

**700 TVL WDR Day / Night  
Color Camera**



## Regulatory Compliance

Emissions: - CE: --EN55022  
--EN55011  
- FCC: --47 CFR Part15 Subpart B  
--ANSI C63.4  
--ICES-003

Immunity: - CE: --EN55024  
--EN50130-4

**FCC COMPLIANCE:**  
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the receiver circuit.
- Consult the dealer or an experienced Radio/TV technician for help.

**CISPR 22 WARNING:**  
This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**POWER SUPPLY REQUIREMENTS:**  
For use with listed Audio/Video product and only connected to 15W or less power supply.  
\*Power supply should be a NEC Class 2 / LPS Supply.

**EQUIPMENT MODIFICATION CAUTION:**  
Equipment changes or modifications not expressly approved by seller. The party responsible for FCC compliance could void the user's authority to operate the equipment and could create a hazardous condition.

This class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## Specifications

General Specifications		
TV System	NTSC	PAL
Image Sensor	Sony 1/3" Super HAD-II Wide Dynamic	
Effective Picture	976(H) x 494(V)	976(H) x 582(V)
Scanning Frequency	60Hz	50Hz
Resolution	700 TVL	
Minimum Illumination	Day Mode 0.3Lux(F1.2,50IRE, AGC ON,IR Off), Night Mode 0 Lux (IR ON)	
S/N Ratio	50dB (100 IRE, F1.2)	
Video Output	1.0Vpp Composite (75 Ω BNC unbalanced connector)	
2nd Video Output	Yes (supports installation check)	
Power Source	12 VDC ±10% / 24 VAC ±20%	
Power Consumption	Normal:2.2W , IR On: 7W(Max)	
Operating Temperature	-10°C ~ +50°C	
Storage Temperature	-20°C ~ +60°C	
Dimensions	Φ 84.5mm x 186.6mm (L) (camera unit + sunhood)	

Functional Specifications		
Sense Up	ON / OFF	
Shutter Speed	AES	NTSC: 1/60 ~ 1/100000 PAL: 1/50 ~ 1/100000
	MES	1/50 (1/60), 1/120 (1/100), 1/250, 1/500, 1/1K, 1/2K, 1/4K, 1/10K
Wide Dynamic Range (WDR)	OFF/ATR-EX/WDR	
High-Light Compensation (HLC)	ON/OFF	
Backlight Compensation (BLC)	Full Range	
AGC Gain Control	44.8 dB	
Day/Night	TDN (AUTO ,COLOR ,NIGHT)	
White Balance Control	ATW / Manual / Push / Push Lock / USER1,2	
Auto White Balance Range	Indoor: 1800K~10500K Outdoor: 6500K~10500K	
Mirror	OFF/N-FLIP/H-FLIP/HV-FLIP	
Defog	ON/OFF	
Sync System	INT /LL	
Motion Detection	4 Areas	
Privacy Zone	Up to 15 Masks	
Digital Noise Reduction	3D DNR	
Digital Zoom	255X Max	
DIS	ON/OFF	
IR Optimizer	ON/OFF	
IR LED Count	30PCS	
IR Illumination Wavelength	850 nm	
IR Illumination Range	50 m	

