

EMW930 Mobile IR Vandal Resistant Camera

720p Analog HD True Day/Night, IP66

Quick Installation Guide



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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.

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 and avoid facing the camera toward the sun. In some circumstances, direct sunlight may cause permanent damage to the sensor and/or internal circuits.

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

5. Cleaning Use a damp soft cloth to remove any dirt from the camera body, being careful not to scratch the covers over the lens and IR emitters. Use lens tissue or a cotton tipped applicator and ethanol if it becomes necessary to clean the camera lens. Please do not use complex solvents, corrosive or abrasive agents for cleaning.

6. Do not operate the camera beyond the specified temperature, humidity or power source ratings.

Use the camera at temperatures within -40°C~50°C / -40°F~122°F. The input power source is 12 VDC.

Table of Contents

1. Introduction	2
2. Features	2
3. Packing List	2
4. Cable Description.....	3
5. Installation	3
6. OSD Menu Tree	7
7. Specification	11

1. Introduction

With a streamlined, vandal resistant, IP66 weatherproof wedge type chassis, the EMW930 is ideal for transit/school bus and similar applications. The EMW930 fixed lens model comes with the IR illuminator module. Users can select a side, rear, wall or ceiling mounting configuration for best viewing angle, and mount the camera easily without brackets. The IR illuminators provide clear images up to 15 meters / 50 feet away. The camera features a built-in visible light sensor to monitor ambient light and provide IR illumination when needed.

2. Features

- 720P with high flexibility and performance for astounding image
- 1/3" Sony COMS, delivers high sensitivity
- Astounding image quality from the 3.6mm lens
- Dual-position IR illuminators provide clear images up to 15m/50ft.
- D-WDR to improve the visibility under high contrast scene
- Provides 3D-Noise Reduction ensures less blurry moving subjects, vivid and high SN ratio images even under low light environments
- Support 720p & 960H Analog signal output, which can be easily switched using OSD Joystick
- Vandal resistant, IP66 housing
- Built-in heater
- Side/Rear/Wall/Ceiling mounting options, no bracket required

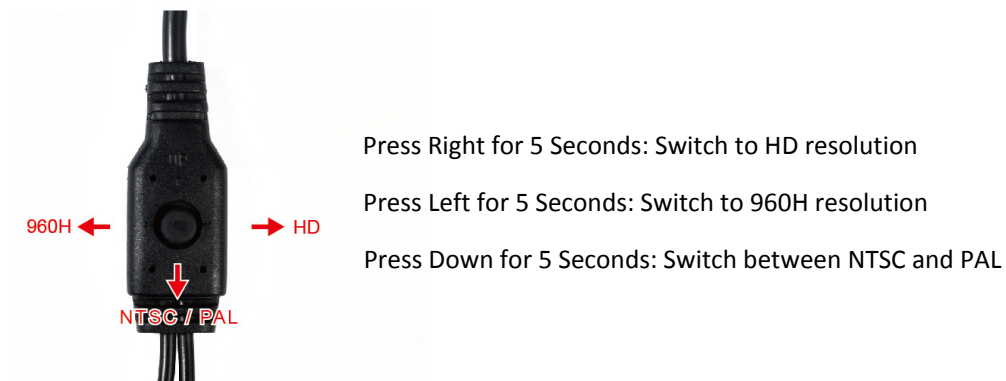
3. Packing List

- | | |
|--------------------------------|---|
| • Camera unit | • Power adapter pigtail |
| • Mounting template | • Desiccant pack with gummed tape to attach pack inside camera |
| • Accessory kit containing: | • Rubber gasket for base of camera (attached to the base of the camera) |
| - 4 screws and plastic anchors | • Quick Installation Guide |
| - 4 rubber washers | |
| - Torx wrench for cover screws | |

4. Cable Description

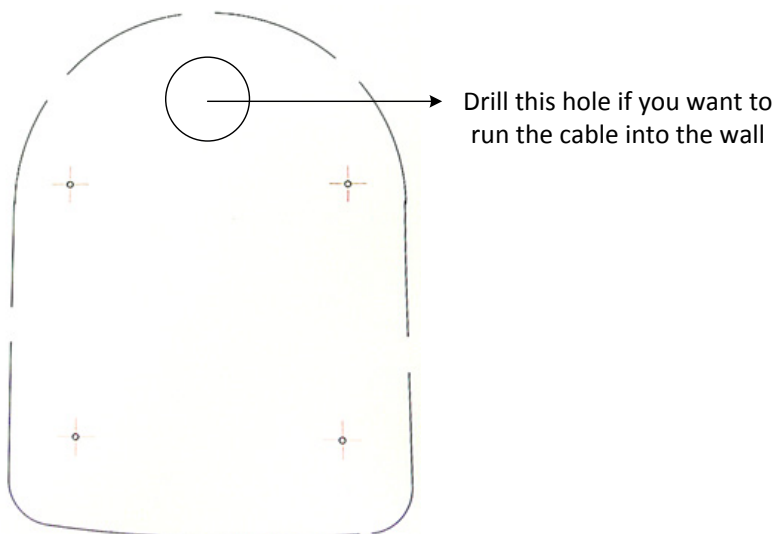


You can use the OSD Joystick to switch between HD and 960H resolution (see image below).



