FLUSH MOUNT (-F Model)

SURFACE MOUNT (-S Model)

Contera IP® MicroDome® LX

Installation Manual

FLUSH MOUNT (-F Model)

2.1MP (1080p)	5MP	8MP
AV2856DNIR-F	AV5856DNIR-F	AV8856DNIR-F

SURFACE MOUNT (-S Model)

2.1MP (1080P)	5MP	8MP
AV2856DNIR-S	AV5856DNIR-S	AV8856DNIR-S

AV COSTAR

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About Our Warranty

Global (3 Year) Limited Warranty

AV COSTAR™ warrants to Purchaser (and only Purchaser) (the “Limited Warranty”), that: (a) each Product shall be free from material defects in material and workmanship for a period of thirty-six (36) months from the date of shipment (the “Warranty Period”); (b) during the Warranty Period, the Products will materially conform with the specification in the applicable documentation; (c) all licensed programs accompanying the Product (the “Licensed Programs”) will materially conform with applicable specifications. Notwithstanding the preceding provisions, AV COSTAR shall have no obligation or responsibility with respect to any Product that (i) has been modified or altered without AV COSTAR’s written authorization; (ii) has not been used in accordance with applicable documentation; (iii) has been subjected to unusual stress, neglect, misuse, abuse, improper storage, testing or connection; or unauthorized repair; or (iv) is no longer covered under the warranty period. AV COSTAR make no warranties or conditions, express, implied, statutory or otherwise, other than the express limited warranties made by AV COSTAR above, and AV COSTAR hereby specifically disclaims all other express, statutory and implied warranties and conditions, including the implied warranties of merchantability, fitness for a particular purpose, non-infringement and the implied condition of satisfactory quality. all licensed programs are licensed on an “as is” basis without warranty. AV COSTAR does not warrant that (i) the operation of the products or parts will be uninterrupted or error free; (ii) the products or parts and documentation will meet the end users’ requirements; (iii) the products or parts will operate in combinations and configurations selected by the end user; other than combinations and configurations with parts or other products authorized by AV COSTAR or (iv) that all licensed program errors will be corrected.

For RMA and Advance Replacement information visit http://www.avcostar.com

ConteraIP MicroDome LX

Megapixel Cameras

Camera Overview

The ConteraIP® MicroDome® LX megapixel cameras feature 2.1-(1080p), 5-, or 8- megapixel (MP) resolutions for optimum performance with a day/night mechanical IR cut filter and interchangeable lenses. Regardless of the time of day, the ConteraIP MicroDome LX is prepared for any lighting condition. For applications with poor lighting conditions, Enhanced WDR (wide dynamic range) at 120dB provides the best visual balance to shaded and bright light conditions. For clear color images in low-light, NightView™ offers strong low-light sensitivity for capturing details in extremely poor-lit scenes and is further enhanced in by built-in IR LED illumination. ConteraIP MicroDome LX cameras deliver professional surveillance, with ease of installation and set-up, for a variety of network surveillance requirements. The three-axis lens adjustment provides users with more camera placement options and the remote focus module allows users to adjust the camera focus after installation. An innovative spring arm design makes in-ceiling -F model installations a snap: simply slide the camera through the hole and secure the magnetized cover ring with a single screw. No additional hardware is required.

The ConteraIP MicroDome LX camera series is available in an indoor, in-ceiling housing or in a surface mount, IP66 rated version for indoor and outdoor applications. All models feature a vandal resistant, IK-10 rated cast-aluminum housing with a polycarbonate bubble making it capable of withstanding the equivalent of 55kg (120lbs) of force.

AV Costar was the first to bring H.264 to the mainstream market and recently developed SNAPstream™ (Smart Noise Adaptation and Processing) technology for reducing bandwidth without impacting image quality. Today we are proud to offer our next generation H.265 with SNAPstream+™ smart codec capable of delivering high quality video while saving over 50% of the data rate to reduce or prevent strain on the network.

The MicroSDXC card slot supports up to 1TB of storage capacity for convenient onboard storage. The camera's power can be supplied via a Power-over- Ethernet (PoE - IEEE 802.3af) compliant network cable connection.

The ConteraIP MicroDome LX is ONVIF (Open Network Video Interface Forum) Profile S, G, M, and T compliant, providing interoperability between network video products regardless of manufacturer.

Package Contents

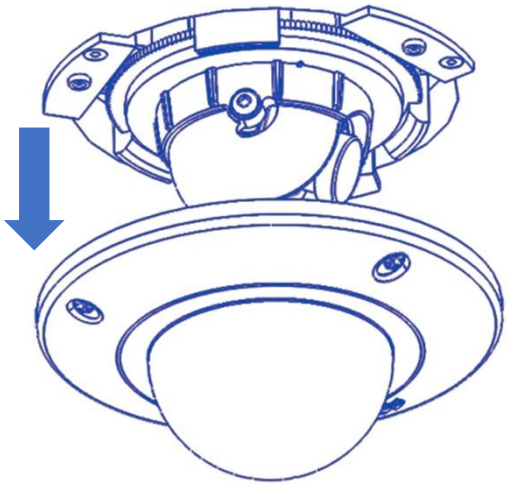
- AV2856DNIR-F / AV5856DNIR-F / AV8856DNIR-F / AV2856DNIR-S / AV5856DNIR-S / AV8856DNIR-S

