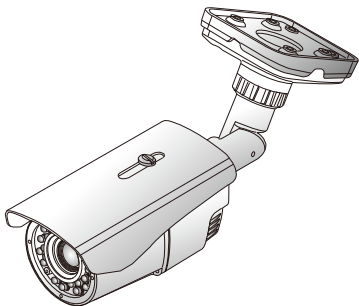


FULL HD MEGA PIXEL CAMERA

FULL HD MEGA PIXEL IR BULLET CAMERA USER'S MANUAL



- 1/3" Panasonic CMOS sensor
- Full HD Resolution
- DAY & NIGHT
- WDR (Wide Dynamic Range)
- DNR (Digital Noise Reduction, 2D+3D)
- Privacy mask Function
- On Screen Display
- Deblur Function
- HD-SDI/CVBS Output
- Multi Protocol(Pelco-D, Pelco-P)

Precaution

Do not Keep the camera face to strong light directly

Do not install the camera in extreme temperature conditions

Do not disassemble the camera even if troubles happened

To avoid malfunctions, never use the camera close to a gas or oil leak

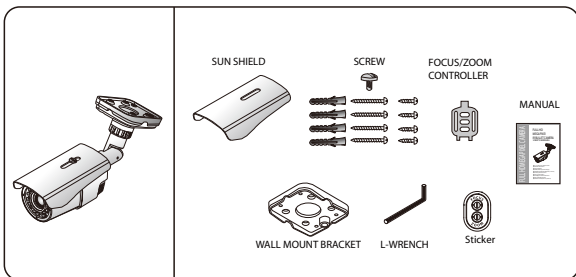
Do not drop the camera or subject them to physical shocks.

Do not expose the camera to rain or spill beverage on it.

Do not install the camera under unstable lighting conditions

Do not install or use the camera in an environment where the humidity is high

Components



1. Features

- 1/3" Panasonic CMOS sensor
2,227,080pixels(Total) / 2,122,848pixels(Active)

- Full HD Resolution

1920x1080p / 30fps, 1280x720p / 60fps

- DAY & NIGHT (Output the Filter changing signal)

This camera has the DayNight function which outputs the filter changing signal with detecting the illumination condition. DayNight operation feature an 'auto' mode which switches between day and night mode automatically based upon the level of illumination on the scene. EXT mode changes between day and night operation upon triggering from an external source(Optional).

And also, the COLOR mode operates in daytime conditions to provide optimum colors, and B/W mode operates in night-time conditions to enhance the definition of the image.

- WDR (Wide Dynamic Range)

WDR, more effectively than previous models, by applying an optimum fusion ratio when combining the high speed shutter used in bright areas and the low speed shutter used in dark areas.

- DNR (Digital Noise Reduction, 2D+3D)

The DNR technology eliminates noise thus generating a distinct and clear image. This camera DNR function utilizes both an adaptive 2D filter reducing noise in the brightness of the image and an adaptive 3D filter reducing noise caused by movement.

- Privacy mask Function

The privacy zone function makes it possible to make specific areas of the scene from view.

- On Screen Display

This camera supports the OSD function. And so, the camera can be controlled by selecting text displayed on the monitor screen.

- DEBLUR

This function may reduce the blurring effects for the moving object, maintaining the shutter speed in the AGC works.

; normal type of AE is to control the AGC after hold back shutter, but In deblur mode AE is control the AGC with the specific shutter control value.

It may arise some noise caused of AGC works.

Specifically in indoor situation it may occur a color rolling effect of normal CMOS character by high shutter.

And also, If Sens-up & shutter & Deblur function are operated simultaneously, the priority function as follows; Sens-up, shutter, deblur mode.

- Output

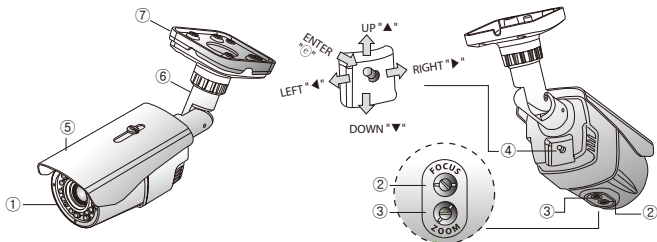
Digital output : HD-SDI

Analog output : NTSC, PAL Composite (without WDR)