5. Installation

1. Paste the supplied **Mounting Template** onto a desired location of the surface. Drill the four red cross marks (3.7mm diameter if plastic anchors are not used) for the mounting screws. If you wish to run the cable into the wall, drill another hole marked as a circle below.

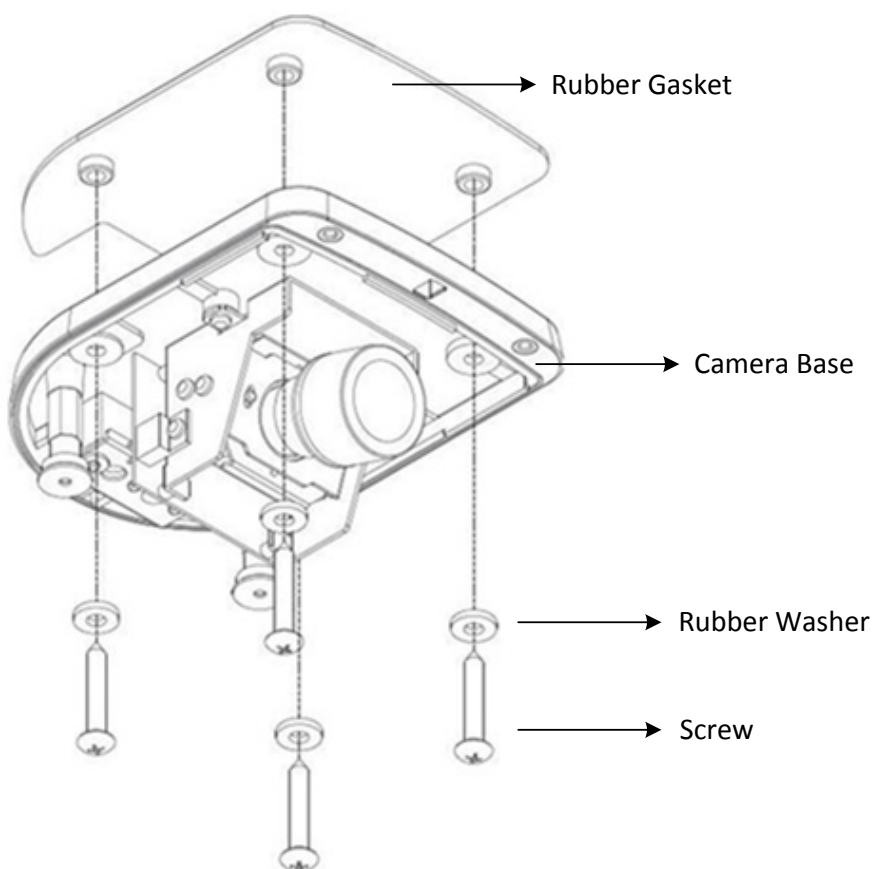


2. Push the four supplied four **Plastic Anchors** into the four holes on the surface.

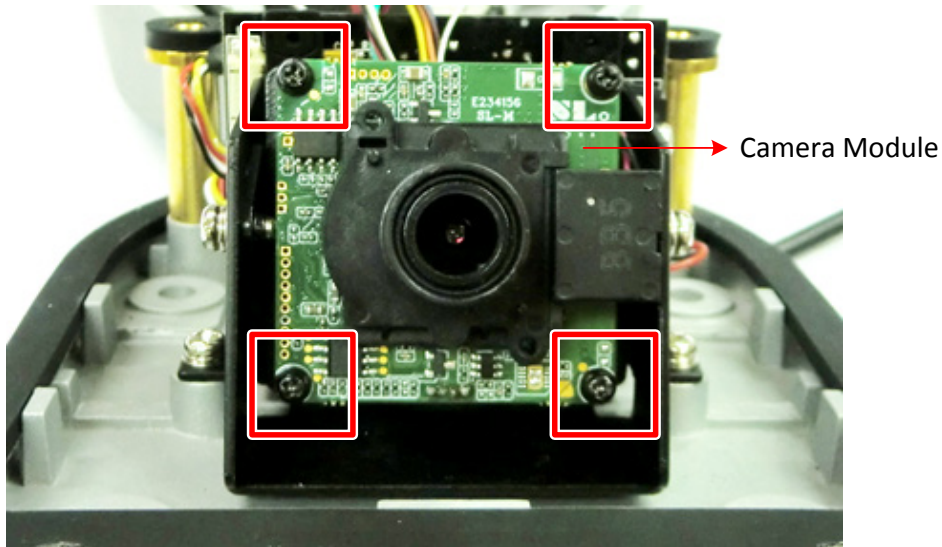
3. Loosen the four screws using the provided **Torx Wrench** to remove the cover from the camera.



