

# EVERFOCUS

## 1/3" B/W Rugged Dome Camera Operation Instructions

Model No. **EHD150**

Please read this manual first for correct installation and operation. This manual should be retained for future reference. The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

### **PRECAUTIONS**

**1. Do not install the camera near electric or magnetic fields.**

Install the camera away from TV, radio transmitter, magnet, electric motor, transformer, audio speakers since the magnetic fields generate from above devices will distort the video images.

**2. Never disassemble the camera nor put impurities in it.**

Disassembly or impurities may result in trouble or fire.

**3. Never face the camera toward the sun.**

Direct sunlight or severe ray may cause fatal damage to sensor and internal circuit.

**4. Keep the power cord away from water and liquid.**

Touching the wet power cord may result in electric shock.

**5. Never install the camera in areas exposed to water, oil or gas.**

Water, oil or gas may result in failure, electric shock or fire.

## **6. Cleaning**

Do not touch the surface of sensor by hand directly. Use a soft cloth to remove the dirt from the camera body. Use lens tissue or a cotton swab and ethanol to clean the sensor and the camera lens.

## **7. Do not operate the camera beyond the specified temperature, humidity or power source ratings.**

Use the camera at temperatures within  $-46^{\circ}\text{C} \sim 50^{\circ}\text{C}$  ;  $-50.8^{\circ}\text{F} \sim 122^{\circ}\text{F}$  and humidity between 20%~ 80%. The input power source is 12VDC $\pm$ 10%, 24VAC $\pm$ 10%.

## **PREFACE**

The most technically advanced EHD150 is the newest vandal-resistant B/W Rugged Dome Camera from EverFocus Electronics. The B/W Rugged Dome Camera can withstand a blow from a 10-pound sledgehammer and has a built-in heater that allows for operation in low temperatures. It is perfect for all high-profile crime-prone applications such as building entrances, retail stores, and shopping malls. The extremely EHD150 is unquestionably one of the world's toughest cameras and is your best choice for vandal resistance.

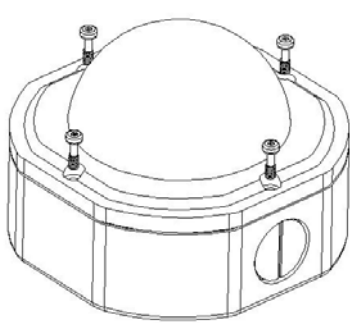
## **FEATURES**

- Designed with advanced digital signal processing circuitry for high image quality.
- The high sensitivity of 0.06 lux/F=1.6 is achieved by high –resolution 1/3” interline transfer CCD.
- DC12V or AC24V switches automatically power supply; Line Lock for AC24V.
- S/N Ratio reaches 48 dB or more.
- Both board lens and vari-focal lens (3.6 ~ 9mm, 9~22mm) are available.
- Compact size: 130(W) x 130 (D) x 98.9mm(H) / 5.2" (W) x 5.2" (D) x 3.95" (H)
- Polycarbonate base withstand the impact of a 10 pounds sledgehammer, smoke color or clear as option.
- Unique security screw locked
- Operating temperature  $-46 \sim +50$  deg Celsius.
- Heater triggered when temperature less than 10 deg Celsius.

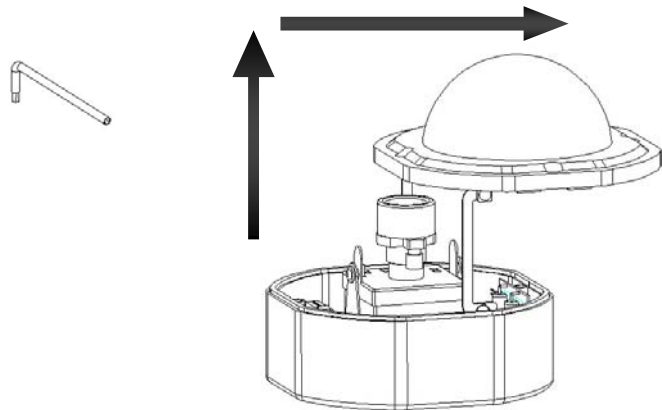
## **INSTALLATION**

1. Loosen the 4 fix screws on the housing cover by using the attached wrench (Figure 1).

Carefully uncap the housing cover as the direction shown below (Figure 2), please pay attention not to damage the lens. To remove the housing cover, push the hinges to the bottom of the bracket, the hinges can be easily removed from the bracket.

