

◆NOTES:

1. Do not install the camera outdoors.
2. Choose a location for the camera which is free of moisture and vibration.
3. Be careful not to scratch the camera lens or dome cover.
4. Do not operate camera beyond listed temperature (-49°F~122°F)
5. Handle with care. Dropping it can cause serious damage to the camera.
6. Avoid any direct sun light into the lens.
7. To avoid shorting or damaging the camera, use only power supplies which meet the listed specifications (12VDC / 24VAC Dual voltage, 1A)

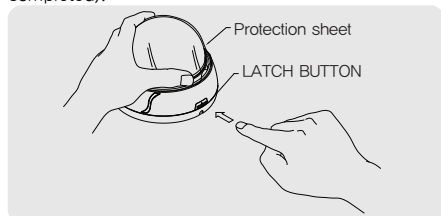
◆FEATURE

1. 650 TVL High Resolution Image
2. Smart DNR technology: reduces noise in low light.
3. 75' range visible in total darkness with 24pcs of IR LEDs. (Indoor).
4. This camera is flexible to install with its 3-axis camera construction, this allows for the camera to be mounted to ceiling, wall or slope surfaces.
5. True Day/Night, camera changes function based on illumination, IR illuminators in dark (option)
6. 8 individual privacy zones
7. DWDR (Digital Wide Dynamic Range)
8. Multi function: High Light Mask, Lens Shading Compensation, Smart Motion Detection
9. Smart IR: Objects can be clearly identified due to the function that decreases screen saturation of objects within a short distance when the IRs are active.
10. Multi-language OSD.
11. 12VDC / 24VAC Dual Voltage operation.

◆HOW TO INSTALL

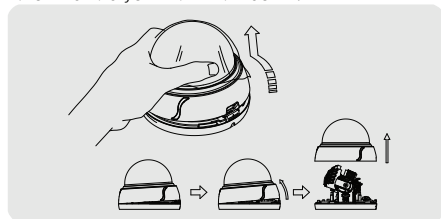
1. Opening the dome

Push in the latch button and pull back dome. (Remove the protection sheet after installation is completed).



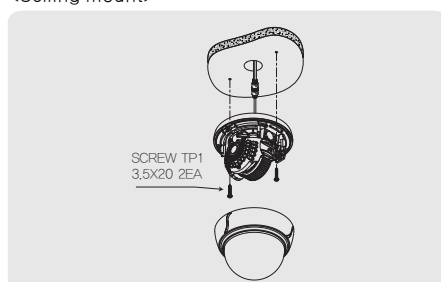
2. Removing the dome

Lift the dome. When you push the latch button, it is unlocked and you can lift the dome.

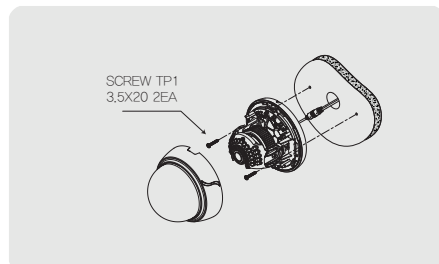


3. Camera installation

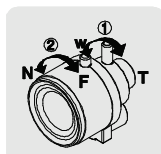
- a. Mount the camera set with the supplied screws on ceiling or wall.
It is recommended to utilize the supplied screws.



<Wall mount>



- b. Please refer to Section 4 for details on Camera angle adjustments
- c. Lens adjustment (Vari-focal Lens only)
After opening the LED cover,



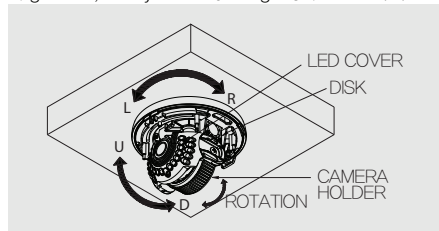
- ① By turning the "Tele-Wide" knob, you can access a range of focal lengths within specified limits.
- ② Once the focal length is determined, turn the "Near-Far" knob to set the focus for the desired scene.

- d. Re-assemble the camera.

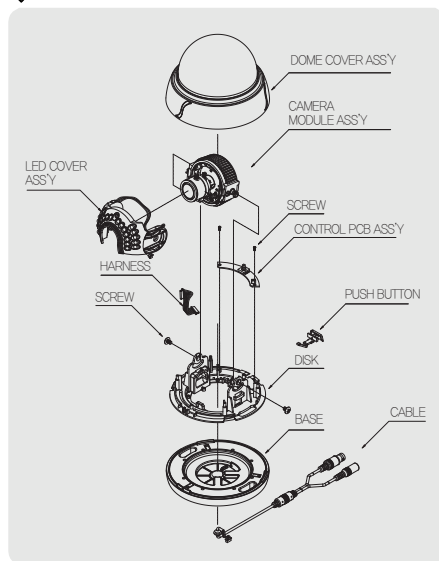
4. Camera angle adjustment

- a. Pan adjustment: Turn the disk of camera and then adjust direction to the right or left (-180° to 180°)
- b. Tilt adjustment: Turn the camera holder (shown below) to adjust the direction up or down (6° to 90°)
- c. Roll adjustment: Rotate the camera holder (-178° to 178°)

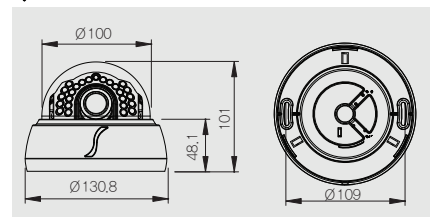
<Caution> If the camera is adjusted beyond the angle limit, it may cause damage to the camera.



