Sentry-700

Dome & Infrared Dome Camera
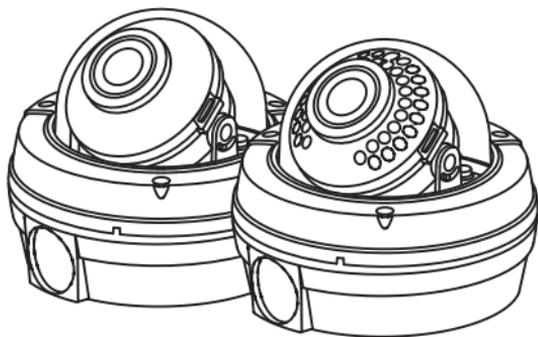
INSTRUCTION MANUAL

CONTENTS

WARNING & CAUTION

If you fail to read this information and handle the product incorrectly, death or serious injury may occur.

The unit should be installed by the trained Personnel.

Switch off immediately if the product emits smoke or abnormal heat.

Never install the product in area exposed to oil or gas.

Never touch the power cord with wet hands.

Clean only with dry cloth.

Ensure that the product is not subjected to strong impacts and vibration.

Never expose the camera to direct sunlight

WARNING

Never disassemble the unit by

unauthorized person.

Serious and Permanent

damage will occur.

WARNING & CAUTION

Contents in Box

1. CAMERA --------------- 1EA
2. MOUNT BRACKET ------- 1EA
3. TERMINAL BLOCK ------- 1EA
   (Dual Power Type Only)
4. DC JACK CABLE ------- 1EA
   (Dual Power Type Only)
5. CALBLOCK Ø6x30 ------ 4EA

6. SCREW Ø4x25 -------- 7EA
7. O-RING (Ø3.8dx1.9t) -- 3EA
8. WRENCH 1.5mm ----- 1EA
9. WRENCH 2.5mm ----- 1EA
10. MANUAL ------------ 1EA
11. TEMPLATE LABEL --- 1EA

GENERAL FEATURES

IP-68 rated waterproof frame housing
An ideal waterproof frame housing suitable for the outdoor circumstance.

3-Axis bracket (Ceiling, Flush, Wall mount available)
This 3-Axis bracket enable you to install easily anywhere.

Compatible with a junction box
It can compatible with a junction box, therefore easy to install.

Easy installation by mount bracket.
Once you fix the mount bracket on the surface of a wall or the ceiling, the camera will not fall by holder of the bottom cover.
So it can install the camera easily.

Extra video out available
The camera has an Extra Video output jack to check the actual image or setup of the OSD function.

Powerful Infra-Red LEDs (Built in IR LED Type only)
By adopting powerful Infra-Red LEDs, it can observe clearly even night time or circumstance of total darkness.

2.8~12mm or 3.5~16mm TDN Varifocal lens (option)
By adopting a filter-changeable TDN(ICR) Varifocal lens, you can get more clear image.

Wide-ranging power tolerance
Dual Power Type : DC10V~30V / AC10V~28V
DC12V Power Type : DC12V±10%

Heater (option)
By adopting Heater, this camera suitable for a harsh climate.
(-40°C~+50°C)

High Resolution
By adopting a diagonal 6mm(1/3") SONY EXVIEW HAD CCD II, the camera produces clear picture quality with a horizontal resolution of 700 TV line color, and 800 TV line B/W (960H Type)

Low Light Sensitivity
By adapting unique digital processing technology, It can clearly distinguish the outline and color of a subject in 0.0001Lux(B/W for Sens-up x256) low illumination environments.

GENERAL FEATURES

SMART 3DNR (3D Digital Noise Reduction + Motion Detection)
By adopting unique digital processing technology, it can reduces the gain noise and produce clear, obvious images in low illumination environments.

F-DNR (Fog Digital Noise Reduction)
You will have a distinct image in any severe circumstances: ambient light, fog, rain, snow, etc.

D-WDR (Digital Wide Dynamic Range)
The D-WDR function illuminates darker areas of an image during retaining the same light level for brighter areas to even out the overall brightness of images with high contrast between bright and dark areas.

SMART D-ZOOM
This will be helpful to cover the limitaion of the focal length of the equipped lens.

DIS (Digital Image Stabilizer)
It prevents the unfocused image by shaking and secures the clear image.

LENS SHADING COMPENSATION
LSC corrects the phenomenon where the image gets darkened or blurred on the periphery.

DEFECT
The DEFECT mode compensates Dead Pixel of the CCD Sensor.

SENS UP
When it is night or dark circumstance, the camera automatically detects the light level and maintains a clear picture if this mode is operated.

SMART IR
The DSP can control the saturated image caused by close object when IR LED operating.

**Motion Detection (4 Zone, Alarm output)**
Since the camera detects motion and generates signals without any additional external sensors, you can monitor more efficiently by connecting an alarm device.

Polygon Privacy Masking (8 Zone)
You can easily set up privacy masking areas to be masked unwanted zones and hide them from display on the screen.