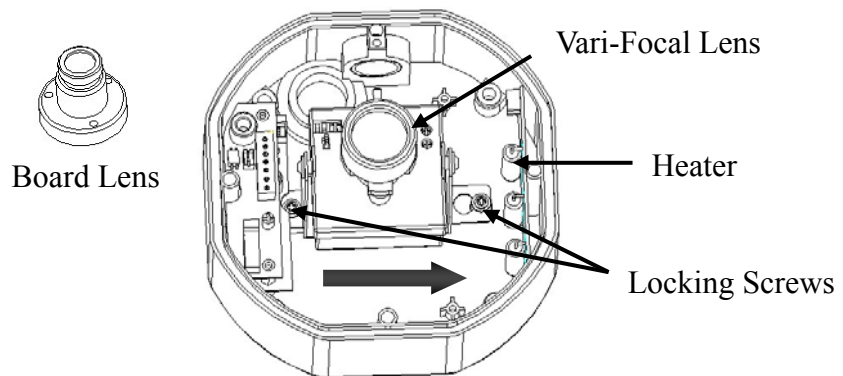


**Figure 1**



**Figure 2**

2. Remove the camera.

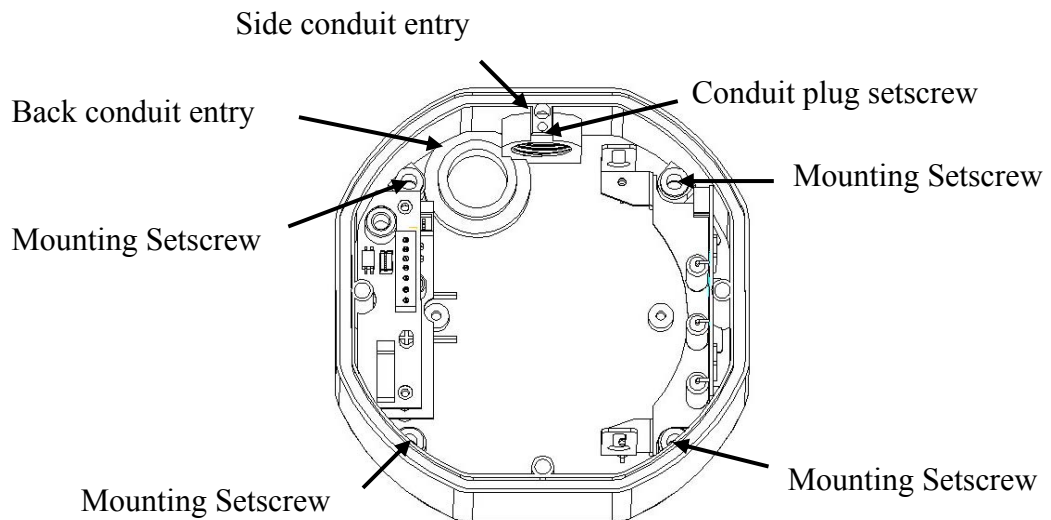


**Figure 3**

To remove the camera, first unplug the wire connection on the back of the camera.

Then loosen the 2 locking screws on the camera base, push the camera base to the right (toward heater direction, as shown in Figure 3), remove the camera from the mounting base. Reinstall the camera and the cable while the base mounting is completed.

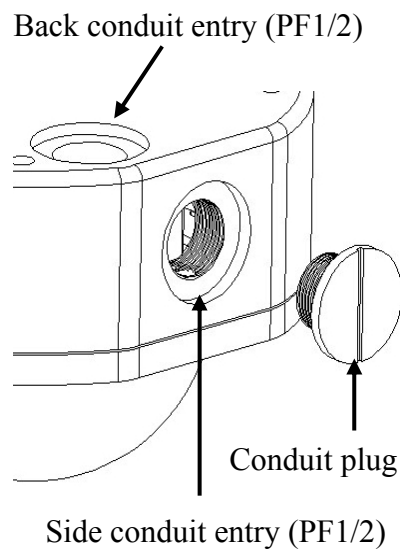
### 3. Mounting the base.



**Figure 4**

Attach the base to the wall or ceiling, fix the base by the 4 setscrews attached in the accessory pack. The dome is weighted 1.7kg, please make sure if the mounting is strengthened enough to support it, if not, please reinforce the mounting according to the environment.

Note: The diameter of the screw hole is  $\varphi 4.7\text{mm}$ .



