# ED910F & ED930F

## 1080p Full High Definition
## True Day/Night Indoor Dome Camera

*User's Manual*

**EverFocus**

# Precautions

1. **Do not install the camera near electric or magnetic fields.** Install the camera away from TV/radio transmitters, magnets, electric motors, transformers and audio speakers since the electromagnetic fields generated from these devices may distort the video image or otherwise interfere with camera operation.

2. **Never disassemble the camera beyond the recommendations in this manual nor introduce materials other than those recommended herein.** Improper disassembly or introduction of corrosive materials may result in equipment failure or other damage.

3. **Try to avoid facing the camera toward the sun**. In some circumstances, direct sunlight may cause permanent damage to the sensor and/or internal circuits, as well as creating unbalanced illumination beyond the capability of the camera to compensate.

4. **Keep the power cable away from water and other liquids and never touch the power cord with wet hands.** Touching a wet power cord with your hands or touching the power cord with wet hands may result in electric shock.

5. **Never install the camera in areas exposed to oil, gas or solvents.** Oil, gas or solvents may result in equipment failure, electric shock or, in extreme cases, fire.

6. **Cleaning.** For cameras with interchangeable lenses, do not touch the surface of the sensor directly with the hands. Use lens tissue or a cotton tipped applicator and ethanol to clean the sensor and the camera lens. Use a damp soft cloth to remove any dirt from the camera body. Please do not use complex solvents, corrosive or abrasive agents for cleaning of any part of the camera.

7. **Do not operate the camera beyond the specified temperature, humidity or power source ratings.** This camera is suitable for indoor operation only. Use the camera at temperatures within -10°C~50°C (14°F~122°F) and humidity less than 80%; this device is not rated as submersible. The input power source is 12VDC or 24VAC. Be sure to connect the proper + / - polarity and voltage, as incorrect polarity or too high a voltage will likely cause the camera to fail, and such damage is not covered by the warranty.

8. **Mounting.** Use care in selecting a solid mounting surface which will support the weight of the camera plus any wind, snow, ice or other loading, and securely attach the camera to the mounting surface using screws and anchors which will properly support the camera. If necessary (e.g. when mounting to drop ceilings) use a safety wire to provide additional support for the camera.

# Safety Notice

**Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the 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 in a residential installation.    This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.    However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CE** | ATTENTION!   This is a class A product which may cause radio interference in a domestic environment; in this case, the user may be urged to take adequate measures.

**RoHS** | This Product is RoHS compliant.

**WEEE** | Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste. Please, dispose of this equipment at your local community waste collection/recycling centre. In the European Union there are separate collection systems for used electrical and electronic product.
Please, help us to conserve the environment we live in!

# Contents

# 1.    Introduction

The EverFocus eZ.HD Series ED910F/930F provides incredible performance in bright light environments or low light, and the resolution listed in the specification from the actual camera you install. To take full advantage of the amazing resolution available from this advanced imaging technology, the Everfocus eZ.HD Series ED910F/930F uses a vari-focal lens together with 1/2.9" SONY 2.24M pixels CMOS to deliver 1080p high resolution together with a useable native low light sensitivity of 0.08lux without using digital slow shutter. The camera truly provides optimized images without compromising 1080p high resolution. The Digital Wide Dynamic Range function provides clear color images in the most challenging of bright or unbalanced lighting conditions. The ED930F camera also features 18 LEDs with range of 30m / 100 ft. and provides true day/night that enhances images in low light environments with guaranteed ZERO ghosting. The cameras are equipped with 3-axis rotation mechanical design that delivers wall or ceiling mounting flexibility. Users can take the advantage of vari-focal 2.8~12mm DC iris lens to easily adjustable field of view from the cameras. The cameras also feature dual voltage operation and a full suite of OSD Menu and DSP functions controllable at the camera (3DNR to save DVR HDD space, privacy masking, mirroring, and much more). This is the camera that you have been waiting for to create analog CCTV systems that produce astounding image clarity in a wide range of indoor applications at the widest range of light levels. The ED910F/930F supports both NTSC and PAL scanning systems, which can be switched via OSD.

| Model | Image Sensor | Resolution | IR LEDs | Day / Night |
|---|---|---|---|---|
| ED910F | 1/2.9" SONY 2.24M pixels CMOS | 1080p | No | True Day/Night |
| ED930F | | | Yes (18 LEDs) | |

## 1.1  Packing List

- Dome Camera x 1
- User Manual x 1
- Test Lead x 1
- DC Power Pigtail Cable x 1
- Quick Installation Guide x 1
- Screw x 3
- Screw Driver x 1
- Plastic Anchor x 3
- Template Plate x 1
- Warning Paper x 1

