

.....
HIGH SENSITIVITY
.....

600TVL

OWNER'S MANUAL

- Diagonal 6mm (1/3") Sony IT CCD
- Ultra High Resolution (600TVL)
- Selectable, Day & Night
- OSD [On Screen Display]



COLOR CCD





DSP DIGITAL



CCD

DIGITAL COLOR

○ USER INFORMATION

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION ! TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance-(servicing) instructions in the literature accompanying the appliance.

THE GRAPHIC SYMBOLS WITH SUPPLEMENTAL MARKING ARE ON THE BOTTOM OF THE SYSTEM. "WARNING-TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE."

○ USER INFORMATION

INFORMATION

This equipment has been tested and found to comply with 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 their own expense.

WARNING

The manufacturer could void the user's authority to operate the equipment.

CAUTION

To prevent electric shock and risk of fire hazards:

- Do not use power sources except for that specified.
- Do not expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should abide to all local codes.

◎ CONTENTS

Thank you for purchasing this COLOR VIDEO CAMERA.

Before using this camera, please read this operation manual carefully to obtain the best result and keep this manual for future reference.

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◎ 1. SAFETY INSTRUCTIONS

Read Instructions

Read all of the safety and operating instructions before using the product.

Retain Instructions

Save this instructions for later use.

Cleaning

Unplug this appliance from wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

Water and Moisture.

Do not use this product near water or moisture. (For example. near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near swimming pool, etc.)

Installation

Do not place this product on an unstable cart, stand, or table. The product may fall causing serious injury to a child or adult, and damage to the product.

Use only with a cart or stand recommended by the manufacturer, or sold with the product. Mounting should follow the manufacturer's instructions, and should use a mounting accessory recommended by manufacturer.

Power source

This product should be operated only from the type of power source indicated on the marking label.

If you are not sure of the type of power supplied to your home, consult your dealer or local power company.

◎ 2. PRECAUTIONS

- **Do not install the camera in extreme temperature conditions.**
Do use the camera under conditions where temperatures are within -10°C to 50°C . Especially be careful for ventilation under high temperature.
- **Do not install or use the camera in an environment where the humidity is high.**
It can cause the image quality to be poor.
- **Do not install the camera under unstable lighting conditions.**
Severe lighting change or flicker can cause the camera to work improperly.
- **Never use the camera close to a gas or oil leak.**
It can cause malfunctions to occur.
- **Do not disassemble the camera.**
There are no user repairable parts inside.
- **Do not drop the camera or subject them to physical shocks.**
It can cause malfunctions to occur.
- **Never keep the camera face to strong light directly.**
It can damage CCD.
- **Do not expose the camera to rain or spill liquid on it.**
If it gets wet, wipe it with dry cloth immediately.
Liquids can contain minerals that corrode the electronic components.

**NOTE**

When this camera is installed near wireless communication devices that emits strong electromagnetic field, irregularity such as noise on the monitor may appear.

◎ 3. COMPOSITION

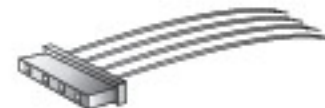
1. Color Video Camera



2. Auto Iris Lens Plug



3. Control Plug



4. Lens Mount Cap



5. Owner's Manual



◎ 4. FEATURES

1. Diagonal 6mm (1/3") Sony IT CCD

2. Min Illumination(F1.2)

- 0.1 LUX (COLOR)
- 0.03 LUX (B/W)

3. High performance menus for functions

- Ultra High Resolution (600TVL)
- SBLC (Super Back Light Compensation)
- DNR (Digital Noise Reduction)
- Privacy zone selectable.
- Motion detection selectable.
- MIRROR (HORIZONTAL)
- Flickerless On/Off.

4. Selectable, day & night

- ICR(OPTIONAL)

5. RS-485 Communication Control Support

- Remote OSD menu control via an RS-485 interface is supported.

◎ 5. NAME AND FUNCTIONS

● CS-Mount Holding Screw

Used to readjust back focus of the camera. There are two back focus lock screw. These must be loosened before the camera may be back focused. Loosen the lock screws using the L-wrench -mount lens adaptor, and tighten the lock screws after adjustment.

● Auto Iris Lens Connector

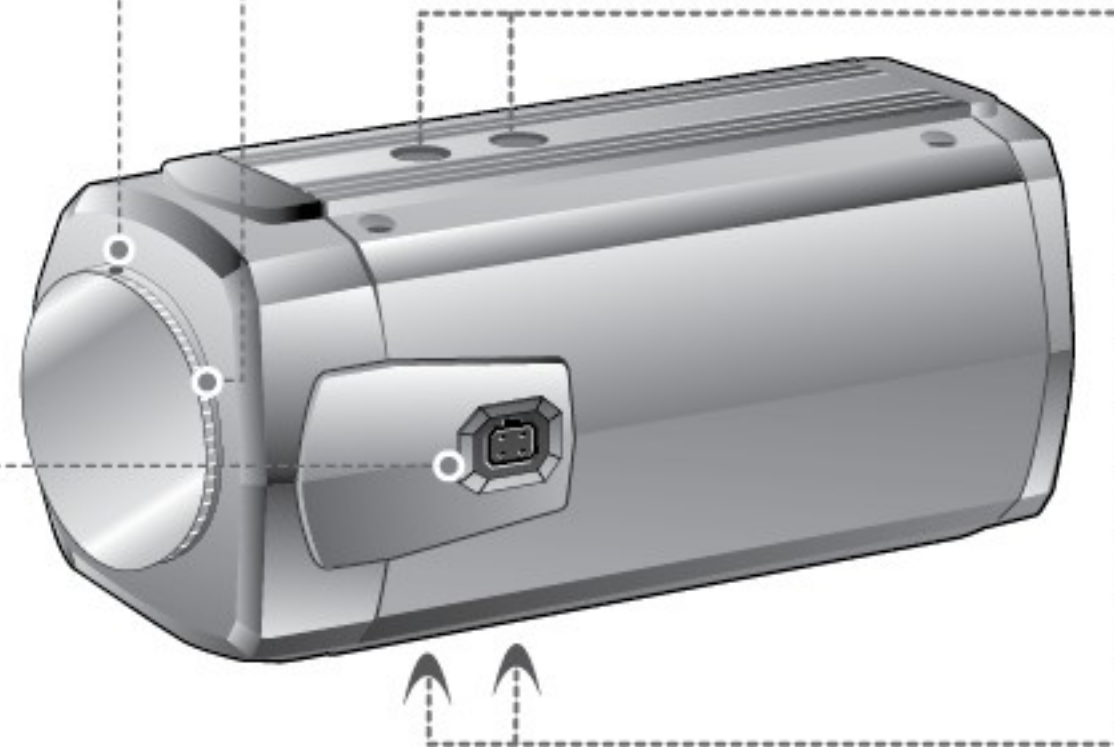
Used to connect Auto Iris Lens plug.

● Tripod Mounting hole

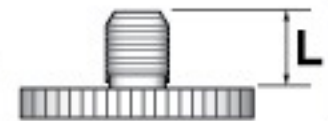
Used to install the camera on an optional tripod. The tripod must be equipped with the screw specified as shown below.

● CS-Mount Lens Adapter

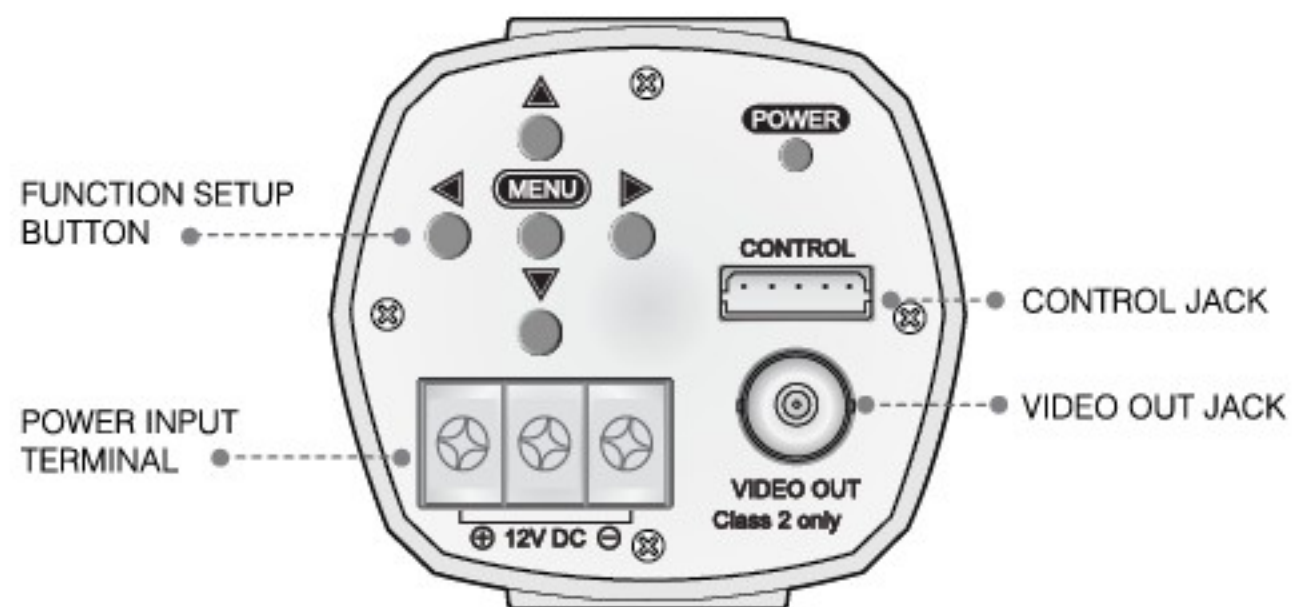
Used to attach CS-mount lens.