## Lens Specifications

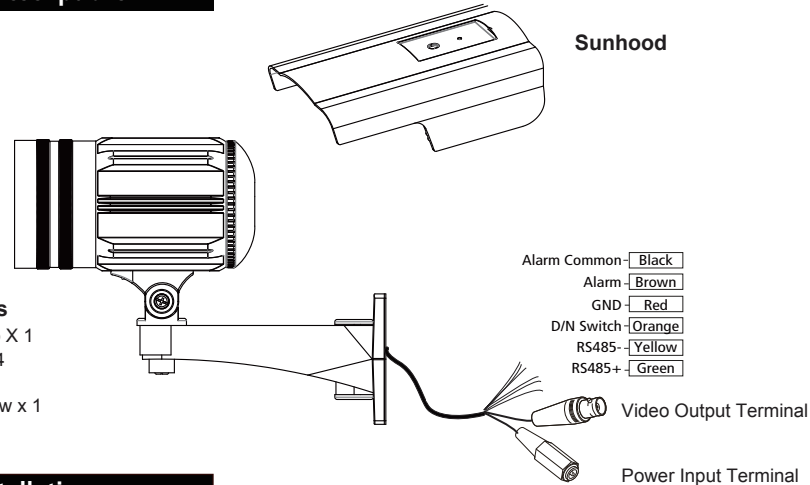
Lens Specifications			
Focal Length	2.8 ~ 10 mm	9 ~ 22 mm	
F-No.	F1.2	F1.4	
Iris Range	F1.2 ~ F360C	F1.4 ~ F360C	
Minimum Object Distance	0.15 m	1 m	
Field of View	Diagonal	125.0° ~ 36.0°	41.9° ~ 16.3°
	Horizontal	94.6° ~ 28.8°	32.1° ~ 13.1°
	Vertical	68.4° ~ 21.6°	23.3° ~ 9.8°

## Precautions

This product must be installed and maintained in accordance with good installation practices by qualified personnel only. To prevent damage to your camera or injury to yourself or to others, read and comply with the safety precautions as follows:

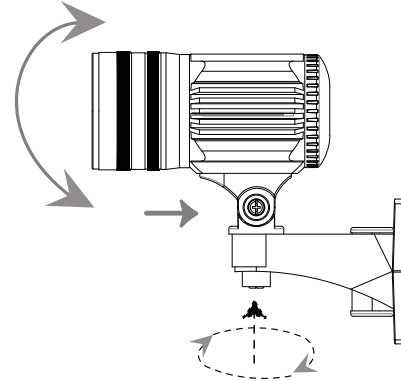
- Never attempt to disassemble or modify the camera. Any modification could lead to damages that are not covered by the guarantee.
- Make sure the power source is switched off and disconnected before installation. Refer servicing to qualified personnel only.
- To prevent fire or electrical shock, use only regulated power supply and the wiring should be used for the appropriate input terminal.
- Do not expose or operate the camera in wet areas. Moisture may damage the camera and also increase the danger of electrical shock.
- Do not attempt to aim the camera at the sun or other extremely bright objects. This may cause damage to the CCD and the void of warranty.
- Do not touch the lens or the CCD by hands while installing or adjusting the camera. This may cause damage to the camera.

## Parts and Descriptions

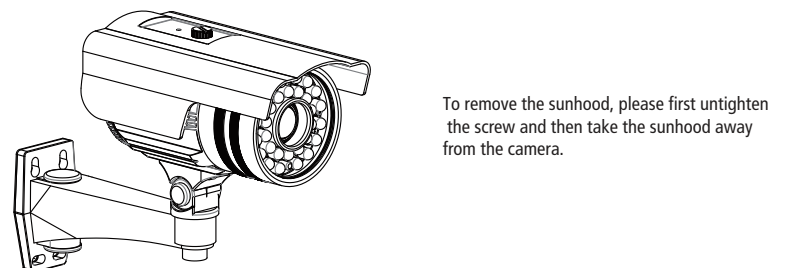
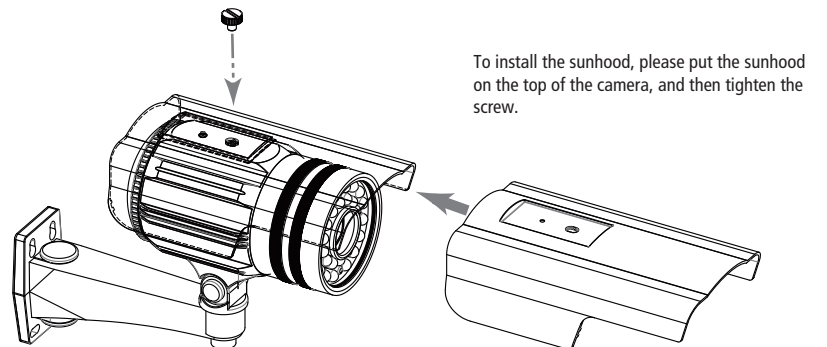