**Figure 5**

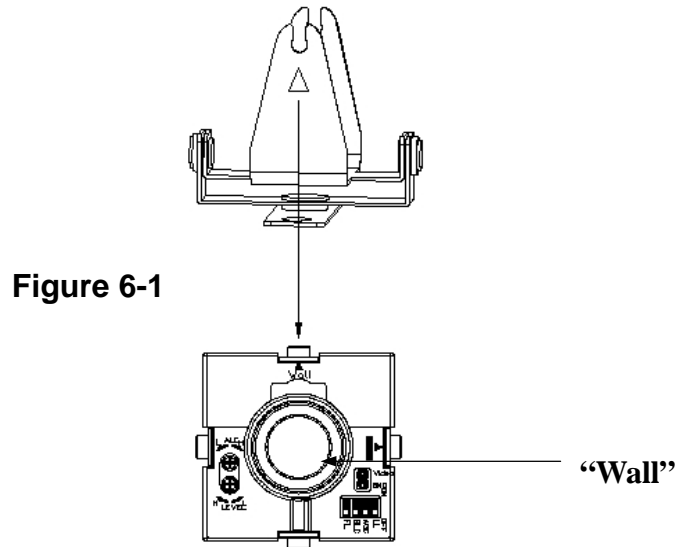
The camera comes with a conduit plug pre-installed in the PF 1/2 conduit entry on the side. The screw can be removed and installed in the back conduit entry. Loosen the conduit plug setscrew (as shown in Figure 5) before removing the conduit plug.

**Caution:** To prevent moisture leaking into the housing, apply an appropriate gasket

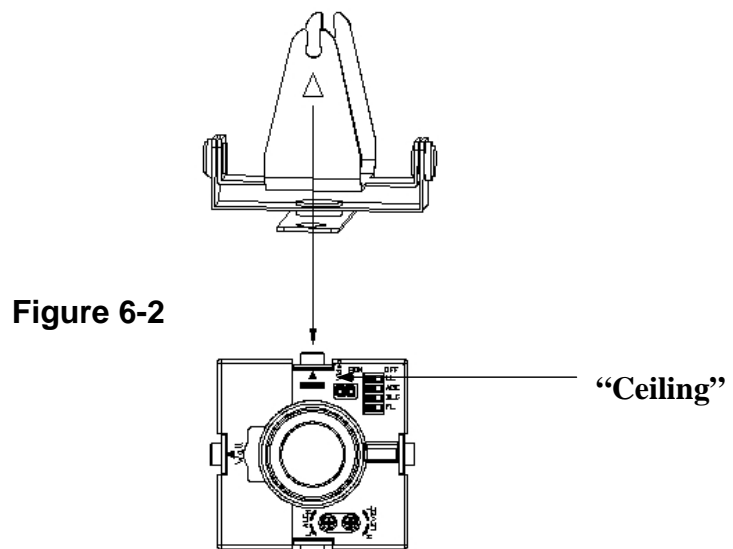
or sealant around the conduit connection.

