TCM-7811

H.264 Megapixel IP IR D/N CCD Vandal Proof Outdoor PoE Fixed Dome

(DC 12V / PoE)

Ver. 2012/6/25

ACTi
Connecting Vision

Table of Contents

0. Precautions

Read these instructions

You should read all the safety and operating instructions before using this product.

Heed all warnings

You must adhere to all the warnings on the product and in the instruction manual. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.

Servicing

Do not attempt to service this video device yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Trademarks

All names used in this manual are probably registered trademarks of respective companies.

Liability

Every reasonable care has been taken during the writing of this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

FCC/CE Regulation

NOTE: 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the users will be required to correct the interference at their own expense.

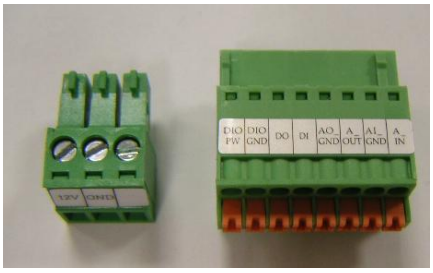
1. Introduction

Package Contents

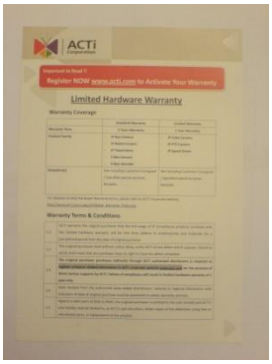
TCM-7811

Product CD

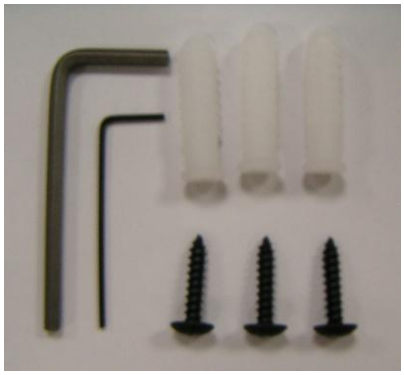
Terminal Blocks for Power, DI/O & Audio



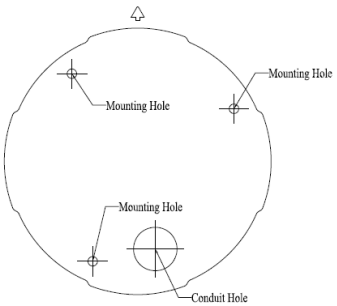
Warranty Card



Accessories



Drill Template



Features and Benefits

This is a cutting-edge digital video surveillance camera. It can compress and transmit real time images with outstanding image quality (15 FPS @ SXGA, 1280x960) through a standard TCP/IP network. This camera is your best choice to build an intelligent IP surveillance system.

H.264/MPEG-4/MJPEG Triple Codec Dual Streaming

This device supports 3 compression formats, H.264, MPEG-4 and MJPEG. It brings superior image quality at 15 frames per second up to a resolution of SXGA (1280 x 960) pixels, and offers up to 30 frames per second in HD720 (1280x720) / VGA (640 x 480) / QVGA and QQVGA.

Rugged Vandal-Proof Construction withstands all kinds of abuse.

Special engineering polymer clear dome shell protects against brute force impact. It is extremely durable against any tampering intruder. IP66 construction isolates electronics against the elements. Rain, sleet or snow, nothing goes through. Temperature control ensures cold-start capability for use in the worst of weathers.

Built-in Hardware Motion Detection

No more external motion sensors are required. You may assign up to 3 video motion detection areas. By tuning the object size and sensitivity, it will reliably detect objects passing though in view. Hardware motion detection also offers better sensitivity and faster response time than software motion detection.

Powerful Bundled Surveillance Software

To extend the capabilities of the IP Camera, a powerful surveillance program is included in the package for free. Users can easily use an existing PC as a digital video recorder. Scheduled recording and manual recording keep every important video recorded in the local hard disk. Reliable and accurate motion detection with instant warning enables immediate response in every condition. Quick and simple search and playback function lets you easily find the images and video you want.

Software Development Kit Support

This IP Camera can be integrated or controlled by applications from third party software developers. Software developers can save considerable efforts by using our Streaming Library or ActiveX control. Please contact us for details on integration support.

Digital Time Code Embedded

The "Digital Time Code Embedded" function records video time in the video stream. Therefore, each image frame is marked with its original recording time. It is very useful when users want to find the video at an exact time or between a certain time intervals.

Safety Instructions

Don't use the power supply with other voltages

This device is likely to be damaged or damage other equipments / personnel, if you use a power supply with different voltage than the one included with this device. All warranty of this product will be voided in the situations above.

Cleaning

Disconnect this video product from the power supply before cleaning.

Attachments

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

Water and Moisture

Do not use this video product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

Don't use accessories not recommended by the manufacturer

Only install this device and the power supply in a dry place protected from weather