## 1.2 Features

- 1080p with high flexibility and performance for astounding image
- 1/2.9" SONY 2.24M pixels CMOS Sensor, delivers amazing high sensitivity
- Vari-focal 2.8~12mm DC iris lens to capture the desired field of view
- 18 IR LEDs for 30m/100ft. range -depending on scene IR reflectivity (**for ED930F**)
- D-WDR to improve the visibility under high contrast scene
- 3D-Noise Reduction ensures less blurry moving subjects, vivid and high SN ratio images even under low light environments
- Support 1080p ,720p & 960H analog signal output, which can be easily switched using OSD Joystick
- The flexible angle viewing with its 3 Axis rotation design allows wall or ceiling mounting
- Easy lock installation by screwing the base plate to the surface and then locking the camera to the base plate without mounting screws
- eZ.Controller function: Control camera OSD settings and PTZ operation directly from DVR end
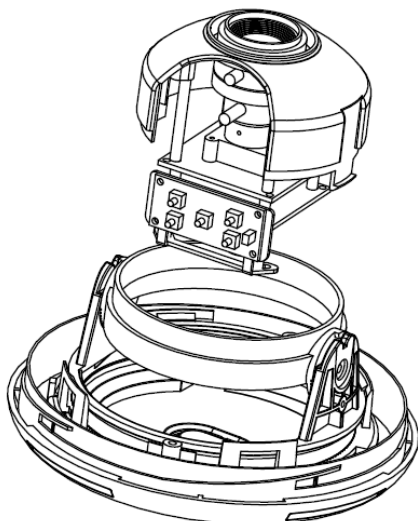
# 2.    Cable Description



Black: Negative (-)

Red: Positive (+)
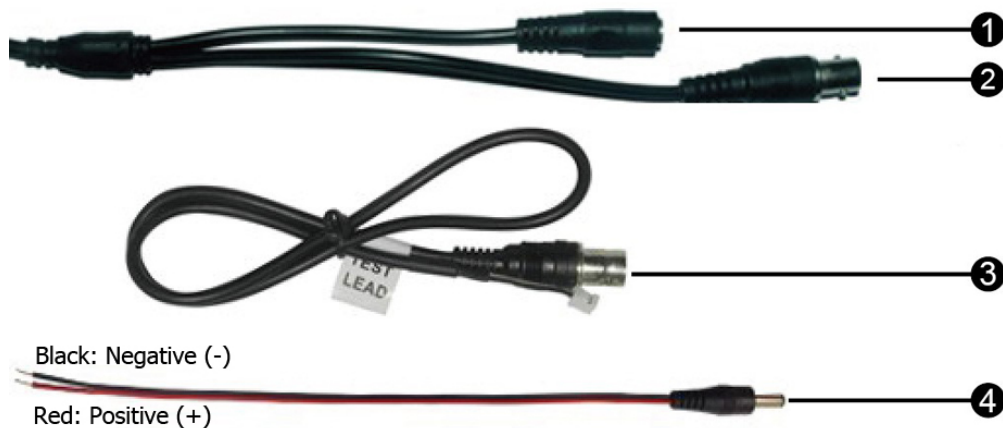
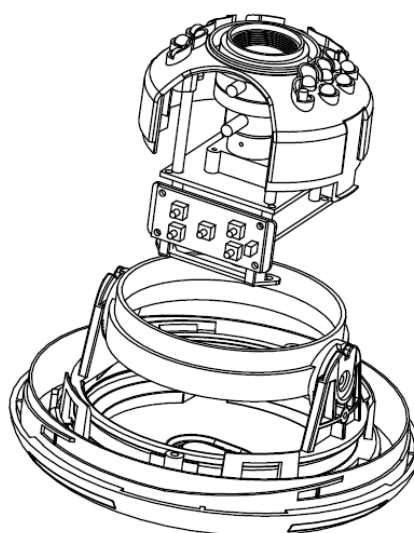| No. | Name | Descriptions |
|-----|------|-------------|
| 1 | **Power Cable** | Connect to a 12VDC or 24VAC power source. |
| 2 | **Video Output** | 1080p, 720p and 960H output, using a 75 Ohm BNC-type coaxial cable. |
| 3 | **Test Lead** | Connect to a monitor for setting image aim and focus. |
| 4 | **DC Power Pigtail Cable** | Optional power pigtail cable. The red wire is positive (+); while the black wire is negative (-). |