NAME OF EACH PART(Built in IR LED Type)
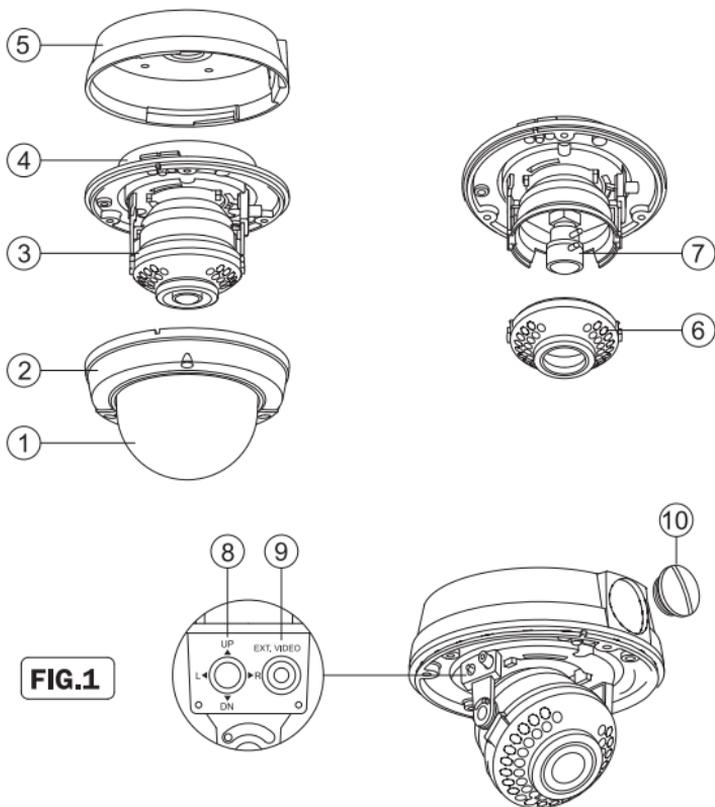
FIG.1

1. Bubble 100 Phi
2. Top Cover
3. Main Body
4. Bottom Cover
5. Mount Bracket
6. Cover
7. Lens
8. OSD Menu Switch
9. Extra Video Output
10. Cap Screw (PT 3/4)

NAME OF EACH PART(Without IR LED Type)
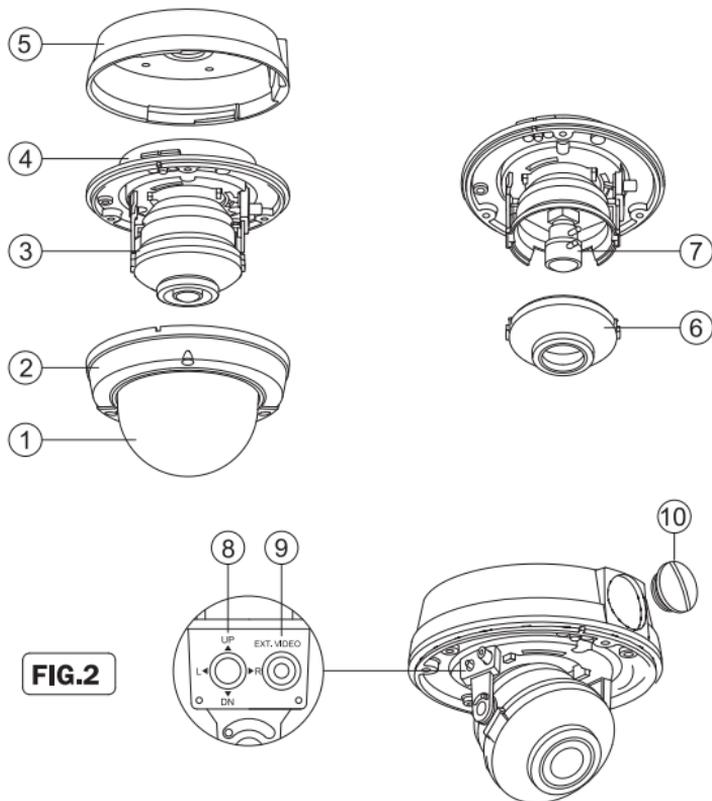
FIG.2

1. Bubble 100 Phi
2. Top Cover
3. Main Body
4. Bottom Cover
5. Mount Bracket
6. Cover
7. Lens
8. OSD Menu Switch
9. Extra Video Output
10. Cap Screw (PT 3/4)

INSTALLATION

FIG.3

Calblock (∅6x30)

Hole Diameter : ∅6mm
Depth : 30mm

Template Label

Ceiling Mount

Screw (∅4x25)