1/4"- 20 UNC (20 THREAD)
L : 4.5mm±0.2mm (ISO standard),
or 0.197" (ASA standard)



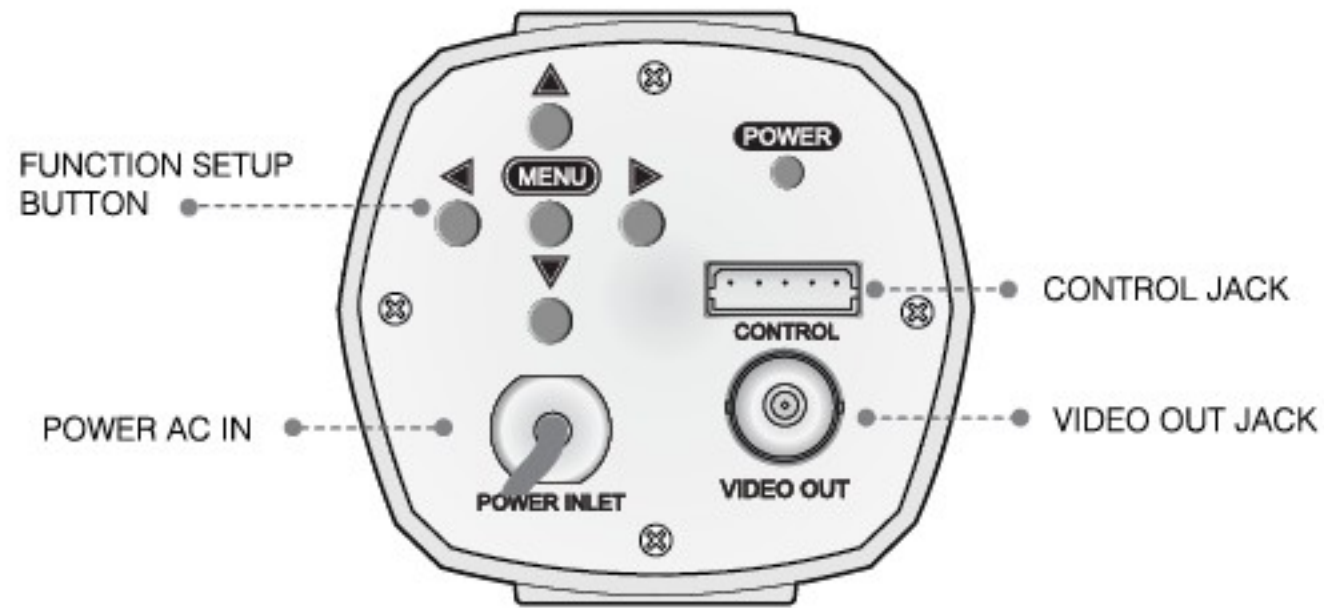
12V DC INPUT MODEL



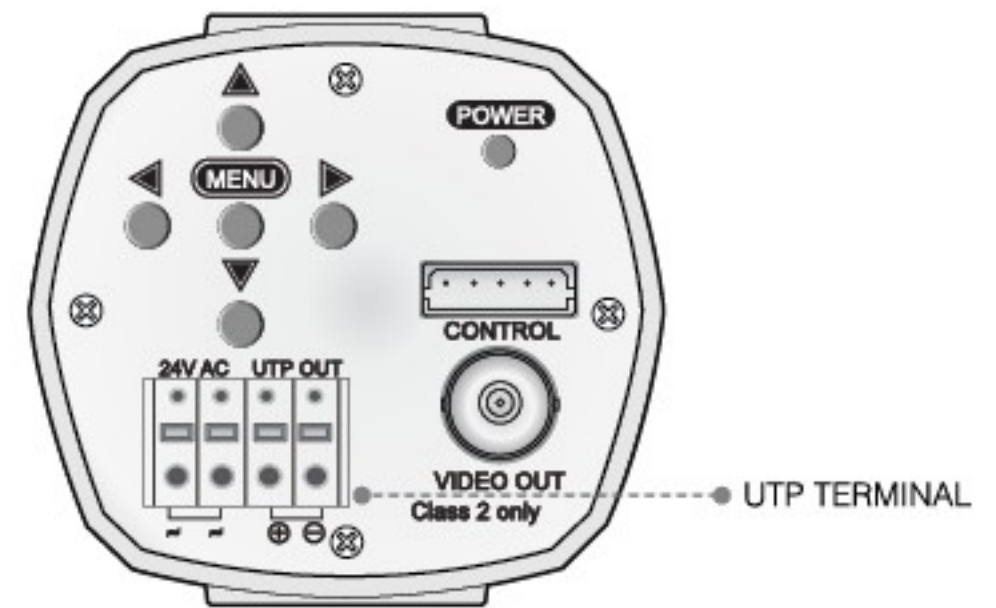
24V AC / 12V DC INPUT MODEL



100V AC ~ 220V AC INPUT MODEL



UTP TRANSMISSION MODEL



6. CONNECTIONS

LENS

The lens is not supplied with this camera. Purchase a lens suitable for your environment. This camera accepts the auto iris lens and both C-mount and CS-mount lens.



NOTE

- If the lens is marked with fingerprints or other marks, the image quality might be poor.
- It is recommended to use a high quality lens to improve the image quality under low illumination.
- For using main functions it is recommended to use Auto Iris Lens with DC type.

Installing Auto Iris Lens

1. Peel approximately 8mm from the end of the lens cable outer cover.

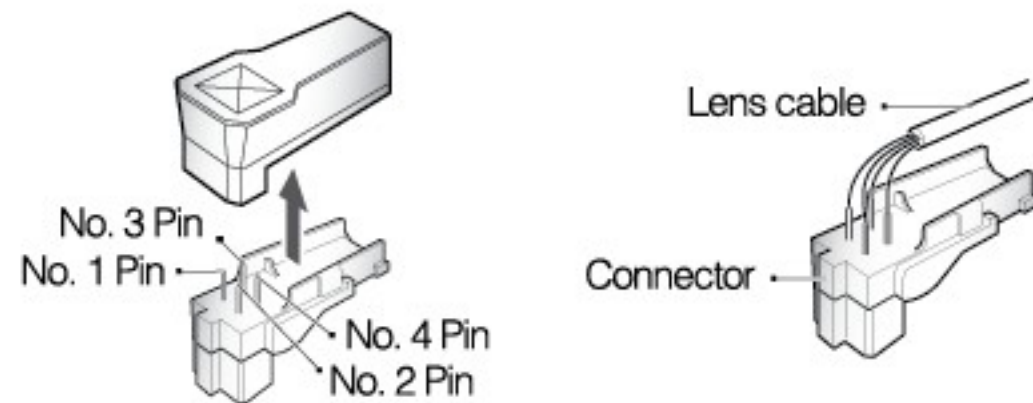


2. Peel approximately 2mm from the end of the cable inner cover.



3. Remove the cover from the iris lens plug supplied, and solder the lens cable to the plug as shown below.

PIN NUMBER	DC LENS
1	Damping -
2	Damping +
3	Drive +
4	Drive -



- 4. Remove the protective cap, and attach the lens to the camera by turning clockwise.**
- 5. Connect the lens plug to the auto iris connector on the side of the camera.**



Installing C/CS-Mount Lens

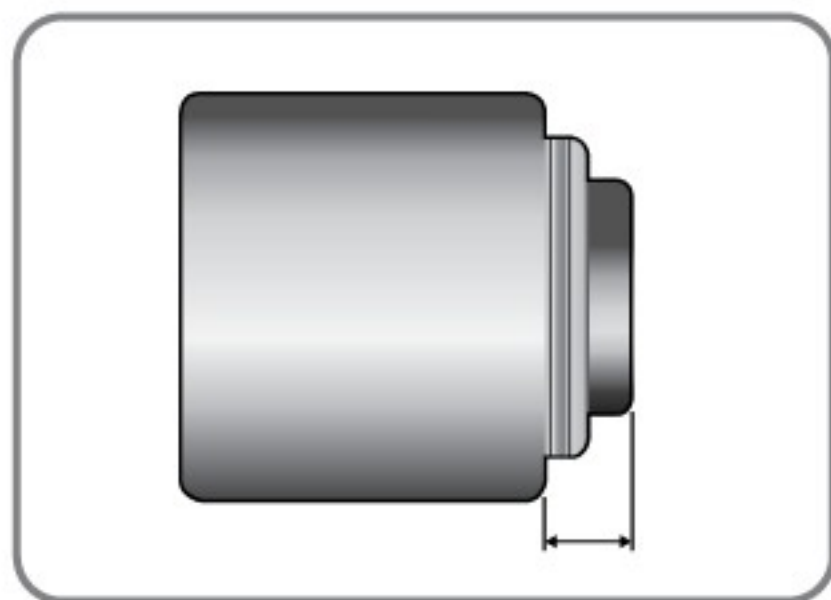
- **Before mounting a lens, please check whether it is a C-mount or CS-mount lens. The back focus is set for the CS-mount lens at the factory.**

