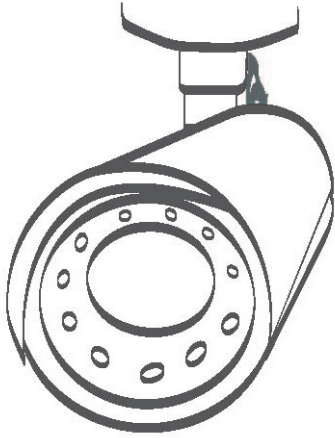


Instruction Manual



ZEIM-4000513G 368 A.2

Please read this manual thoroughly before use, and keep it handy for future reference

IR Bullet Camera

1. Overview

PACKAGE CONTENTS

- IR Bullet Camera x1
- Self tapping screw (TP4-25L) x 4
- Plastic anchor (1/4"x 1 3/8") x 4
- Torx wrench (T10) x1
- Video monitor out cable x1
- Mounting template x1
- Instruction manual x 1

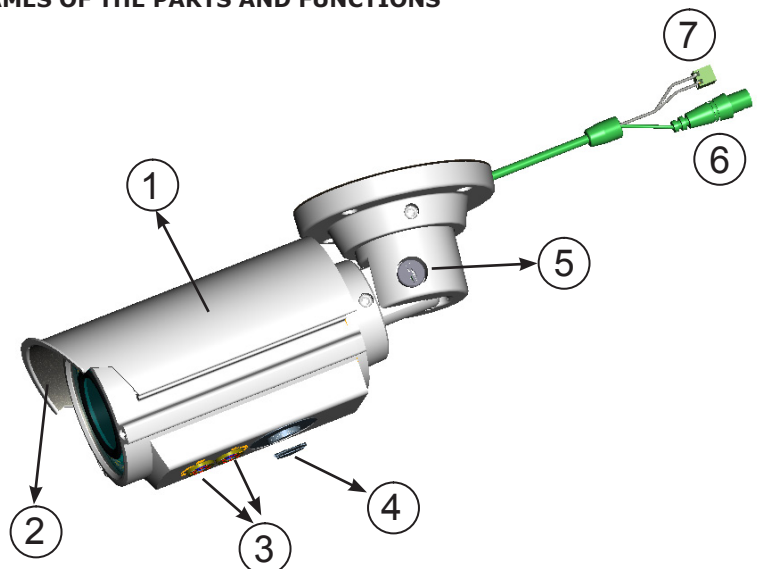
FEATURES

1. Color 700 TVL high resolution on 1/3" SONY CCD.
2. Easy to install and adjust.
3. Minimum illumination:
IR LED off: 0.03lux (F1.6, AGC on, 50 IRE) IR LED
ON: 0lux
4. All-in-one function excellent for both indoor & outdoor applications.
5. Water proof of IP66 makes it ideal for outdoor surveillance applications.
6. Externally adjustable focal length & focus
7. Mechanical ICR design for keeping Day & Night performance
8. Cable management for waterproof
9. 32 IR LEDs to provide 50M (164 ft) seeing range in complete darkness

CAUTIONS

1. Do not touch the lens surface of the sensor. Use soft cloth moistened with alcohol to clean the surface if it is accidentally touched .
2. Ensure the supply voltage is correct as specified before operation.
3. Do not expose the camera to rain, moisture or to the temperature which exceeds the specified limit, without a suitable housing.
4. Avoid aiming the camera at very bright objects such as the sun or electric lights for an extended period.
5. Only service this unit personally with authorization. Opening or removing cover may expose yourself to the dangerous voltage or other hazards.

NAMES OF THE PARTS AND FUNCTIONS



1. Camera main body

2. Sun shield

3. Externally adjustable focal length & focus

4. OSD menu joystick

5. Mount bracket

6. BNC connector

Connects to the VIDEO IN connector of the Monitor Video Connector

7. Power connector (DC12V/AC24V)

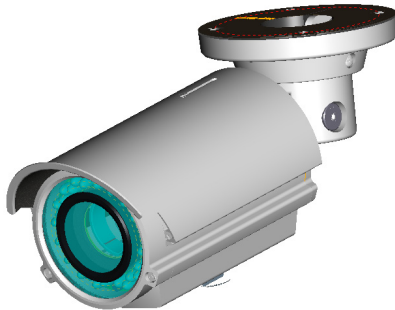
Connects to the external power source.

