HIGH PERFORMANCE MINIATURE DOME CAMERA

OPERATION MANUAL

⟨EAC⟩ CE FC eneo®

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

CAUTIONS

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. NOTICES

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

1. This device may not cause harmful interference.
2. This device may receive interference that can cause affect the opration of this equipment.

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.

Caution -

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

Use the device in conjunction with an UPS if possible.

⚠ CAUTION ⚠

1. A regulated DC12V 300mA power supply is recommended for use with this camera to ensure the best picture quality and stable operation. An unregulated power supply may cause damage to the camera. Using an unregulated power supply will void the product warranty.
2. It is recommended that the camera is 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 access internal components. Refer servicing to your dealer.
4. Never face the camera towards the sun or any bright or reflective light, which may cause smear on the picture and possible damage to the image sensor.
5. Do not remove the serial sticker for the warranty service.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

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 to safely recycle the item.
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.
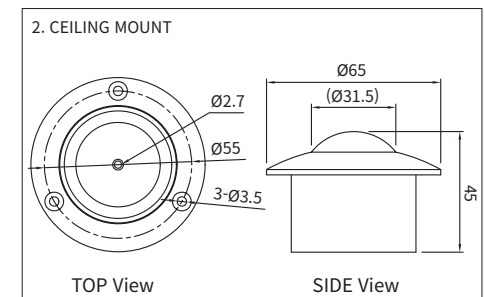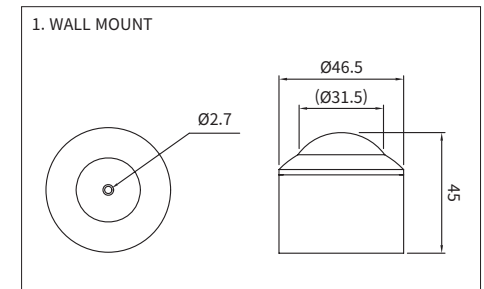
CAUTION
RISK OF ELECTRIC SHOCK. DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER(OR BACK). NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFED 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 mangnitude to constitute a risk of electric shock to persons.

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

2. FOR YOUR SAFETY

1) All warnings and instructions in this manual should be followed.
2) Save this manual for future reference.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with a 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 apparatus (including amplifiers) that produce heat.
9) To help prevent electric shock, plug the equipment and peripheral power cables into properly polarized or grounded electrical outlets. These cables are equipped with the wide blade or the third prong to ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If the provided plug does not fit your outlet, consult an electrician.
10) Ensure that nothing rests on your equipment's cables and that the cables are not located where they can be stepped on, tripped over, or pinched.
11) Only use attachments or accessories as specified.
12) Only use the equipment with the cart, stand, tripod, bracket, or table that is specified by the manufacturer or sold with the apparatus. When a cart is used, use caution to prevent the cart from tipping over and to avoid injury.
13) Do not connect or disconnect during lightning storms due to risk of electric shock.
14) If any of the following conditions occur, unplug the equipment from the electrical outlet and replace the part or contact your trained service provider:
• The power cable, extension cable, or plug is damaged.
• An object has fallen into the equipment.
• The equipment has been exposed to water.
• The equipment has been dropped or damaged.
• The equipment does not operate correctly when you follow the operating instructions.

3. FEATURES

• High resolution
1/2.8" 2.13MP Progressive Scan SONY STARVIS CMOS

• Support various digital video output
1080p@30fps / 1080p@25fps / 720p@60fps / 720p@50fps / 720p@30fps / 720p@25fps

• AVI / TVI / CVI Output is suitable for long reach transmission over single coaxial cable.
Transmission Distance
AVI / TVI / CVI : COLOR 300m@RG59,BW 500m@RG59

• UTC (Up The Coax) via AVI / TVI / CVI coaxial cable.

• True WDR (Wide Dynamic Range)

• DSS (Digital Slow Shutter)

• Motion Detection

• Privacy masking 16 zones

• 3DNR

• Multi Language OSD menu
(ENGLISH, RUSSIAN, SPANISH, GERMAN, FRENCH, PORTUGUESE, JAPANESE, KOREAN)

4. COMPONENTS

Camera	
Screw 4ea	
Manual	

5. DIMENSIONS

Unit(mm)

1. WALL MOUNT

Ø46.5
(Ø31.5)
Ø2.7
45

2. CEILING MOUNT

Ø65
(Ø31.5)
Ø2.7
Ø55
3-Ø3.5
45

TOP View   SIDE View

6. ANGLE OF VIEW

① 360°
② 60°
③ 84.3°

1. Camera revoves 360
2. Camera ball is adjusted to max 60 from the axis to each end of the front case.
3. Viewable angle of the camera lens is 84.3