Mounting a CS-Mount Lens

- **After removing the protecting cap, attach the lens into the camera by turning clockwise.**



- **Use the lens under the specification as shown. Otherwise the lens can damage the camera or abnormal fixing may result.**



- **C-mount lens : 10mm or less**
- **CS-mount lens : 5mm or less**

- **A heavy lens may disturb the balance with the camera and possibly result in damage. Don't use a lens heavier than 450g.**
- **It is recommended to set the lens ALC mode to Av mode (Average). Pk mode can be occurred hunting.**

Mounting a C-Mount Lens

1. Attach the C-MOUNT lens adapter by turning clockwise.



2. Attach the lens to the camera by turning clockwise.

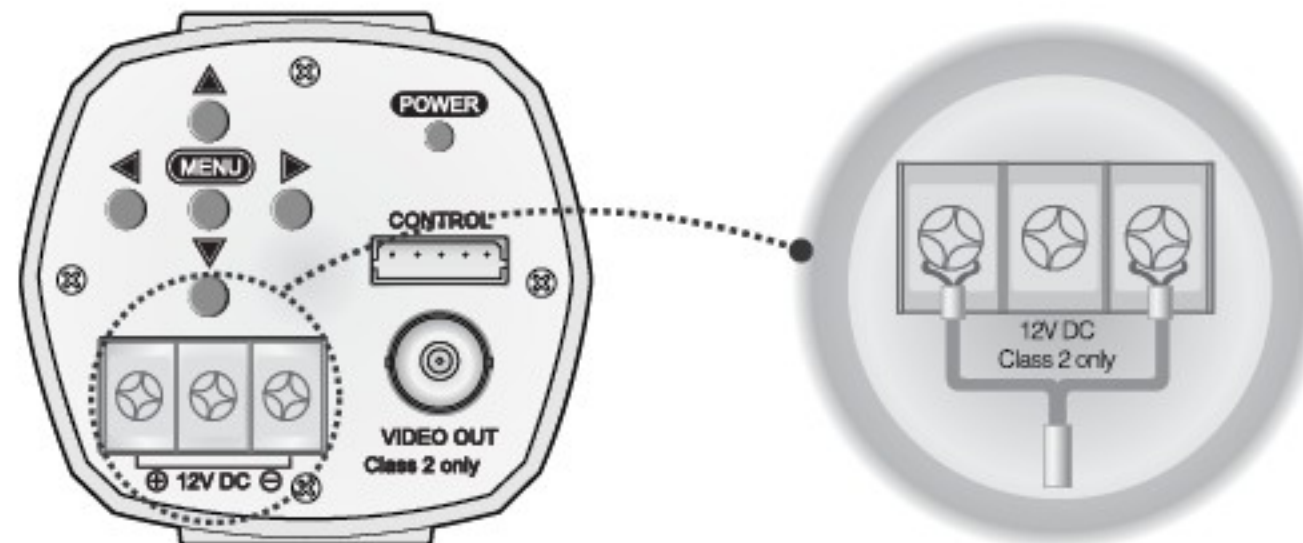


Connecting to Power

Each model has different power specification, please check the name of the model and power specification before connecting to power source. Please refer to the sticker identifying the model, which is attached on the product, for power specification.

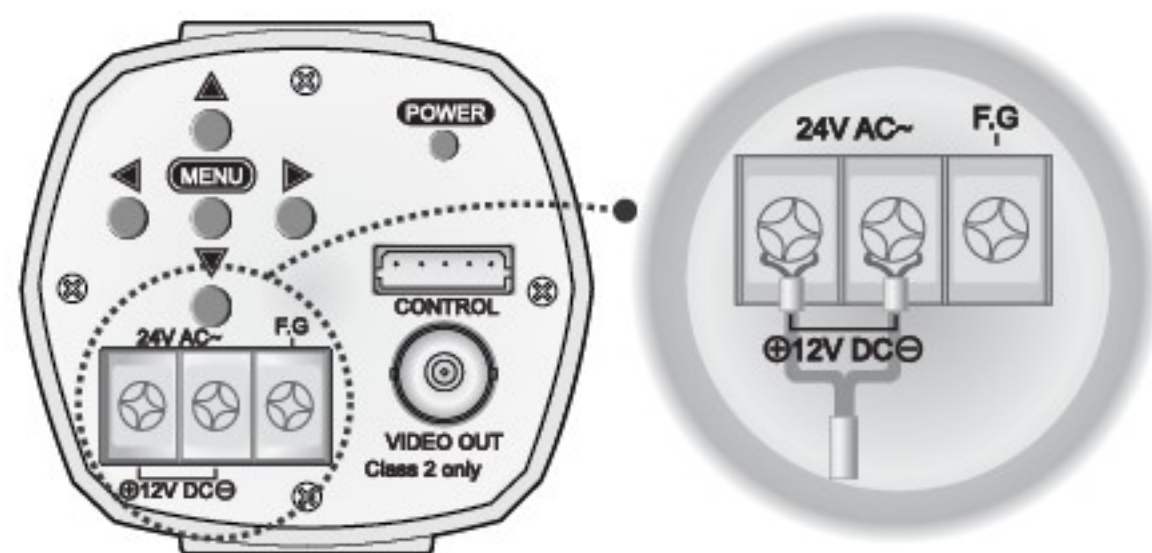
For 12V DC Power Type

The wire is polarized. Be careful of polarity. Use 12V DC power source.



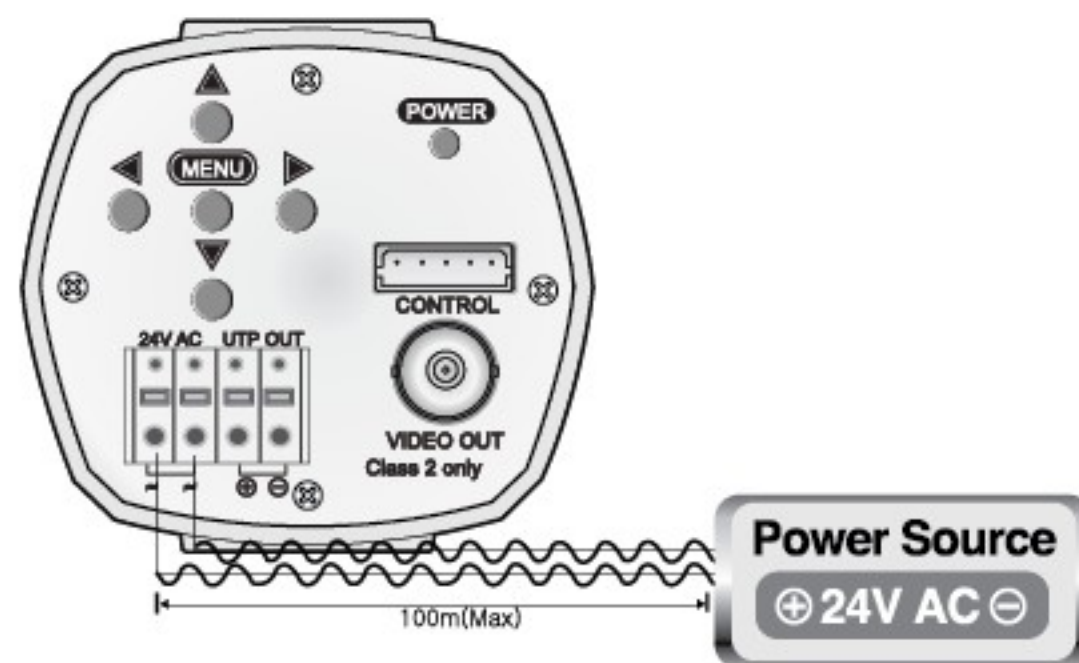
For 24V AC/ 12V DC Power Type

Use 24V AC power source or 12V DC power source.



For 24V AC Power Type [UTP Video Output]

When using 24V AC power, it is possible to supply the power within 100m. Use 4 wires by 2 pair of wires.