◆ASSEMBLY



◆DIMENSION



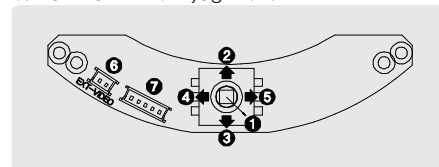
◆SPECIFICATION

Model No.	HLED31D7B HLED31D7W	HLED31D1B HLED31D1W
Image Sensor	1/3" COLOR SONY SUPER HAD CCD II	
Effective Pixel	768(H) x 494(V) Pixel	
Cell Size	6.35µm(H) x 7.4µm(V)	
Scanning System	2 : 1 Interlace	
Sync. Type	Internal	
Resolution	650 TV-Line	
S/N	52dB or More(AGC OFF)	
Video Output	1.0 Vp-p(Sync. Negative) Termination 75Ω	
Min. Illumination	0.01Lux(F1.2) 0Lux (75' Range with 24pcs LED) ~Indoor	
Gamma	γ = 0.45 typ.(0.2 ~ 1.0)	
OSD	Yes(Multi Language)	
White Balance	ATW(2,500°K ~ 9,500°K)/MANUAL/AWC	
Shutter Speed	1/60 ~ 1/100,000sec	
Sense up	Auto(Selectable limit 2X~1024X)/FIXED/OFF	
Backlight	OFF/BLC/HLC/DWDR	
AGC	LOW/MIDDLE/HIGH/OFF	
DNR(3D)	AUTO/LOW/MIDDLE/HIGH/OFF	
Motion Detection	ON/OFF(4 Zone)	
Privacy Zone	ON/OFF(8 Zone)	
Mirror	ON/OFF	
Day & Night	AUTO, COLOR, B/W	
LED Brightness	24pcs, Smart IR	
Blemish Compensation	AUTO/OFF	
Lens	f = 3.6mm	f = 2.8 ~ 12mm
Power Supply	12VDC / 24VAC Dual Voltage	
Current Consumption	Max. 600mA (at 12VDC / 24VAC)	
Operation Temp.	-49°F~122°F	
Dimension	Ø130.8(W) x 96(H) mm	
Weight	14.5 oz	

* The specification is subject to change without any prior notice to improve the quality.

◆FUNCTION SETTING

1. How to use the jog lever



- ① SET : Used to access the menu and confirm selection.
- ② UP, ③ DOWN : Used to move the cursor to up or down.
- ④ LEFT, ⑤ RIGHT : Used to move the cursor to left or right and change the value.
- ⑥ EXT-VIDEO : Additional video output terminal for test monitor during installation.
- ⑦ DEBUG PORT : It is used for upgrading the product function and after-sales services.