## Camera Installation

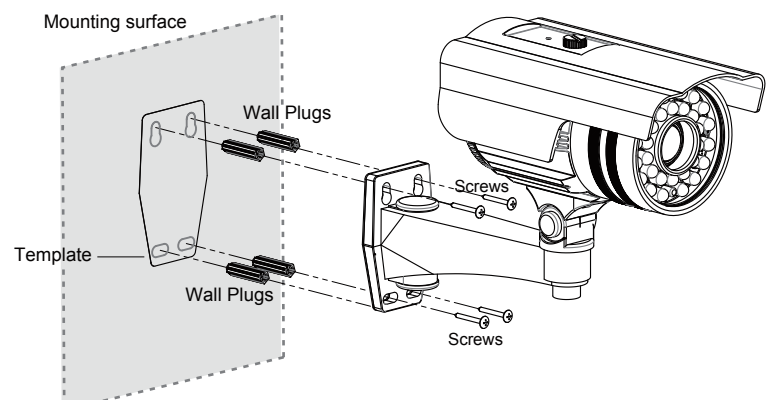
- 1 Screws can be loosened and the desired position can be adjusted. Loosen and tighten the screws by using a torx driver.



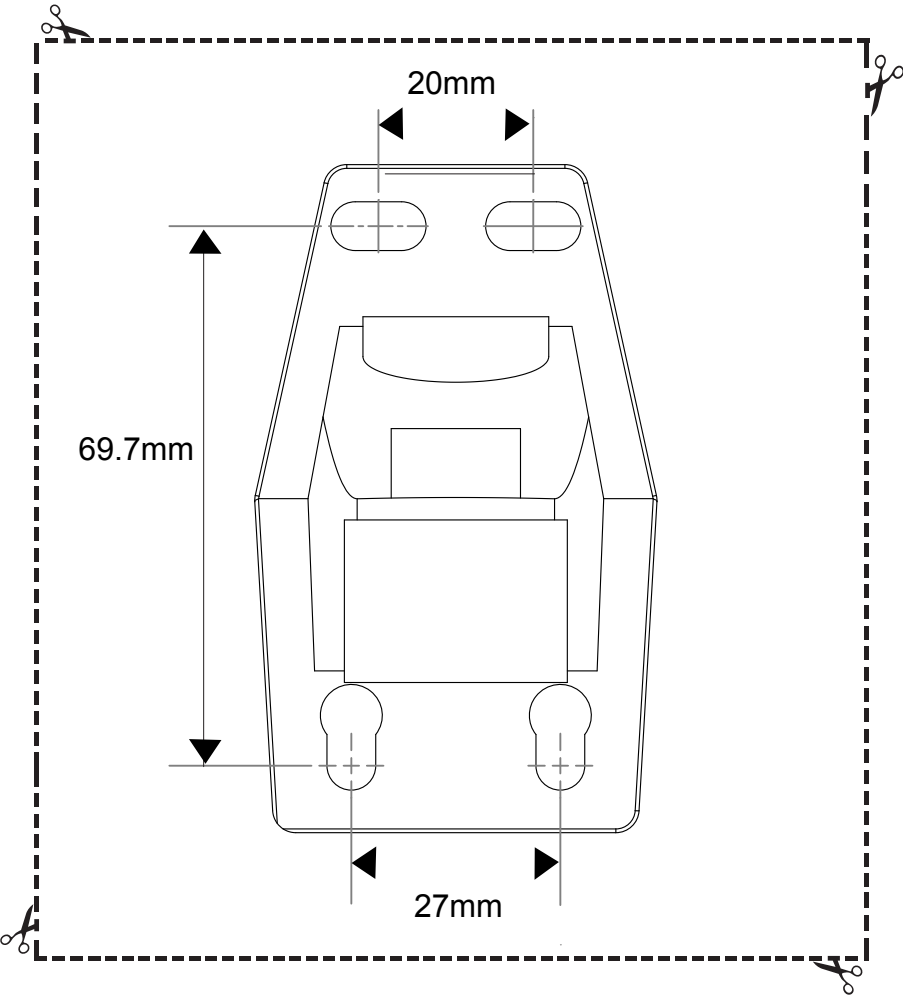
- 2 To remove/install the sunhood, please follow the direction indicated below.