7. INSTALLATION

1. WALL MOUNT

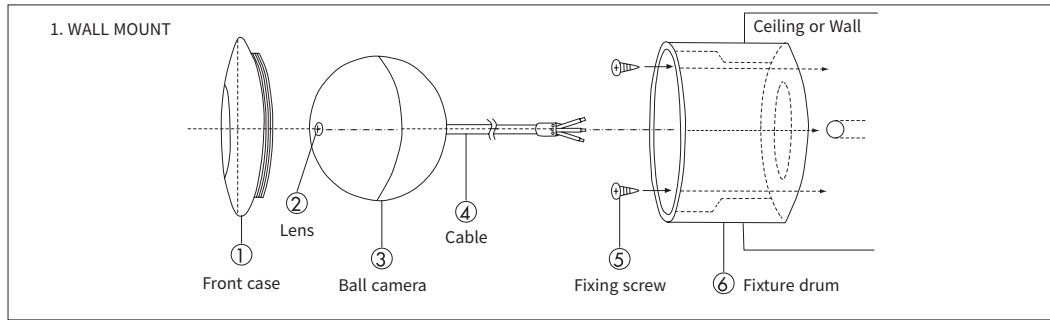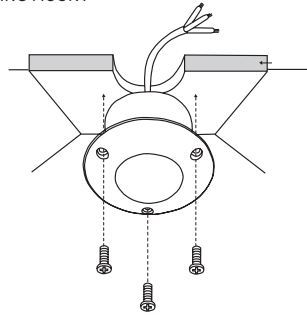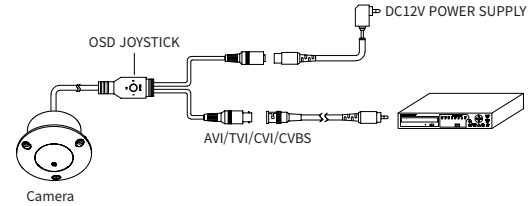Ceiling or Wall

① Front case
② Lens
③ Ball camera
④ Cable
⑤ Fixing screw
⑥ Fixture drum

2. CEILING MOUNT

8. CONNECTION

DC12V POWER SUPPLY

OSD JOYSTICK

AVI/TVI/CVI/CVBS

Camera

9. SPECIFICATION

Image Sensor	1/2.8" 2.13MP Progressive Scan SONY STARVIS CMOS
Effective Pixels	1945(H) x 1097(V)
Unit cell size (um)	2.9(H) x 2.9(V)
Video Output	TVI / CVI / AVI / CVBS(720H, NTSC, PAL) 1080@30(25)p, 720@60(50)p, 720@30(25)p
Transmission Distance	TVI / CVI / AVI : Color 300m@RG59, BW 500m@RG59
Minimum Illumination	0.2 Lux (F2.0, AGC:33dB, DSS:x2)
Shutter speed	1/30(25)s ~ 1/30,000s
Day/Night	AUTO, COLOR, BW
Back/High Light Compensation	OFF / BLC / HLC / WDR 15P / WDR 30P selectable
Motion Detection	OFF / ON
Privacy Masking	16 selectable zones
White Balance	AUTO / AUTO EXT / PUSH LOCK / MANUAL
OSD Functions	SHARPNESS, GAMMA, FLIP(OFF, H, V, H/V), D-WDR, DNR, DEFOG, DSS(OFF~x32)
Lens	Fixed Pinhole
OSD	Built in (UTC) : TVI / CVI / AVI Cable Joystick
Language	ENGLISH / RUSSIAN / SPANISH / GERMAN / FRENCH / PORTUGUESE / JAPANESE / KOREAN
Operating Temperature	-10°C ~ +50°C (14°F ~ 122°F)
Storage Temperature	-20°C ~ +60°C (-4°F ~ 140°F)
Humidity	Less than 80%
Power Consumption	12VDC(±10%), Max.110mA
Dimension (mm)	Wall mount type : 47Ø x 45(H) Ceiling Mount type : 65Ø x 45(H)
Weight	WALL MOUNT TYPE - Approx. 120g CEILING MOUNT TYPE - Approx. 140g

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

11. UTC (UP THE COAX)

The UTC function supports OSD control via AVI / TVI / CVI coaxial cable.

12. HIDDEN MENU

- CONVERT ANALOG OUTPUT MODE

STEP 1. ENTER
Press UP/DOWN/LEFT/RIGHT key more than 2 sec.

SETP 2. SELECT
Press UP key more than 5 sec : AVI
Press DOWN key more than 5 sec : CVI
Press LEFT key more than 5 sec : CVBS
Press RIGHT key more than 5 sec : TVI

STEP 3. CONFIRM
If the 'YES' is not checked within 30sec, the value returns to the previous setting.