CONNECTIONS

Connects the BNC connector and the power connector to the respective connectors.

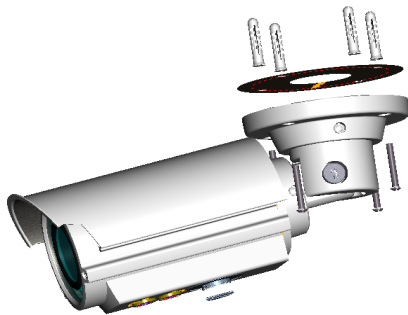
2. INSTALLATION

Appearance

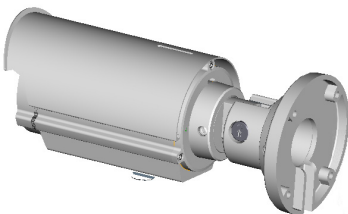


Step 1: Affix the camera

Affix the mounting template to the desired location, knock in 4 plastic anchors after hole drilling and then lock in 4 self-tapping screws to fasten the camera.

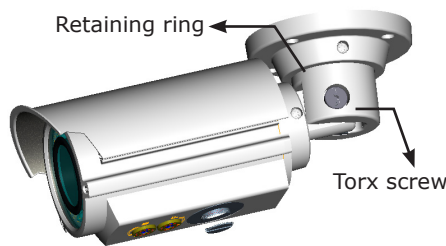


If it would be installed on the metal pillar without grounding out, please use the rubber pad enclosed for isolation. (You could select to use enclosed rubber pad for better isolation.)



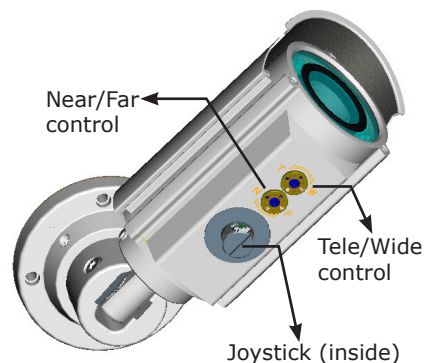
Step 2: Adjust the camera angle

1. Use the provided torx wrench to loosen the torx screw on one side of the mount bracket so that you can tilt the camera.
2. Loosen the screw on the retaining ring to adjust the camera angle.
3. After adjustments, fasten the screws and retaining ring back to the camera.



Step 3: Adjust the lens

Use a screwdriver to adjust the Near/Far and Tele/Wide controls. After adjustment, be sure to lock them tightly for waterproof.

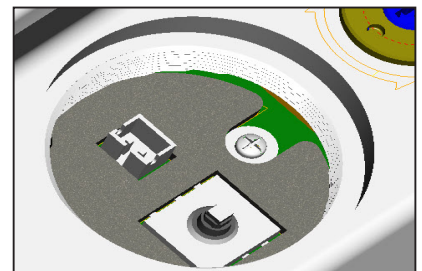


Step 4: Adjust OSD Settings

To use the OSD joystick control:

- Rotate the knob to remove the joystick cover to expose the OSD joystick.
- Press the OSD joystick control straight down to enter the Main menu or a selected item.
- Move the OSD joystick control UP, DOWN, LEFT and RIGHT to navigate through menus and options.

For further information on OSD settings, refer to next section.



Step 5: Adjust the sun shield hood

Loosen the screw (one circle), then move the sunshield hood forward and backward to adjust the position of sunshade. Be sure to adjust the sunshield hood in coordination with lens in case of sunshade problems.



3. OSD Settings

Use the OSD menu to set up the camera for optimum performance.

LENS	AUTO
SHUTTER/AGC	AUTO
WHITE BAL	ATW
BACKLIGHT	OFF
PICT ADJUST	
ATR	OFF
MOTION DET	OFF
NEXT	
EXIT	SAVE ALL
PRIVACY	OFF
DAY/NIGHT	AUTO
NR	
CAMERA ID	OFF
SYNC	INT
LANGUAGE	ENGLISH
CAMERA RESET	
BACK	
EXIT	SAVE ALL

OSD Main Menu

3.1 Lens

The LENS settings allows you to configure Lens and brightness. Options are AUTO (Auto Iris lens) and MANUAL. The default setting is AUTO.