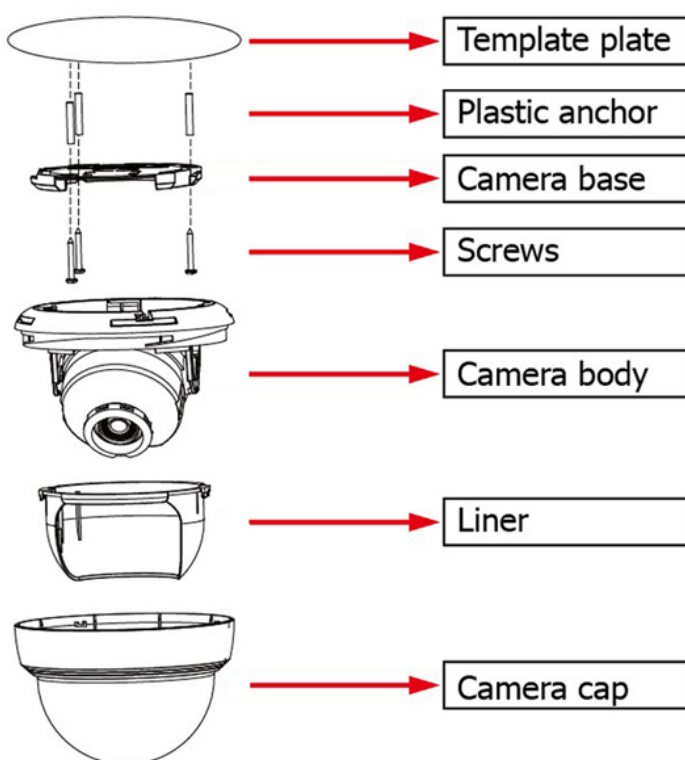# 3.    Installation

## 3.1   Installation and Adjustment

**ED910F without LED**                              **ED930F with LED**

**Camera Breakdown**



- Template plate
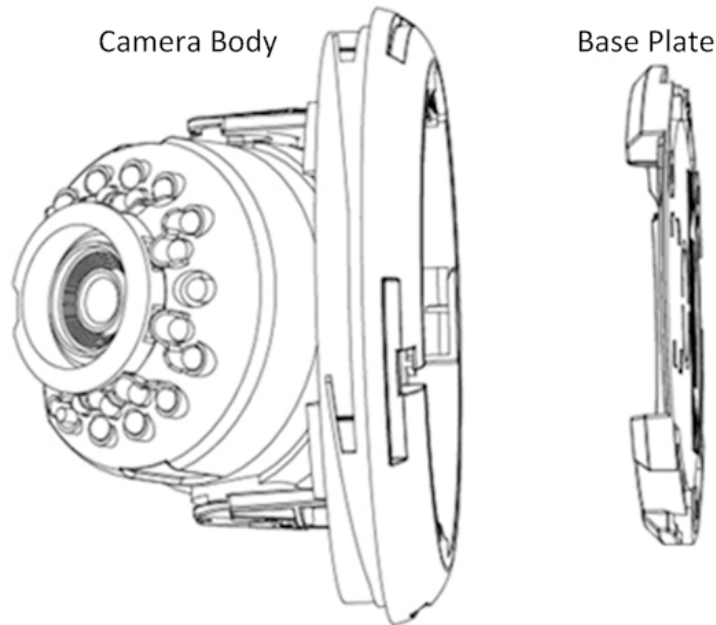- Plastic anchor
- Camera base
- Screws
- Camera body
- Liner
- Camera cap

**Important Notice**

Please be noted the camera **Base Plate** may loosen when you take out the camera from the pack. It is because the Base Plate is attached to the **Camera Body** without twisting tightly in order to simplify the installation procedure.



The Base Plate is not screwed to the Camera Body.

1.  Stick the **Template Plate** on the position where you want to attach the camera, drill three holes on the **Template Plate** for screwing the camera with the supplied **Screws** and **Plastic Anchors**. If you wish to run the wires through the wall / ceiling, drill an additional hole in the middle "Line out" circle position. Otherwise you can wire the cables from the side cut of the camera (refer to the "Line out" arrow position).
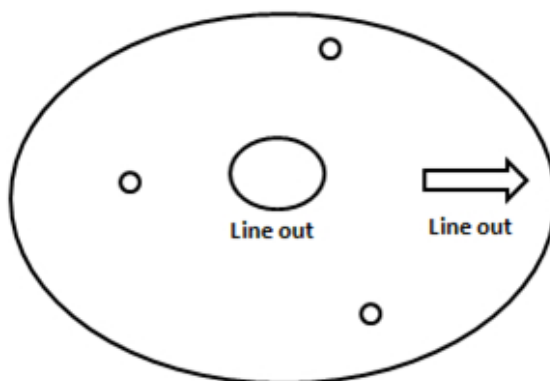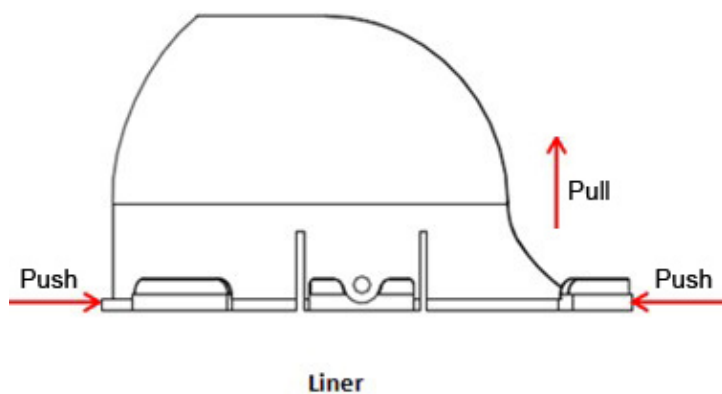


