

Color Zoom Camera
USER'S MANUAL
Version 2.0.0

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.

This manual is applicable to **DS-2CZ232P/N, DS-2CM232P/N, DS-2CZ252P/N, DS-2CM252P/N, DS-2CZ282P,**
and **DS-CZ292P** series color zoom cameras.

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.



Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into “Warnings” and “Cautions”

Warnings: Serious injury or death may cause if any of the warnings is neglected.

Cautions: Injury or equipment damage may cause if any of the cautions is neglected.

Warnings Follow these safeguards to prevent serious injury or death.	Cautions Follow these precautions to prevent potential injury or material damage.



Warnings

1. In the use of the product, you must be strict compliance with the electrical safety regulations of the nation and region.
2. Input voltage should meet both the SELV(Safety Extra Low Voltage) and the Limited Power Source with AC 24V or DC 12V according to the IEC60950—1 standard. Please refer to technical specifications for detail information.
3. Do not connect several devices to one power adapter as adapter overload may cause over-heat or fire hazard.
4. Please make sure that the plug is firmly connected on the power socket.
5. When the product is mounted on wall or ceiling, the device shall be firmly fixed.
6. If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.
7. If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)



Cautions:

1. Make sure the power supply voltage is correct before using the camera.
2. Do not drop the camera or subject it to physical shock.
3. Do not touch CCD (Charge Coupled Device) modules with fingers. If cleaning is necessary, use clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period, please turn on the lens cap to protect the CCD from dirt.
4. Do not aim the camera at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of CCD at the same time.
5. The CCD may be burned out by a laser beam, so when any laser equipment is on using, make sure that the surface of CCD will not be exposed to the laser beam.
6. Do not place the camera in extremely hot, cold(the operating temperature shall be $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$), dusty or damp locations, and do not expose it to high electromagnetism radiation.
7. To avoid heat accumulation, good ventilation is required for operating environment.
8. Keep the camera away from liquid while on using.
9. While on a delivery, the camera shall be packed in its original packing, or packing of the same texture.
10. Regular part replacement: a few parts (e.g. electrolytic capacitor) of the equipment shall be replaced regularly according to their average enduring time. The average time varies because of differences between operating environment and using history, so regular checking is recommended for all the users. Please contact with your dealer for more details.

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CHAPTER 1

Introduction

1.1 Product Features

DS-2CZ232P(DS-2CM232P),DS-2CZ252P(DS-2CM252P) series are high performance cameras which adopt 1/4" SONY Interline Transfer Super HAD CCD and advanced print circuit board design technology, and possess of high resolution, lower distortion, and lower noise features. They are extremely suitable for surveillance system and image process system.

Features:

- Digital signal process camera (DSP), 480TVL;
- DS-2CZ232P and DS-2CM232P series hold 22X optics variable focus and auto focus functions;
- DS-2CZ252P and DS-2CM252P series hold 23X Optics variable focus and auto focus functions;
- DS-2CZ232P and DS-2CM232P series with Iris F1.6, f=3.9-85.8mm;
- DS-2CZ252P and DS-2CM252P series with Iris F1.6, f=3.84-88.4mm;
- Support automatic electron shutter, auto iris/ manual iris, automatic/manual white balance;
- High S/N ratio, support color black/white auto switch function;
- High color rendition;
- Support back light compensation, automatic electron gain;
- Support motion detection;
- Support RS-485/wire remote control;
- Support OSD menu and parameters configuration;
- Support internal synchronization;
- Support PAL standard;
- DC12V±10% power supply;

1.2 Side Plate of the Camera

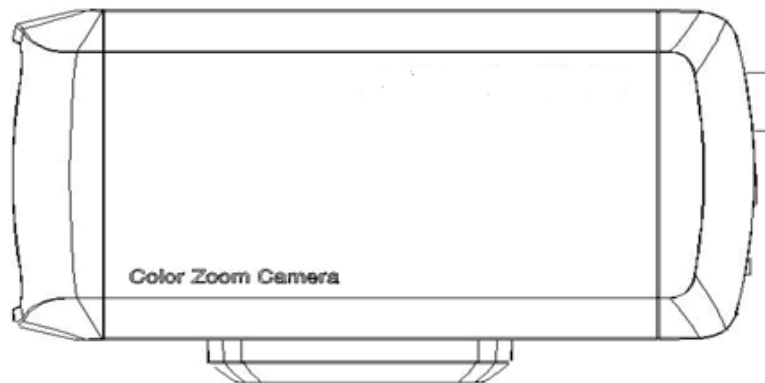


Figure 1.1 DS-2CZ232P side plate



Figure 1.2 DS-252P side plate

1.3 Rear Plate of the Camera

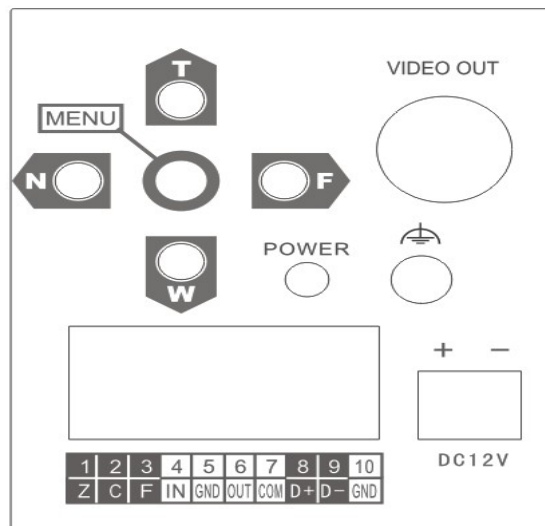


Figure 1.3 Rear plate of DS-232P and DS-252P

1.4 Chief Introduction about Function

Motion Detection: In the surveillance area, the appearing motion object will trigger alarm. User can select suitable sensitivity level with corresponding environment.