Servicing

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage Requiring service

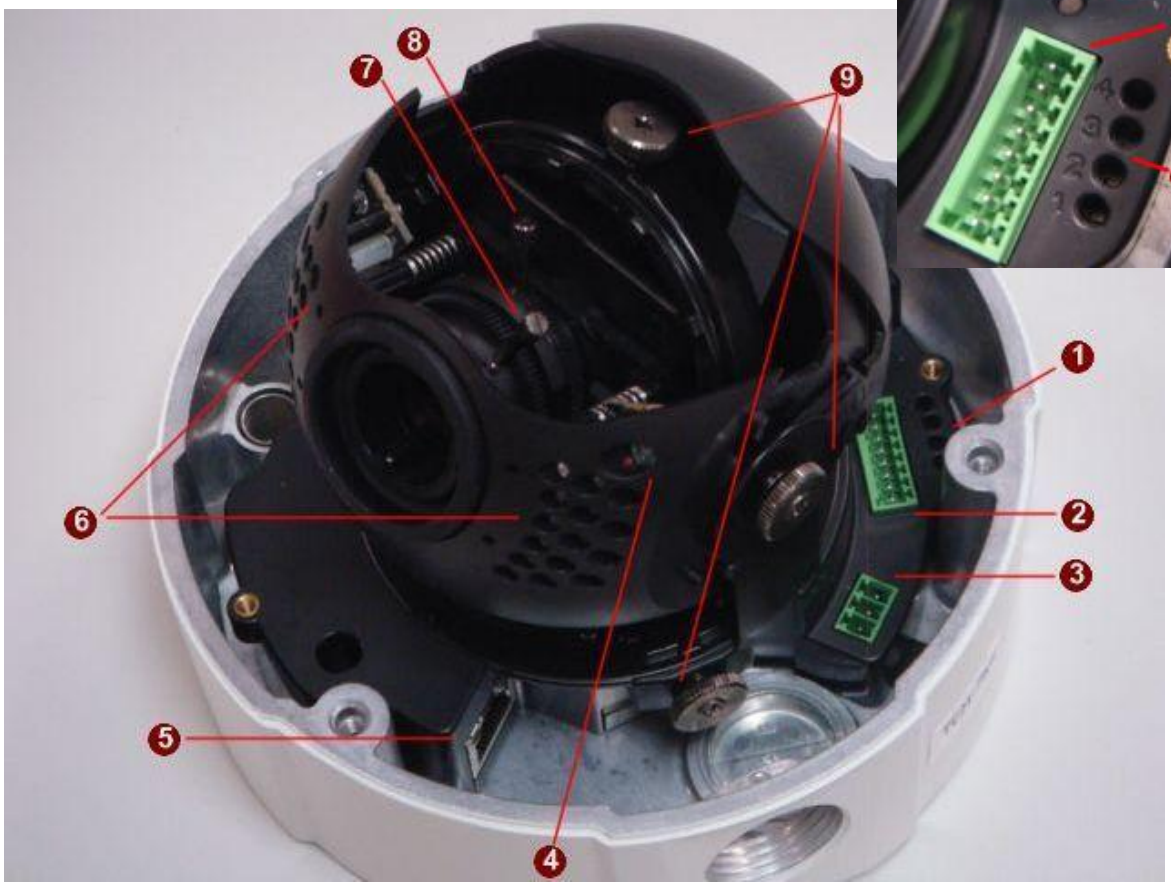
Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

1) When the power-supply cord or plug is damaged
2) If liquid has been spilled, or objects have fallen into the video product.
3) If the video product has been directly exposed to rain or water.
4) If the video product does not operate normally by following the operating Instructions in this manual. Adjust only those controls that are covered by the instruction manual, as an improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the video product to its normal operation.

Safety Check

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine if the video product is in proper operating condition.

Physical description



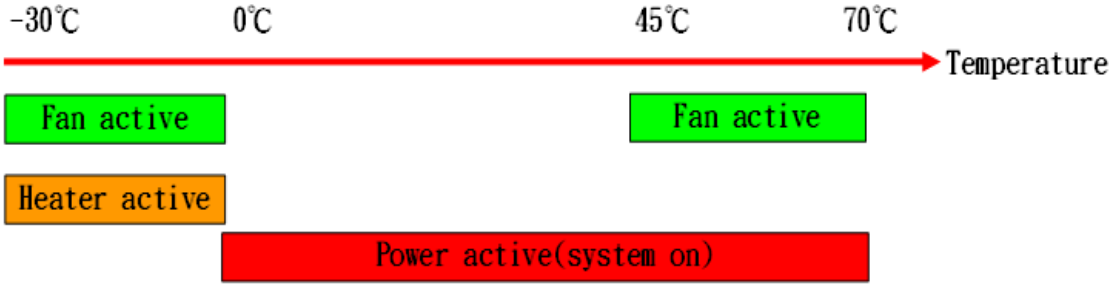
1) LED Indicators

There are four Red LED lights numbered from 1 to 4.

LED 1 indicates Boot Up status. It will briefly turn on and off during system boot up, and will stay continuously on after camera system completes boot up.
LED 2 indicates Power status. It will stay on as long as power is connected to the camera.
LED 3 indicates Heater status. It will light up when camera detects low temperature and activates the internal heater.
LED 4 indicates Fan status. It will light up when Fan is operational. Fan will operate in high temperature to cool the device, and in low temperature to spread the heat from heater through the device.

Please note that this is the "Internal Temperature" as measured by the electronics. The external temperature will be different from the internal temperature in most cases. The temperatures at which fan and heater turn on and off are shown in the graph below.

Note: PoE powered rugged dome does not have enough power available and cannot support Heater.



2) Digital Input / Output & Audio Terminal Connector

This IP Camera supports DI/O & Audio input / output via terminal block.

Used in applications like motion detection, event triggering, time lapse recording, alarm notifications, etc., the I/O terminal connector provides an interface to respective devices. The Terminal Block wiring diagram is as follows:

PIN	NAME	DESCRIPTION
1	DIO PW	DC12VIN
2	DIO GND	DGND
3	DO	DO1_TO_OUTSIDE
4	DI	DI1_FROM_OUTSIDE
5	AO_GND	DGND
6	A_OUT	Audio_OUT_LR
7	AI_GND	DGND
8	A_IN	Audio_IN

This camera provides:

•**1 transistor output** - For connecting external devices such as relays and LEDs. Connected devices can be activated by Output buttons on the Live View page or through video management software.