Template plate

2.  Insert the supplied three **Plastic Anchors** into the three holes.

3.      Rotate counter-clockwise to remove the camera cap, press and pull to remove the liner.

Camera Body          Liner          Camera Cap
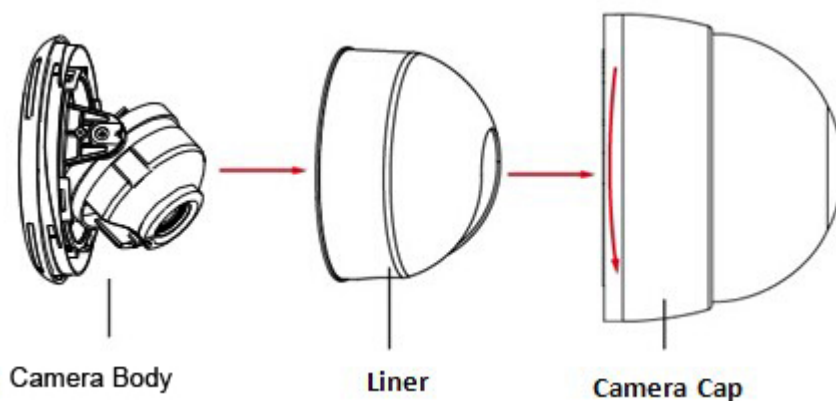
Note: Hold the liner with one hand, then press and pull to remove the liner (refer to the "arrow" marked on the liner)

Pull

Push          Push

Liner

4.      Push the inner click outward and rotate the base plate counter-clockwise, then remove the camera body from the base plate. (**See the yellow arrow label on the camera**)

Rotate the base plate counter-clockwise      Push the inner click outward

CAMERA FRONT
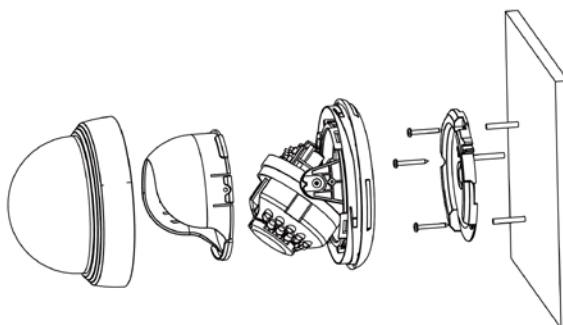
Camera Body          Base Plate
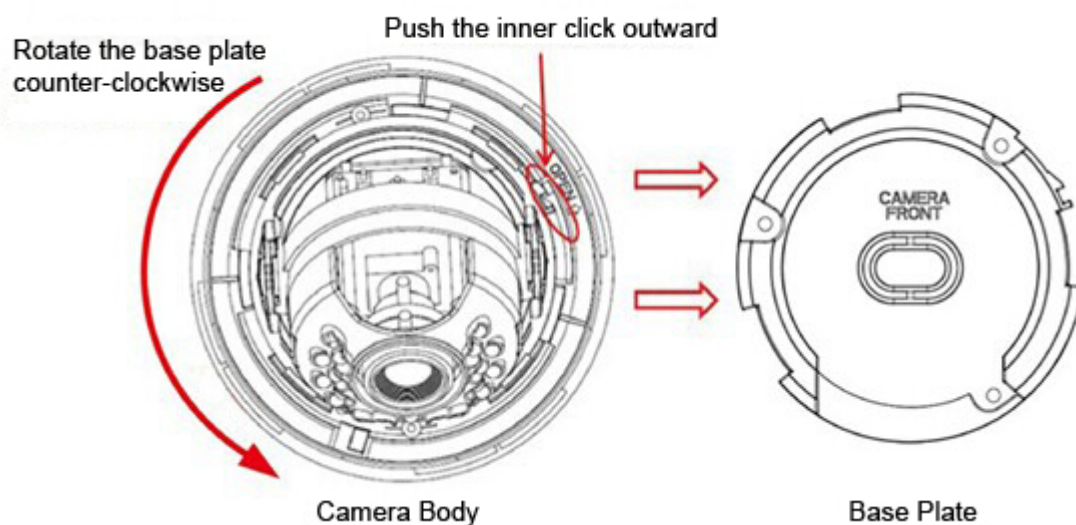
5.   Screw the base plate to the wall / ceiling using the supplied three **Screws**.