! NOTE

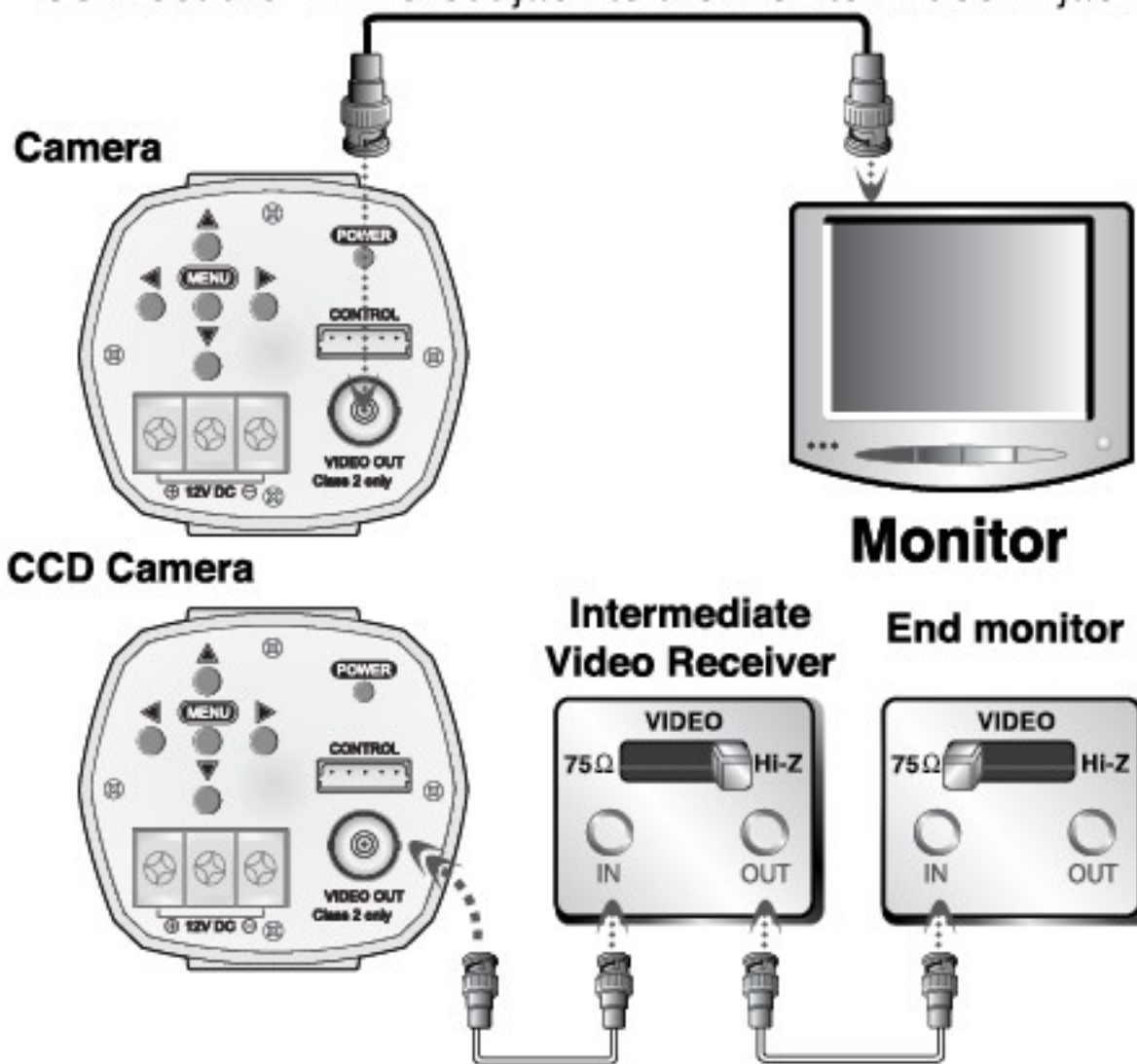
- Be sure to connect power after all the installation is done.
- Note that AC adaptor is not supplied with camera.
- Use only 24V AC / 12V DC UL listed class 2 power supply.
- Do not use power sources other than that specified.

For 100V AC ~ 240V AC Power Type

Connecting to Monitor

For BNC Video Output Model

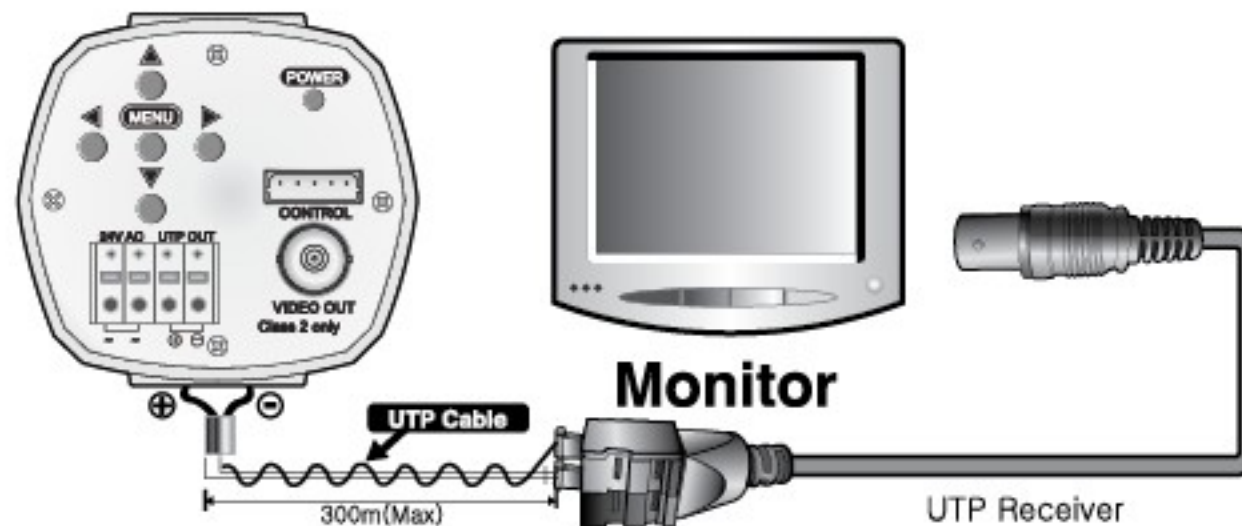
Connect the VIDEO out jack to the monitor video in jack.



- As the connecting method varies with the instruments, refer to the manual supplied with the instrument.
- Connect the cable after power is turned off.
- Set the 75Ω/ Hi-Z selection switch as shown below if you have an intermediate device.

For UTP Video Output Model

Connect the UTP video output terminal on the back of the product to the monitor.



- Connect UTP (Unshielded Twisted Pair) wire to the UTP output of the camera directly.
- UTP transmitter is included in the camera therefore additional UTP transmitter is not necessary.
- UTP receiver is necessary to connect UTP wire to Monitor or DVR.
- When connecting UTP wire, make sure the polarity of the video signal.
- Use UTP wire "CAT5 24AWG" to have the best transmission quality.
- The twisted-pair output cannot be used at the same time as the Composite Video output.

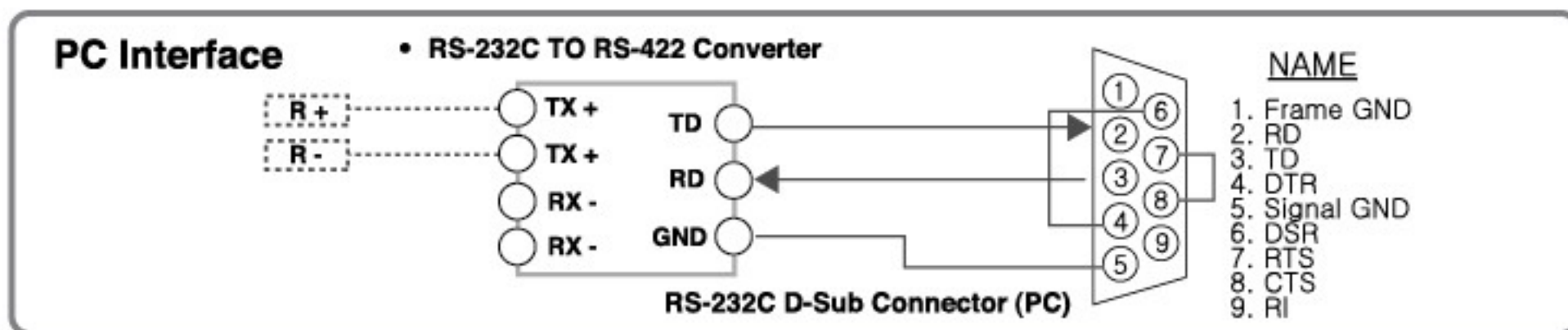
Control Jack



Control Input Jack (RS485)

It is a terminal that controls the function of the camera at long distance.

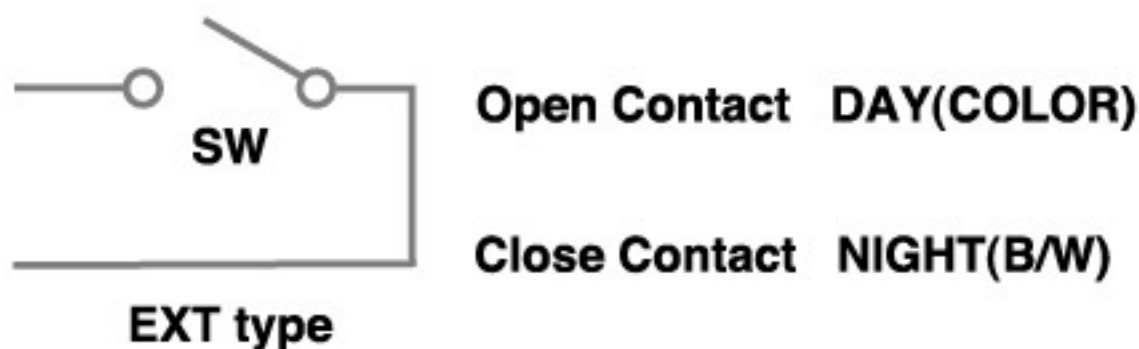
No.	Function
1	R + (RS-485)
2	R - (RS-485)
3	GND
4	GND
5	D/N EXT-IN



Day / Night EXT - IN

It is the function that can exchange COLOR or B/W when the Day / Night mode is set "EXT" on the OSD menu of the camera.