•**1 Digital Input** - An alarm input for connecting devices that can toggle between an open and closed circuit, for example: PIRs, door/window contacts, glass break detectors, etc. The device will detect the change in digital input and transmit the signal to video surveillance servers.
Terminal Pin Define is described as below:

Pin Name	Description	Spec
DIO PW	Electrically connected in parallel with the connector for the power supply, this pin provides an auxiliary connector for mains power to the unit. This pin can also be used to power auxiliary equipment, with a maximum current of 100mA.	Voltage: 12V DC, Max: 1.2W
DIO GND	Ground	
DO (Transistor Output)	Uses an open-collector NPN transistor with the emitter connected to the GND pin. If used with an external relay, a diode must be connected in parallel with the load, for protection against transient voltages.	Max load = <100mA Max voltage = 24V DC (to the transistor)
DI (Digital Input)	Connect to GND to activate, or leave floating (or unconnected) to deactivate.	Must not be exposed to voltages greater than 30V DC.

3) Power Input

Connect the power adaptor here if your power input is DC12V.

PIN	NAME	DESCRIPTION
1	12V	DC Power Input
2	GND	Ground Pin

4) CDS Sensor

CDS Sensor detects the level of lighting in the environment, and helps the camera decide between day and night modes.

5) Ethernet Port

The IP device connects to the Ethernet via a standard RJ45 connector. Supporting NWAY, this IP device can auto detect the speed of local network segment (10Base-T/100Base-TX Ethernet).

6) IR LED

IR LED lights provide sources of infrared illumination during night mode. This ensures that night time image stays clear even if there's no visible light.

7) Focus Lever

The focus lever controls the distance to the focal plane. You may fix or free the lever by turning the screw handle at the top.

8) Zoom Lever

The Zoom lever controls the zoom or level of magnification. You may fix or free the lever by turning the screw handle at the top.

9) Pan, Tilt and Zoom adjustment screws

This Dome Camera can see in multiple angles. The three screws can fix the respective axis at its current location. The ring inside the sphere controls the rotation, the knob to the side of the sphere controls the tilt and the knob at the base of the sphere controls the Pan.

10) Power Button

Press the Power Button and then camera will reboot automatically.

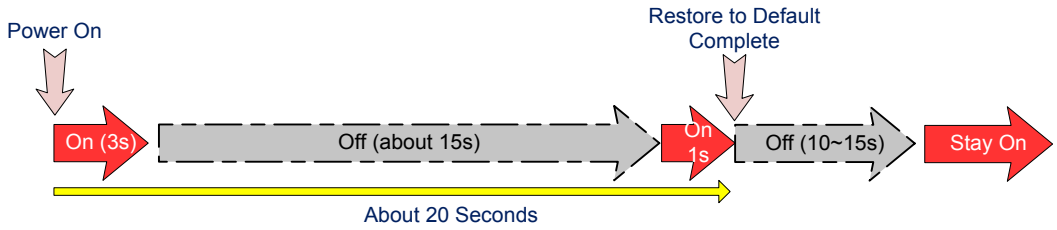
11) Reset Button

Step 1: Press the Reset Button with a sharp tipped object, like the accessory we provide and hold it, and then press the Power Button.

Step 2: Release Power Button and continue to hold the Reset Button.

Step 3: The red Power LED light will flash on for 3 second first, turn off for about 15 seconds, flash on for another second and turn off again. By this time the reset to default operation is already

completed. ***This will take around 20 seconds from power up.*** You may then release the reset button. This length of time fluctuates slightly with the environment. The Power LED light will come back on and stay on after a few more seconds. The unit will start up with factory default settings automatically.



12) Micro SD Card Slot*

Insert your Micro SD card here for local recording on camera.

This IP device is compliant with Micro SDHC 4~32GB class 4/6/10 card.

* Require in firmware version 4.12.09 and up.

The Lens Housing sphere has a cover that can be easily opened in two steps. You can lift the cover up by the two ears then slide the cover backwards to expose the interior.

2. Installation Procedure

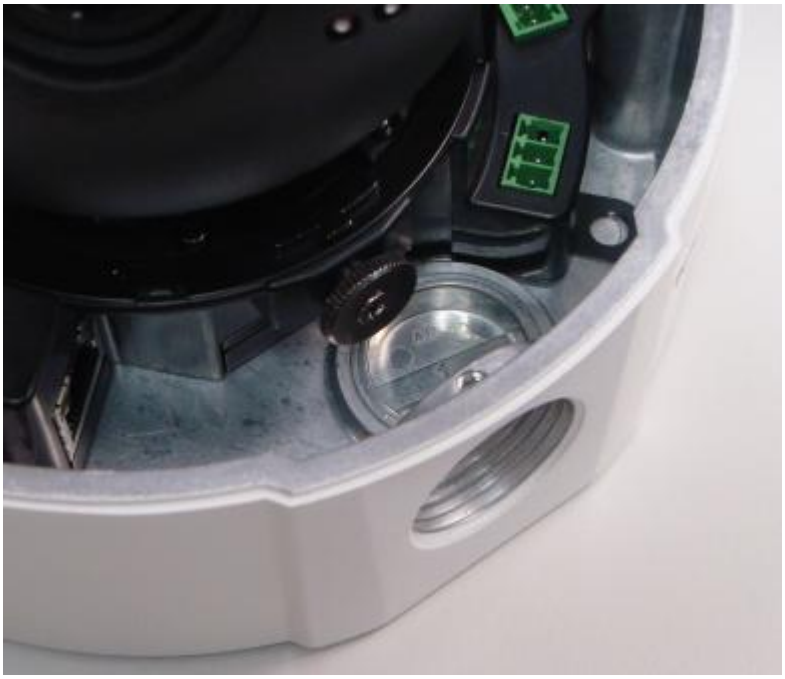
Connect the IP Outdoor Rugged Dome

1) Remove the cover

Remove the dome cover with special hex wrench in the accessory kit.