Ceiling-Mount

Wall-Mount
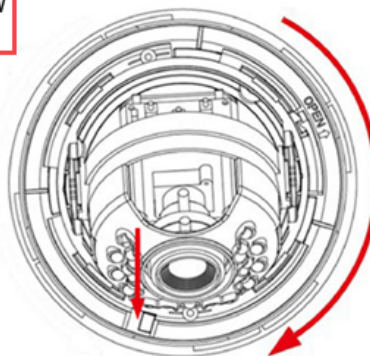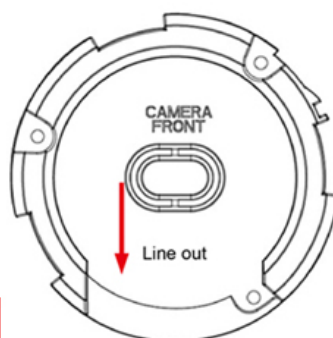
6.   To screw the camera body back to the base plate, aim the arrow label of the camera body to the arrow label of the base plate, and rotate the camera body clockwise. A "click" sound should be heard when the camera body and the base plate are firmly locked.

CAMERA
FRONT

Line out

Aim the arrow label of the
camera body to the arrow
label of the base plate

Rotate the camera body
clockwise

7.   Connect the camera to the 12 VDC or 24 VAC power source and an AHD DVR.



8.   Optionally connect the camera to a monitor using the supplied Test Lead to adjust camera angles, focus, zoom and configure OSD menu.

a.   Connect one end of the **Test Lead** to the camera and the other end to a monitor.
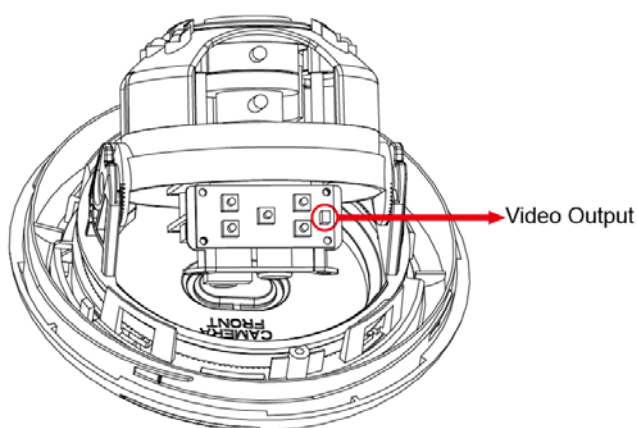


b.   To adjust camera angles, simply tilt, pan or rotate the camera.



c.   To configure the OSD Menu, use the function button.
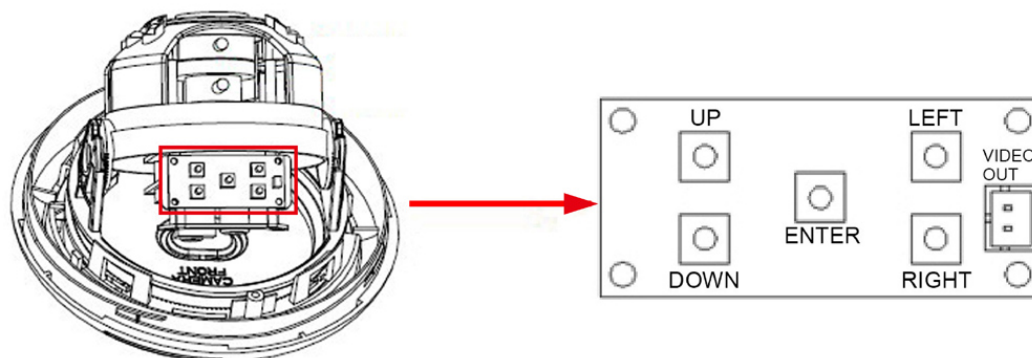
**Note: The function button is using to control direction, and also to switch video format and video output. Please follow the detailed instruction as below to switch the camera to:**