5	EXT-IN
3	GND



7. COMMUNICATION PROTOCOL

PELCO "D" Byte Format

FUNCTION	KEY UP (ZOOM TELE)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x00	0x20	0x00	0x00	CS
FUNCTION	KEY DOWN (ZOOM WIDE)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x00	0x40	0x00	0x00	CS
FUNCTION	KEY LEFT (ZOOM NEAR)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x01	0x00	0x00	0x00	CS
FUNCTION	KEY RIGHT (ZOOM FAR)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x00	0x80	0x00	0x00	CS

FUNCTION	KEY MENU (OSD MENU)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x00	0x23	0x00	0x5F	CS
FUNCTION	KEY DOWN (OSD MENU)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x00	0x03	0x00	0x5F	CS
FUNCTION	KEY MENU (OSD MENU)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
M S G	0xFF	ID	0x00	0x07	0x00	0x5F	CS

ID = 00hex : ID check skip mode(Camera will not check the camera ID.)
ID = 01hex ~ FFhex : ID check mode

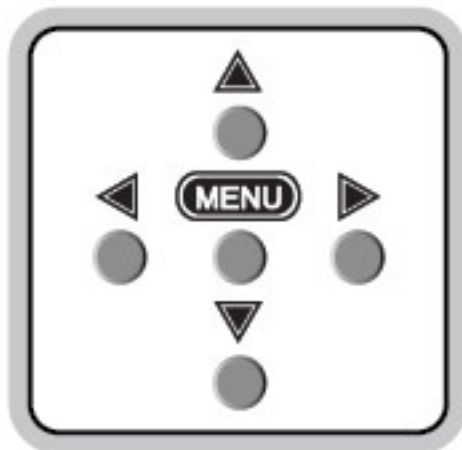
NOTE

(Camera will check the camera ID. If the ID contained in command packet isn't identical to the current camera ID, the received command will be ignored and deleted.)

8. OPERATING CAMERA

Function Setup Button

Functions can be set up using 5 buttons on the camera's rear panel.



- **MENU Buttons** : Used to access menu mode. Also used to escape menu mode.
- **UP/DOWN Buttons** : Used to choose the desired menu item. It also moves the cursor up or down in the menu screen.
- **LEFT/RIGHT Buttons** : Used to change the parameter of the selected menu item. It also moves the cursor the left or right in the menu screen.

LENS	ESC	BRIGHTNESS	0~20
		FLK	OFF, ON
	DC	DC LEVEL	0~20
		FLK	OFF, ON
	SHUTTER	1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/700, 1/1K, 1/1600, 1/2500 1/5K, 1/7K, 1/10K, 1/30K, 1/60K, 1/120K	
WHITE BAL	ATW		
	MANUAL	RED	0~160
		BLUE	0~160
PUSH			
AGC	ON	LEVEL	0~20
	OFF		
DAY / NIGHT	COLOR		
	B/W	BURST	OFF, ON
	EXT		
	AUTO	DELAY TIME	1~15

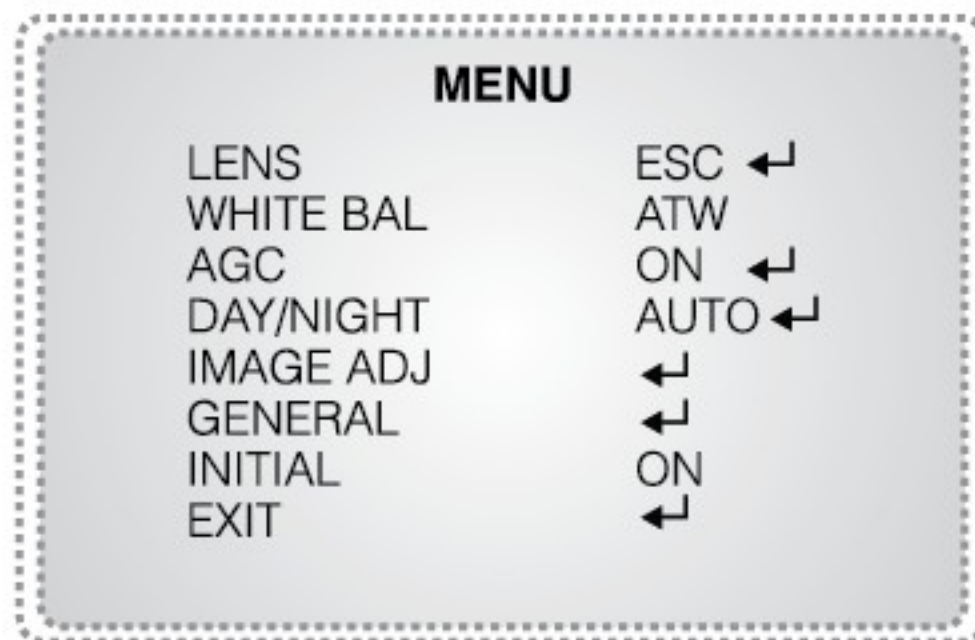
IMAGE ADJ	SBLC	OFF, LOW, MIDDLE, HIGH		
	DNR	OFF, LOW, MIDDLE, HIGH		
	SHARPNESS	LEVEL	0~20	
	MIRROR	OFF, ON		
	MOTION	AREA		1~4
		DISPLAY		OFF, ON
		SENSITIVITY		1~24
		TOP		8~126
		BOTTOM		8~126
		LEFT		4~191
		RIGHT		4~191
		INITIAL		OFF ←, ON
		RETURN		←
	PRIVACY	AREA		1~4
		DISPLAY		OFF, ON
		COLOR		WHITE, YELLOW, GREEN, BLUE, RED, BLACK, GRAY
		TOP		4~63
		BOTTOM		5~64
		LEFT		18~205
RIGHT			19~206	
INITIAL			OFF ←, ON	
RETURN		←		

IMAGE ADJ	COLOR GAIN	R-Y	0~20	
		B-Y	0~20	
	INITIAL		OFF ←, ON	
	RETURN		←	
GENERAL	CAM ID		0~255	
	ID DISPLAY		OFF, ON	
	CAM TITLE	OFF		
		ON		UP/ DN, LE/ RI
	LANGUAGE		ENG, CHN(PAL)	
	SYNC		INT	
	BAUDRATE		2400, 4800, 9600, 57600	
	VERSION			
	INITIAL		OFF ←, ON	
RETURN		←		
INITIAL			OFF ←, ON	
RETURN			←	

MAIN MENU

Press MENU button to access the SETUP menu.

Select each sub-menu by using the ◀, ▶, ▲, ▼ button.
Press the MENU(SET) button to select.

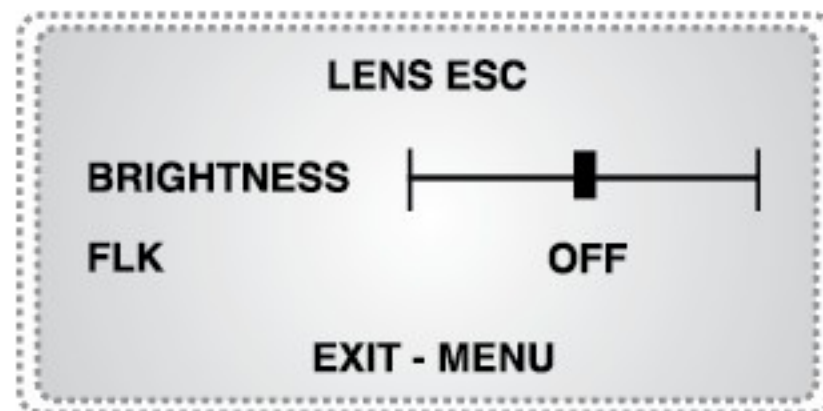


If the OSD MENU is changed then INITIAL will be OFF ←
(EXCEPT : LENS, CAM ID, BAUDRATE)

LENS ESC

- Select LENS using the UP or DOWN button. You can change between ESC and DC using the LEFT or RIGHT button.

Select ESC and Press MENU button to display LENS ESC.



1. BRIGHTNESS

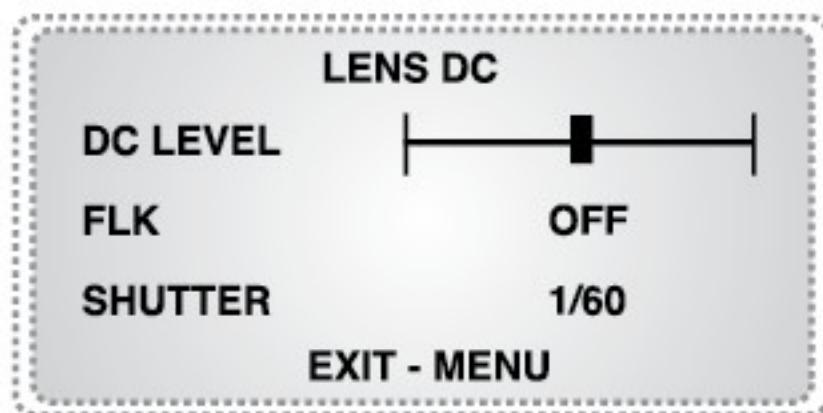
- Select BRIGHTNESS using the UP or DOWN button. You can adjust between 0 ~ 20 using the LEFT or RIGHT button.

2. FLK (FLICKERLESS)

- Select FLK using the UP or DOWN button. You can select between ON / OFF using the LEFT or RIGHT button.
- Hint: Press Menu to go back to Main Menu.

LENS DC

Select DC and Press the MENU button to have LENS DC activated .



1. DC LEVEL(Adjusts brightness of the image.)

- Select DC LEVEL using the UP or DOWN button. You can adjust between 0 ~ 20 level using the LEFT or RIGHT button.