- 3 Use the template supplied on the back of this manual to mark an appropriate mounting position. drilling to create apertures on a wall or ceiling. Insert the four wall plugs into the apertures and install the camera to the mounting surface by fastening four screws. Secure the camera on the mounting surface by using a torx driver.



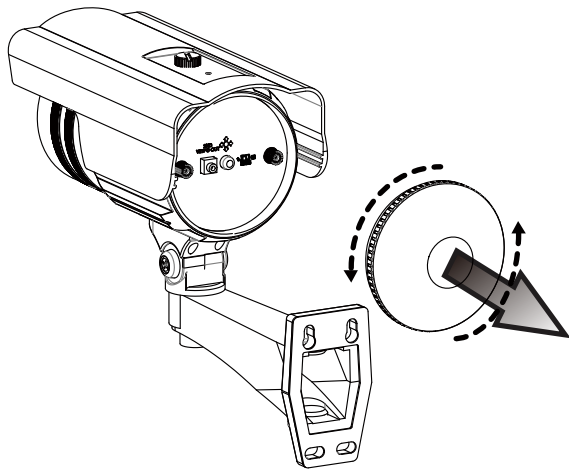
# Camera Installation Template



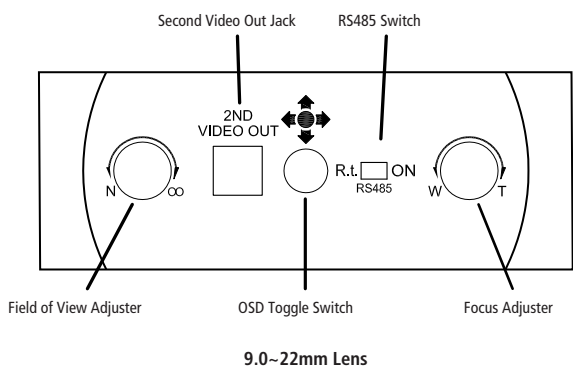
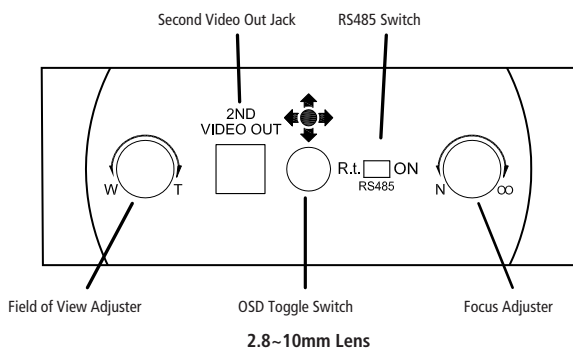
## Connection and Adjustment

### Camera Adjustment

There is an adjustment mechanism on the back of the camera. Turn the cover on the back of the camera in the direction indicated below and remove the cover.



Below describes features on the back of the camera. To adjust the OSD menu, please use the OSD toggle switch, with which you can push it upward/downward, to the left and right to navigate through the menu and press the center of the button to confirm a feature.