10. OSD MENU STRUCTURE

• Menu structure

Main	1st Sub Menu	2nd Sub Menu	3rd Sub Menu	4th Sub Menu	5th Sub Menu
LENS	LENS TYPE	ELC			
	LENS MODE	NORMAL,DEBLUR			
	RETURN				
EXPOSURE	BRIGHTNESS	0 - 20			
	SHUTTER MODE	AUTO / FLICKER / MANUAL			
	SHUTTER SPEED	1/25(30), 1/50(60), 1/100(120), 1/240, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/16000, 1/30000			
	DSS	OFF, X2 - X32			
	AGC MAX	OFF, 3dB, 6dB, 9dB, 12dB,15dB,19 dB,22dB,26dB,30dB,33dB,37dB,40 dB,42dB,45dB			
	INITIAL				
	RETURN				
WHITE BALANCE	WB MODE	AUTO / AUTO EXT / PUSH LOCK / MANUAL			
	PUSH AUTO	CONTROLLER			
	COLOR GAIN	0 - 20			
	KELVIN	LOW,MIDDLE,HIGH			
	RED GAIN	0 - 20			
	BLUE GAIN	0 - 20			
	INITIAL				
	RETURN				
WDR/BLC	MODE	OFF,HLC,BLC,WDR 15P,WDR 30P (*1)			
	LEVEL	HLC : 0~20, WDR : LOW / MIDDLE / HIGH			
	ZONE NO	NORMAL, ROI1, ROI2, ROI3, ROI4			
	WINDOW USE	ON, OFF			
	X-POSITION	0~20			
	Y-POSITION	0~20			
	X-SIZE	0~20			
	Y-SIZE	0~20			
	COLOR	BLACK, WHITE, YELLOW, CYAN, GREEN, MAGENTA, RED, BLUE			
	INITIAL				
	RETURN				
DAY&NIGHT	MODE	AUTO / COLOR / B & W			
	DWELL TIME	0~20sec			
	DAY → NIGHT	0 - 19			
	NIGHT → DAY	1 - 20			
	NIGHT BURST	OFF, ON			
	INITIAL				
	RETURN				

Main	1st Sub Menu	2nd Sub Menu	3rd Sub Menu	4th Sub Menu	5th Sub Menu
IMAGE	SHARPNESS	0 - 10			
	GAMMA	0.45 / 0.50 / 0.55 / 0.60 / 0.65 / 0.70 / 0.75			
	FLIP	OFF / H-FLIP / V-FLIP / HV-FLIP			
	D-WDR	OFF, LOW, MIDDLE, HIGH			
	DNR	OFF, LOW, MIDDLE, HIGH			
	DEFOG	OFF			
		ON	MODE	AUTO, MANUAL	
			LEVEL	LOW,MIDDLE,HIGH	
			REUTRN		
	INITIAL				
	RETURN				
SPECIAL	CAM TITLE	OFF			
		ON	CONTROLLER		
			LOCATION	CONTROLLER	
			RETURN		
	PRIVACY	OFF			
		ON	ZONE NO	0~15	
			MASK MODE	OFF / ON	
			X-POSITION	0~60	
			Y-POSITION	0~34	
			X-SIZE	0~60	
			Y-SIZE	0~34	
			COLOR	CYAN,GREEN,MAGENT A,RED,BLUE,WHITE, YELLOW	
			TRANSPARENCY	0%, 33%, 66%, 100%	
			INITIAL		
			RETURN		
	MOTION	OFF			
		ON	ZONE NO	0~3	
			WINDOW USE	OFF / ON	
			X-POSITION	0~60	
			Y-POSITION	0~34	
			X-SIZE	0~60	
			Y-SIZE	0~34	
			SENSITIVITY	0~10	
			ALARM MODE	OSD/TEXT	
			INITIAL		
			RETURN		
	SYSTEM	FRAME RATE	1080_30p,1080_2 5p,720_60p,720_5 0p,720_30p,720_2 5p(*2)		
		ANALOG OUT	AVI, CVBS, CVI, TVI(*3)		
		APPLY(*4)	CONTROLLER		

Main	1st Sub Menu	2nd Sub Menu	3rd Sub Menu	4th Sub Menu	5th Sub Menu
SPECIAL	SYSTEM	DVR SETUP	DVR(*5)	RAYSHARP, DAHUA, FOCUS, ETC, ENEO, HIKVISION3.0.4, HIKVISION	
				DELTA	0~20
				BYGAIN-	0~255
				BYGAIN+	0~255
				RYGAIN-	0~255
				RYGAIN+	0~255
			COLOR SET	BYHUE-	0~255
				BYHUE+	0~255
				RYHUE-	0~255
				RYHUE+	0~255
				R GAIN	0~100
				G GAIN	0~100
				B GAIN	0~100
				INITIAL	
				RETURN	
			RETURN		
		LANGUAGE	ENGLISH, Русский, ESPAÑOL, DEUTSCH, FRANCAISE, PORTUGUÊS, 日本語, 한국어		
		RETURN			
	INITIAL				
	RETURN				
FACTORY DEF(*6)					
EXIT					

(*1) WDR 15P : 3DNR on, 2DNR on, 15 Frame Rate
WDR 30P : 3DNR off, 2DNR on, 30 Frame Rate
(*2) The 720/60(50)p mode is not real 60(50) Frame rate because 720/30(25)p scenes are output twice.
(*3) The WDR function is not available in the CVBS output.
(*4) 'APPLY' menu must be selected for changing FRAME RATE and ANALOG OUTPUT.
(*5) It is recommended to select DVR maker in the menu according to DVR in use.
(*6) Value in SYSTEM menu (FRAME RATE, ANALOG OUT, DVR, LANGUAGE) is not initialized by FACTORY DEF or INITIAL selection.

*Important Note :
-Setting value changing is available by EXIT menu selection.