2. FLK (FLICKERLESS)

- Select FLK using the UP or DOWN button. You can select between ON / OFF using the LEFT or RIGHT button.

> OFF : You will be allowed to adjust the shutter speed.

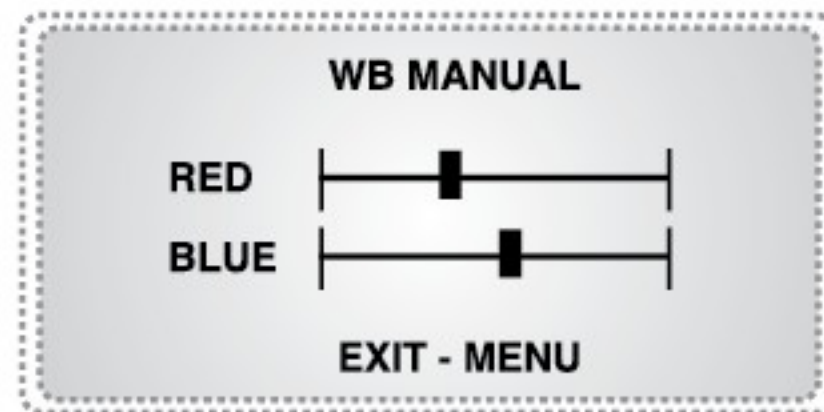
3. SHUTTER (Adjusts the shutter speed of the lens.)

- Select SHUTTER using the UP or DOWN button. You can adjust from 1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/700, 1/1K, 1/1600, 1/2500, 1/5K, 1/7K, 1/10K, 1/30K, 1/60K, 1/120K(sec) level using the LEFT or RIGHT button.

WHITE BAL (White Balance)

Select **WHITE BAL** using the **UP** or **DOWN** button. You can select from **ATW**, **MANUAL**, **PUSH** using the **LEFT** or **RIGHT** button.

1. **ATW** : Color temperature is automatically adjusted to 2.000K' ~ 10.000K'
2. **MANUAL** : To set a certain color temperature with RED CONT, BLUE CONT
 - Select **MANUAL** using the **UP** or **DOWN** button and press the **MENU** button to activate **WB MANUAL** option.



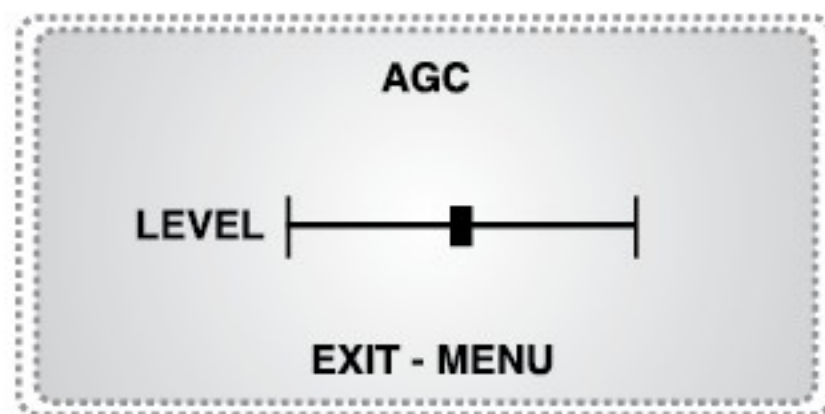
1. **RED** : To adjust density of RED (0~160)
2. **BLUE** : To adjust density of BLUE (0~ 160)

3. **PUSH** : If the set color temperature does not meet your environment, press the **MENU** button to adjust the color temperature to desired setting.

AGC (Automatic Gain Control)

Select AGC using the UP or DOWN button. You can select between OFF, ON using the LEFT or RIGHT button.

- 1. ON :** Select ON using the LEFT or RIGHT button and press the MENU button to activate AGC option.



1. LEVEL : You can adjust between 0 ~ 20 using the LEFT or RIGHT button.

- 2. OFF :** Disable the AGC

DAY / NIGHT

Select **DAY / NIGHT** using the **UP** or **DOWN** button. You can select between **AUTO**, **COLOR**, **B/W**, **EXT** using the **LEFT** or **RIGHT** button.

1. **COLOR** : for color mode only (DAY mode)
2. **B/W** : for BLACK and WHITE mode only (NIGHT mode)
 - Select B/W using the LEFT or RIGHT button and press the MENU button to activate COLOR BURST option.



It is possible to select ON/OFF using the LEFT or RIGHT button.

3. **EXT** : To switch between COLOR or BLACK and WHITE depending on external signals

NOTE: This function is not supported for this model. (Optional)

4. **AUTO** : To switch between COLOR or BLACK and WHITE automatically upon the illumination
 - Select AUTO using the LEFT or RIGHT button and press MENU button to activate CHANGE DELAY TIME option.



You can adjust the DELAY TIME from 1 ~ 15 using the LEFT or RIGHT button.



NOTE In Auto mode D&N camera using external IR may cause D&N filter to flicker.

IMAGE ADJ (Image Adjust)

Select **IMAGE ADJ** using the **UP** or **DOWN** button and press the **MENU** button to activate the **IMAGE ADJ** mode.

IMAGE ADJ	
SBLC	OFF
DNR	LOW
SHARPNESS	←
MIRROR	OFF
MOTION	←
PRIVACY	←
COLOR GAIN	←
INITIAL	ON
RETURN	←

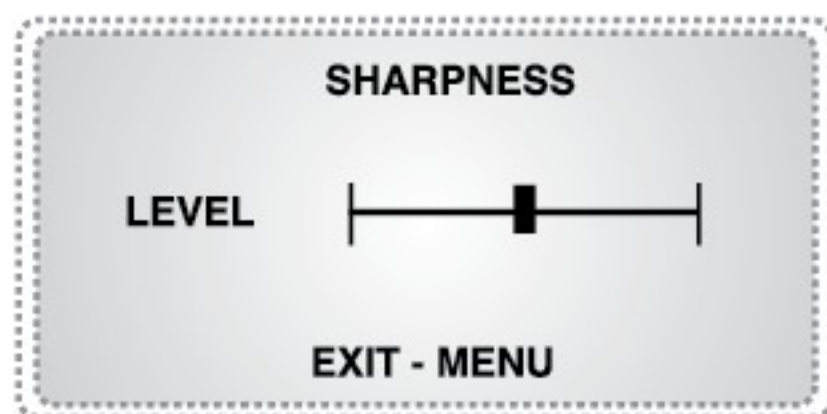
- 1. SBLC (Super Back Light Compensation)** : To lighten a darker part of the image
 - Select SBLC using the UP or DOWN button. You can select between OFF, LOW, MIDDLE, HIGH using the LEFT or RIGHT button.

2. DNR (Digital Noise Reduction) : To reduce the image noise especially during the low ambient lighting conditions.

- Select DNR using the UP or DOWN button. You can adjust between OFF, LOW, MIDDLE, HIGH using the LEFT or RIGHT button.

3. SHARPNESS : To adjust SHARPNESS of the image.

- Select SHARPNESS using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.
- Select ON and press the MEUN button to activate SHARPNESS option.



- You can adjust the sharpness from 0~20 using the LEFT or RIGHT button.

4. MIRROR

- Select MIRROR using the UP or DOWN button. You can select from ON/OFF using the LEFT or RIGHT button.
 - (1) ON : Horizontal image flip.
 - (2) OFF : default

5. MOTION (Motion Detect)

- Select MOTION using the UP or DOWN button and press MENU button to activate MOTION DETECT option.

MOTION	
AREA	1
DISPLAY	OFF
SENSITIVITY	5
TOP	19
BOTTOM	62
LEFT	13
RIGHT	89
INITIAL	ON
RETURN	↵

1) AREA : To specify MOTION DETECTION area

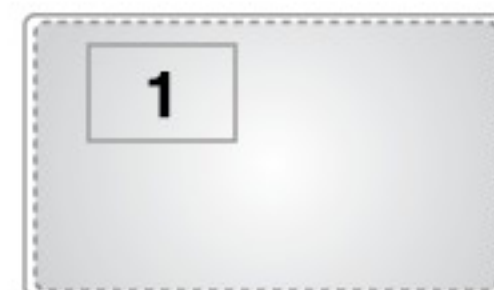
- Select AREA using the UP or DOWN button. You can select from area 1~4 position using the LEFT or RIGHT button.



2) DISPLAY : To display MOTION DETECTED area on the video

- Select DISPLAY using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.

- (1) ON : display the MOTION DETECTED area on the screen
- (2) OFF : disable



3) SENSITIVITY : To setup the motion sensitivity

- Select SENSITIVITY using the UP or DOWN button. You can adjust the motion sensitivity of a movement from 1~24 using the LEFT or RIGHT button.

- (1) 1 : most sensitive (highest)
- (2) 24 : least sensitive (lowest)

4) TOP / BOTTOM / LEFT / RIGHT : Users can specify MOTION DETECTED area.