Color B/W auto switch: The camera will display color image and become monochrome automatically at night.

AGC: When object being shot look dim, please turn on AGC. It is propitious to enhance brightness. To output standard video under different illumination, the range of auto gain control must be large enough. When under low illumination, AGC will increase camera's sensitivity, and output bright and clear video.

S/N ratio: It is the ratio of Signal voltage and noise voltage. The ratio is larger, the effect of noise is less, and the image is more spotless.

OSD (On Screen Display): The camera supports friendly menu interface on the screen, and it's convenient for user selecting expected function.

White Balance: Because the camera could not adjust the color temperature according to the light alteration as the eyes, that will cause color deviation. White balance is the white rendition ability of the camera to adjust the problem according to the environment automatically.

ICR Auto Switch: The filter will filter infrared light during the daytime and change to normal filter at night to ensure a high sensitivity and clear image.

BLC: If there is glaring light in the background of the object being shot, the object will look very dim. In this situation, turning on BLC function will make the object look bright and clear, but the background scene will be overexposure.



BLC OFF

BLC ON

CHAPTER 2

Installation

Before mounting, please make sure that the device in the package is in good condition and all the assembly parts are complete.

2.1 Lens

The lens of the automatic focus camera were installed inside of the camera, 232 series cameras with $f=3.9-85.8\text{mm}$, 252 series cameras with $f=3.84-88.4\text{mm}$.

2.2 Rear Plate Definition

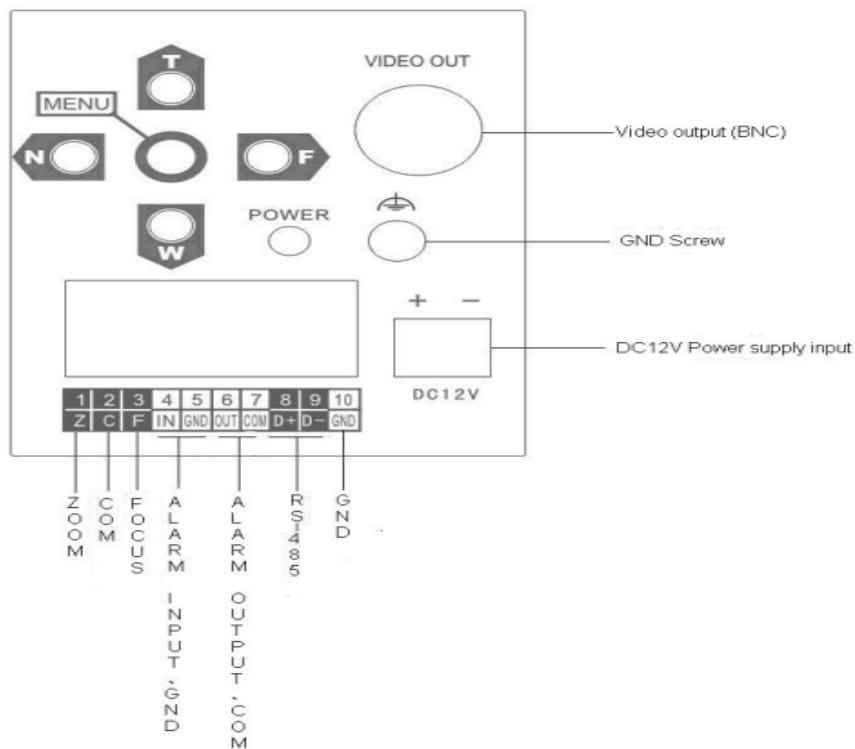


Fig. 2.1 Rear plate definition of DS-2CZ232P and DS-2C252P

2.3 Power Supply

Before electrify the camera, please check the power supply. The power supply of the camera should be $\text{DC}12\text{V}\pm 10\%$. Please refer to the specification for the details.

CHAPTER 3

Menu Description of 232 series

The menu functions of the DS-2CZ232P/N will be introduced in this chapter. The first part is the instruction of keys and menu structure, the second part is to introduce the menu functions of all the items.

3.1 Keys Introduction

In this section, it will introduce the keys on the rear plate.

3.1.1 Setting buttons

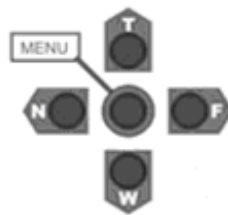


Fig 3.1 The keys of camera

There are two work modes for the setting buttons: Common and Menu modes. Each of them has its own function.

Common mode:

T/W button: Tele/ wide zoom operation.

N/F button: Manual variable zoom, near/ far.

Menu button: Menu mode switch. Pressing MENU key for 2 seconds, it will enter menu setting mode.

Menu mode:

T/W button: Move the cursor up/down.

N/F button: Move the cursor left/right.

Menu button: Select options, and confirm the current value.

3.1.2 Zoom/Focus Wire Remote Control

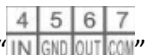


“D+D-” RS-485, support PELCO-D protocol.


Default setting requirements:

- Signal transmission speed:2400bit/s
- Protocol: PELCO-D
- Data bit: 8bit
- Stop bit: 1bit
- Parity bit: None

3.1.3 Alarm in, GND, Alarm output, Alarm output Com


 When motion detection module detects moving objects, it will trigger alarm signal.

3.1.4 Power supply


 Before connecting power supply adapter to camera, please check the anode and cathode.

3.1.5 Interface Definition

DS-2CZ232P interface definition:





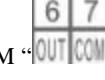


 Z “Z”	Zoom (Wire Control Port)
 C “C”	COM (Wire Control Port)
 F “F”	Focus (Wire Control Port)
 IN/GND “IN GND”	Alarm Input/GND
 OUT/COM “OUT COM”	Alarm Output/COM
 D+/D- “D+ D-”	485+/-
 GND “GND”	Common GND

Fig 3.2 DS-2CZ232P interface definition table

Note: Z/F working voltage is: +3V to +12V, -3V to -12V.