In the AUTO submenu, you can set the MODE as OPEN, CLOSE or AUTO. Then select SPEED to adjust the DC Iris Lens convergence speed.

TYPE	DC
MODE	OPEN
SPEED	046

3.2 SHUTTER/AGC

You can set the SHUTTER/AGC as AUTO or MANUAL. The default setting is AUTO.

When LENS is set to AUTO: It is recommended to set SHUTTER/AGC to AUTO mode. In the AUTO submenu, adjust HIGH LUMINANCE MODE mode according to your application:

- **AUTO IRIS mode:** Use this for normal condition application environments. The IRIS level will be controlled by camera brightness.
- **SHUT+AUTO IRIS mode:** Use this for high light application environments. The exposure will be controlled by AES or the DC Iris. The iris level will be controlled by camera brightness.

HIGH LUMINANCE	
MODE	AUTO IRIS
BRIGHTNESS	024
LOW LUMINANCE	
MODE	AGC
BRIGHTNESS	x0.25

If SHUTTER/AGC is set to MANUAL, the submenu is shown as below. The shutter speed is a variable from 1/50(1/60)sec to 1/10000sec and the AGC is selectable depending on your environment condition.

MODE	OFF
SHUTTER	1/50(1/60)
AGC	6.0

3.3 WHITE BAL

WHITE BALANCE controls color on the screen. Options include ATW (Auto White Balance), PUSH, PUSH LOCK, USER1, USER2, ANTI CR (Anti Color Rolling Suppression) and MANUAL. The default is ATW.

- **ATW:** Select ATW when the scene illumination varies between indoor scenes and outdoor scene lighting.

SPEED	171
DELAY CNT	152
ATW FRAME	X0.50
ENVIRONMENT	INDOOR

- **MANUAL:** You can manually adjust the LEVEL from 15 to 69.
- **USER1/USER2:** You can adjust blue setting (B-GAIN) and red setting (R-GAIN) value from 0 to 255.
- **PUSH:** When selected in the appropriate position, the whole area will perform white balance.
- **PUSH LOCK:** When selected in the appropriate position, WHITE BALANCE will perform once.

3.4 BACKLIGHT

Set Backlight compensation function. It controls the light level to overcome severe backlight conditions. Available options include OFF, BLC or HLC (Highlight Compensation) mode. The default is OFF.

If HLC is selected, HLC is activated automatically when the camera detects high-luminance.

3.5 PICT ADJUST

PICTURE ADJUST allows you to adjust picture settings for optimal image. In the PICT ADJUST submenut, you can adjust BRIGHTNESS, CONTRAST, SHARPNESS, HUE and GAIN value. In addition, you can set MIRROR to ON to reflect the image.

MIRROR	OFF
BRIGHTNESS	000
CONTRAST	128
SHARPNESS	128
HUE	128
GAIN	128

3.6 ATR*

Set ATR (Adaptive Tone-curve Reproduction) function. You can select ON or OFF. The default is OFF. If selecting ON, you will enter the ATR submenu, where you can set LUMINACE and CONTRAST to optimize by image.

LUMINANCE	LOW
CONTRAST	LOW

*Also known as Wide Dynamic Range. This function expands the video dynamic range of the camera and improves visibility of images even in high contrast environments.

3.7 MOTION DET

MOTION DET allows to detect moving objects on the screen. The default is OFF. If selecting ON, you will enter the MOTION DET submenu. You can set up to 4 motion areas to detect moving objectives and adjust the motion detection sensitivity from 0 to 127.

3.8 PRIVACY

PRIVACY function mask up to 8 privacy areas on the screen from video monitoring. The default setting is OFF. If selecting ON, you will enter the PRIVACY submenu. You can configure up to 8 privacy areas and set color and transparency of the privacy zones. In addition, you can enable MOISAIC function for the privacy zone.

Note: If you enable MOTION DET function, then PRIVACY function will support 4 zones only.

REA SEL	1/8
TOP	000
BOTTOM	000
LEFT	000
RIGHT	000
COLOR	1
TRANSP	0.00
MOSAIC	OFF

The camera will automatically switch to B/W mode when the illumination is under a certain threshold. There is no need to adjust this setting.

Under B/W mode, you can set BURST to be ON or OFF.