# Camera OSD Menu

PAGE1	
SCENE SELECT	FULL AUTO INDOOR OUTDOOR BACKLIGHT-ITS CUSTOM
SHUTTER / AGC	AUTO MANUAL FIX
AE LEVEL	001 ~ 250
AGC MAX	6.0DB ~ 44.8DB
SENS UP	AUTO / OFF
SHUTTER	256FLD ~ 1/10000
AGC MAX	6.0DB ~ 44.8DB
SHUTTER	256FLD ~ 1/10000
AGC MAX	6.0DB ~ 44.8DB
SPEED	000 ~ 255
DELAY CNT	001 ~ 255
ATW FRAME	001 ~ 255
ENVIRONMENT	INDOOR / SUNNY / SHADE / AUTO
WHITE BAL	ATW(*1)
PUSH	
USER1	RGAIN 000 ~ 255 BGAIN 000 ~ 255
USER2	RGAIN 000 ~ 255 BGAIN 000 ~ 255
MANUAL	LEVEL 00 ~ 63
PUSH LOCK	
HLC/BLC	OFF HLC BLC(*2)
CLIP LEVEL	000 ~ 255
OFF	
WDR / ATR-EX(*3)	ATR-EX WDR
CONTRAST	LOW / MID / HIGH(*4)
CLEAR FACE	LOW / MID / HIGH / OFF
CONTRAST	LOW / MID / HIGH
CLEAR FACE	OFF / LOW / MID / HIGH
DNR	LEVEL 0 ~ 6
DAY/NIGHT	DAY NIGHT
BURST	ON/OFF
AUTO	BURST ON/OFF CNTL SIGNAL INT/EXT1/EXT2 DELAY CNT DAY->NIGHT NIGHT->DAY
IR OPTIMIZER	OFF ON
MODE	AUTO CENTER
IR AREA	TOP 0~6 BOTTOM 0~6 LEFT 0~8 RIGHT 0~8 WEIGHT 00~15
LEVEL	0-12
IR LED	OFF FIX DAY/NIGHT
LEVEL	000 ~ 255
LEVEL MIN	001 ~ 255
LEVEL MAX	001 ~ 255
COLOR NIGHT	OFF ON
COLOR GAIN	LOW / MID / HIGH
IR SHADE COMP	OFF ON
PATTERN	SET1 / SET2 / SET3
POSH	000 ~ 959
POSV	000 ~ 490
LEVEL	OFF / LOW / MID / HIGH
LENS SHD COMP	OFF ON
PATTERN	SET1 / SET2 / SET3
POSH	000 ~ 959
POSV	000 ~ 490
DEFOG(*5)	OFF ON
LEVEL	LOW / MID / HIGH
FLK LESS	OFF AUTO
MODE	GAIN CNTL SHUTTER FIX
ON	MODE GAIN CNTL SHUTTER FIX
ANTI CR	AUTO/OFF/ON
PICT ADJUST	BRIGHTNESS CONTRAST SHARPNESS HUE COLOR GAIN
DIS	ON/OFF
EZOOM	OFF ON
MAG/PAN/TILT	
PRIVACY MASK	AREA SEL 1-15 DISPLAY OFF / ON POSITION COLOR WHITE / BLACK / RED / GREEN / BLUE / YELLOW / CYAN / MAGENTA TRANSP 0.00 / 0.50 / 0.75 / 1.00 MOSAIC OFF / ON
MOTION DET	OFF ON
DETECT SENSE	
INTERVAL	
BLOCK DISP	
MASK AREA	
MOTION AREA	AREA SEL 1-4 MODE TOP BOTTOM LEFT RIGHT
SYS SETTING	SYNC MODE INT/LL(*6) LENS MANUAL AUTO
TYPE	
MODE	
ADJUST	
SPEED	
FLIP	OFF/H/V/H
LCD/CRT	
COMMUNICATION	PROTOCOL ADDRESS BAUDRATE DATABIT PARITY STOPBIT
CAMERA ID	OFF ON
POS	
EXIT	
PAGE2	
LANGUAGE	ENGLISH/中文/ESPAÑOL/PORTUGUES/PYCKNN/FRANCAIS/DEUTSCH/日本語
VERSION	
MAINTENANCE	W.PIX MASK CAMERA RESET MANUAL REGISTRATION REG.POINT CURSOR COLOR BLINK REG.NUMBER
EXIT	SAVE NOT SAVE CANCEL BACK AUTO RUN BACK DATA CLEAR

Note:  
 \*1 This can not be changed from ATW except CUSTOM mode.  
 \*2 BLC can be selected on CUSTOM mode.  
 \*3 This can not be changed except CUSTOM mode.  
 \*4 This is MID on FULL AUTO, OUTDOOR and ITS mode, LOW on INDOOR mode, HIGH on BACKLIGHT mode.  
 \*5 This can not be changed except CUSTOM mode.  
 \*6 The default SYNC Mode is set as INT.  
 The SYNC Mode can be selected as LL on OSD menu but the actual mode is INT when the power is DC12V.  
 ► This item has subsequent adjustment screens