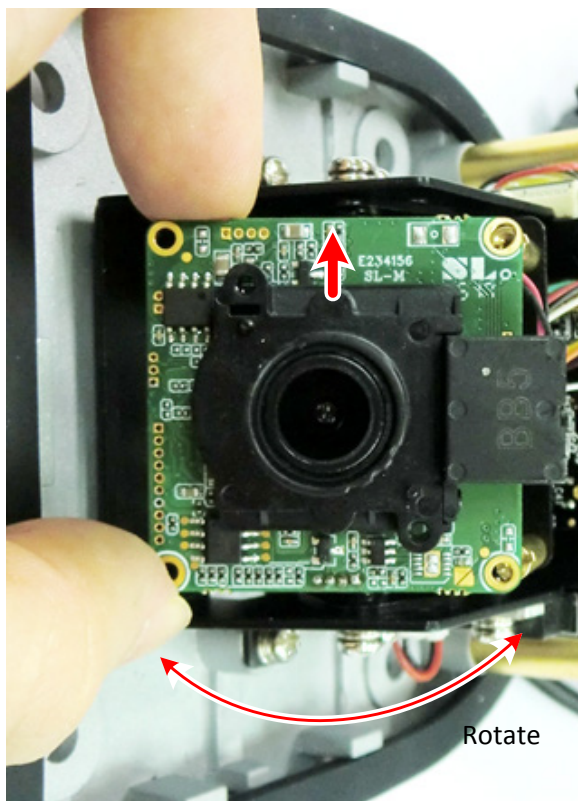
4. Attach the camera and **Rubber Gasket** to align the mounting holes. Screw the camera base using the supplied four **Screws** and **Rubber Washers** to the surface tightly. Apply sealant generously around all holes.



5. To optionally rotate the Camera Module on-axis to change the camera view:
 - a. Remove the four screws from the Camera Module.

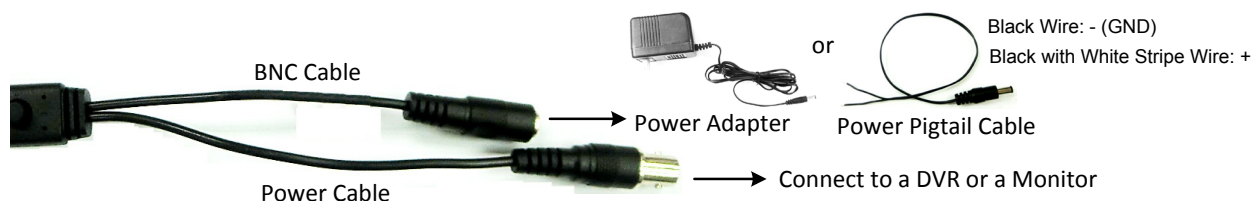


- b. Rotate the Camera Module to the left or right by either 90, 180 or 270-degree and screw back the Camera Module.

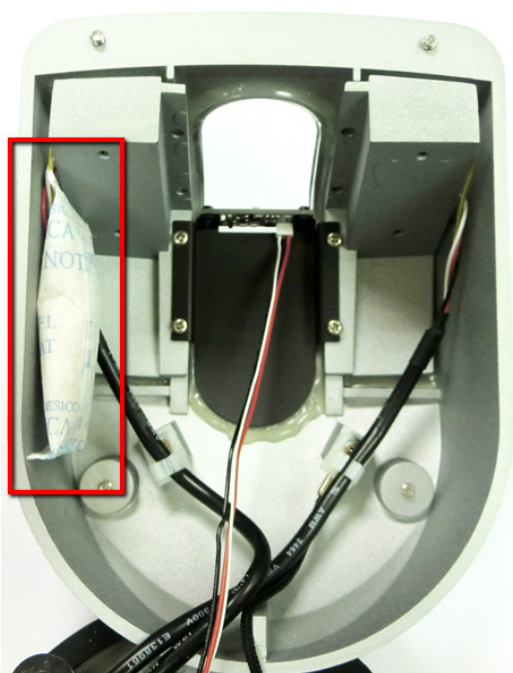


Note: The red arrow on the top of the above image indicates proper orientation of camera module. When the camera is installed, this arrow should point UP.

6. Connect the **Power Cable** to the 12VDC power source using the supplied Power Adaptor Pigtail (black wire: negative - / black with white stripe wire: positive +) or a power adapter. Connect the **BNC Cable** to a DVR or a Monitor.