2) Select cable entrance

There are two conduit holes on this rugged dome. One is at the bottom, while the other is at the side and covered with a plug. Remove the plug if your cable will go through the one at the side of the rugged dome

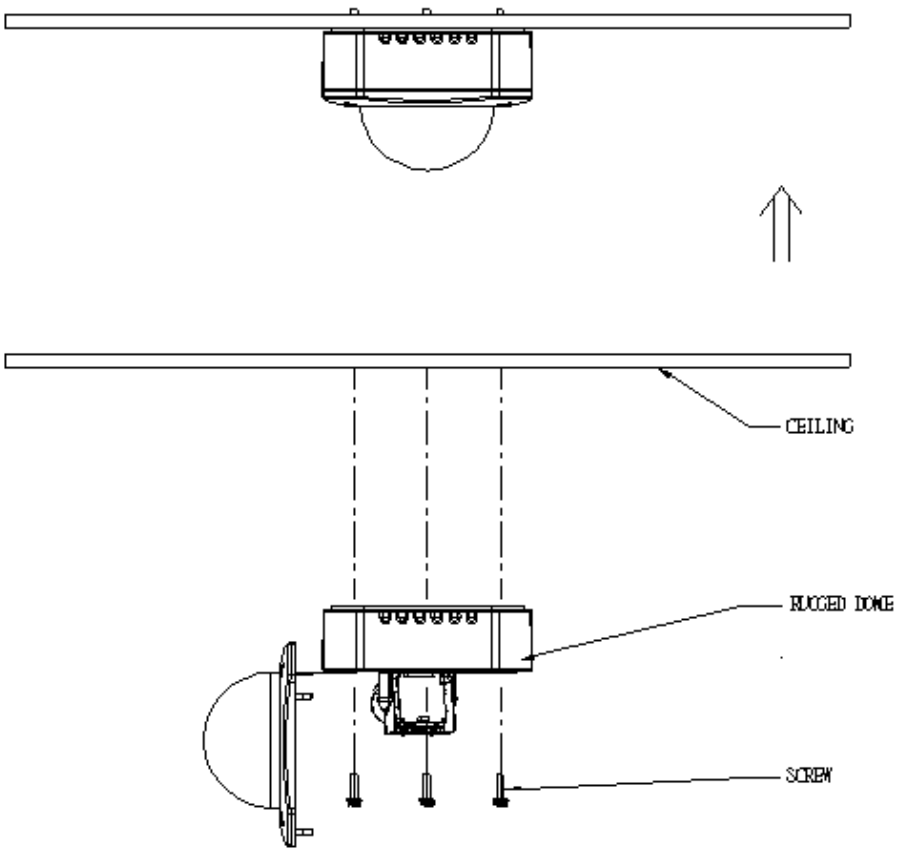


3) Connect cables to connectors

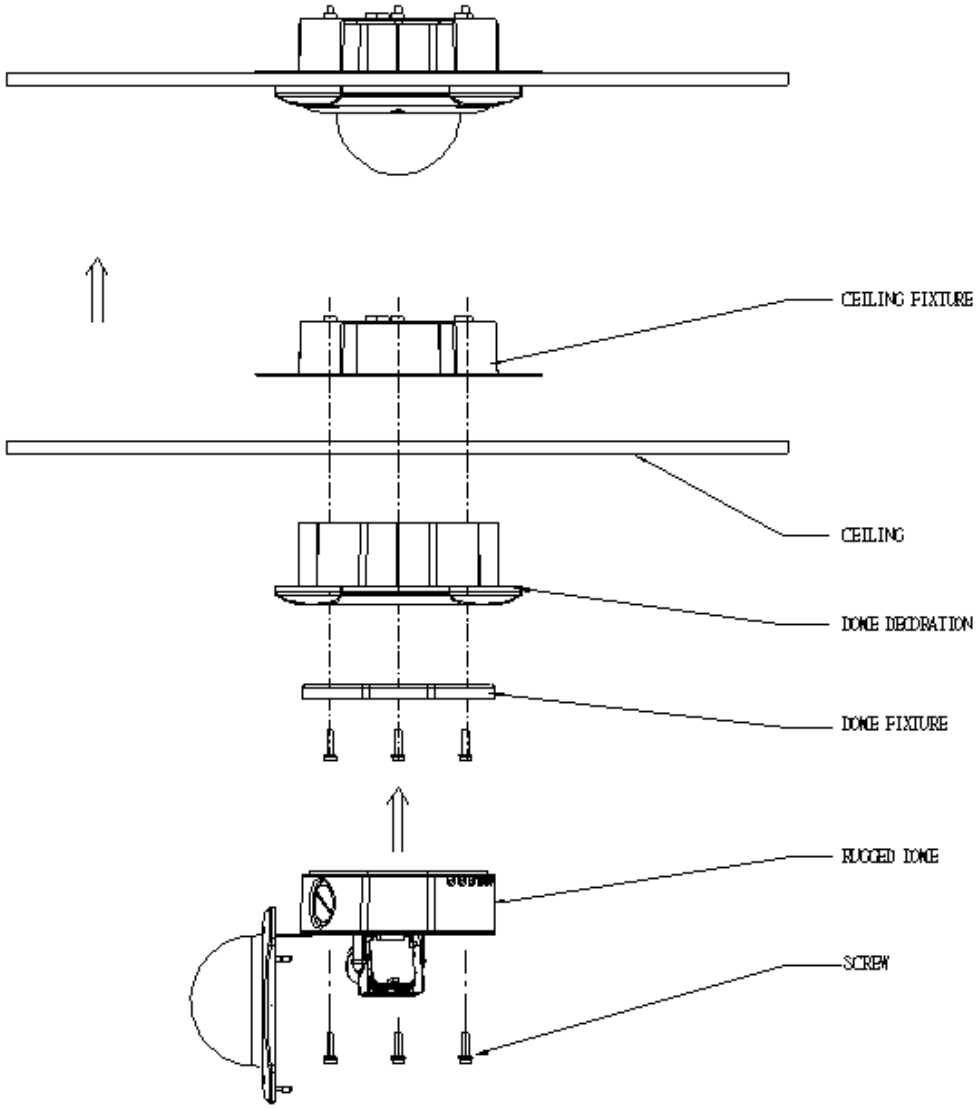
Please follow the instructions in the Physical Description section for how to connect to each connector.

