ CAUTION

1. A regulated DC12V 500mA power supply is recommended for use with this camera for the best picture and the most stable operation.
   An unregulated power supply can cause damage to the camera. When an unregulated power supply is applied, the product warranty will be void.
2. It is recommended that the camera be used with a monitor that has a CCTV quality 75 video impedance level. If your monitor is switched to high impedance then please adjust accordingly.
3. Do not attempt to disassemble the camera to gain access to the internal components. Refer servicing to your dealer.
4. Never face the camera towards the sun or any bright or reflective light, which may cause smears on the picture and possible damage to the image sensor.
5. **Do not remove the serial sticker for the warranty service.**
6. Do not expose the camera to rain or other types of liquid.
7. The apparatus must be connected to a main socket-outlet with a protective earth connection.

1. CAUTIONS

WEEE

(Waste Electrical & Electronic Equipment)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

This symbol 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.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

2. IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatuses (including amplifiers) that produce heat.

9) 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 are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where it exits from the apparatus.

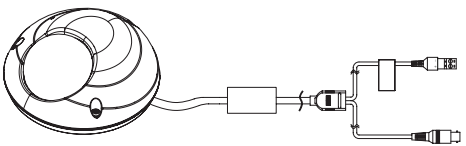
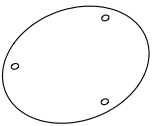
11) Only use attachments/accessories specified by the manufacturer.

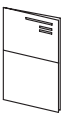
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

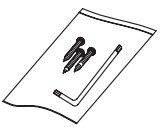
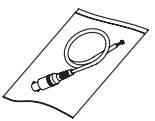
13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, or the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

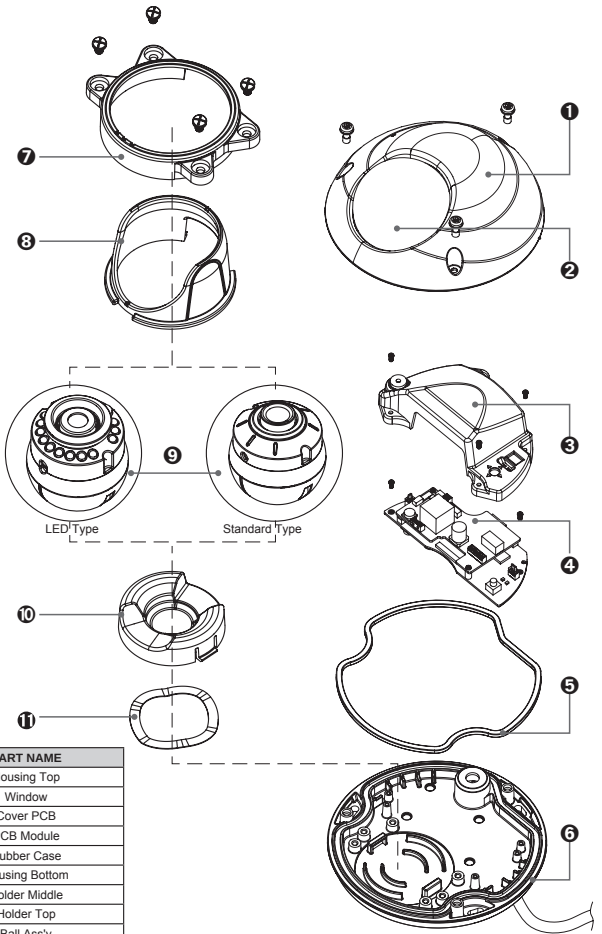
3. EQUIPMENT AND ACCESSORIES

Dome Type

Mount Guide


Manual


Screws(3ea) / L-Wrench	Service Video Output Test Cable
	

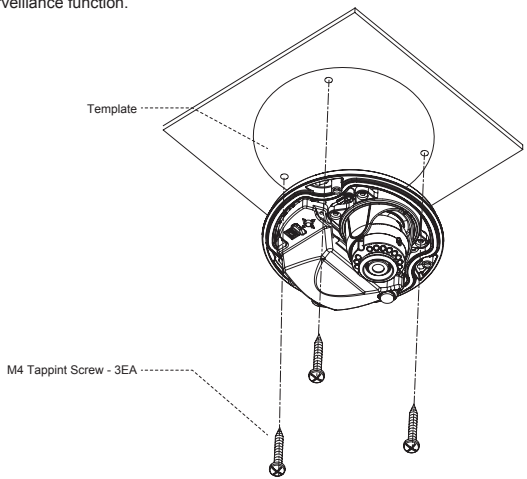
4. CAMERA COMPONENT DESCRIPTIONS



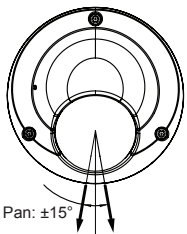
NO	PART NAME
1	Housing Top
2	Window
3	Cover PCB
4	PCB Module
5	Rubber Case
6	Housing Bottom
7	Holder Middle
8	Holder Top
9	Ball Ass'y
10	Holder Bottom
11	Wave Water