Wall Mount

FIG.4

Seal Taple

Holder

Holder
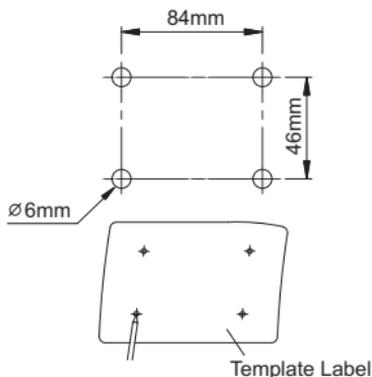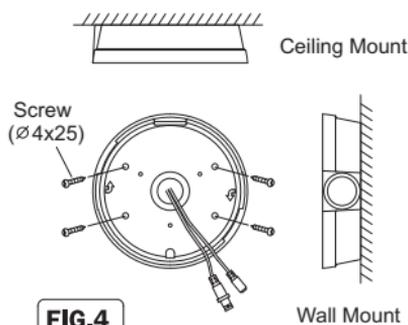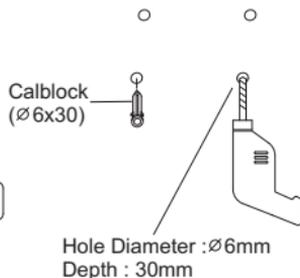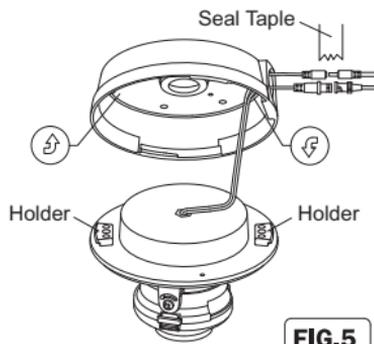
FIG.5

1. When you need to install a camera on the surface of a concrete wall, you can drill a hole like Fig.3 exactly by using a template label offered by accessory.

2. As Fig.3, please set a calblock in the hole of the wall.

3. Please fix the mount bracket by using screw.

4. After connect with cable (Please refer to the connection part for the cable connection). Please join holder part of the bottom cover to the arrow direction on the floor inside of the mount bracket then push and twist to clockwise. (Refer to Fig.5 & Fig.6)

INSTALLATION

Wrench 1.5mm
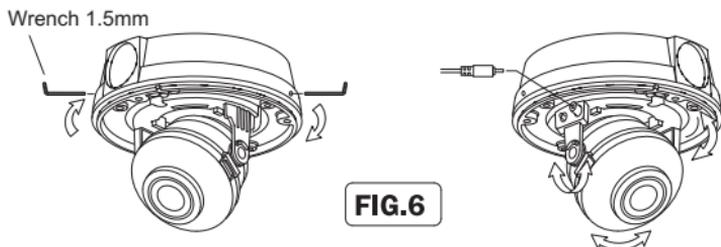
FIG.6

5. Like Fig.6, please join bottom cover to clockwise until it stops after inserting, kindly tighten screw on both sides of the mount bracket.

6. After connect Extra Video Connector to the screen, you can place the camera to desired direction. (For the cable connection, Please refer to Page.13)

Zoom Lever
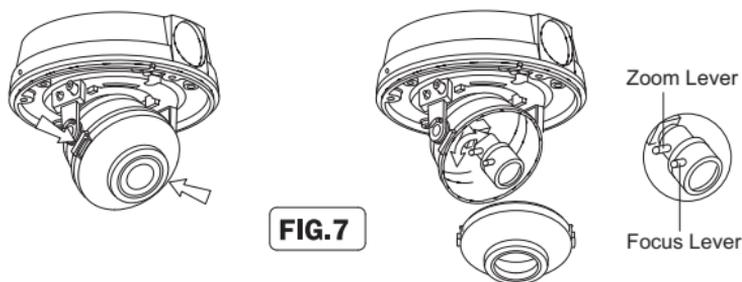
FIG.7

Focus Lever

7. Like Fig.7, please open the Cover (push lightly on both sides of the Cover). After adjust Zoom and Focus by using a Lens Lever, close the Cover.

NOTE : Please notice a direction on both side of lock part of the cover. (The size of left and right side are different. If the direction is changed, the cover will not be fitted.)

INSTALLATION

Jut

Groove

FIG.8

Wrench 2.5mm
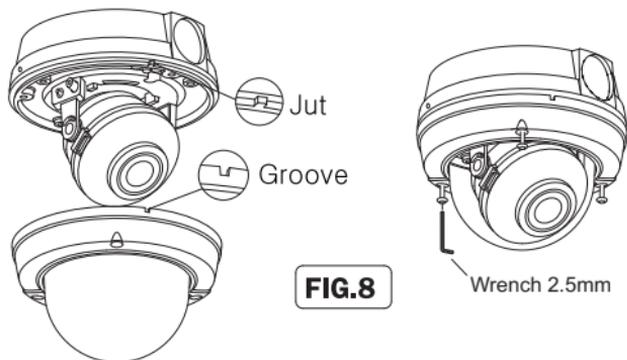
8. After close Groove of Top Cover and Jut of Bottom Cover, please tighten screws surely to prevent a leak of water.