Mount the IP Outdoor Fixed Dome (Surface)

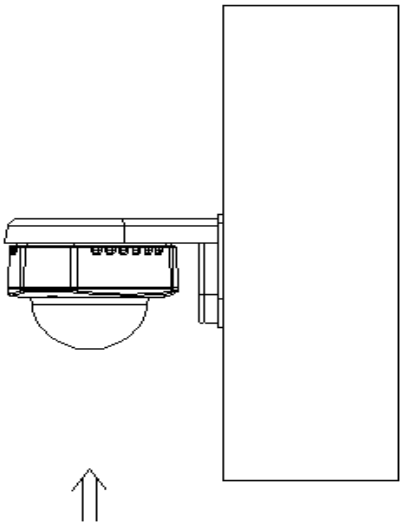
To mount the device to the ceiling, drill three holes that correspond to the three screw holes. Hold the camera against the ceiling, secure it with the three screws, connect the cables and replace the dome cover.

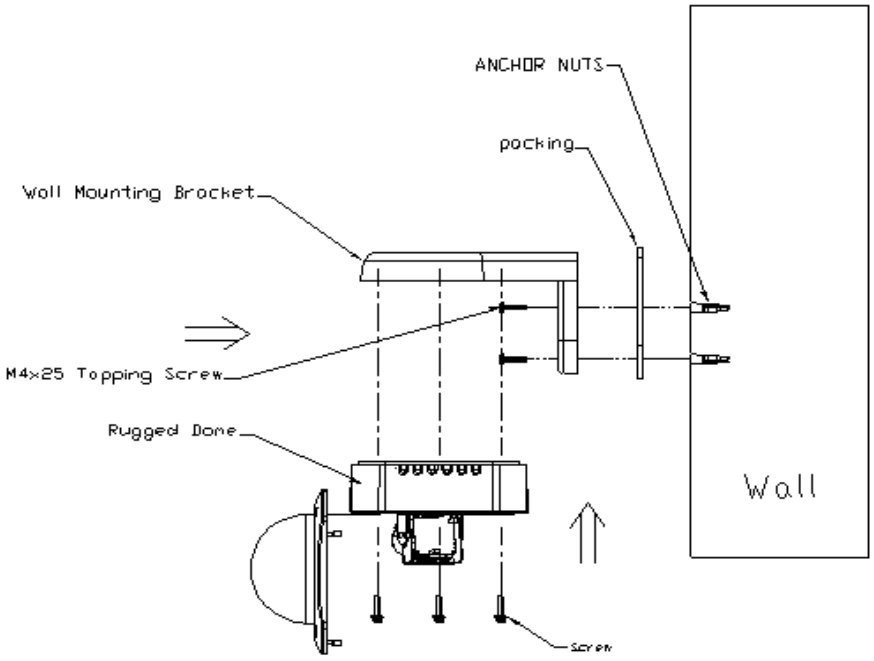


Mount the IP Outdoor Fixed Dome (Flush)



Mount the IP Indoor Fixed Dome (Wall)





How to Do the Waterproof Installation

The following installation procedure makes the camera be water-resistant even for the situations where the camera can easily be flooded by pouring rain.

The important part to focus on during the installation:
The protection of the cabling has to be done by a proper flex conduit. The size of the flex conduit that matches with the conduit gland is is **3/4"** (trade size), or with actual physical diameter of **26.441mm**.

Have the Ethernet cable inserted through the flex conduit together with RJ-45 connector. You may also consider to do the RJ-45 connector crimping after pushing the cable through the conduit.

Disassemble the conduit gland.

Slide the **clamping nut** around flex conduit some 10-20 cm away from the top. Fit the **sealing insert** (made of rubber) to the top of the flex conduit.

On the camera side, decide which of the 2 possible holes you are going to use to connect the flex conduit. There is one hole on the side, and one on the bottom. Whichever you pick, remember to seal off the other one with the metal **patch** (included in the camera set).

Scenario 1 – using the side hole.

Scenario 2 – using the bottom hole.