- Protocol

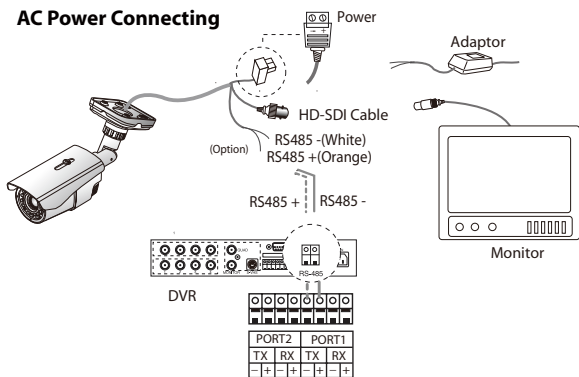
This camera supports the multi-protocol (Pelco-D, Pelco-P)

2. Names and Functions of Parts & Connecting



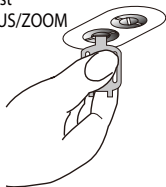
- ① IR LEDs
- ② Focus Handle
Used to provide for accurate of an object within the lens field of view
- ③ Zoom Handle
Used to adjust zoom magnification by turning
- ④ OSD (Joystick)
- ⑤ Sun-Shield
- ⑥ Bracket
- ⑦ Junction Box

AC Power Connecting



3. Installation

Adjust
FOCUS/ZOOM

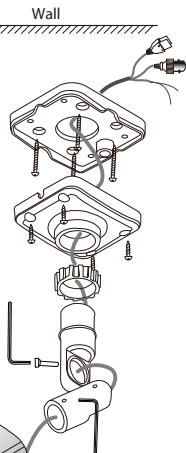
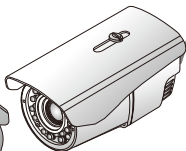
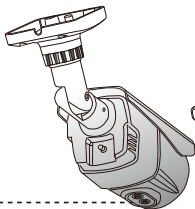


Please use enclosed adjusting kit to adjust the FOCUS / ZOOM. And lock the device tightly after adjusting focus and zoom. It is for waterproofing.

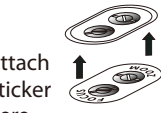
※ REMARKS

It is composed with very sensitive gear. The lens may become damaged so please do not turn too much when adjusting FOCUS/ZOOM.

Lock the device
tightly for
waterproofing



Attach
Sticker
here



※ CAUTION

Please attach the sticker included in accessory kit after finishing the adjustment. It can prevent from being controlled randomly.

4. How to Set up the Function

■ Main Menu

MENU	
EXPOSURE	↔
WDR/DNR	↑↓
WHITE BAL	↑↓
DAY/NIGHT	AUTO ↔
MOTION	OFF ↔
PRIVACY	OFF ↔
OPTION	↑↓
CAMERA SET	↑↓
LANGUAGE	ENGLISH
EXIT	

1. EXPOSURE
Adjust camera exposure.
2. WDR/DNR
The function is used to set the Back Light Compensation(BLC) and High Light Compensation(HLC) and Digital Noise Reduction(DNR).
3. WHITE BAL
This function is used to set the White Balance operation which adjusts the color scheme.
4. DAY/NIGHT
The function is used to set the Day/Night function which switches day/ Night mode automatically based on the level of illumination.
5. MOTION
The function is used to configure the Motion Detection operation and Alarm function which sense the movement of the scene.
6. PRIVACY
The function is used to configure up to 32 privacy masks, where the scene is prohibited or undesired to be viewed.
7. OPTION
Set up Reverse, Sharpness, D-ZOOM, etc.
8. CAMERA SET
Configure camera related functions and data such as Title, Communication, etc.
9. LANGUAGE
The function is used to select preferred one from the supported languages.
10. EXIT
SAVE: The function is used to save the various settings of the internal OSD menu in the EEPROM together.
RESET: The function initializes all the internal OSD menu settings.

■ EXPOSURE

This function can adjust the intensity of radiation incoming to the camera. Use the "▲" "▼" "◀" "▶" "ⓔ" switch to select a menu item.