Alarm output: Open Collector: Drive load is DC24V 45mA Max.

DS-2CM232P interface definition:

Pin number	Name	Voltage
1	Rx	CMOS 5V,series receive pin
2	Tx	CMOS 5V,series send pin
3	GND	Series GND
4	DC IN	12VDC±10%
5	GND	Power supply GND
6	CVBS OUT	1.0V±0.2V Video Output
7	GND	Composite Video GND
8	NC	
9	GND	

Fig 3.3 DS-2CM232P interface definition table

3.2 OSD Menu Configuration

In this section, it will introduce the menu of DS-2CZ232P. Pressing  button for two seconds will enter main menu. The left is Menu items; the right is Menu items value. “...” means this option has a submenu, “---” means this option cannot be set.

Main Menu	
CAM ID	001
Shutter	Auto
AGC	---
WB	Auto1
AF	Auto...
D/N	Auto...
Motion D	Close
Special	...
Exit	Abort

Fig 3.4 Main Menu

3.2.1 Menu Structure

1. CAM ID	OFF/001~254, Edit camera ID number
2. Exposure	Auto: Auto mode, Auto Iris,AGC , AES 1/50 AI...: Auto Iris, AGC, AES (1/50~1/10000) AE...: AES,AGC(Low、 High、 Close),AI(F1.6~F5.6) Manual...: Shutter, IRIS,AGC can be set by manual.
3. AGC	Low/High/Close, if the exposure mode is Auto or AI, AGC will not be set ,it display “---”
4. WB	ATW1/ATW2/Auto/Manual...
5. AF	Auto...:To enter submenu and set the focus mode, sensitivity and the least focus distance --- (1cm、 50cm、 1m) Manual One focus: triggered by button once, then turn to manual mode.
6. Color/ B/W	Auto...:Color and B/W auto switch mode Color... B/W...
7. Motion D	Close/Open...:To enter submenu and set motion detection sensitivity and areas
8. Special	Press Menu button enter special function submenu (CN/EN,BLC,RS-485,POS/NEG, ZSpeed, Definition, Line Control)
9. Exit	Abort/Save/Default

Fig 3.5 Main Menu set

(Special)	
1. CN/EN	EN
2. BLC	Close: Turn off BLC Default...: Default BLC mode User...:user self-definition, the BLC areas position and size can be set
3. RS-485	485 communication parameter,to enter submenu to set RS-485 communication protocols, Baud and RS-485 address
4. POS/NEG	+/-
5. ZSpeed	Zoom speed:1~4 class
6. Define	Definition ,1~5 class
7. Back	

Fig 3.6 Special Menu set

Main Menu	
CAM ID	OFF/001—254
Shutter	Auto/AI.../AE.../Manual...
AGC	Low/High/Close
WB	ATW1/ATW2/Auto/Manual...
AF	Auto.../Manual/One Focus
Color/B/W	Color.../Auto.../B/W...
Motion D	Open.../Close
Special	...
Exit	Default/Abort/Save

Fig 3.7 Main Menu structure

3.2.2 Exposure

The iris can control output video signal according to the different intensity of light. (This product is already equipped with iris.) The “F”(F1.6~F5.6) value of the iris can be set by user.

1. AI...	
Manual shutter	1/50、1/120、1/250、1/500、1/1000、1/2000、1/4000、1/10000
2. AES...	
Manual Iris	F1.6-----1 /F5.6-----1
3. Manual...	
Manual shutter	1/50、1/120、1/250、1/500、1/1000、1/2000、1/4000、1/10000
Manual Iris	F1.6-----1/F5.6-----1
4. Auto	

Fig 3.8 Exposure setup

Under AES and Manual mode, Iris can be set from F1.6 to F5.6 in exposure menu.

Under AI and Manual mode, shutter can be set from 1/50s to 1/10Ks (8 options).

3.2.3 Auto Gain Control

When enable AGC in the situation of Manual and AES, there are three AGC options: Low, High and Off.

When under AI and Manual modes, AGC is not available.

3.2.4 White Balance

In the “WB” options, user can set the white balance function to ensure it can render normal white in any color

temperature. If selecting the ATW mode, the camera will continue monitoring the color temperature according to the surrounding light and adjust WB based on the color temperature. Including ATW1, ATW2, Auto, and Manual modes.

WB	ATW1/ATW2/Auto/Manual...
Setup	User/3200K/6300K
RED	(+1F) ----- -----
Blue	(-53) - -----
Back	

Fig 3.9 white balance setup

ATW1: Camera recover color automatically based on TTL algorithm, temperature range is approximate from 2500K to 9300K.

ATW2: Camera recover color automatically based on TTL algorithm, temperature range is approximate from 2000K to 10000K.

ATC: Adjust under steady color temperature environment. After selecting ATC, the white balance will take effect to the current scene, and adjust the temperature to 6500K.

Manual: Adjust red and blue values to setup white balance.

3.2.5 Auto Focus

In the options of AF, user can select the Focus modes including Auto, Manual, One focus.

Auto: it can accomplish continuous surveillance without manual adjustment.

Manual: User can manual focus.

One focus: Press the button to focus once, then it will be the same as manual mode.

AF Setup	
Mode	Normal/Interval
Sense	High/Mid/Low
Near Lim	50cm/1m/1cm
Back	

Figure 3.10 AF Setup

3.2.6 Day / Night

Optional D/N modes: Auto D/N, Day, Night mode.

Note: The Auto mode requires meeting any of the following conditions:

- (a). The exposure mode should be Auto or AI.