3.9 DAY/NIGHT

The camera will automatically switch to B/W mode when the illumination is under a certain threshold. There is no need to adjust this setting.

Under B/W mode, you can set BURST to be ON or OFF.

3.10 NR

NR allows you to configure the DNR (Digital Noise Reduction) settings to reduce noise on the screen. In the NR submenu, you can enable the NR MODE to the Y (BRIGHT) / C (COLOR), C LEVEL or Y LEVEL mode. According to your NR mode, you can adjust Y LEVEL or C LEVEL as required.

NR MODE	Y/C
Y LEVEL	000
C LEVEL	000

Note: When the Y/C Level is higher, the noise in dark areas become lessened. Also, resolution will become lower. When it is lower, there are more noise in dark areas.

3.11 CAMERA ID

CAMERA ID allow you to specify camera ID. Options are OFF (default) and ON. In the ON submenu, you can add a camera title up to 26 characters with 2 lines and also select where the title appears on the monitor screen.

3.12 SYNC

Set the sync mode as INT (internal, the default) or LL (line lock) mode. The LL option only works with AC power.

3.13 LANGUAGE

OSD supports 8 multiple languages. Options include ENGLISH (default), JAPANESE, GERMAN, FRENCH, RUSSIAN, PORTUGUESE, SPANISH and SIMPLIFIED CHINESE.

3.14 CAMERA RESET

To restore factory defaults, select CAMERA RESET and then press the joystick control.

3.15 SAVE ALL

SAVE ALL item allows you to save all settings and exit the OSD menu.

Specifications

Signal System	NTSC	PAL
Image System		
Image Pickup Device	1/3" SONY Exview HAD CCD II	
Effective Pixels (HxV)	976 (H) × 494 (V)	976 (H) × 582 (V)
Electric		
Scanning System	2:1 Interlace V: 59.94 Hz , H: 15.734KHz	2:1 Interlace V: 50 Hz , H: 15.625 KHz
Sync System	Internal/Linelock	
Horizontal Resolution	700 TV lines	
Built-in Lens	f=6mm~50mm,F1.6 DC iris varifocal IR-corrected lens External adjustments (zoom and focus)	
View Angle	Horizontal:43.9°(wide)~5.7°(tele) Vertical:54.6°(wide)~7.1°(tele)	
Gamma Correction	0.45	
Minimum Illumination	F1.6 color mode: 0.04 lux@50IRE, 0.02lux@30IRE, B/W mode: 0.02 lux@50IRE, 0.01 lux@30IRE, IR LED ON:0 lux	
S/N Ratio	More than 50dB (AGC off)	
Gain Control	On / Off (selectable)	
White Balance	ATW/ Manual/ User/ Push/ Push lock	
Electric shutter	1/60 sec	1/50 sec
Flickerless	On / Off (selectable)	
BLC	Off/ BLC/ HLC(High light compensation) (selectable)	
Day/Night Mode	Mechanical (ICR) control (Auto/Color/ B/W)	
DNR	Yes	
Motion Detection	Yes, 4 areas (max)	
Privacy Mask	Yes, 8 zones (max)	
OSD	Yes	
High Light Compensation	Yes	
ATR*	On / Off (selectable)	
Multi Language	English, Japanese, German, French, Russia, Portuguese, Spanish, Simplified Chinese	
Video Output	1Vpp composite output, 75 ohm	
IR LED	Super power LED 32pcs	
IR Wavelength	850nm	
IR Distance	50M(164ft)	
IR Turn On Status	Under 10 lux by photocell auto controlled	
LED Life	More than 10,000 hours (50°C)	
Power Supply		
Power Requirement	DC 12V & AC 24V ± 10%	
Power Consumption	7W (max)	
Environment		
Operating Temperature	-10°C ~ 50°C	
Operating Humidity	90% MAX	
Storage Temperature	-20°C ~ 60°C	
Storage Humidity	70% MAX	
Mechanism		
Case Material	Metal	
Dimension(ΦxHxD)	Φ77.8mm x 89.5mm x 235.1mm (3.06"x3.52"x9.26")	
Weight	1600g (3.54lb) approx.	
Construction	Sunshield; Cable management bracket ; Compact die-cast aluminum;Tempered Glass	
Protection Class	IP66	

*Also known as WDR