- ◇ Switch between 1080p and 720p (Default, 1080p): Press Upward for 5 Seconds
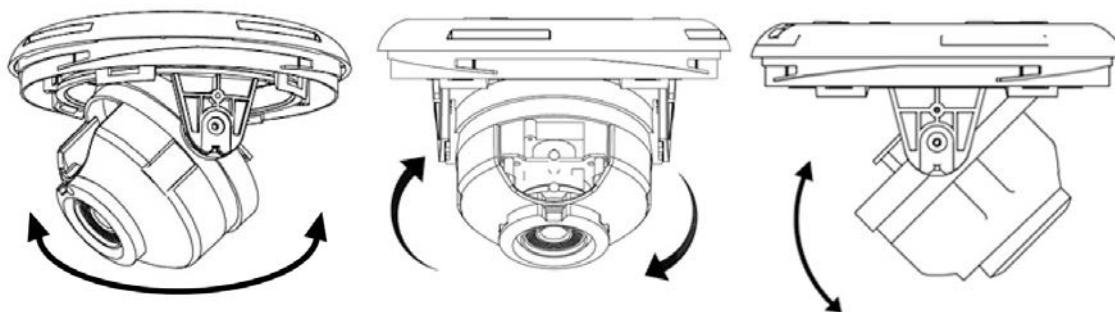- ◇ Switch from HD (1080p / 720p) to 960H: Press Left for 5 Seconds
- ◇ Switch from 960H to HD (1080p / 720p): Press Right for 5 Seconds
- ◇ Switch between NTSC and PAL: Press Downward for 5 Seconds

d. To adjust the Zoom / Focus, use the Zoom / Focus screws. Tighten the zoom /Focus screws using the supplied **Screw Driver**.
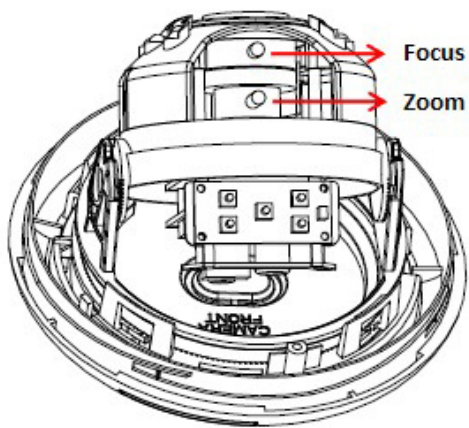


9. Put the liner back and twist the camera cover cap back to the camera.
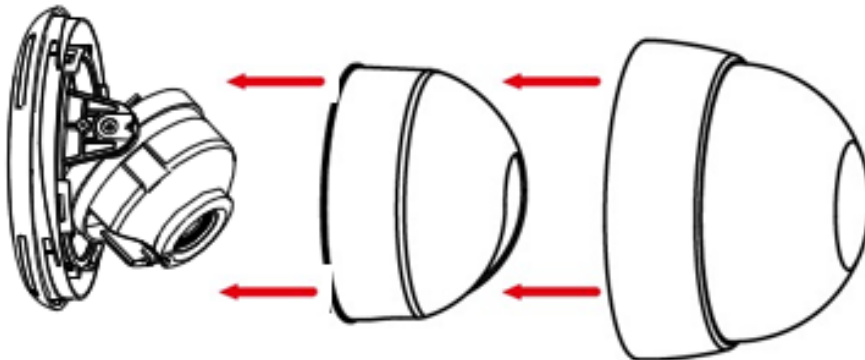
# 4. Configuration in the OSD Menu

You can use the function buttons on the rear panel of the camera body to configure camera settings in the OSD menu:

| No. | Main | Sub Menu | Sub Menu / Function | | | |
|-----|------|----------|------|------|------|------|
| 1 | Lens | DC | Mode | Indoor | | |
| | | | | Outdoor | Min Shu. | NTSC: 1/30 |
| | | | | | | PAL: 1/25 |
| | | | | | Max. Shu. | NTSC: 1/60,FLK,1/240, 1/480,1/1000, 1/2000,1/5000, 1/10000, 1/50000 |
| | | | | | | PAL: 1/50,FLK,1/200, 1/400,1/1000, 1/2000*,1/5000, 1/10000, 1/50000 |
| | | | Iris Speed | 0 – 15 | | |
| | | Manual | | | | |
| 2 | Exposure | Shutter | NTSC: 1/30, 1/60, FLK, 1/240, 1/480, 1/1000, 1/2000, 1/5000, 1/10000, 1/50000, X2, X4, X6, X8, X10, X15, X20, X25, X30, Auto | | | |
| | | | PAL: 1/25, 1/50, FLK, 1/200, 1/400, 1/1000, 1/2000, 1/5000, 1/10000, 1/50000, X2, X4, X6, X8, X10, X15, X20, X25, X30, Auto | | | |
| | | AGC | 0 – 15 | | | |
| | | Sens-up | Off | | | |
| | | | Auto | Sens-up | X2, X4, X6, X8, X10, X15, X20, X25, X30 | |
| | | Brightness | 1-100 | | | |
| | | D-WDR | Off | | | |
| | | | On | Level | 0-8 | |
| | | | Auto | | | |
| | | Defog | Off | | | |
| | | | Auto | Pos/Size | Position, Size, ↑ , ↓ , → , ← | |
| | | | | Gradation | 0-2 | |
| | | | | Default | | |
| 3 | Backlight | Off | | | | |