How to install Flush Mount

Hole Diameter:⌀100mm

Holder

Drill Dia:⌀4.5mm **FIG.9**

O-Ring
Screw
(⌀4x25)
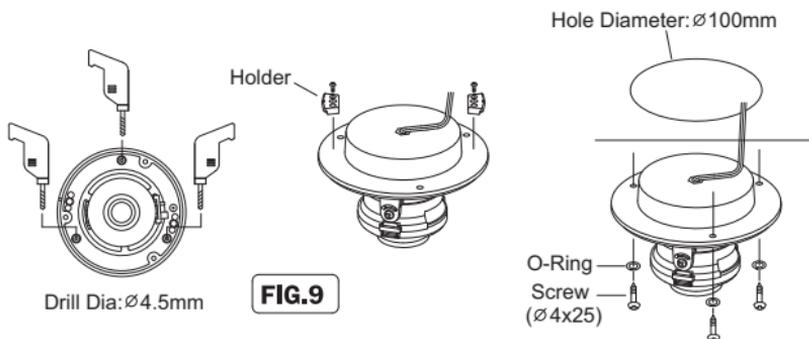
1. Like Fig.9, Please drill into Bottom Cover to ⌀ 4.5mm holes of 3pcs by using drill machine.

2. Please remove plastic holder of 2pcs on the Bottom Cover side.

3. Make a hole of ⌀100mm on the ceiling. Then put the camera into the hole and please fixing by screw with O-ring.

4. The way of rest installation is the same as previous page.

INSTALLATION

How to install Wall Mount Bracket
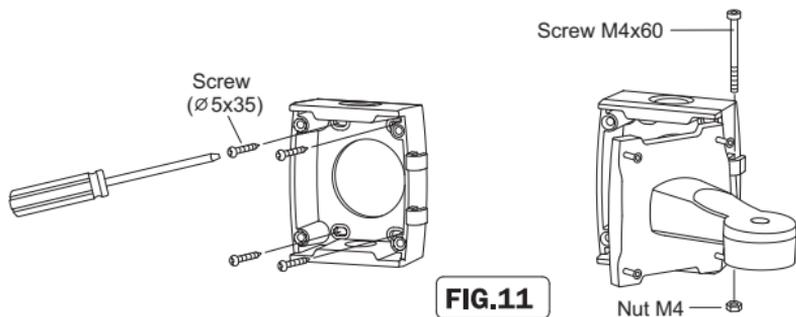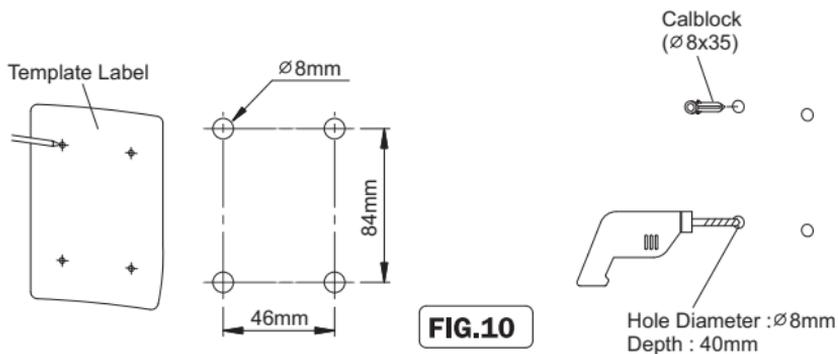
Calblock
(⌀8x35)

Template Label

⌀8mm

84mm

46mm

FIG.10

Hole Diameter :⌀8mm
Depth : 40mm

Screw M4x60

Screw
(⌀5x35)

FIG.11

Nut M4

1. When you need to install a camera on the surface of a concrete wall, you can drill a hole like Fig.10 exactly by using a Template Label offered by accessory.

2. Please set a Calblock in the hole of the wall.

3. Then stick by screw by using a Junction Box on the surface of a wall.

4. Please join the Bracket to the Junction Box. (Refer to Fig.11)

INSTALLATION

FIG.12
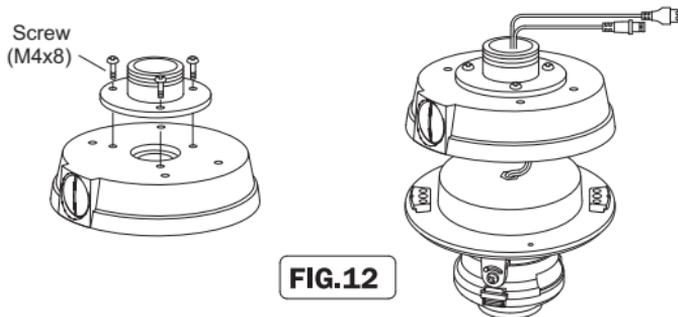
5. After join a Adapter to the Mount Bracket, please combine the camera by the same way like explained in the previous.

FIG.13
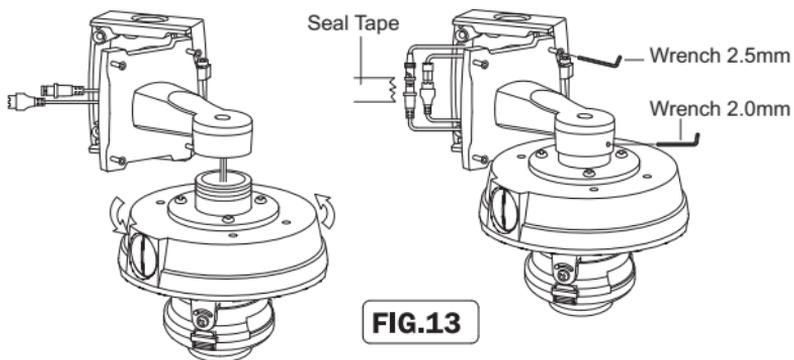
6. After pass a cable to Wall Mount Bracket, please insert the Camera to clockwise then screw it.