(b). If the exposure mode is manual or AE, the AGC should be set as High.

3.2.7 Motion Detection

In Motion Detection, the Motion D functions, sensitivity and motion areas can be set by manual. After the setup, user can detect the motion situation of the intruder.

The motion D has two work modes: When Motion D is Close, if alarm input occurs, the alarm output will directly respond. When Motion D is Open, the camera will auto detect monitoring area, and output alarm signal.

3.2.8 Special Functions

User can set the CN/EN language, RS-485, BLC, Zoom Speed, Definition, POS/NEG and Line control.

Special Function	
CN/EN	EN
BLC	User.../Close/Default...
RS-485	...
POS/NEG	+/-
ZSpeed	1/ 2/ 3/ 4
Define	1/ 2/ 3/ 4/ 5
Line	Mode1/Mode2
Back	

Fig 3.11 Special Function sets

CN/EN Setup:

Move cursor to “CN / EN” through up / down, and press left / right to select CN or EN.

BLC Setup:

The options have User.../Close/Default...

Note: This function is only available when “Auto” selected in Exposure. The setup will retain when other options selected in Exposure.

When “Default” is selected, the camera will adjust according to the default region. Press “MENU” to see the default back light area, and press “MENU” again to exit.

When select “USER”, user can customize the back light area.

When entering adjust status, use up/down/left/right to adjust the back light area position. Press “MENU” once to release, use up/down/left/right to change to area adjustment status, press “MENU” for 2 min to exit.

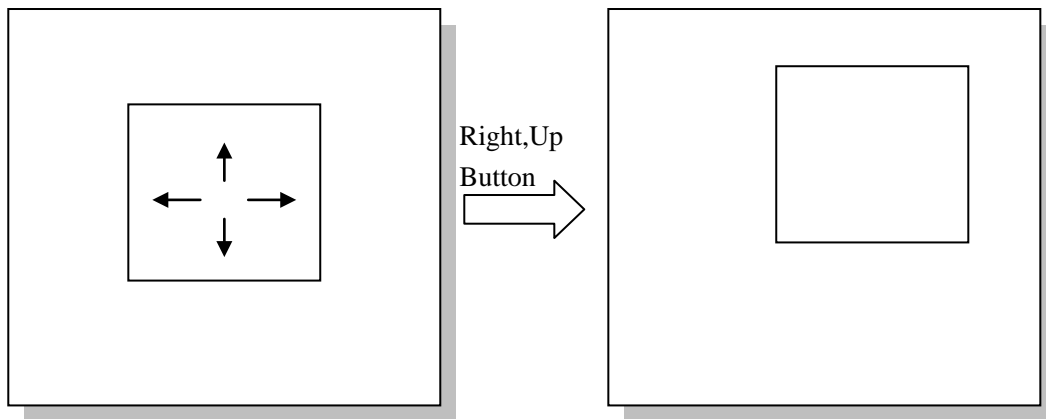


Figure 3.12 BLC

When select “Off”, camera will not take back light compensation.

RS-485

Press MENU button to enter RS485 setup interface:

RS485		
Protocol	PELCO-D	
Baud	2400	(1200, 2400, 4800, 9600, 19200, 38400, 115200 optional)
Address	001	(000 to 254 optional)
Back		

Figure 3.13 RS-485 Setup Interface

POS/ NEG

Move cursor to “POS / NEG”, and press left / right to select POS or NEG. Selecting “+”, the video will be normal, while selecting “-”, the video will be negative.

Zoom Speed

Move cursor to “Z Speed”, and press left/right to select from “1/2/3/4”. 1 means the slowest speed, and 4 means the fastest speed.

Definition

Move cursor to “Definition”, and press left/right to select High, Middle, 低中, and low to adjust the image definition.

Line Control

Move cursor to “Wire Remote Control”, and press left/right to select “Mode1/Mode2”.

Mode1 is: When Vz-Vc=12V, wide-angle direction zooming. When Vz-Vc=-12V, tele direction zooming;

Mode 2 is on the opposite.

3.2.9 Exit

Exit option is used for quit setting Menu, and return to normal work mode.

Abort: Neglect all modifications, and resume the original setup.

Save: Save all modifications.

Default: Neglect all modifications, resume the default factory setup.

CHAPTER 4

Menu Description of 252 series

The menu functions of the DS-2CZ232P will be introduced in this chapter. The first part is the instruction of keys and menu structure, the second part is to introduce the menu functions of all the items.

4.1 Keys Introduction

In this section, it will introduce the keys on the rear plate.

4.1.1 Setting buttons

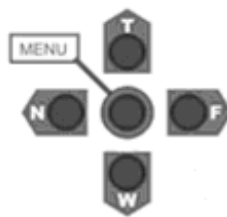


Fig 4.1 The keys of camera

There are two work modes for the setting buttons: Common and Menu modes. Each of them has its own function.

Common mode:

T/W button: Tele/ wide zoom operation.

N/F button: Manual variable zoom, near/ far.

Menu button: Menu mode switch. Pressing MENU key for 2 seconds, it will enter menu setting mode.

Menu mode:

T/W button: Move the cursor up/down.

N/F button: Move the cursor left/right.

Menu button: Select options, and confirm the current value.

4.1.2 Zoom/Focus Wire Remote Control

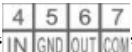


“D+D-” RS-485, support PELCO-D protocol.


Default setting requirements:

- Signal transmission speed:2400bit/s
- Protocol: PELCO-D
- Data bit: 8bit
- Stop bit: 1bit
- Parity bit: None

4.1.3 Alarm in, GND, Alarm output, Alarm output Com

 When motion detection module detects moving objects, it will trigger alarm signal.

4.1.4 Power supply

 Before connecting power supply adapter to camera, please check the anode and cathode.