7. Stick the provided desiccant pack inside of the camera cover (**Do this last just before closing the housing when the installation is complete**). The desiccant pack has glue on it; use the glue to attach it on the left side of the inner cover.



8. Screw back the cover using the supplied Torx Wrench.



6. OSD Menu Tree

You can use the OSD Joystick on the cable to configure camera settings in the OSD menu.

No.	Main	Sub Menu	Sub Menu / Function			
1	Lens	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(15*)			
		Sens-up	Off*			
			Auto	Sens-up	X2, X4*, X6, X8, X10, X15, X20, X25, X30	
		Brightness	1-100(30*)			
		D-WDR	Off*			
			On	Level	0-8(8*)	
			Auto			
		Defog	Off*			
			Auto	Pos/Size	Position, Size, ↑, ↓, →, ←	
				Gradation	0-2(0*)	
				Default		
3	Backlight	Off*				
		BLC	Level	Middle*, High, Low		
			Area	Position, Size, ↑, ↓, →, ←		
			Default			
		HSBLC	Select	Area1*, Area2, Area3, Area4		
			Display	Off		
				On*	Position, Size, ↑, ↓, →, ←	
			Black Mask	On*/Off		
			Level	0-100(70*)		
			Model	All Day*		
				Night	AGC Level	0-255(48*)
			Default			
4	White Balance	ATW*				
		AWC→SET				
		Indoor				

		Outdoor					
		Manual	Blue	1-500(50*)			
			Red	0-100(50*)			
		AWB					
5	Day & Night	Ext*	D→N(Delay)	0-60(1*)			
			N→D(Delay)	0-60(1*)			
		Auto	D→N(AGC)	1-255(240*)			
			D→N(Delay)	0-60(1*)			
			N→D(AGC)	1-255(50*)			
			N→D(Delay)	0-60(5*)			
		Color					
		B/W	Burst	Off*/On			
			IR Smart	Off			
				On*	Level	0-15(4*)	
					Area	Position, Size, ↑, ↓, →, ←	
			IR PWM	Off			
				0-100(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(64*)		
				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		
		Alarm Sig		High*, Low			

					Time	1-15(3*)			
				Default					
		Privacy	On	Off*					
					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(65*)			
					Level	0-100(100*)			
			White DPC		Off				
				On*	Pos/Size	Position, Size, ↑, ↓, →, ←			
					Start	Close the iris then press			
					DPC View	Off*/On			
					Level	0-60(5*)			
					AGC	0-14(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(255*)			
		RS485	CAM ID	0-255(1*)					
			ID Display	Off*/On					

			Baud Rate	2400,4800,9600,19200 ,38400	
8	Adjust	Sharpness	Off		
			Auto*	Level	0-10(3*)
				Start AGC	0-255(50*)
				End AGC	0-255(200*)
		Monitor	CRT	Black Level	0-60(0*)
				Blue Gain	0-100(50*)
				Red Gain	0-255(50*)
			LCD*	Gamma	User*,0.45,0.50,0.55,0.6 0,0.65,0.70,0.75,0.80,0.8 5,0.90, 0.95,1.00
				Blue Gain	0-100(50*)
				Red Gain	0-100(50*)
			LSC	Off*/On	
Video. Out	PAL/NTSC				
9	Exit		Save& END /Reset/Not Saved		

7. Specification

Pickup Device	1/3" Sony COMS
Video Format	NTSC/PAL (can be switched via OSD)
Effective Pixels	1280 (H) x 720 (V)
Scanning System	Progressive Scan
Sensitivity	0.05 Lux, 0 Lux With IR On
S/N Ratio	Over 48dB (AGC off)
Electronic Shutter	Auto/Manual (x30~1/50,000) / Flk
Video Output	BNC 1.0Vp-p 75Ω
Gamma Correction	0.45
Lens Type	3.6mm fixed lens with ICR
BLC	OFF/BLC/HSBLC 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	40 emitters in two arrays
IR Distance	Up to 15m/50ft. (depending on scene IR reflectivity)
OSD Languages	12-Languages
DNR	2DNR, 3DNR, OFF
DEFOG	Off/Auto (Under B/W Mode)
D-WDR	On/Off
Sens-UP	On/Off (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	Vandal resistant, IP66 housing
Power Source	12VDC
Power Consumption	8.4W max at 12VDC (heater on & IR LED on)
Operating Temperature	-40°C~50°C / -40°F~122°F (Built-in heater)
Humidity	Less than 80%
Dimensions (L x W x H)	105 x 140 x 65mm / 4.2" x 5.6" x 2.6"
Weight	600g / 1.35lb
Certificates	CE, FCC, RoHS

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 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 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 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 - 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 Japan:

3F, Kuramochi, Building II
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



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