7. Please wrap and finish the Cable Connector by using a seal tape to prevent a leak of water.

8. After close the cover of Wall Mount Bracket, please fix by using screws.

CONNECTION

DUAL POWER TYPE

*A power source connection is nonpolar.

FIG.14

MONITOR
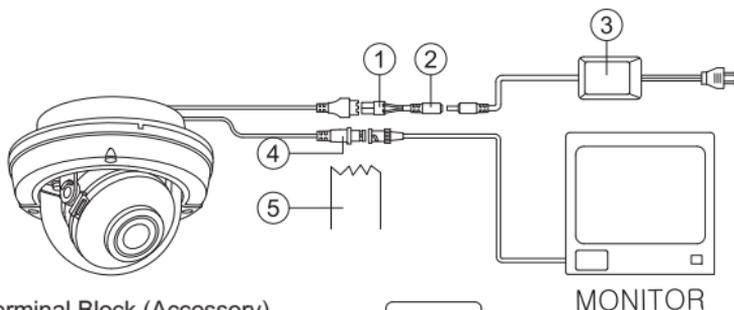
1. Terminal Block (Accessory)
2. DC Jack Cable (Accessory)
3. Adaptor (DC12V or AC24V)
4. Video Output (CVBS)
5. Seal Tape

DC12V POWER TYPE

*A power source connection is nonpolar.

FIG.15

MONITOR
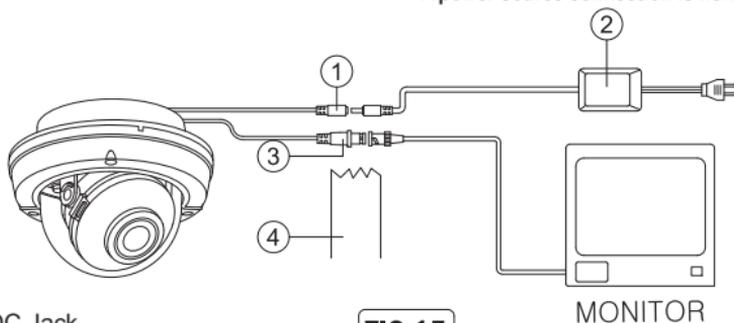
1. DC Jack
2. Adaptor (DC12V)
3. Video Output (CVBS)
4. Seal Tape

CAUTION : After connecting the cable, please make sure bind by using a
Seal Tape to prevent a leak of water.

SPECIFICATIONS (Built in IR LED /760H Type)

TV SYSTEM	NTSC	PAL
Total pixels	811(H) x 508(V)	795(H) x 595(V)
Effective pixels	768(H) x 494(V)	752(H) x 582(V)
Frequency	15.734[KHz] (H) / 59.94[Hz] (V)	15.625[KHz] (H) / 50[Hz] (V)
ESC	Auto/FLK/Manual(1/60~100,000 sec)	Auto/FLK/Manual(1/50~100,000 sec)
DSP	NEXT CHIP HAWK-II	
Sensor	1/3 inch SONY 760H EXVIEW HAD CCD II	
Resolution	650 TV lines (Color), 700 TV lines (B/W)	
Scanning system	2:1 Interlace	
Sync	Internal	
S/N Ratio (Y signal)	More than 52 dB (AGC Off)	
Video output	CVBS:1.0Vp-p / 75Ω Composite	
Min. Illumination	0.5Lux at F1.2 (color) / 0.0001Lux (B/W for sense up X256) / 0Lux (IR on)	
White balance	ATW / AWB / AWC-->SET / MANUAL / INDOOR / OUTDOOR	
BLC	BLC / HSBLC / Off	
Gain control	Low / Middle / High / Off	
Defect	Compensation dead pixed of the CCD Sensor	
Smart 3DNR	On / Off (3D)	
Day & Night	Color / Auto / B/W /EXT	
Sens-up	AUTO(x2~x256) / Off	
DIS	(Digital Image Stabilizer) On / Off	
D-zoom	x1.0~x32	
Privacy	On / Off (Programmable 8 zones)	
Motion detection	On / Off (Programmable 4 zones)	
F-DNR(Defog)	Auto / Manual / Off	
D-WDR	(Digital Wide Dynamic Range) Low-Level / High-Level	
Smart IR	On / Off	
Lens Shading	On / Off	
Operating temp./hum.	-10℃~+50℃ (Heater type -40℃~+50℃) / 30%~80% RH	
Storage temp./hum.	-20℃~+60℃ / 20%~90% RH	
Power	Dual Type(DC:10V~30V, AC:10V~28V)/DC Type(DC12V ±10%)	
Power consumption	Dual Type (DC:Max. 7W, AC:Max. 9W) / DC Type (Max. 6W)	
IR LED	Round 40pcs (30deg)	
Lens (option)	DC auto iris lens (2.8~12mm or 3.5~16mm) ICR Filter change DC auto iris lens (2.8~12mm or 3.5~16mm)	
IP Rating	68	
Dimension	145mm(W) x 124mm(H)(When Including Bracket Mount)	
Weight	0.9Kg	