5. INSTALLATION

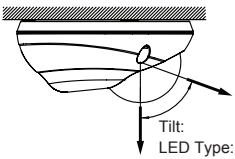
1. Attach the Camera to the ceiling with using the screws provided, taking into considering the camera angle required for the surveillance function.



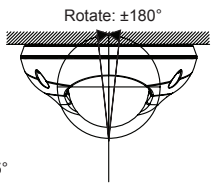
2. Adjust the LENS ANGLE to the desired location by hand.



Pan Rotation



Tilt Rotation



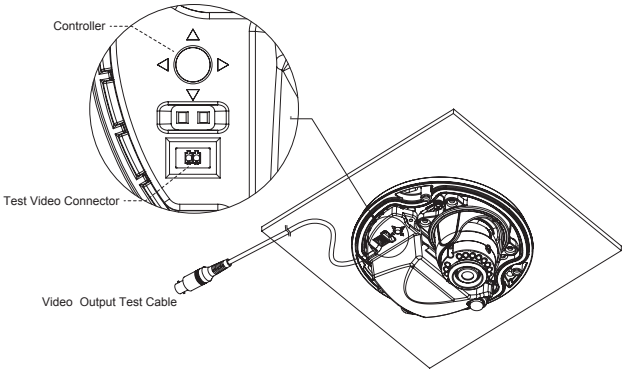
Horizontal Rotation

CAUTION: With certain wide-angle lenses, the upper part of the image may be obscured when the tilt angle exceeds 80°

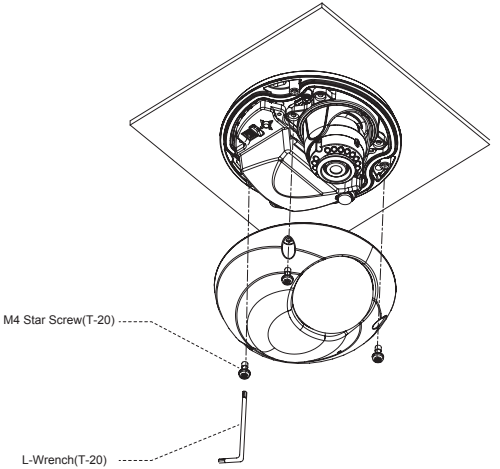
CAUTION: panning(Pan + Horizontal) the bracket in excess of 1 rotations in one direction may cause damage to the cable.

5. INSTALLATION

3. Connect the VIDEO OUT CABLE and check the video image. Change the SETTINGS accordingly using the OSD controller.



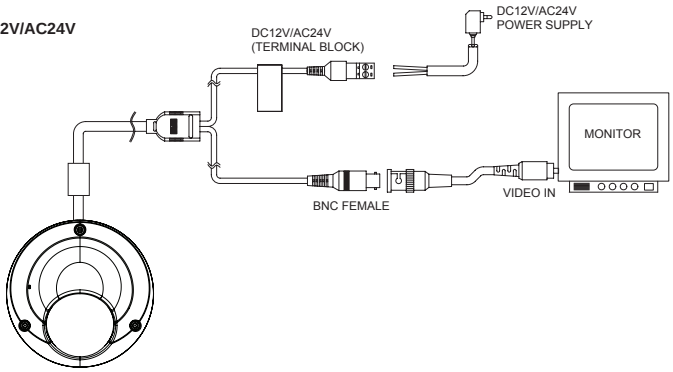
4. After the SETTING is completed, install the TOP COVER.