Screw the **body** of the conduit gland into the camera and fix it with the **lock nut** (included in the set of conduit gland that you purchased) from the inside of the camera..

Connect the Ethernet cable to the camera's network port. If you are not using PoE, then please remember to pull the DC power cable through the flex conduit as well, and connect to the camera at this point.

Push the head of the flex conduit, wrapped with sealing insert, into the body of the conduit gland.

Screw the clamping nut tightly onto the body of the conduit gland.

Adjust the viewing angle and focus of the camera and put the dome cover back on, and tighten it by using the screws.

You have completed a fully waterproof installation!

Product Specification

		TCM-7811
Image	Device	SONY Progressive Scan 1.25M Pixel Exveiw HAD CCD
	Size	1/3 inch
	Effective Pixels	1296 (H) x 966 (V)
	Horizontal Resolution	900TVL
Min. scene Illumination	Color	Color mode automatically switched to B/W (User defined)
	B/W	0 Lux (IR LED ON)
	IR Sensitivity	from 700 nm to 1100 nm
	IR LED	IR LED x 31 (850 nm)
	CDS Sensor	Yes
	IR Working Distance	30~40 M (30 IRE)
Lens	Focal Length	3 ~9mm / F1.2
	Viewing Angle	85.8° ~ 30.3°(Horizontal)
Camera Angle Adjustment	X (Panning)	0°~360°
	Y (Tilting)	10°~90°
	Z (Rotating)	0°~360°
Day/Night Functions	Mechanical IR Cut Filter	YES
Functions	Motion Detection	Yes (3 windows)
	Electronic shutter	2 ~ 1/100,000sec
	Fixed Shutter (Manual)	1/60 ~ 1/10,000 sec. (NTSC) 1/50 ~ 1/10,000 sec. (PAL)
	Flickerless	Auto on/off
	BLC	Auto on/off
	AGC	Super AGC 0~36dB (User defined)
	White Balance	Auto, Indoor1, Indoor2, Outdoor1, Outdoor2, Hold current, Manual
	Auto Iris Control	DC Iris
S/N Ratio	S/N Ratio	Better than 50 dB
Video Compression	Compression	H.264/ MPEG-4 SP/ MJPEG simultaneous dual streams selectable
	Picture Resolution	SXGA (1280x960); HD720 (1280x720); VGA (640x480); QVGA (320x240); QQVGA (160x112)
	Bit Rate	28K ~ 6M bps
	Image Frame Rate	15 fps at SXGA; 30 fps at HD720; 30 fps at VGA; 30 fps at QVGA; 30 fps at QQVGA
Audio Input	Compression	8kHz, Mono, PCM
	Audio Line Input	Unbalanced, 1.4Vp-p, 1Vrms, terminal block
Audio Output	Compression	8kHz, Mono, PCM
	Audio Line Output	Unbalanced, 1.4Vp-p, 1Vrms, terminal block
Alarm	Digital Input	1, TTL, Terminal Block
	Digital Output	1, TTL, Terminal Block
External I/O	Button	Reset Button
		Factory Default Button
	LED	System status/Power/ Fan / Heater
	Local storage	Micro SD/ SDHC card slot
Casing	IP66 Rated	Weatherproof casing with IP66 standard
	Vandal proof	Durability up to 1743.68 KgF
	Mount types	Surface / Pendant* / Wall* / Pole* / Flush*
Network	Ethernet Port	Ethernet(10/100 Base-T), RJ-45 connector
	Protocol	TCP, UDP, HTTP, HTTPS, DHCP, PPPoE, RTP, RTSP, IPv6, DNS, DDNS, NTP, ICMP, ARP, IGMP, SMTP, FTP, UPnP
Software	Web Browser	Microsoft Internet Explorer 6.0 or above
	SDK	ActuveX control, C SDK
	Security	Password Protection: Configured by the Administrator
Operating	Heater/ Fan	Yes (Built in)
	Temperature	-30 °C ~ 50 °C (-22 °F ~ 122 °F) for DC 12V; -5 °C ~ 50 °C (7 °F ~ 122 °F) for PoE
Power	Power Requirement	DC 12V ± 10% / PoE (IEEE802.3af) with Class 3
	Power Consumption	8.76 W (DC 12V) w/o Heater & Fan 10.8 W (DC 12V) w/ Heater ON & Fan ON 11.52 W (PoE) w/o Heater & Fan 12.96 W (PoE) w/ Fan ON*
Physical	Dimensions (ØxH)	152.00mm x 131.50mm (5.98" x5.18")
	Weight	1420g
Approvals	Certificate	CE, FCC, IP66

3. Accessing Camera

If you have DHCP server / router

Many network server / routers are able to automatically provide IP addresses through DHCP. If you are using such a network, just plug in your computer and IP Camera into the network and your IP device will acquire network address by itself. Find and access the device with our IP Utility program. You may download it at:

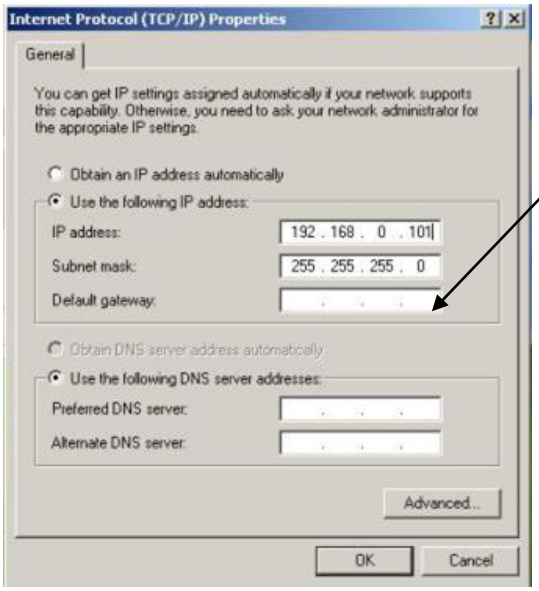
http://www.acti.com/product/detail/Software/ACTi_Utility_Suite

If you do *NOT* have DHCP server / router

1. Configure your PC to use the same subnet by changing your PC's IP address to the subnet with prefix 192.168.0.XXX. The last number should be anything from 1 to 254 except 100 and other occupied IP addresses. Subnet mask should be 255.555.255.0.