EXPOSURE	
LENS	DC
BRIGHTNESS	■■■■ 10
MODE	INDOOR
SHUTTER	AUTO
FREQ	60HZ
AGC	■■■■ 10
SENS-UP	X2
SHADING	OFF
RETURN	


FUNCTION	OPTION	DESCRIPTION
LENS	DC MANUAL	DC (Auto IRIS Control) MANUAL(Electronic Shutter Control)
BRIGHTNESS	0~20	Sets the screen brightness
MODE	INDOOR OUTDOOR DEBLUR	Sets the Indoor/Outdoor IRIS IRIS+SHUTTER
SHUTTER	1/30(PAL:1/25) 1/60(PAL:1/50) 1/120(PAL:1/100) 1/240,~1/60K	Sets the screen shutter
FREQ	50HZ 60HZ	50Hz Input Frequency 60Hz Input Frequency
AGC	0~10	Sets the screen AGC
SENS-UP	OFF,x2,~x8	Sets the screen sens-up
SHADING	ON, OFF	Sets the Lens Shading

■ WDR/DNR

*Not CVBS output when WDR mode.

WDR/DNR	
MODE	D-WDR
WDR_WGT	-
BLC OSD	-
BLC POS-X	-
BLC POS-Y	-
BLC SIZ-X	-
BLC SIZ-Y	-
DNR	MIDDLE
HLC	OFF
RETURN	

WDR/DNR	
MODE	BLC
WDR_WGT	-
BLC OSD	OFF
BLC POS-X	7
BLC POS-Y	5
BLC SIZ-X	5
BLC SIZ-Y	7
DNR	MIDDLE
HLC	OFF
RETURN	

HLC	
LEVEL	 0
COLOR	BLK
RETURN	

FUNCTION	OPTION	DESCRIPTION
MODE	OFF,WDR,D-WDR,BLC	Select the Mode
WDR_WGT	0~4	Can be adjusted from Level 1 to 4.
BLC OSD	ON, OFF	BLC Area shows up on the screen
BLC POS-X	0~20	Set the position of BLC area.
BLC POS-Y	0~20	Set the position of BLC area.
BLC SIZ-X	0~20	Set the size of BLC area.
BLC SIZ-Y	0~20	Set the size of BLC area.
DNR	OFF,LOW,MIDDLE,HIGH	Set up 3D-DNR LEVEL
HLC	ON, OFF	Set up HLC
RETURN		

1. MODE

FUNCTION	OPTION	DESCRIPTION
MODE	OFF WDR D-WDR BLC	NOT USED WDR(Wide Dynamic Range) ON. Digital WDR(Digital Wide Dynamic Range) ON. BLC(Back Light Compensation)

2. BLC OSD

	WDR/DNR
MODE	BLC
WDR_WGT	-
BLC OSD	ON
BLC POS-X	7
BLC POS-Y	5
BLC SIZ-X	5
BLC SIZ-Y	7
DNR	MIDDLE
HLC	OFF
RETURN	

FUNCTION	OPTION	DESCRIPTION
BLC OSD	ON, OFF	Can be adjusted BLC area.
BLC POS-X	0~20	
BLC POS-Y	0~20	
BLC SIZ-X	0~20	
BLC SIZ-Y	0~20	

3. DNR

FUNCTION	OPTION	DESCRIPTION
DNR	OFF/LOW/ MIDDLE/HIGH	Can be adjusted DNR level (Digital Noise Reduction)

4. HLC

FUNCTION	OPTION	DESCRIPTION
HLC	OFF ON	Can be adjusted from Level 1 to 20 Can be adjusted color

■ WHITE BALANCE

WHITE BAL	
AWB	AUTO
CHROMA	■■■■ 12
RETURN	

AWB	
KELVIN	MIDDLE
R-GAIN	■■■■ 10
B-GAIN	■■■■ 10
RETURN	

FUNCTION	OPTION	DESCRIPTION
AWB	AUTO	MODE for using only Blue filter (IR Cut O.L.P.F)mode
	AUTO ext	MODE for using only IR Cut Coating filter (O.L.P.F)mode
	PUSH	
	MANUAL	

1. AWB

FUNCTION	OPTION	DESCRIPTION
AWB	AUTO	Auto trace white balance TDN lens Auto trace white balance
	AUTO ext	Can be changed in AWC mode only
	PUSH	When the set color temperature doesn't meet with user's environment, press the menu button long to adjust the color temperature to desired setting.
	MANUAL	Manual white balance

2. CHROMA

FUNCTION	OPTION	DESCRIPTION
CHROMA	0~20	Can be adjusted chroma

■ DAY/NIGHT

DAY/NIGHT	
THRESHOLD	■■■■ 8
MARGIN	■■■■ 12
DELAY	LOW
RETURN	

FUNCTION	OPTION	DESCRIPTION
AUTO	THRESHOLD	Sets the threshold for identifying the Night status from the Day status.
	MARGIN	Sets the margin for identifying the night status from Day status.
	DELAY	Sets the Night/Day identification transfer time.
	SMART IR	
DAY		Only Day
B&W	SMART IR	Only Night
EXT1	DELAY	External Input 1
	SMART IR	
EXT2	DELAY	External Input2
	SMART IR	