4.1.5 Interface Definition

DS-2CZ252P interface definition:








Z “  Z”	Zoom (Wire Control Port)
C “  C”	COM (Wire Control Port)
F “  F”	Focus (Line Control Port)
IN/GND “  IN GND”	Alarm Input/GND
OUT/COM “  OUT COM”	Alarm Output/COM
D+/D- “  D+ D-”	485+/-
GND “  GND”	Common GND

Fig 4.2 DS-2CZ252P interface definition table


Note: Z/F working voltage is: +3V to +12V, -3V to -12V.

Alarm output: Open Collector: Drive load is DC24V 45mA Max.

Pin number	Name	Voltage
1	Rx	CMOS 5V,series receive pin
2	Tx	CMOS 5V,series send pin
3	GND	Series GND
4	DC IN	12VDC±10%
5	GND	Power supply GND
6	CVBS OUT	1.0V±0.2V Video Output
7	GND	Composite Video GND
8	NC	
9	GND	

Fig 4.3 DS-2CM252P interface definition table

4.2 OSD Menu Configuration

In this section, it will introduce the menu of DS-2CZ252P. Pressing  button for two seconds will enter main menu. The left is Menu items; the right is Menu items value. “...” means this option has a submenu, “---” means this option cannot be set.

Main Menu	
CAM ID	001
Shutter	Auto
AGC	---
WB	Auto1
AF	Auto...
D/N	Auto...
Motion D	Close
Special	...
Exit	Abort

Figure 4.4 Main Menu

4.2.1 Menu Structure

1. CAM ID	OFF/001~254, Edit camera ID number
2. Shutter	Auto: Auto mode, Auto Iris,AGC , AES 1/50 AI...: Auto Iris, AGC, AES (1/50~1/10000) AE...: AES,AGC(Low、 High、 Close),AI(F1.6~F5.6)

	Manual...: Shutter, IRIS, AGC can be set by manual.
3. AGC	Low/High/Close, if the exposure mode is Auto or AI, AGC will not be set ,it display “---”
4. WB	ATW1/ATW2/Auto/Manual...
5. AF	Auto...:To enter submenu and set the focus mode, sensitivity and the least focus distance --- (1cm、 50cm、 1m) Manual One focus: triggered by button once, then turn to manual mode.
6. D/N	Auto...: Day and night auto switch mode Day...: Enter sub menu to set saturation Night...: Enter sub menu to set color synchronization
7. Motion D	Close/Open...:To enter submenu and set motion detection sensitivity and areas
8. Special	Press Menu button enter special function submenu (CN/EN,BLC,RS-485,POS/NEG, ZSpeed, Definition, Line)
9. Exit	Abort/Save/Default

Fig 4.5 Main menu set

(Special)	
1. CN/EN	EN
2. BLC	Close: Turn off BLC Default...: Default BLC mode User...:user self-definition, the BLC areas position and size can be set
3. RS-485	485 communication parameter to enter submenu to set RS-485 communication protocols, Baud and RS-485 address
4. POS/NEG	+/-
5. ZSpeed	Zoom speed:1~4 class
6. Define	Definition ,1~5 class
7. Line	Mode1/Mode2
8. Back	

Fig 4.6 Special Menu set

Main Menu	
CAM ID	OFF/001—254
Shutter	Auto/AI.../AE.../Manual...
AGC	Low/High/Close
WB	ATW1/ATW2/Auto/Manual...
AF	Auto.../Manual/One Focus
D/N	Day.../Auto.../Night...
Motion D	Open.../Close
Special	...
Exit	Default/Abort/Save

Fig 4.7 Main Menu structure

4.2.2 Shutter

The iris can control output video signal according to the different intensity of light. (This product is already equipped with iris.) The “F”(F1.6~F5.6) value of the iris can be set by user.

1、 AI...	
Manual shutter	1/50、 1/120、 1/250、 1/500、 1/1000、 1/2000、 1/4000、 1/10000
2、 AES...	
Manual Iris	F1.6-----1 /F5.6-----1
3、 Manual...	
Manual shutter	1/50、 1/120、 1/250、 1/500、 1/1000、 1/2000、 1/4000、 1/10000
Manual Iris	F1.6-----1/F5.6-----1
4、 Auto	

Fig 4.8 Exposure setup

Under AES and Manual mode, Iris can be set from F1.6 to F5.6 in exposure menu.

Under AI and Manual mode, shutter can be set from 1/50s to 1/10Ks (8 options).

4.2.3 Auto Gain Control

When enable AGC in the situation of Manual and AES, there are three AGC options: Low, High and Off.

When under AI and Manual modes, AGC is not available.

4.2.4 White Balance

In the white balance options, user can set the white balance function to ensure it can render normal white in any color temperature. If selecting the ATW mode, the camera will continue monitoring the color temperature according to the surrounding light and adjust WB based on the color temperature. Including ATW1, ATW2, Auto, and Manual modes.

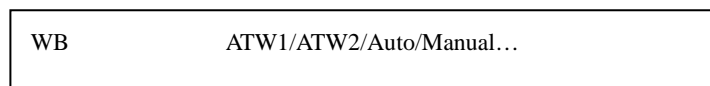


Fig 4.9 white balance setup

ATW1: Camera recover color automatically based on TTL algorithm, temperature range is approximate from 2500K to 9300K.

ATW2: Camera recover color automatically based on TTL algorithm, temperature range is approximate from 2000K to 10000K.

ATC: Adjust under steady color temperature environment. After selecting ATC, the white balance will take effect to the current scene, and adjust the temperature to 6500K.

Manual: Adjust red and blue values to setup white balance.