2. **The default IP used by this device is 192.168.0.100. Please make sure your PC is *NOT* using this address and that no two equipments use the same IP address in the network.**

3. Change your IP address by going to Control Panel ->Manage Network Connections -> Right click on the connection to change -> Option -> TCP/IP IPv4 Properties.



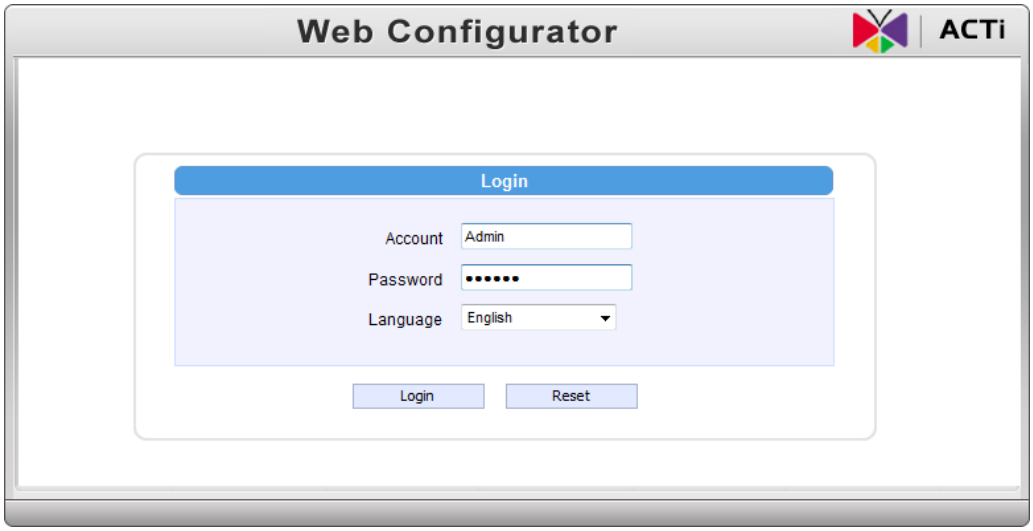
Please set the settings as below.

-
- IP address: 192.168. 0.xxx
- Subnet mask: 255.255.255.0

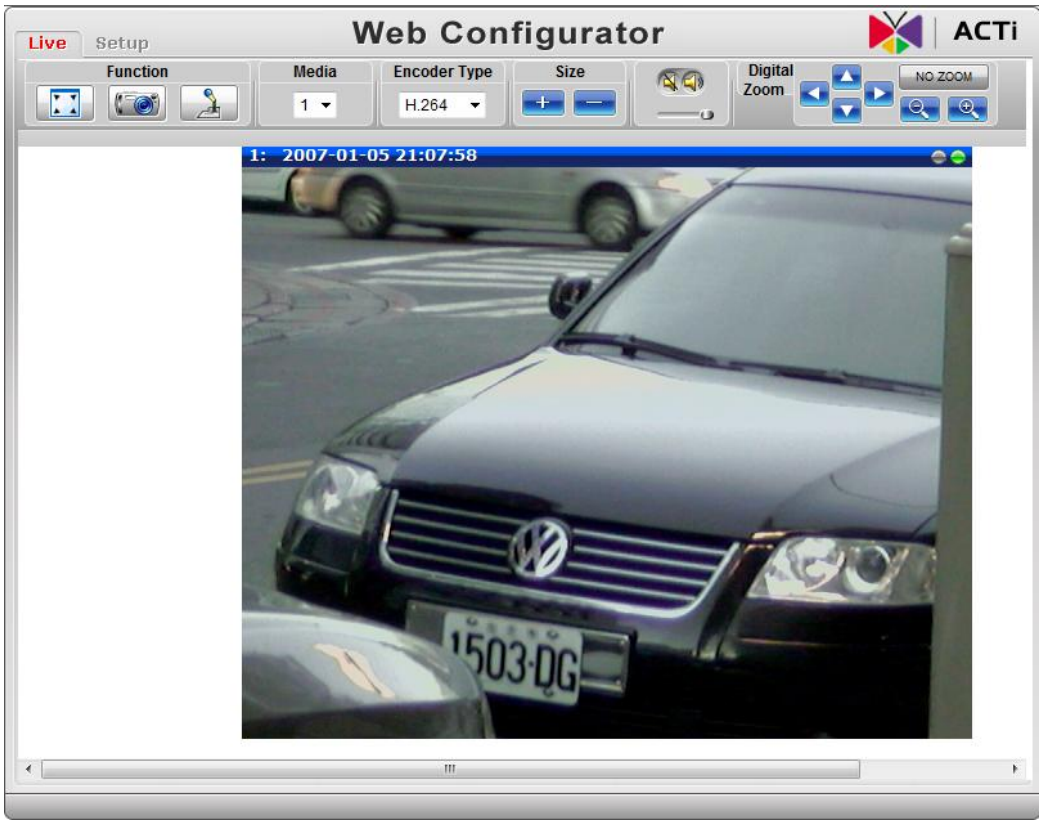
(**NOTE**: xxx should be a number from 1 to 254 except 100, which is used by the IP device. Please also make sure that no two equipments use the same IP address in the same network..)