| | | | Level | Middle, High, Low | | |
|---|---|---|---|---|---|---|
| | | BLC | Area | Position, Size, ↑ , ↓ , → , ← | | |
| | | | Default | | | |
| | | HSBLC | Select | Area1, Area2, Area3, Area4 | | |
| | | | Display | Off | | |
| | | | | On | Position, Size, ↑ , ↓ , → , ← | |
| | | | Black Mask | On/Off | | |
| | | | Level | 0-100 | | |
| | | | Model | All Day | | |
| | | | | Night | AGC Level | 0-255 |
| | | | Default | | | |
| 4 | White Balance | ATW | | | | |
| | | AWC→SET | | | | |
| | | Indoor | | | | |
| | | Outdoor | | | | |
| | | Manual | Blue | 1-500 | | |
| | | | Red | 0-100 | | |
| | | AWB | | | | |
| 5 | Day & Night | Ext | D→N(Delay) | 0-60 | | |
| | | | N→D(Delay) | 0-60 | | |
| | | Auto | D→N(AGC) | 1-255 | | |
| | | | D→N(Delay) | 0-60 | | |
| | | | N→D(AGC) | 1-255 | | |
| | | | N→D(Delay) | 0-60 | | |
| | | Color | | | | |
| | | B/W | Burst | Off/On | | |
| | | | IR Smart | Off | | |
| | | | | On | Level | 0-15 |
| | | | | | Area | Position, Size, ↑ , ↓ , → , ← |
| | | | IR PWM | Off | | |
| | | | | 0-100 | | |
| 6 | NR | 2DNR | Middle/Low/Off/High | | | |
| | | 3DNR | Middle/Low/Off/High | | | |
| 7 | Special | Cam Title | Off | | | |
| | | | On | 0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ►→ ← ↑ ↓ () ¯ -_■ /=&:~,. | | |
| | | D-effect | Freeze | Off/On | | |

| | | | | Mirror | Off, Mirror, V-flip, Rotate | |
|---|---|---|---|---|---|---|
| | | | | Neg. Image | Off/On | |
| | | | Motion | Off | | |
| | | | | On | Select | Area1,Area2,Area3,Area4 |
| | | | | | Display | On | Position, Size, ↑ , ↓ , → , ← |
| | | | | | | Off |
| | | | | | Sensitivity | 0-100 |
| | | | | | Color | Green, Blue, White, Red |
| | | | | | Trans | 1.00,0.75,0.50, 0.25 |
| | | | | | Alarm | View Type | Off, Block, Outline, All |
| | | | | | | OSD View | On/Off |
| | | | | | | Alarm Out | On/Off |
| | | | | | | Time | 1-15 |
| | | | | | Default | |
| | | | Privacy | Off | | |
| | | | | On | Select | Area1,Area2,Area3,Area4 |
| | | | | | Display | Off |
| | | | | | | Color | Position, Size, ↑ , ↓ , → , ← |
| | | | | | | Mosaic | Position, Size, ↑ , ↓ , → , ← |
| | | | | | | Inv | Position, Size, ↑ , ↓ , → , ← |
| | | | | | Color | White, Black, Red, Blue, CYAN, Yellow, Green |
| | | | | | Trans | 1.00,0.75,0.50, 0.25 |
| | | | | | Default | |
| | | | Language | ENG/CHN1/CHN2/GER/FRA/ITA/SPA/POL/RUS/POR/NED/TUR | | |
| | | | Defect | Live DPC | Off | |
| | | | | | On | AGC level | 0-255 |
| | | | | | | Level | 0-100 |
| | | | | White DPC | Off | |
| | | | | | On | Pos/Size | Position, Size, ↑ , ↓ , → , ← |
| | | | | | | Start | Close the iris then press |
| | | | | | | DPC View | Off/On |
| | | | | | | Level | 0-60 |
| | | | | | | AGC | 0-14 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Sens-up | x2, x4, x6, x8,x10, x15, x20, x25, x30 |
| | | | Black DPC | Off | | |
| | | | | On | Pos/Siz | Position, Size, ↑ , ↓ , →, ← |
| | | | | | Start | Press Enter |
| | | | | | DPC View | Off/On |
| | | | | | Level | 0-255 |
| | | | RS485 | CAM ID | 0-255 | |
| | | | | ID Display | Off/On | |
| | | | | Baud Rate | 2400,4800,9600,19200 ,38400 | |
| 8 | Adjust | Sharpness | Off | | | |
| | | | Auto | Level | 0-10 | |
| | | | | Start AGC | 0-255 | |
| | | | | End AGC | 0-255 | |
| | | Monitor | CRT | Blue Gain | 0-100 | |
| | | | | Red Gain | 0-255 | |
| | | | LCD | Gamma | User,0.45,0.50,0.55,0.60,0.65,0.70,0.75,0.80,0.85,0.90, 0.95,1.00 | |
| | | | | Blue Gain | 0-100 | |
| | | | | Red Gain | 0-100 | |
| | | LSC | Off/On | | | |
| | | Video. Out | PAL/NTSC | | | |
| 9 | AF | AF Mode | Semi. | | | |
| | | | Auto | | | |
| | | | Manual | | | |
| | | One Shot AF | | | | |
| | | TDN AF | On | | | |
| | | | Off | | | |
| | | Lens Init. | | | | |
| 10 | Exit | | Save& END /Reset/Not Saved | | | |