#### 4. Re-assemble Camera

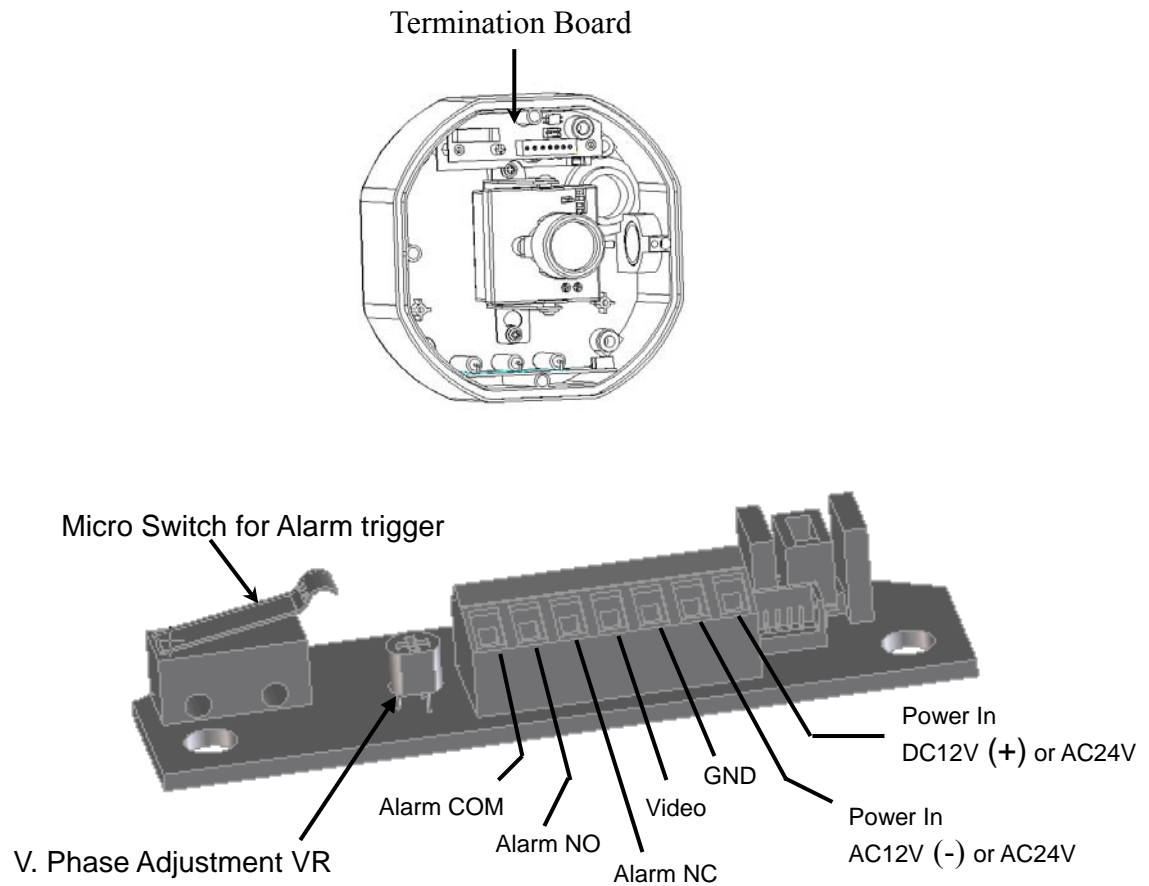
1. If mounting COLOR RUGGED DOME CAMERA on the wall, please to aim the “**Wall**” in line with the triangle “▲” marked on the lead frame. (factory default)



2. If mounting COLOR RUGGED DOME CAMERA on the ceiling, please to aim the “**Ceiling**” in line with the triangle “▲” marked on the lead frame.



## 5. Wire Connection



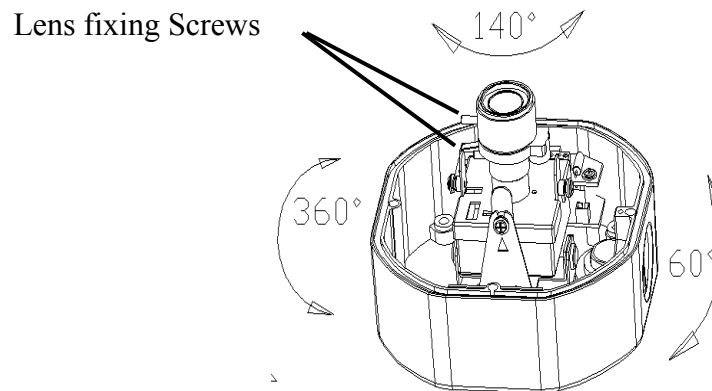
**Figure 7**

Connect the power supply cable (AC24V/DC12V), video output and alarm output to the proper connectors shown as Figure 7.

The V. Phase adjustment screw is located on the termination board. The vertical phase may require adjustment to synchronize the vertical phase of the camera with other camera in the system when it is to be used in the line-lock sync mode. Make the adjustment when the vertical phase of the camera does not match with other cameras.

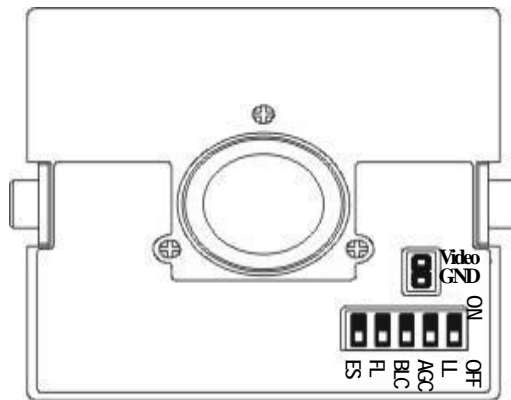
## 6. View Angel Adjustment

The camera can be rotated  $360^\circ$  horizontally,  $140^\circ$  vertical and  $60^\circ$  3<sup>rd</sup> axis view angles (as shown in Figure 8). Adjust the proper camera view angel as needed. If a vari-focal lens is used, you may adjust the focus and zoom of the lens to bring the object in focus. Be sure to loosen the locking screws on the lens before you do the adjustments.