2. OSD Menu Structure

OSD Menu	Select Menu	Sub Menu	Summary		
1. EXPOSURE					
LENS	MANUAL	BRIGHTNESS	0~99 : Adjust brightness with a manual iris lens		
		E. SHUTTER	AUTO, 1/60, 1/100FLK, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/100000 : Adjust shutter speed		
	DC	BRIGHTNESS	0~99 : Adjust brightness with a DC iris lens		
		E. SHUTTER	AUTO, 1/60, 1/100FLK, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/100000 : Adjust shutter speed		
AGC	OFF, LOW, MIDDLE, HIGH		Determines that use the AGC function or not and AGC level selectable(You can not use the Auto D&N change mode when AGC is off)		
SENSE-UP	AUTO, OFF, X2, X4, X8, X16, X32, X64,X128, X256, X512, X1024		Using sense up when it is low luminance (x2~x1024)		
BACKLIGHT	BLC	BLC LEVEL	OFF, LOW, MID, HIGH : Use BLC function or not / level selectable		
		TOP	0~15 : Adjust top position of BLC zone		
		BOTTOM	1~16 : Adjust bottom position of BLC zone		
		LEFT	0~15 : Adjust left position of BLC zone		
		RIGHT	1~16 : Adjust right position of BLC zone		
	HBLC	OFF : Deactivates HBLC function			
		MANUAL			
		HBLC LEVEL : OFF, LOW, MID, HIGH			
		TOP : 0~15	Make a zone for HBLC		
		BOTTOM : 1~16			
		LEFT : 0~15			
		RIGHT : 1~16			
		MODE	ALL DAY : Activates HBLC function all day NIGHT : Use the function at night only		
		HLC LEVEL	1~100 : Level adjust		
		MASK 1~4	ON		
			TOP : 0~33	Make a zone for HLC mask	
			BOTTOM : 1~34		
			LEFT : 0~44		
			RIGHT : 1~45		
		OFF : HLC MASK OFF			
	D-WDR	SET LEVEL	0~20 : DWDR level adjust		
3D-DNR	OFF, LOW, MID, HIGH, AUTO		Reduce noise in low illumination (Level selectable)		
RETURN	Move back to previous menu				
2. WHITE BALANCE					
AWB MODE	ATW		Color temperature 2500~9500°K		
	MANUAL	M-WR	0~128 : Adjust the Red value to shift the color of the object		
		M-WB	0~128 : Adjust the Blue value to shift the color of the object		
		RETURN	Move back to previous menu		
	PUSH		Find the optimal white balance for current luminance environment		
R-Y GAIN	0~255		Adjust Red tone of the image		
B-Y GAIN	0~255		Adjust Blue tone of the image		
RETURN	Move back to previous menu				
3. DAY&NIGHT					
D&N MODE	AUTO	DAY→NIGHT	7~30	Select brightness of illumination about changing the day→night mode by AGC	
		NIGHT→DAY	6~29		
		DELAY TIME	0~15 : Select the duration time		
		RETURN	Move back to previous menu		
	AUTO-CDS	A DAY→NIGHT	6~36	Select brightness of illumination about changing the day→night mode by AGC	
		A NIGHT→DAY	6~36		
		C DAY→NIGHT	0~255	Select brightness of illumination about changing the day→night mode by CDS	
		C NIGHT→DAY	0~255		
		DELAY TIME	0~15 : Select the duration time		
		RETURN	Move back to previous menu		
	COLOR		Fixed at color		
	B&W		Fixed at B/W		
	EXT	DELAY TIME	0~15 : Change the color→B/W by external signal(N/A)		
		RETURN	Move back to previous menu		
BURST	ON, OFF		Transmit the burst signal or not in B/W mode		
C_SUP	0~100		Color suppress controllable		
A_SUP	0~100		Iris suppress controllable		
SMART IR	ON, OFF		Decreases screen saturation of objects within a short range		
RETURN	Move back to previous menu				

OSD Menu	Select Menu	Sub Menu	Summary	
4. IMAGE ADJUST				
MIRROR	MIRROR, OFF		Set a vertical image inversion	
SHARPNESS	0~30		Sharpness adjustable	
GAMMA	0.45, 0.55, 0.65		Set a gamma value	
	USER	GAMMA	0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 : Gamma adjustable	
		RETURN	Move back to previous menu	
LSC	ON	SET LEVEL	0~30 : Use the LSC and level adjustable	
		RETURN	Move back to previous menu	
	OFF	LSC OFF		
RETURN			Move back to previous menu	
5. MOTION				
MOTION	ON, OFF		Motion detection function activate/deactivate	
AREA	AREA 1~4	TOP	0~143	Make a zone for motion detection
		BOTTOM	2~145	
		LEFT	0~190	
		RIGHT	2~192	
		RETURN	Move back to previous menu	
	RETURN			Move back to previous menu
SENSITIVITY	1~30		Motion detection sensitivity	
DISPLAY	OFF, MESSAGE, TRACE		Select notification method of motion detection	
HOLD TIME	0~15		Set the duration of alarm out	
ALARM OUTPUT	ON, OFF		Alarm ON/OFF	
RETURN			Move back to previous menu	
6. PRIVACY				
MASK 1~8	OFF		Display each privacy mask or not	
	ON	DOT SEL	L_TOP, L_BOT, R_BOT, R_TOP : Determines which of the 4 vertices of each MD area is to be used	
		DOT XY	ENTER SETTING : Determines the coordinate	
		MOVE XY	ENTER SETTING : Move the mask	
		COLOR	BLACK, WHITE, ... : Select mask color(8 colors)	
		RETURN	Move back to previous menu	
RETURN			Move back to previous menu	
7. SPECIAL				
LANGUAGE			ENGLISH, ... : Select language(9 languages)	
TITLE	OFF--ON	EDIT	Display the camera name on the screen	
		RESET	Camera name reset	
		POSITION	Camera name position	
		RETURN	Move back to previous menu	
COMMUNI- CATION (N/A)	OFF--ON	ID	1~255 : Select the camera ID for RS-485 communication	
		BAUDRATE	2400, 4800, 9600 : Select baud rate	
		PROTOCOL	PELCO-D : Camera protocol	
		RETURN	Move back to previous menu	
DPC	OFF		Deactivates Defect Pixel Correction in low illumination	
	AUTO	WHITE THR	0~255 : Setup the limited value of white pixel correction	
		LUMA THR	0~255 : Setup the limited value of white pixel correction	
		RETURN	Move back to previous menu	
FACTORY SET	YES, NO		Reset your camera to factory default condition	
RETURN			Return to previous menu (Communication setting is not changed)	
8. EXIT				
SAVE AND EXIT			Save the value and exit menu	
EXIT			Escape the menu without save	
RETURN			Move back to previous menu	

Speco Technologies is constantly developing product improvements. We reserve the right to modify product design and specifications without notice and without incurring any obligation.

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