SPECIFICATIONS (Built in IR LED /960H Type)

TV SYSTEM	NTSC	PAL
Total pixels	1020(H) x 508(V)	1020(H) x 596(V)
Effective pixels	976(H) x 494(V)	976(H) x 582(V)
Frequency	15.734[KHz] (H) / 59.94[Hz] (V)	15.625[KHz] (H) / 50[Hz] (V)
ESC	Auto/FLK/Manual(1/60~100,000 sec)	Auto/FLK/Manual(1/50~100,000 sec)
DSP	NEXT CHIP HAWK-II	
Sensor	1/3 inch SONY 960H EXVIEW HAD CCD II	
Resolution	700 TV lines (Color), 800 TV lines (B/W)	
Scanning system	2:1 Interlace	
Sync	Internal	
S/N Ratio (Y signal)	More than 52 dB (AGC Off)	
Video output	CVBS:1.0Vp-p / 75Ω Composite	
Min. Illumination	0.4Lux at F1.2 (color) / 0.0001Lux (B/W for sense up X256) / 0Lux (IR on)	
White balance	ATW / AWB / AWC-->SET / MANUAL / INDOOR / OUTDOOR	
BLC	BLC / HSBLC / Off	
Gain control	Low / Middle / High / Off	
Defect	Compensation dead pixed of the CCD Sensor	
Smart 3DNR	On / Off (3D)	
Day & Night	Color / Auto / B/W /EXT	
Sens-up	AUTO(x2~x256) / Off	
DIS	(Digital Image Stabilizer) On / Off	
D-zoom	x1.0~x32	
Privacy	On / Off (Programmable 8 zones)	
Motion detection	On / Off (Programmable 4 zones)	
F-DNR(Defog)	Auto / Manual / Off	
D-WDR	(Digital Wide Dynamic Range) Low-Level / High-Level	
Smart IR	On / Off	
Lens Shading	On / Off	
Operating temp./hum.	-10°C~+50°C (Heater type -40°C~+50°C) / 30%~80% RH	
Storage temp./hum.	-20°C~+60°C / 20%~90% RH	
Power	Dual Type(DC:10V~30V, AC:10V~28V)/DC Type(DC12V ±10%)	
Power consumption	Dual Type (DC:Max. 7W, AC:Max. 9W) / DC Type (Max. 6W)	
IR LED	Round 40pcs (30deg)	
Lens (option)	DC auto iris lens (2.8~12mm or 3.5~16mm) ICR Filter change DC auto iris lens (2.8~12mm or 3.5~16mm)	
IP Rating	68	
Dimension	145mm(W) x 124mm(H)(When Including Bracket Mount)	
Weight	0.9Kg	

SPECIFICATIONS (Without IR LED /760H Type)

TV SYSTEM	NTSC	PAL
Total pixels	811(H) x 508(V)	795(H) x 595(V)
Effective pixels	768(H) x 494(V)	752(H) x 582(V)
Frequency	15.734[KHz] (H) / 59.94[Hz] (V)	15.625[KHz] (H) / 50[Hz] (V)
ESC	Auto/FLK/Manual(1/60~100,000 sec)	Auto/FLK/Manual(1/50~100,000 sec)
DSP	NEXT CHIP HAWK-II	
Sensor	1/3 inch SONY 760H EXVIEW HAD CCD II	
Resolution	650 TV lines (Color), 700 TV lines (B/W)	
Scanning system	2:1 Interlace	
Sync	Internal	
S/N Ratio (Y signal)	More than 52 dB (AGC Off)	
Video output	CVBS:1.0Vp-p / 75Ω Composite	
Min. Illumination	0.5Lux at F1.2 (color) / 0.0001Lux (B/W for sense up X256) / 0Lux (IR on)	
White balance	ATW / AWB / AWC-->SET / MANUAL / INDOOR / OUTDOOR	
BLC	BLC / HSBLC / Off	
Gain control	Low / Middle / High / Off	
Defect	Compensation dead pixed of the CCD Sensor	
Smart 3DNR	On / Off (3D)	
Day & Night	Color / Auto / B/W /EXT	
Sens-up	AUTO(x2~x256) / Off	
DIS	(Digital Image Stabilizer) On / Off	
D-zoom	x1.0~x32	
Privacy	On / Off (Programmable 8 zones)	
Motion detection	On / Off (Programmable 4 zones)	
F-DNR(Defog)	Auto / Manual / Off	
D-WDR	(Digital Wide Dynamic Range) Low-Level / High-Level	
Smart IR	On / Off	
Lens Shading	On / Off	
Operating temp./hum.	-10°C~+50°C (Heater type -40°C~+50°C) / 30%~80% RH	
Storage temp./hum.	-20°C~+60°C / 20%~90% RH	
Power	Dual Type(DC:10V~30V, AC:10V~28V)/DC Type(DC12V±10%)	
Power consumption	Dual Type (DC:Max. 4W, AC:Max. 5W) / DC Type (Max. 3W)	
Lens (option)	DC auto iris lens (2.8~12mm or 3.5~16mm) ICR Filter change DC auto iris lens (2.8~12mm or 3.5~16mm)	
IP Rating	68	
Dimension	145mm(W) x 124mm(H)(When Including Bracket Mount)	
Weight	0.9Kg	