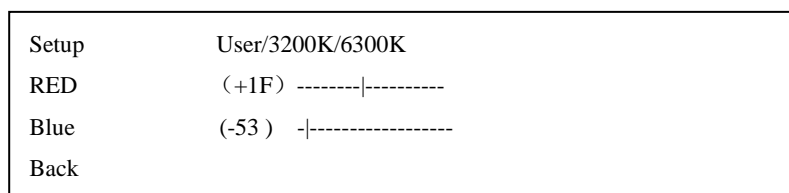


Figure 4.10 MWB setup

4.2.5 Auto Focus

In the options of AF, user can select the Focus modes including Auto, Manual, One focus.

Auto: it can accomplish continuous surveillance without manual adjustment.

Manual: User can manual focus.

One focus: Press the button to focus once, then it will be the same as manual mode.

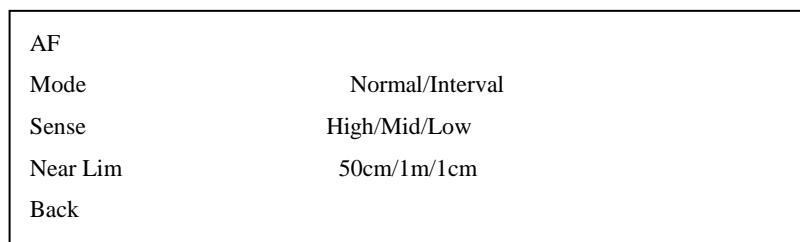


Figure 4.11 Auto Focus Setup

4.2.6 Day / Night

Optional day to night modes: Auto day switch to night, day mode, night mode.

Auto day switch to night: Camera will switch between color and B/W according to the environment illumination.

Under low illumination condition, IR filter will move away and switch to B/W mode to improve the sensitivity.

Day Mode: IR filter will move into, the image back to normal status.

Night Mode: IR filter will move away, the image will change to black and white status to improve sensitivity.

Night Setup	
Burst	Off/On
Back	

Figure 4.12 Night setup

Burst:

Off: Do not output chroma signal and black and white composite video signal

On: Output chroma signal.

Day Setup	
Chroma	High/Mid/Low
Back	

Fig 4.13 Day setup

Chroma: Adjust chroma parameters, has low/mid/high options.

Auto D/N	
Value	(2)----- -----
C/BW	2s/3s/5s/10s/15s/20s/25s/30s
BW/C	2s/3s/5s/10s/15s/20s/25s/30s
Back	

Figure 4.14 Auto D/N setup

Value: The threshold for day mode change to night mode.

C/BW: The delay time for color change to black and white mode.

BW/C: The delay time for black and white mode change to color mode.

4.2.7 Motion Detection

In Motion Detection, the Motion D functions, sensitivity and motion areas can be set by manual. After the setup, user can detect the motion situation of the intruder.

The motion D has two work modes: When Motion D is Close, if alarm input occurs, the alarm output will directly respond. When Motion D is Open, the camera will auto detect monitoring area, and output alarm signal.

4.2.8 Special Functions

User can set the CN/EN language, RS-485, BLC, ZoomSpeed, Definition, POS/NEG, Line by manual.

Special Function	
CN/EN	EN
BLC	User.../Close/Default...
RS-485	...
POS/NEG	+/-
ZSpeed	1/ 2/ 3/ 4
Define	1/ 2/ 3/ 4/ 5
Line	Model
Back	

Figure 4.15 Special Function sets

CN/EN Setup:

Move cursor to "CN / EN" through up / down, and press left / right to select CN or EN.

BLC Setup:

The options have User.../Close/Default...

Note: This function is only available when "Auto" selected in Exposure. The setup will retain when other options selected in Exposure.

When "Default" is selected, the camera will adjust according to the default region. Press "MENU" to see the default back light area, and press "MENU" again to exit.

When select "USER", user can customize the back light area.

When entering adjust status, use up/down/left/right to adjust the back light area position. Press "MENU" once to release, use up/down/left/right to change to area adjustment status, press "MENU" for 2 min to exit.

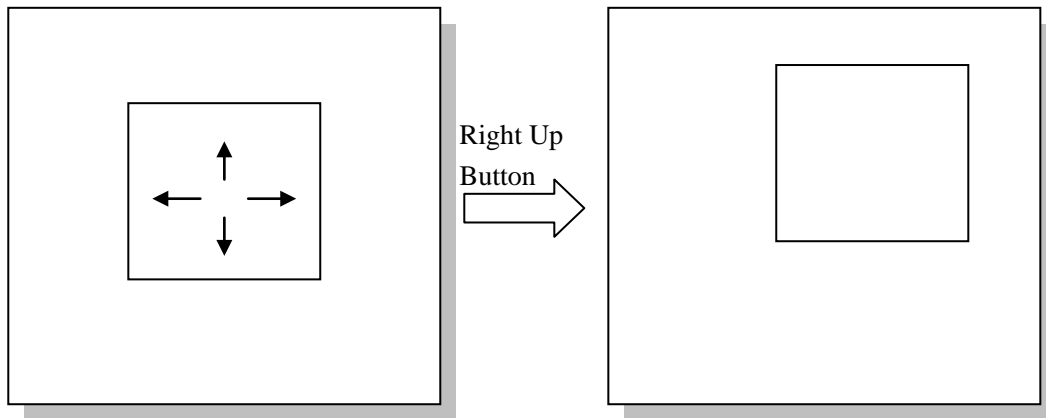


Figure 4.16 BLC

When select “Off”, camera will not take back light compensation.

RS-485

Press MENU button to enter RS485 setup interface:

RS485	
Protocol	PELCO-D
Baud	2400 (1200、2400、4800、9600、19200、38400、115200 optional)
Address	001 (000---254 optional)
Back	

Figure 4.17 RS-485 Setup Interface

POS/ NEG

Move cursor to “POS / NEG”, and press left / right to select POS or NEG. Selecting “+”, the video will be normal, while selecting “-”, the video will be negative.