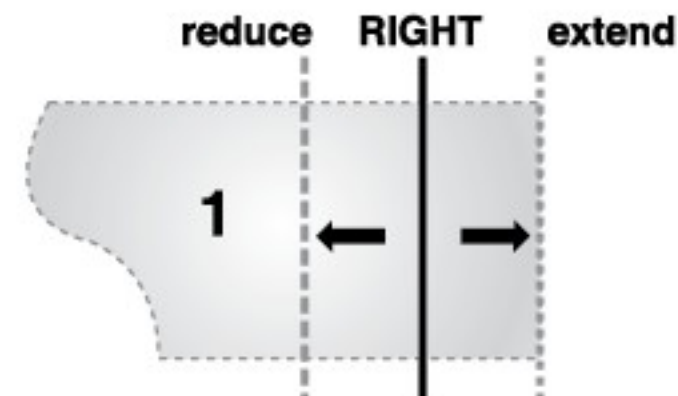
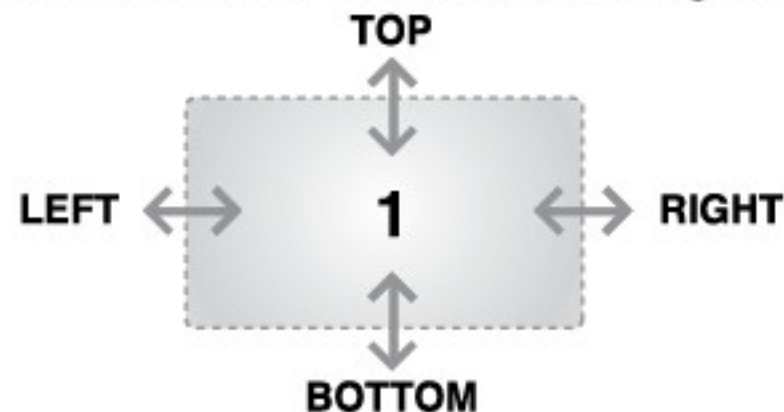
- Select TOP, BOTTOM, LEFT, or RIGHT using the UP or DOWN button. You can adjust the AREA using the LEFT or RIGHT button.

(1) TOP : extend or reduce the upper area of the MOTION DETECTED area (8~126)

(2) BOTTOM : extend or reduce the bottom area of the MOTION DETECTED area (8~126)

(3) LEFT : extend or reduce the left side of the MOTION DETECTED area (4~191)

(4) RIGHT : extend or reduce the right side of the MOTION DETECTED area (4~191)



5) INITIAL : To reset the MOTION DETECT mode.

- Select INITIAL using the UP or DOWN button. You can reset the MOTION DETECT mode using the MENU button.

6) RETURN :To return to IMAGE ADJ MENU

- Select RETURN using the UP or DOWN button. You can return to IMAGE ADJ MENU using the MENU button.

6. PRIVACY

- Select PRIVACY using the UP or DOWN button and press the MENU button to active the PRIVACY option.

PRIVACY	
AREA	1
DISPLAY	OFF
COLOR	WHITE
TOP	15
BOTTOM	31
LEFT	44
RIGHT	104
INITIAL	ON
RETURN	←

1) AREA : To specify the PRIVACY area

- Select AREA using the UP or DOWN button. You can select area from 1~4 position using the LEFT or RIGHT button.

**2) DISPLAY** : To display the Privacy Zone area

- Select DISPLAY using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.
 - (1) ON : display the Privacy Zone area
 - (2) OFF : disable

**3) COLOR** : To change color of privacy zone

- Select COLOR using the UP or DOWN button. You can adjust from WHITE, YELLOW, GREEN, BLUE, RED, BLACK, or GRAY using the LEFT or RIGHT button.

4) TOP / BOTTOM / LEFT / RIGHT : Users can specify PRIVACY ZONE area

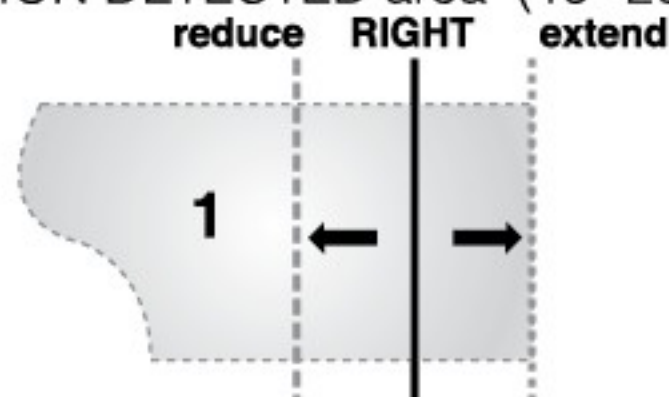
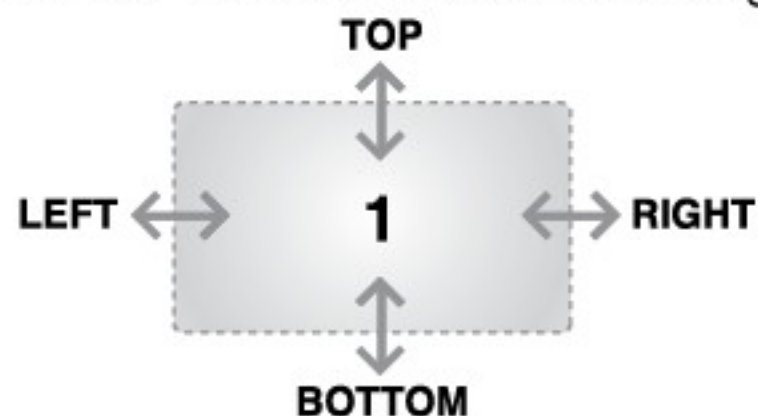
- Select TOP, BOTTOM, LEFT, or RIGHT using the UP or DOWN button. You can adjust the privacy zone using the LEFT or RIGHT button.

(1) TOP : extend or reduce the upper area of the MOTION DETECTED area (4~63)

(2) BOTTOM : extend or reduce the bottom area of the MOTION DETECTED area (5~64)

(3) LEFT : extend or reduce the left side of the MOTION DETECTED area (18~205)

(4) RIGHT : extend or reduce the right side of the MOTION DETECTED area (19~206)



5) INITIAL : To reset to factory default only on the PRIVACY mode.

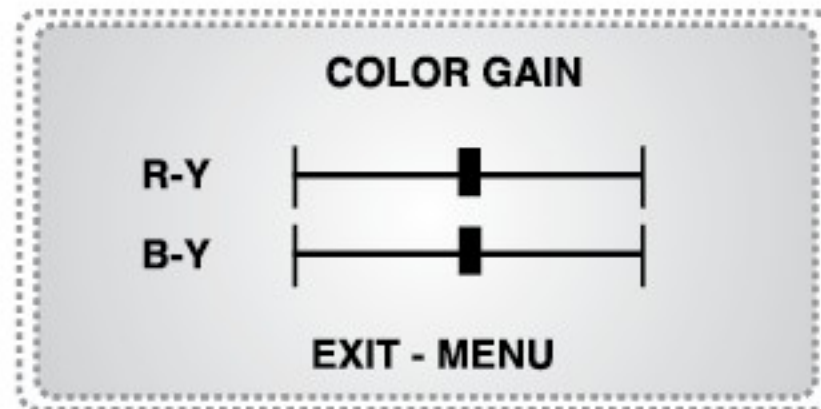
- Select INITIAL using the UP or DOWN button. You can reset the PRIVACY mode using the MENU button.

6) RETURN : To return to IMAGE ADJ MENU

- Select RETURN using the UP or DOWN button. You can return to IMAGE ADJ MENU using the MENU button.

7. COLOR GAIN

- Select COLOR GAIN using the UP or DOWN button and press MENU button to activate COLOR MODE option.



1. R-Y : To adjust density of RED (0~20)
2. B-Y : To adjust density of BLUE (0~20)

8. INITIAL : To reset to factory default only on the IMAGE ADJ mode

- Select INITIAL using the UP or DOWN button and reset the IMAGE ADJ mode using the MENU button.

9. RETURN :To return to MAIN MENU

- Select RETURN using the UP or DOWN button and return to MENU using the MENU button.

GENERAL

Select **GENERAL** using the **UP** or **DOWN** button and press the **MENU** button to activate the **GENERAL** mode.

GENERAL	
CAM ID	1
ID DISPLAY	OFF
CAM TITLE	OFF
LANGUAGE	ENG
SYNC	INT
BAUDRATE	2400
VERSION	
INITIAL	ON
RETURN	←

1. CAM ID : CAMERA ID (RS-485 Communication ID)

- Select CAM ID using the UP or DOWN button. You can select between the range 000~255 using the LEFT or RIGHT button.

NOTICE : CAM ID does not reset after user setting.

2. ID DISPLAY (CAMERA ID DISPLAY)

- Select ID DISPLAY using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.

- (1) ON : To display camera ID on the screen
- (2) OFF : disable

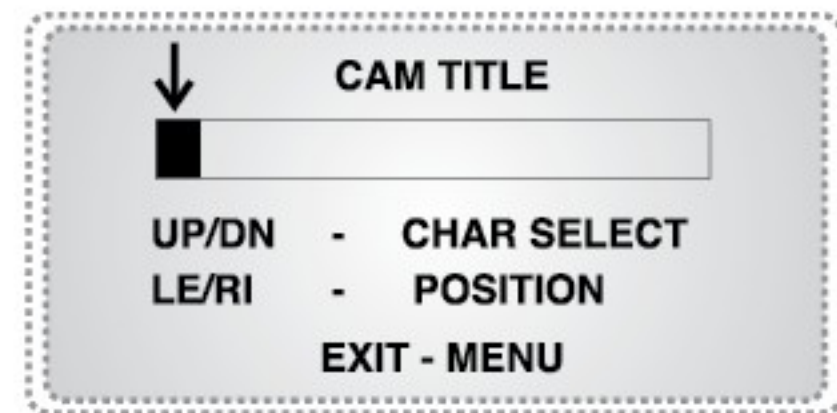
3. CAM TITLE

- Select CAM TITLE using the UP or DOWN button.
You can adjust ON/OFF using the LEFT or RIGHT button.