■ MOTION

MOTION	
RESOLUTION	▬▬▬▬ 1
SENSITIVITY	▬▬▬▬ 10
WINDOW USE	ON
WINDOW TONE	3
X-POS	19
Y-POS	8
X-SIZ	20
Y-SIZ	18
RETURN	

MOTION	
RESOLUTION	▬▬▬▬ 1
SENSITIVITY	▬▬▬▬ 10
WINDOW USE	OFF
WINDOW TONE	3
X-POS	19
Y-POS	8
X-SIZ	20
Y-SIZ	18
RETURN	

FUNCTION	OPTION	DESCRIPTION
RESOLUTION	0~4	The size of the detection area.
SENSITIVITY	0~20	Sets the motion detection sensitivity.
WINDOW USE	ON, OFF	Select area using
WINDOW TONE	0~6	Set the transparency of a window
X-POS	0~60	X Position
Y-POS	0~40	Y Position
X-SIZ	0~60	X Size
Y-SIZ	0~40	Y Size

■ PRIVACY

PRIVACY	
ZONE NO	0
ZONE OP	ON
X-POS	13
Y-POS	2
X-SIZ	4
Y-SIZ	4
COLOR	BLK
TRANS	4
RETURN	

FUNCTION	OPTION	DESCRIPTION
ZONE NO	0~31	Select 32 area using ◀▶ button
ZONE OP	ON, OFF	Show up PRIVACY AREA function on the screen
X-POS	0~60	X Position
Y-POS	0~40	Y Position
X-SIZ	0~40	X Size
Y-SIZ	0~40	Y Size
COLOR	CYN, GRN, MAG, RED, BLU, BLK, WHT, YEL	Can be selected COLOR mode
TRANS	0~40	Set the transparency of a color

■ OPTION

OPTION	
DE-FOG	OFF
D-OUT SCALE	FULL
D-OUT FORMAT	720P
D-OUT FPS	60
COLORBAR	OFF
CVBS	NTSC
SHARPNESS	5
MIRROR	OFF
FLIP	OFF
DZOOM	8
RETURN	

FUNCTION	OPTION	DESCRIPTION
DE-FOG	OFF,AUTO, MANUAL	Anti Fog Function
D-OUT SCALE	COMP, FULL	Digital output data scale(compression, full)
D-OUT FORMAT	720P, 1080P	Digital output format
D-OUT-FPS	50/60(720P), 25/30(1080P)	Digital output Frame per second
COLORBAR	ON, OFF	Test colorbar
CVBS	NTSC, PAL	CVBS output type
SHARPNESS	0~10	Select the resolution of the camera
MIRROR	ON, OFF	Set up the screen mirror
FLIP	ON, OFF	Set up the screen flip
DZOOM	0~96	Enlarge the screen with DIGITAL ZOOM

■ CAMERA SET

This function can set up Title, Version, Communication, etc.
Use the <>><>>switch to select a menu item.

CAMERA SET	
TITLE	←
TITLE DISPLAY	OFF
VERSION	HCM-4701-0A
GAMMA	■■■■■
COMMUNICATION	←
RETURN	

FUNCTION	OPTION	DESCRIPTION
TITLE	"e"	Sets Camera TITLE
TITLE DISPLAY	ON, OFF	Camera TITLE display ON/OFF
VERSION	-	Camera Version display
GAMMA	0~20	0(0.45) ~ 20(0.75)
COMMUNICATION	2400,4800,~115200	Select transmission speed

1. TITLE

The camera TITLE cursor moves



2. COMMUNICATION

A screenshot of a camera's internal OSD menu titled "COMMUNICATION". The menu items are listed as follows:

COMMUNICATION	
CAMERA ID	0
BAUDRATE	9600
PROTOCOL	Pelco-D
SAVE	
ID DISPLAY	OFF
RETURN	

FUNCTION	OPTION	DESCRIPTION
CAMERA ID	0~254	Sets camera ID
BAUDRATE	2400, 4800~115200	Select transmission speed
PROTOCOL	PELCO-D, PELCO-P	Select transmission protocol
SAVE	OK, NG	Save protocol. Not save protocol
ID DISPLAY	ON, OFF	Camera ID display ON/OFF