## 5. Specifications

| P/N | ED910F | ED930F |
|---|---|---|
| **Pickup Device** | 1/2.9" SONY 2.24M pixels CMOS | |
| **Video Format** | NTSC and PAL( can be switched via OSD) | |
| **Effective Pixels** | 1920 (H)*1080 (V) | |
| **Scanning System** | Progressive Scan | |
| **Sensitivity** | 0.01Lux/F1.4 | 0Lux with IR on |
| **S/N Ratio** | Over 50 dB (AGC OFF) | |
| **Electronic Shutter** | AUTO, Manual (X30~1/ 50000), FLK | |
| **Video Output** | BNC 1.0Vp-p 75Ω | |
| **Gamma Correction** | 0.45 | |
| **Lens Type** | DC Iris 2.8-12mm, F1.4 | |
| **BLC** | OFF/BLC/HS BLC Selectable | |
| **AGC** | 0~15 Levels | |
| **White Balance** | ATW/AWC-SET/INDOOR/OUTDOOR/MANUAL/AWB | |
| **Sync Mode** | Internal | |
| **Day/Night** | Ext, Auto, Color, B/W | |
| **IR LED** | N/A | 18 Units |
| **IR Distance** | N/A | Up to 30m/100ft. range(depending on scene IR reflectivity) |
| **OSD Languages** | 12-Language | |
| **Digital Noise Reduction** | 2DNR/3DNR, Off | |
| **Defog** | Off/Auto | |
| **D-WDR** | On/Off | |
| **Sens-up** | Off/On(x30~x2) | |
| **Mirror** | Off/Mirror/V-Flip/Rotate | |
| **Motion Detection** | Off/On for 4 selectable zones | |
| **Privacy Mask** | Off/On for 4 selectable zones | |
| **Environmental** | Indoor | |
| **Power Source** | 12VDC/24VAC | |
| **Power Consumption** | 12VDC:1.6w max./ 24VAC: 1.7w max. | 12VDC:3.7w max./ 24VAC: 3.5w max. |
| **Operating Temperature** | -10°C~50°C / 14°F~122°F | |
| **Humidity** | Less than 80% | |
| **Dimensions(in/mm)** | 133 x 96.6mm / 5.24 " x 3.8" | |
| **Weight(lbs/g)** | 0.65lbs /295g | 0.79lbs /360g |
| **Certifications** | CE/FCC/RoHS | |

**Specifications and designs are subject to change for improving the functionality of this product without notice.**

# *EverFocus Electronics Corp.*

**EverFocus Taiwan:**
12F-1, No.79, Sec. 1, Shin-Tai Wu Road,
Hsi-Chih, New Taipei City, Taiwan
TEL: +886 2 2698 2334
FAX: +886 2 2698 3943
www.everfocus.com.tw
marketing@everfocus.com.tw

**EverFocus Europe - Germany:**
Albert-Einstein-Strasse 1, D-46446
Emmerich, Germany
TEL: +49 2822 93940
FAX: +49 2822 939495
www.everfocus.de
sales@everfocus.de

**EverFocus China - Beijing:**
Room 609, Technology Trade Building,
Shangdi Information Industry Base,
Haidian District, Beijing 100085, China
TEL: +86 10 6297 3336~39
FAX: +86 10 6297 1423
www.everfocus.com.cn
marketing@everfocus.com.cn

**EverFocus China - Shenzhen:**
4F, No. 2, D4 Building, Wan Yelong
Industrial Park, Tangtou Road, Shiyan,
Baoan, Shenzhen, Guangdong 518101, China
TEL: +86 755 2765 1313
FAX: +86 755 2765 0337
www.everfocus.com.cn
marketing@everfocus.com.cn

**EverFocus USA - California:**
1801 Highland Avenue, Unit A, Duarte, CA 91010,
USA
TEL: +1 626 844 8888
FAX: +1 626 844 8838
www.everfocus.com
sales@everfocus.com

**EverFocus Japan:**
3F Kuramochi, BuildingII 2-2-3 Koto-Bashi,
Sumida-Ku Tokyo, 130-0022, Japan
TEL: +81 3 5625 8188
FAX: +81 3 5625 8189
www.everfocus.co.jp
info@everfocus.co.jp