- (1) ON : To display the camera title on the screen
- (2) OFF : disable

- Select ON and Press MENU button to display CAM TITLE.

- (1) UP/DN : To select character using the UP or DOWN button (0~9,A~Z)
- (2) LE/RI : To select position using the LEFT or RIGHT button.



4. LANGUAGE

- Select LANGUAGE using the UP or DOWN button. You can change between ENG or CHN using the LEFT or RIGHT button.

5. SYNC

- Internal Synchronization Type : INT

6. BAUDRATE

- Select BAUDRATE using the UP or DOWN button. You can change from 2400bps, 4800bps, 9600bps, 57600bps using the LEFT or RIGHT button.

7. VERSION

8. INITIAL : To reset to factory default only on the GENERAL mode.

- Select INITIAL using the UP or DOWN button. You can reset to factory default for GENERAL mode using the MENU button.

9. RETURN : To return to MENU

- Select RETURN using the UP or DOWN button. You can return to the MENU using the MENU button.

INITIAL**To reset to factory default.**

- Select INITIAL using the UP or DOWN button and reset to factory default using the MENU button.

EXIT**To exit out from the OSD setup menu.**

- Select EXIT using the UP or DOWN button and close the OSD setup menu by pressing MENU button.

MODEL	HIGH RESOLUTION		NORMAL RESOLUTION	
	NTSC	PAL	NTSC	PAL
Signal System	NTSC	PAL	NTSC	PAL
Image Sensor	1/3 interline CCD			
Effective Pixels	768(H)x494(V)	752(H)x582(V)	510(H)x492(V)	500(H)x582(V)
Video Output	Composite : 1.0V p-p, 75Ω			
Sync. System	Internal Sync			
Luminance S/N Ratio	50dB Min.(AGC off)			
Horizontal Resolution	600 TVLines (BW 650 TVLines)		400 TVLines (BW 420 TVLines)	
Sensitivity	0.1 Lux (color) / 0.03 Lux (B/W)		0.05 Lux (color) / 0.01 Lux (B/W)	
ESC	(NTSC-1/ 60 ~ 1/ 120,000), (PAL - 1/ 50 ~1/ 120,000)			
Manual Shutter	1/ 60(1/50), 1/120(1/100), 1/ 250, 1/ 500, 1/ 700, 1/ 1K, 1/ 1.6K, 1/ 2.5K, 1/ 5K, 1/ 7K, 1/ 10K, 1/ 30K, 1/ 60K, 1/ 120K			
DNR	OFF, LOW, MIDDLE, HIGH			
White Balance	ATW, MANUAL , PUSH			
SBLC	OFF, LOW, MIDDLE, HIGH			
AGC	ON, OFF			

12V DC Input Model


Day / Night	AUTO, COLOR, B/W, EXT
Burst	ON, OFF
Motion Detection	ON, OFF (4 Programmable Zone)
Privacy	ON, OFF (4 Programmable Zone)
Mirror	ON(HORIZONTAL), OFF
Sharpness	1 ~ 20
Communication	RS-485 (Pelco-D, CNB)
OSD Language	English / Chinese
Applicable Lens	DC Iris / Manual Lens
Supply Voltage	12V DC (+10% -20%)
Power Consumption	180mA / 2.2W (Max)
Operating Temperature/ Humidity	-10°C to +50°C / 30% to 80% RH
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 90% RH
External Dimensions	65(W) x 59.6(H) x 112.5(D)mm
Weight	Approx. 340g

24VAC / 12VDC
Input Model

MODEL	HIGH RESOLUTION		NORMAL RESOLUTION	
	NTSC	PAL	NTSC	PAL
Signal System	NTSC	PAL	NTSC	PAL
Image Sensor	1/3 interline CCD			
Effective Pixels	768(H)x494(V)	752(H)x582(V)	510(H)x492(V)	500(H)x582(V)
Video Output	Composite : 1.0V p-p, 75Ω			
Sync. System	Internal Sync			
Luminance S/N Ratio	50dB Min.(AGC off)			
Horizontal Resolution	600 TVLines (BW 650 TVLines)		400 TVLines (BW 420 TVLines)	
Sensitivity	0.1 Lux (color) / 0.03 Lux (B/W)		0.05 Lux (color) / 0.01 Lux (B/W)	
ESC	(NTSC-1/ 60 ~ 1/ 120,000), (PAL - 1/ 50 ~1/ 120,000)			
Manual Shutter	1/ 60(1/50), 1/120(1/100), 1/ 250, 1/ 500, 1/ 700, 1/ 1K, 1/ 1.6K, 1/ 2.5K, 1/ 5K, 1/ 7K, 1/ 10K, 1/ 30K, 1/ 60K, 1/ 120K			
DNR	OFF, LOW, MIDDLE, HIGH			
White Balance	ATW, MANUAL , PUSH			
SBLC	OFF, LOW, MIDDLE, HIGH			
AGC	ON, OFF			

24VAC / 12VDC
Input Model


Day / Night	AUTO, COLOR, B/W, EXT
Burst	ON, OFF
Motion Detection	ON, OFF (4 Programmable Zone)
Privacy	ON, OFF (4 Programmable Zone)
Mirror	ON(HORIZONTAL), OFF
Sharpness	1 ~ 20
Communication	RS-485 (Pelco-D, CNB)
OSD Language	English / Chinese
Applicable Lens	DC Iris / Manual Lens
Supply Voltage	24V AC (20V~28V), 12V DC(11V~15V)
Power Consumption	300mA / 3.6W (Max)
Operating Temperature/ Humidity	-10°C to +50°C / 30% to 80% RH
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 90% RH
External Dimensions	65(W) x 59.6(H) x 112.5(D)mm
Weight	Approx. 340g

COLOR VIDEO CAMERA

**100V AC ~ 240V AC
Input Model**

MODEL	HIGH RESOLUTION		NORMAL RESOLUTION	
Signal System	NTSC	PAL	NTSC	PAL
Image Sensor	1/3 interline CCD			
Effective Pixels	768(H)x494(V)	752(H)x582(V)	510(H)x492(V)	500(H)x582(V)
Video Output	Composite : 1.0V p-p, 75Ω			
Sync. System	Internal Sync			
Luminance S/N Ratio	50dB Min.(AGC off)			
Horizontal Resolution	600 TVLines (BW 650 TVLines)		400 TVLines (BW 420 TVLines)	
Sensitivity	0.1 Lux (color) / 0.03 Lux (B/W)		0.05 Lux (color) / 0.01 Lux (B/W)	
ESC	(NTSC-1/ 60 ~ 1/ 120,000), (PAL - 1/ 50 ~1/ 120,000)			
Manual Shutter	1/ 60(1/50), 1/120(1/100), 1/ 250, 1/ 500, 1/ 700, 1/ 1K, 1/ 1.6K, 1/ 2.5K, 1/ 5K, 1/ 7K, 1/ 10K, 1/ 30K, 1/ 60K, 1/ 120K			
DNR	OFF, LOW, MIDDLE, HIGH			
White Balance	ATW, MANUAL , PUSH			
SBLC	OFF, LOW, MIDDLE, HIGH			
AGC	ON, OFF			

100V AC ~ 240V AC
Input Model


Day / Night	AUTO, COLOR, B/W, EXT
Burst	ON, OFF
Motion Detection	ON, OFF (4 Programmable Zone)
Privacy	ON, OFF (4 Programmable Zone)
Mirror	ON(HORIZONTAL), OFF
Sharpness	1 ~ 20
Communication	RS-485 (Pelco-D, CNB)
OSD Language	English / Chinese
Applicable Lens	DC Iris / Manual Lens
Supply Voltage	100V AC ~ 240V AC
Power Consumption	30mA ~ 40mA
Operating Temperature/ Humidity	-10°C to +50°C / 30% to 80% RH
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 90% RH
External Dimensions	65(W) x 59.6(H) x 112.5(D)mm
Weight	Approx. 430g

10. TROUBLESHOOTING

If you have trouble operating your camera, refer to the following guidelines. If the guidelines do not help you to solve the problem, contact an authorized technician.

Nothing appears on the screen

- Check that the power cord and line connection between the camera and monitor are fixed properly.
- Check that you have properly connected VIDEO cable to the camera VIDEO output jack.

The image on the screen is dim

- Is lens stained with dirt? Clean your lens with soft, clean cloth.
- Set the monitor to proper condition.
- If the camera is exposed to too strong light, change the camera position.
- Adjust the lens' focus properly.

The image on the screen is dark

- Adjust the contrast feature of the monitor.
- If you have an intermediate device, set the 75Ω / Hi-z properly.
- Adjust DC Level

The camera is not working properly, and the surface of the camera is hot.

- Check that you have properly connected the camera to an appropriate power source.

The image on the screen flickers.

- Check whether the camera is exposed to strong sunlight or fluorescent lighting.

MEMO

MEMO

MEMO

COLOR VIDEO CAMERA

DIGITAL COLOR VIDEO CAMERA SERIES

P/N : 3810-0193A (Ver.0909E)

Design and specifications are subject to change without notice.