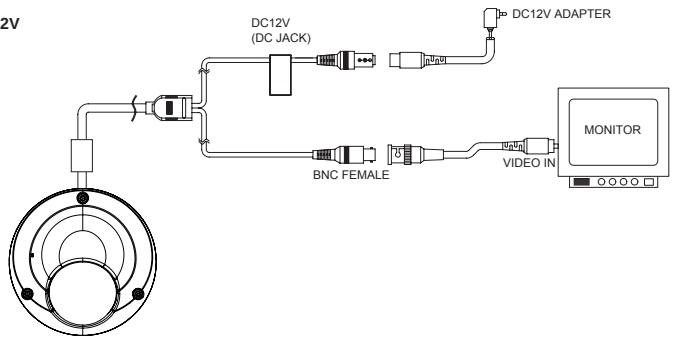
5. INSTALLATION

• MONITOR CONNECTION

- DC12V/AC24V

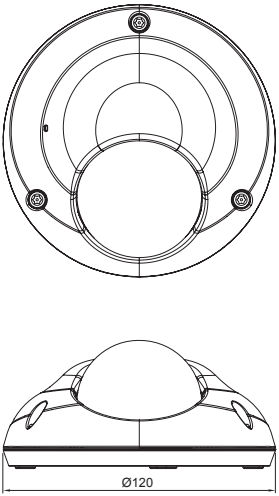


- DC12V



When you install the camera, please glue the end of cable to keep it stable in order to protect the camera from humidity problems.

6. DIMENSIONS



Unit(mm)

7. SPECIFICATIONS

		LED Type	Standard Type
Image Sensor		1/3” 960H SONY Double Scan Super HAD CCD II	
Scanning System		2 : 1 Interlace	
H Resolution.		750TV Lines	
Scanning Frequency		NTSC: 15.734KHz(H), 59.94Hz(V) / PAL: 15.625KHz(H), 50Hz(V)	
Total Pixels No.		NTSC: 1028(H) X 508(V) / PAL: 1028(H) X 596(V)	
Effective Pixels No.		NTSC: 976(H) X 494(V) / PAL: 976(H) X 582(V)	
S/N Ratio		More than 50dB(3DNR ON)	
Min. Illumination		0Lux	0.1Lux
Sync System		Internal	
Gamma		r= 0.45	
Video Output		1.0 Vp-p Composite(75Ω)	
Lens		Board Lens	
Digital Zoom Ratio		3x	
Electronic Shutter		NTSC: 1/60 ~1/100,000sec, PAL: 1/50 ~1/100,000sec	
Digital Slow Shutter		OFF, 2 ~ 256 Field	
Flickerless		ON / OFF	
WDR		ON / OFF (Level adjustable)	
BLC		ON / OFF (Level adjustment, Area selection)	
HLC		ON / AUTO / OFF (Level adjustable)	
AGC		OFF, 6 ~ 36dB	
DNR(2D/3D)		ON / OFF (Level adjustable)	
Image Function		Image reverse(NORMAL/H / V / HV), Freeze, Contrast, Sharpness	
Day & Night		True Day & Night With ICR Mechanism COLOR / BW / AUTO	COLOR / BW / AUTO
IR LED		850nm, 15ea	-
IR LED Distance		up to 15M	-
Motion Detection		4 Zones (Level adjustable, Area adjustment)	
Privacy Masking		15 Zones (Area adjustment)	
White Balance		ATW / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH-LOCK	
OSD		Built in (Joystick)	
Language		ENGLISH / JAPANESE / GERMAN / FRENCH / RUSSIAN / PORTUGUESE / SPANISH / CHINESE HINDI, TAMIL, TURKISH, ARABIC, FARSI	
Operating Temperature		14°F~122°F(-10°C~+50°C)	
Storage Temperature		-4°F~140°F(-20°C~+60°C)	
Humidity		Less than 80%	
Power Consumption	DC	DC12V (±10%), Max. 250mA	DC12V (±10%), Max. 150mA
	DUAL	DC12V (±10%), Max. 340mA AC24V (±10%), Max. 4.0W	DC12V (±10%), Max. 200mA AC24V (±10%), Max. 2.5W
Dimension (mm)		Ø120mm x 55mm	
Weight		Approx. 350g	
IP Rating		IP 66	

Specifications and designs are subject to change for improving the functionality of this product without notice.