Zoom Speed

Move cursor to “Z Speed”, and press left/right to select from “1/2/3/4”. 1 means the slowest speed, and 4 means the fastest speed.

Definition

Move cursor to “Definition”, and press left/right to select from 5 levels to adjust the image definition.

Line Control

Move cursor to “Wire Remote Control”, and press left/right to select “Mode1/Mode2”.

Mode1 is: When Vz-Vc=12V, wide-angle direction zooming. When Vz-Vc=-12V, tele direction zooming;

Mode 2 is on the opposite.

4.2.9 Exit

Exit option is used for quit setting Menu, and return to normal work mode.

Abort: Neglect all modifications, and resume the original setup.

Save: Save all modifications.

Appendix Specification

Table 1 DS-2CZ232P/N

Parameter	Model	DS-2CZ232P/N
Image Sensor		1/4 inch SONY Interline Transfer Super HAD CCD
Signal System		PAL/NTSC
Effective Pixels		PAL: 752 (H) × 582 (V) NTSC: 768 (H) × 494 (V)
Synchronization		Internal Synchronization
Horizontal Resolution		480 TVL
Video Output		1Vp-p Composite Output (75Ω/BNC)
S/N Ratio		More than 50dB
Day & Night (Electronic)		Auto / Color / B&W
Min. Illumination		0.1Lux @ F1.6
Lens		22X Optical Zoom
		F1.6, f=3.9 ~ 85.8mm
		Min. Working Distance: 10-1000mm(Wide-Tele)
Menu	Camera ID	On / Off (001-254, fixed position)
	Language	English, Chinese
	Iris	Auto / Manual
	Electronic Shutter	1/50(1/60)s to 1/100,000s
	Auto Gain	Low / High / Off
	Auto Focus	Auto / Manual / Once
	Auto White Balance	ATW1 / ATW2 / Auto / Manual(Pre-set 3200K, Pre-set 5600K, R / G Gain Correction)
	Motion Detection	On / Off (Zone, Sensitivity)
	Special Function	BLC, POS/NEG, Zoom Speed (4 levels), Definition
	Communication Interface	RS-485, PELCO-D, Baud Rate, Address, PTZ Control
Power Supply		12VDC, ±10%
Working Temperature		-10℃ ~ 60℃
Power Consumption		4.5W
Dimension (mm)		64 × 61 × 112.5(2.53" × 2.42" × 4.46")
Weight		375g (0.82lbs)

Table 2 DS-2CM232P/N

Parameter	Model	DS-2CM232P/N
Image Sensor		1/4 inch SONY Interline Transfer Super HAD CCD
Signal System		PAL/NTSC
Effective Pixels		PAL: 752 (H) × 582 (V) NTSC: 768 (H) × 494 (V)
Synchronization		Internal Synchronization
Horizontal Resolution		480 TVL
Video Output		1Vp-p Composite Output (75Ω/BNC)
S/N Ratio		More than 50dB
Day & Night (Electronic)		Auto / Color / B&W
Min. Illumination		0.1Lux @ F1.6
Lens		22X Optical Zoom
		F1.6, f=3.9 ~ 85.8mm
		Min. Working Distance:10-1000mm(Wide-Tele)
Menu	Camera ID	On / Off (001-254, fixed position)
	Language	English, Chinese
	Iris	Auto / Manual
	Electronic Shutter	1/50(1/60)s to 1/100,000s
	Auto Gain	Low / High / Off
	Auto Focus	Auto / Manual / Once
	Day & Night (Electronic)	Auto / Color / B&W
	Auto White Balance	ATW1 / ATW2 / Auto / Manual(Pre-set 3200K, Pre-set 5600K, R / G Gain Correction)
	Motion Detection	On / Off (Zone, sensitivity)
	Special Function	BLC, POS/NEG, Zoom speed(4 levels), Definition
Communication Interface	HIKVISION protocol, compatible of SONY VISCA protocol	
Power Supply		9-12V DC
Working Temperature		-10℃ ~ 60℃
Power Consumption		4W Max
Dimension (mm)		50 × 55.6 × 86
Weight		235g

Table 3 DS-2CZ252P/N

Parameter	Model	DS-2CZ252P/N
Image Sensor		1/4 inch SONY Interline Transfer Super HAD CCD
Signal System		PAL/NTSC
Effective Pixels		PAL: 752 (H) × 582 (V) NTSC: 768 (H) × 494 (V)
Synchronization		Internal Synchronization
Horizontal Resolution		Color: 480 TVL
		B / W: 520 TVL
Video Output		1Vp-p Composite Output (75Ω/BNC)
S/N Ratio		More than 50dB
Day & Night		IR Cut Filter Auto Switch
Min. Illumination		Color: 0.2Lux @ F1.6
		B / W: 0.02Lux @ F1.6
Lens		23X Optical Zoom
		F1.6, f=3.84 ~ 88.4mm
		Min. Working Distance:10-1200mm(Wide-Tele)
Menu	Camera ID	On / Off (001-254, fixed position)
	Language	English, Chinese
	Iris	Auto / Manual
	Electronic Shutter	1/50 (1/60s) to 1/100,000s
	Auto Gain	Low / High / Off
	Auto Focus	Auto / Manual / Once
	Auto White Balance	ATW1 / ATW2 / Auto / Manual(Pre-set 3200K, Pre-set 5600K, R / G Gain Correction)
	Motion Detection	On / Off (Zone, Sensitivity)
	Special Function	BLC, POS/NEG, Zoom Speed (4 levels), Definition
	Communication Interface	RS-485, PELCO-D, Baud Rate, Address, PTZ Control (Optional Mode)
Power Supply		12VDC, ±10%
Working Temperature		-10℃ ~ 60℃
Power Consumption		4.5W
Dimension (mm)		68.7 × 66.1 × 125 (2.7" × 2.6" × 4.9")
Weight		550g (1.21lbs)