SPECIFICATIONS (Without IR LED /960H Type)

TV SYSTEM	NTSC	PAL
Total pixels	1020(H) x 508(V)	1020(H) x 596(V)
Effective pixels	976(H) x 494(V)	976(H) x 582(V)
Frequency	15.734[KHz] (H) / 59.94[Hz] (V)	15.625[KHz] (H) / 50[Hz] (V)
ESC	Auto/FLK/Manual(1/60~100,000 sec)	Auto/FLK/Manual(1/50~100,000 sec)
DSP	NEXT CHIP HAWK-II	
Sensor	1/3 inch SONY 960H EXVIEW HAD CCD II	
Resolution	700 TV lines (Color), 800 TV lines (B/W)	
Scanning system	2:1 Interlace	
Sync	Internal	
S/N Ratio (Y signal)	More than 52 dB (AGC Off)	
Video output	CVBS:1.0Vp-p / 75Ω Composite	
Min. Illumination	0.4Lux at F1.2 (color) / 0.0001Lux (B/W for sense up X256) / 0Lux (IR on)	
White balance	ATW / AWB / AWC-->SET / MANUAL / INDOOR / OUTDOOR	
BLC	BLC / HSBLC / Off	
Gain control	Low / Middle / High / Off	
Defect	Compensation dead pixed of the CCD Sensor	
Smart 3DNR	On / Off (3D)	
Day & Night	Color / Auto / B/W /EXT	
Sens-up	AUTO(x2~x256) / Off	
DIS	(Digital Image Stabilizer) On / Off	
D-zoom	x1.0~x32	
Privacy	On / Off (Programmable 8 zones)	
Motion detection	On / Off (Programmable 4 zones)	
F-DNR(Defog)	Auto / Manual / Off	
D-WDR	(Digital Wide Dynamic Range) Low-Level / High-Level	
Smart IR	On / Off	
Lens Shading	On / Off	
Operating temp./hum.	-10°C~+50°C (Heater type -40°C~+50°C) / 30%~80% RH	
Storage temp./hum.	-20°C~+60°C / 20%~90% RH	
Power	Dual Type(DC:10V~30V, AC:10V~28V)/DC Type(DC12V$\pm$10%)	
Power consumption	Dual Type (DC:Max. 4W, AC:Max. 5W) / DC Type (Max. 3W)	
Lens (option)	DC auto iris lens (2.8~12mm or 3.5~16mm) ICR Filter change DC auto iris lens (2.8~12mm or 3.5~16mm)	
IP Rating	68	
Dimension	145mm(W) x 124mm(H)(When Including Bracket Mount)	
Weight	0.9Kg	

OSD MENU SETTING

MENU	SUB MENU			
LENS	DC	BRIGHTNESS	0~100	
		IRIS SPEED	0~5	
	VIDEO			
	MANUAL	BRIGHTNESS	0~100	
EXPOSURE	SHUTTER	AUTO(SHUT.MIN, SHUT.MAX), 1/60(50), FLK, MANUAL(LEVEL1/60, FLK,1/250,1/500, 1/1000,1/2000,1/5000,1/10000,1/20000,1/50000,1/1000000		
	AGC	LOW,MIDDLE,HIGH		
	SENS-UP	OFF		
		AUTO	x2,x4,x6,x8,x10,x12,x14,x16,x24,x32,x64,x128,x256	
BACK LIGHT	D-WDR	LOW-LEVEL	0~15	
		HIGH-LEVEL	0~15	
	BLC	VALUE	LOW, MIDDLE, HIGH	
		AREA	SINGLE, DOUBLE	
		DEFAULT		
	HSBLC	GAIN	0~100	
		MODE	NIGHT ONLY, ALL DAY	
		MASK LEVEL	0~100	
		DEFAULT		
		M. SKIP AREA	OFF, ON	
WHITE BAL	ATW			
	AWB			
	AWC-->SET			
	MANUAL	BLUE	0~100	
		RED	0~100	
	INDOOR			
	OUTDOOR			
DAY&NIGHT	AUTO	DELAY	0~15	
		D-->N(AGC)	48~255	
		N-->D(CDS)	0~207	
	COLOR			
	B/W	BURST	ON, OFF	
		IR SMART	OFF	
			VALUE	0~100
			AREA	POSITION, SIZE
			IR DWDR	0~15
	EXT	DELAY	0~15	
SMART 3DNR	OFF			
	ON	VALUE	0~200	
		SMART NR	OFF	
			ON	SMART LEVEL 0~200
				SENSITIVITY 0~100
F-DNR	OFF			
	MANUAL	LEVEL	0~31	
		COLOR GAIN	0~10	
		EDGE GAIN	0~10	
		GAMMA	USER, 0.05~1.00	
	AUTO	DEFECT LEVEL	0~5	