8. OSD MANUAL

• Menu structure

Main MENU	1st Sub MENU	2nd Sub MENU	3rd Sub MENU	4th Sub MENU	5th Sub MENU
EXPOSURE	AUTO	HIGH LUMINANCE	FLICKERLESS	OFF / ON	
			BRIGHTNESS	0 ~ 255	
		LOW LUMINANCE	MODE	OFF, AGC, SLOW, AGC->SLOW, SLOW->AGC, AGC->SLOW->AGC	
			AGC MAX	6, 12, 18, 24, 30, 36	
			DSS MAX	2, 4, 8, 16, 32, 64, 128, 256	
			BRIGHTNESS	x0.25,x0.50,x0.75,x1.00	
		RETURN			
	MANUAL	MODE	SHUT, SLOW		
		SHUT	MODE (SHUT) ONLY 1/50(PAL), 1/60(NTSC), 1/100(NTSC), 1/120(PAL), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/50000, 1/100000 MODE (SLOW) ONLY 2, 4, 8, 16, 32, 64, 128, 256		
		AGC	6, 12, 18, 24, 30, 36, 42, 44.8		
		RETURN			
WHITE BALANCE	ATW	SPEED	0 ~ 255		
		DELAY CNT	0 ~ 255		
		ATW FRAME	x0.5, x1.0, x1.5, x2.0		
		ENVIRONMENT	INDOOR, OUTDOOR		
		RETURN			
	PUSH				
	USER1	B-GAIN	0 ~ 255		
		R-GAIN	0 ~ 255		
		RETURN			
	USER2	B-GAIN	0 ~ 255		
		R-GAIN	0 ~ 255		
		RETURN			
	ANTI CR				
	MANUAL	LEVEL UP	PUSH ENTER		
		LEVEL DOWN	PUSH ENTER		
		PRESET			
		RETURN			
	PUSH LOCK				
DAY&NIGHT	COLOR				
	AUTO	BURST	OFF, ON		
		DELAY CNT	0 ~ 15		
		DAY > NIGHT	(000 ~ 014) (LED TYPE) (000 ~ 254)		
		NIGHT > DAY	(001 ~ 015) (LED TYPE) (001 ~ 255)		
		IR OPTIMIZER (LED TYPE)	ON	MODE	CENTER, AUTO
				LEVEL	000 ~ 031
			OFF		
		RETURN			
	BW	BURST	OFF, ON		
		IR OPTIMIZER (LED TYPE)	ON	MODE	CENTER, AUTO
				LEVEL	000 ~ 031
			OFF		
		RETURN			

8. OSD MANUAL

Main MENU	1st Sub MENU	2nd Sub MENU	3rd Sub MENU	4th Sub MENU	5th Sub MENU
WDR/BLC	WDR MODE	ON	LEVEL	0 ~ 15	
			CONTRAST1	0 ~ 7	
			CONTRAST2	0 ~ 4	
		OFF			
	BLC MODE	ON	BLC ZONE	CENTER, TOP, BOTTOM, LEFT, RIGHT	
			LEVEL	0 ~ 254	
		OFF			
	HLC MODE	ON, AUTO	CLIP LEVEL	0 ~ 255	
			SCALE	0 ~ 15	
		OFF			
DNR	2DNR MODE	OFF, ON			
	2DNR LEVEL	0 ~ 15			
	3DNR MODE	OFF, ON			
	3DNR LEVEL	0 ~ 63			
	RETURN				
IMAGE	MIRROR	OFF, V-FLIP, H-FLIP, HV-FLIP			
	FREEZE	OFF, ON			
	EZOOM	1.0x ~ 3.0x			
	CONTRAST	0 ~ 63			
	SHARPNESS	0 ~ 15			
	RETURN				
SPECIAL	CAMERA TITLE	ON	EDIT MODE		
			RETURN		
		OFF			
	LANGUAGE	ENGLISH / 中文 / Русский / ESPAÑOL / DEUTSCH / FRANCAIS / PORTUGUÊS / 日本語 / HINDI / TAMIL / TURKISH / ARABIC / FARSI			
	PRIVACY	AREA SEL	1/15 ~ 15/15		
		MODE	OFF, ON		
		POSITION	PUSH ENTER		
		COLOR	"WHITE, BLACK, RED, GREEN, BLUE, YELLOW, CYAN, MAGENTA"		
		TRANSP	0.00, 0.50, 0.75, 1.00		
		MOSAIC	OFF, ON		
		RETURN			
	MOTION DET	ON	DETECT SENSE	0 ~ 127	
			BLOCK DISP	OFF, ON	
			MONITOR AREA	AREA SEL	1/4 ~ 4/4
				MODE	OFF, ON
				TOP	0 ~ 15
				BOTTOM	0 ~ 15
				LEFT	0 ~ 23
				RIGHT	0 ~ 23
				RETURN	
		OFF			
	RETURN				
FACTORY DEFAULT					
EXIT					
SAVE&EXIT					