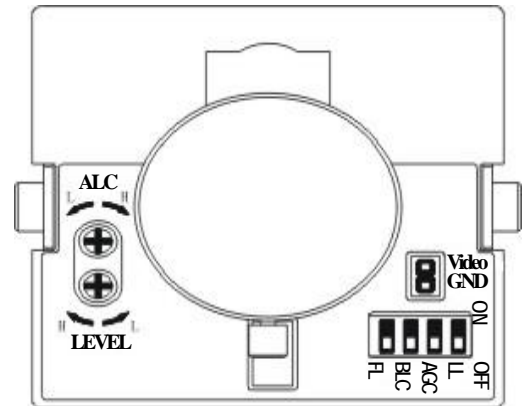


**Figure 8**

## **DIP SWITCH FUNCTION**



**Board Lens**



**Vari-Focal Lens**

### **LL (Line-Lock) Off/On**

To select the sync mode between Internal Sync.(LL off) and Line-Lock (LL on).

Set the line-lock off, the camera will synchronize to the internal time base. Set the line-lock on, the camera's vertical synchronization can be driven by the AC signal in the power lines.

Note: Line-Lock sync mode operation is possible only when used with an AC power source; it's not possible with a DC power source.

The default setting is ON.

### **AGC (Automatic Gain Control) Off/On**

AGC ON: The sensitivity increases automatically when light is low.

AGC OFF: A-low-noise picture is obtained under a low light condition.

The default setting is ON.



### **BLC (Back Light Compensation) On/Off**

When BLC is turned on, the AGC, ES and IRIS operating point is determined by averaging over the center area instead of entire field-of-view, so that a dimly-lit foreground object at center area can be clearly distinguished from brightly-lit backgrounds.

BLC should not be used unless it is needed to compensate for back-lit.

The default setting is Off.

### **FL (Flickerless Function) On/Off**

When picture flicker fiercely, turn FL on, then the camera will stabilize the speed of electronic shutter at 1/100(NTSC) or 1/120(PAL) automatically, and reduce the flicker immediately.

The default setting is Off.

### **ES (Electronic Shutter) Off/On**

ES ON: The camera continuously adjusts the shutter speed from 1/60 (NTSC), 1/50 (PAL) second to 1/100,000 second according to the luminance conditions of the scene.

ES OFF: The shutter speed is fixed at 1/60 (NTSC), 1/50 (PAL) second.

Set ES OFF, when auto iris lens is used or flicker is observed under a very bright fluorescent lamp. Otherwise, turn ES on for optimum performance. The default setting is ON.

## SPECIFICATIONS

Pickup Device	1/3" SONY interline transfer CCD
Picture Element	NTSC :768(H) × 494(V) PAL: 752(H)×582(V)
Horizontal Resolution	560 TV lines
Sensitivity	0.06 lux / F=1.6
S/N Ratio	Over 48dB(AGC off)
Weatherproof Ratings	IP66
Electronic Shutter	1/60(1/50)~1/100,000 (Board lens only)
IRIS Control	Auto (vari-focal lens only)
Auto Gain Control	On/Off switch
Back Light Comp.	On/Off switch
Line Lock	On/Off switch for 24VAC
Gamma Correction	0.45
Video Output	1.0Vp-p,75ohm
Power Source	12VDC+/-10%, 24VAC+/-10%
Power Consumption	5W Max. (15W when heater active; thermostatically controlled)
Sync. Mode	Internal Sync. /Line lock (Only AC24V)
Dimensions	130 (W) x 130 (D) x 98.9 (H) mm / 5.2" (W) x 5.2" (D) x 3.95" (H)
Lens	Board lens f=3.6, F=2.0 Vari-focal f=3.6~9mm, F=1.6 Vari-focal f=9~22mm, F=1.6 *Lens models and availability vary in different regions
Heater Auto Activated Temperature	10°C, Heater optional
Operating Temperature	-46°C ~ 50°C ; -50.8°F~122°F( 20% ~ 80% humidity)
Weight	1.7kg ; 3.7 lbs
Certifications	FCC/CE

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