4. Open Internet Explorer (Version 6.0 or above) , and type in the Default IP:
   192.168.0.100

5. When you see the login window, please input default user and password:
   Default User: Admin Password: 123456



6. After logging in, you will see the video from camera. To go to the main menu, click the "Setup" button on the top left.



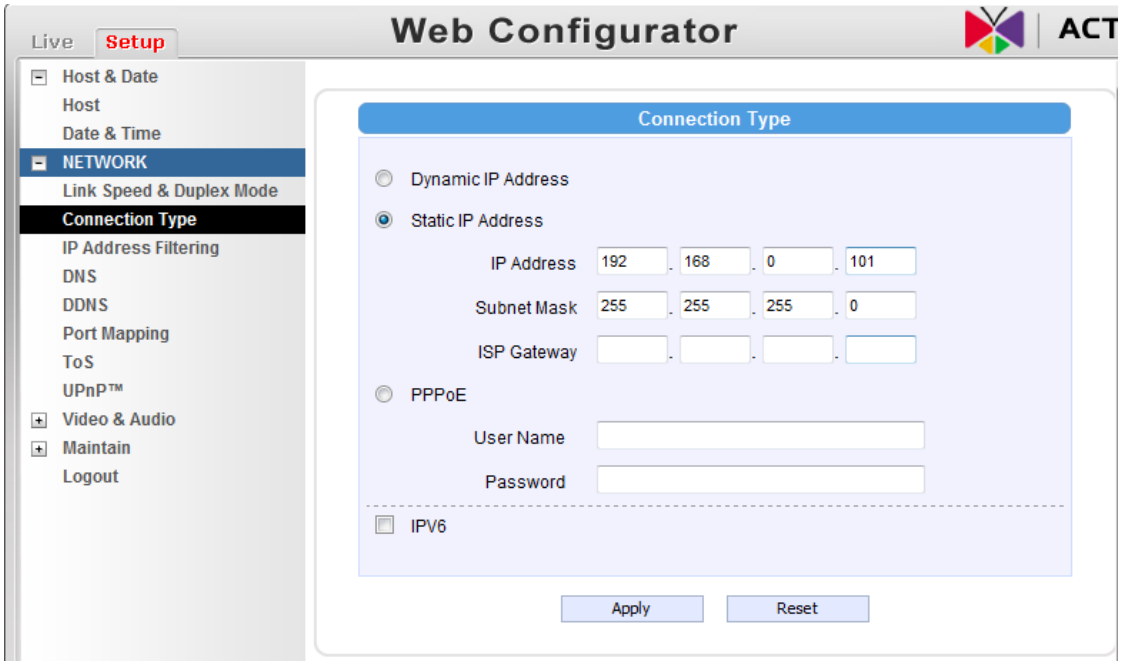
If you are using a single camera, this is enough to access the device.

If you are using multiple devices, you need to change the current device to another unused IP address, so that when the next device is connected to the network, no two devices use the same IP. Please perform the following steps.

7. Go to Network -> Connection Type

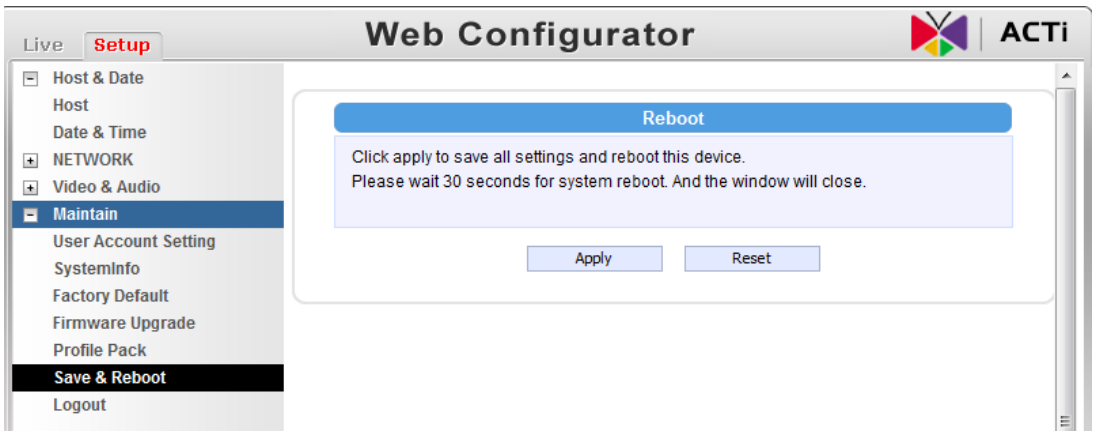
8. Change the IP mode to Static.

9. Change the IP to 192.168.0.101 or any other unused IPs. Do NOT use the PC's IP address or 192.168.0.100.). If this is not the first device you add to the network, please also avoid other devices' IPs.



10. Click "Apply"

11. Please go to Maintain -> Save & Reboot, and click "Apply". Internet Explorer will close after a few seconds. This is normal.



12. Wait for 30 seconds, and open IE again to connect to the **new IP**. (In this example, 192.168.0.101). For the second device or more you add into the network, please type the correct IP.

13. Adjust the default Video setting by going to Video & Audio -> Media 1