OSD MENU SETTING

MENU			SUB MENU		
FUNCTION	MOTION	AREA	1~4		
		AREA DISPLAY	ON,OFF		
		VALUE	0~100		
		MOTION VIEW	ON,OFF		
	PRIVACY	AREA	1~8		
		AREA DISPLAY	ON,OFF		
		COLOR	0~15		
		TRANSFER	0~3		
	D-EFFECT	D-ZOOM	RANGE	x1.0~x32	
			PAN	-100~100	
			TILT	-100~100	
		SMART D-ZOOM	RANGE	x2.0~x5.0	
			POSITION		
			SENSITIVITY	0~100	
			TIME	0~15	
		DIS	ON,OFF		
		FREEZE	ON,OFF		
		MIRROR	OFF,MIRROR,V-FLIP,ROTATE		
		NEG. IMAGE	ON,OFF		
	IMAGE ADJ	SHARPNESS	0~31		
		MONITOR	CRT	PED LEVEL 0~63	
				COLOR GAIN 0~255	
			LCD	GAMMA (USER, 005~1.0)	
				PED LEVEL 0~63	
				COLOR GAIN 0~255	
			LENS SHADING	LEVEL 0~60	
				H-CENTER 0~255	
				V-CENTER 0~255	
		LENS SHADING	ON,OFF		
		DEFECT	SENS-UP	x4,x8,x16,x32x64x128	
			DIFF	0~3	
			THRESHOLD	0~4	
			START		
	CAM ADJ	CAM TITLE	ON,OFF		
		PROTOCOL	PELCO-D, PELCO-P, SPD-S, DONGYANG, NICP		
		RS485	CAM ID	1~255	
			ID DISPLAY	ON,OFF	
			BAUDRATE	2400,4800, 9600,19200	
		SYNC	INT		
		LANGUAGE	ENGLISH, KOREAN, JAPANESE, CHINESE1, CHINESE2, RUSSIA, FRANCAIS, ESPANOL, ITALIANO, PORTU, DOUTCH, GERMAN, POLISH, TURKI, HEBREW, ARAB		
EXIT	SAVE, RESET,CANCEL				

< Note : >
*- Default value of the 'SHUTTER' is that '1/50(60)' for indoor and 'AUTO' for outdoor.*
* (You can change the SHUTTER setting value according to the installation circumstances as above.)*
- Depending on setting of sub menu, the default value may be changed.

TROUBLESHOOTING

PROBLEM	SOLUTION
No picture	Check if the power cable is connected properly. Check if the video cable is connected correctly.
Camera with excessive heat, Abnormal motion or Black lines on the screen.	Check if the power supply meets the minimum requirements and that the power supply is functioning properly.
Blinking Screen	Check if the Camera faces the Sun or fluorescent lamp. Check if the Auto Iris Lens connector is connected properly.
Unclear Screen	Check if the Lens is dirty. If necessary, clean the lens with a soft cloth or lens brush. Check the camera positioning and setting. Adjust the camera position if too much light is entering the iris. Check the Back-Focus Setting.
No operation of Color Auto mode	Check if you set 'Color' mode 'EXT/ON/OFF' Check if you set 'Gain' mode off.
No operation of Motion Detection	Check if 'Motion Detection' mode is on Check if the 'MD Level' is set too low. Check if the 'MD Area' is set properly.
Inaccurate Color	Insure that 'White Balance' is set properly.
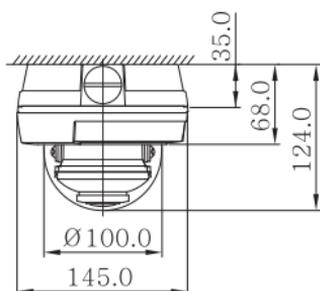
Ceiling Mount
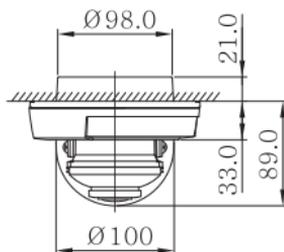
Flush Mount
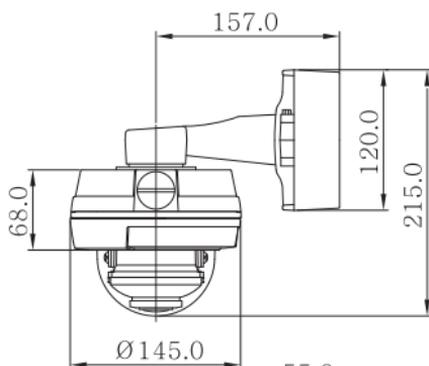
Wall Mount Bracket
(with Junction Box)

Units:mm