Table 4 DS-2CM252P/N

Parameter	Model	DS-2CM252P/N
Image Sensor		1/4 inch SONY Interline Transfer Super HAD CCD
Signal System		PAL/NTSC
Effective Pixels		PAL: 752 (H) × 582 (V) NTSC: 768 (H) × 494 (V)
Synchronization		Internal Synchronization
Horizontal Resolution		Color: 480 TVL
		B / W: 520 TVL
Video Output		1Vp-p Composite Output (75Ω/BNC)
S/N Ratio		More than 50dB
Day & Night		IR Cut Filter Auto Switch
Min. Illumination		Color: 0.2Lux @ F1.6
		B / W: 0.02Lux @ F1.6
Lens		23X Optical Zoom
		F1.6, f=3.84 ~ 88.4mm
		Min. Working Distance:10-1200mm(Wide-Tele)
Menu	Camera ID	On / Off (001-254, fixed position)
	Language	English, Chinese
	Iris	Auto / Manual
	Electronic Shutter	1/50(1/60)s to 1/100,000s
	Auto Gain	Low / High / Off
	Auto Focus	Auto / Manual / Once
	Auto White Balance	ATW1 / ATW2 /Auto / Manual(Pre-set 3200K, Pre-set 5600K, R / G Gain Correction)
	Motion Detection	On / Off (Zone, Sensitivity)
	Special Function	BLC, POS/NEG, Zoom Speed (4 levels), Definition
	Communication Interface	HIKVISION protocol, compatible of SONY VISCA protocol
Power Supply		12VDC, ±10%
Working Temperature		-10℃ ~ 60℃
Power Consumption		4W MAX
Dimension (mm)		61.2 × 50 × 88.3
Weight		370g

Table 5 DS-2CZ282P

Parameter	Model	DS-2CZ282P
Image Sensor		1/4"SONY Interline Transfer Super HAD CCD
Signal System		PAL
Effective Pixels		752(H)×582(V)
Synchronous		Internal Synchronization
Horizontal Resolution		Day:540TVL
		Night:600TVL
Privacy		16 areas (area/position adjustable)
Video Output		1.0Vp-p Composite Output(75Ω/BNC)
S/N Ratio		More than 52dB
Day & Night		IR Cut Filter Auto Switch
Min. Illumination		Day: 0.2Lux @ F1.4, 0.008Lux @ F1.4 (sensitivity×256)
		Night: 0.02Lux @ F1.4, 0.0008Lux @ F1.4 (sensitivity×256)
Lens		Total Zoom 480X,Optical Zoom:30X, Digital Zoom:16X
		F1.4, f=3.5 - 105mm
		Min. Working Distance:10-1500mm(Wide-Tele)
Menu	Camera ID	On/Off (OSD, 001-254, on the top right corner)
	Language	Chinese /English
	Iris	Auto/Manual
	Electronic Shutter	1/50S-1/10,000S
	Auto Gain	Low/High/Close
	Auto Focus	Auto/Manual/One focus
	Day/Night	Auto/Day/Night
	Auto White Balance	ATW1/ATW2/AC/Manual(3200K,6300K,R/G gain adjust)
	Motion Detection	OFF/ON (area, sensitivity)
	Special Function	Optical Zoom, BLC,Y-Value, C-Value, POS/NEG, ZSpeed (4 Class), Definition, Mirror, Digital Noise Reduction
	Communication Interface	RS-485,PELCO-P/D, Baud, Address, PTZ Control
Power Supply		DC12V±10%
Working Temperature		-10℃--60℃
Power Consumption		4.5W MAX
Dimension (mm)		124×66×68.5
Weight		450g

Table 6 DS-2CZ292P

Parameter	Model	DS-2CZ292P
Image Sensor		1/4"SONY Interline Transfer Super HAD CCD
Signal System		PAL
Effective Pixels		752(H)×582(V)
Synchronous		Internal Synchronization
Horizontal Resolution		Day:540TVL
		Night:600TVL
Privacy		16 areas(area/position adjustable)
Video Output		1.0Vp-p Composite Output(75Ω/BNC)
S/N Ratio		More than 52dB
Day & Night		IR Cut Filter Auto Switch
Min. Illumination		Day:0.2Lux @ F1.6,0.008Lux @ F1.6(sensitivity×256)
		Night :0.02Lux @ F1.6,0.0008Lux @ F1.6 (sensitivity×256)
Lens		Total Zoom:576X,Optical Zoom:36X, Digital Zoom:16X
		F1.6, f=3.4 - 122.4mm Min. Working Distance: 10-1500mm(Wide-Tele)
Menu	Camera ID	On/Off (OSD, 001-254, on the top right corner)
	Language	Chinese /English
	Iris	Auto/Manual
	Electronic Shutter	1/50S-1/10,000S
	Auto Gain	Low/High/Close
	Auto Focus	Auto/Manual/One focus
	Day/Night	Auto/Day/Night
	Auto White Balance	ATW1/ATW2/AC/Manual(3200K,6300K,R/G gain adjust)
	Motion Detection	OFF/ON(area, sensitivity)
	Special Function	Optical Zoom, BLC,Y-Value, C-Value, POS/NEG, ZSpeed(4 Class), Definition, Mirror, Digital Noise Reduction
Communication Interface	RS-485,PELCO-D, Baud, Address, PTZ Control	
Power Supply		DC12V±10%
Working Temperature		-10℃--60℃
Power Consumption		4.5W MAX
Dimension (mm)		124×66×68.5
Weight		450g