■ LANGUAGE

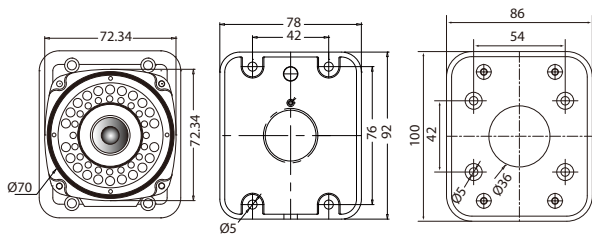
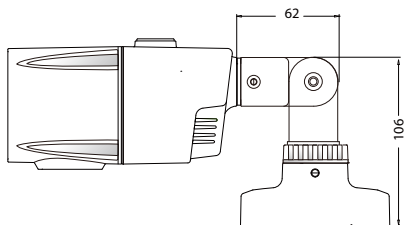
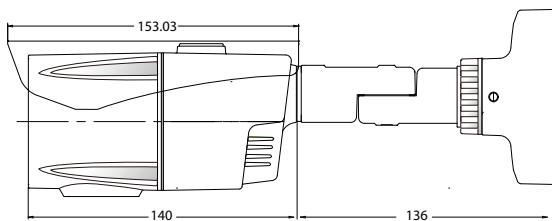
FUNCTION	OPTION	DESCRIPTION
LANGUAGE	ENGLISH, 中文, 日本語 ITALIANO, DEUTSCH, ESPANOL, RUSSIA	Selects the language in which to display the internal OSD menu

■ EXIT

FUNCTION	OPTION	DESCRIPTION
EXIT	SAVE	All the settings of the internal OSD menu are saved
	RESET	All the internal OSD menu settings are reset

5. Dimension

unit :mm



WALL MOUNT BRACKET

6. Specification

Image Sensor	1/3" Panasonic CMOS
Total Pixels	2010(H) x 1108(V) = 2,227,080 (pixel)
Active pixels	1944(H) x 1092(V) = 2,122,848 (pixel)
Scanning system	Progressive
Resolution	Digital ; 1920x1080p(1080p/30fps) , 1280x720p(720p/60fps)
	Analog : 700TVL
Min. illumination	Color : 1.0 lux , BW : 0.5lux
	Color DSS : 0.002 lux , BW DSS : 0.001 lux
Video Output	HD-SDI, BT.1120
	Analog : NTSC, PAL(without WDR)
S/N Ratio	more than 50dB (AGC off)
Function	
OSD	ENGLISH/FRANCAIS/ITALIAN/DEUTSCH/ESPAÑOL/日本語/ 中文/RUSSIAN/한국어
Day&Night	Auto/Day/B&W/EXT1/EXT2
ATW	1800 ~ 10500K
MODE	Indoor / Outdoor / Deblur
High Speed Shutter	1/30(1/25) ~ 1/60Ksec
WDR	2 ~ 4
D-WDR	Off/On
BLC	Off/ON (Size, Position)
HLC	Level Setting(0~20), Color
AGC	Level Setting(0~10)
D-Zoom	0~96 Steps
Camera ID	Off/On (Letters A to Z, Numerals 0 to 9, Symbols)
White Balance	AUTO / AUTOext / PUSH / MANUAL
DNR	3DNR, OFF/LOW/MIDDLE/HIGH
Motion Detection	Off/ON
Privacy Mask	32 Areas (On/Off, Color, Position)

Defog	Off / Auto / Manual
Sens-Up	x2 ~ x4
Etc. Function	
Sharpness, Reverse(H,V)	0~10, Off / On
ColorBar	Off / On
In/Output	Alarm Output
Video Output	
ANALOGUE	NTSC, PAL CVBS(without WDR)
HD-SDI(SMA CONNECTOR)	Video Output
IR	40 Units 850nm Infrared LED, 20,000hrs
Night View Distance	Outdoor 40m
Lens	ICR 2.8~10mm Mega Pixel Varifocal Lens
Cable	5C-2V 120m(Max)
Power Source	DC12V±10% , AC24V±10%
Power Consumption	DC12V 600mA / AC 24V 260mA
Operating Temperature	-10℃~ +50℃ (Humidity : 0%RH ~ 80%RH)
Storage Temperature	-20℃~ +60℃ (Humidity : 0%RH ~ 90%RH)

Design and specifications are subject to change without notice.