Description	QTY
AV2856DNIR-F / AV5856DNIR-F / AV8856DNIR-F / AV2856DNIR-S / AV5856DNIR-S / AV8856DNIR-S IP camera	1
Mounting Template	1
Mounting Kit	1
Accessory Pack	1

Installation

In-ceiling (-F Models) Installation

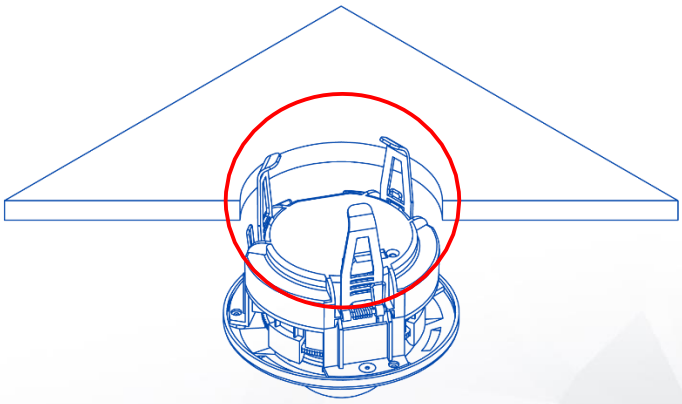
1. Determine a secure location to mount the camera. Cut a hole in the ceiling using the template provided (3.25 inches in diameter) to fit the camera housing.
2. Remove the dome cover from the camera by unscrewing the three captive fasteners.



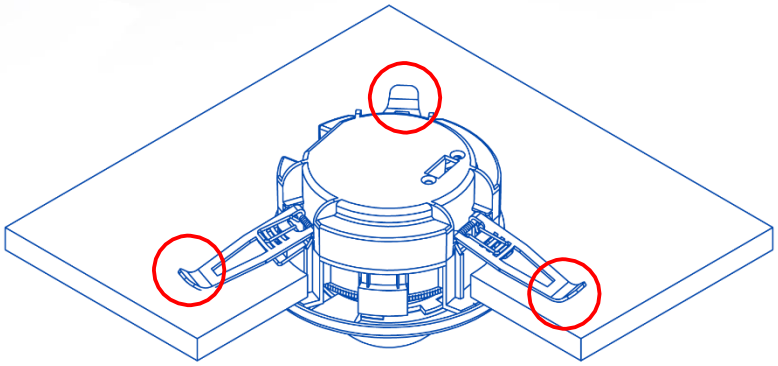
3. Remove the foam insert.

Reference #	Description
1	Captive Fastener
2	Dome Cover
3	Camera Head

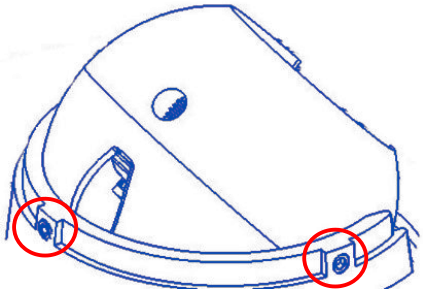
4. Pull the network cable through the ceiling and plug it into the network connector on the camera housing (This can be done at a later time if there is access to the network connector on the camera housing after installation into the ceiling).
5. Check that the indicator LEDs are illuminated to the desired conditions (see LED Indicator table).
6. Push the three spring actuated retention arms to the upward position as shown in the diagram.



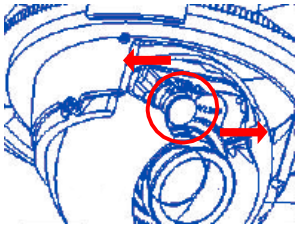
7. Insert the camera housing through the ceiling until the retention arms lock into place.



8. Adjust the pan and tilt to obtain the desired field of view. Then, lock the camera head in place by tightening at least two of the three setscrews with the supplied flat-head screwdriver. Do not over torque the screws.

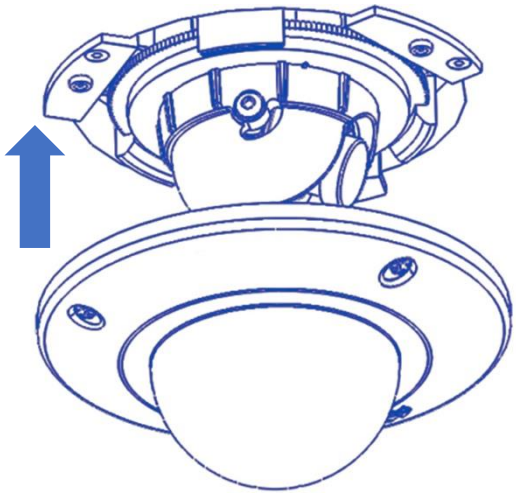


NOTE: Ensure not to press the remote focus motor against the sides of camera module when adjusting the field of view. Refer to the below image.



9. Install the dome cover by aligning the captive fasteners with the mating threaded inserts on the camera housing.

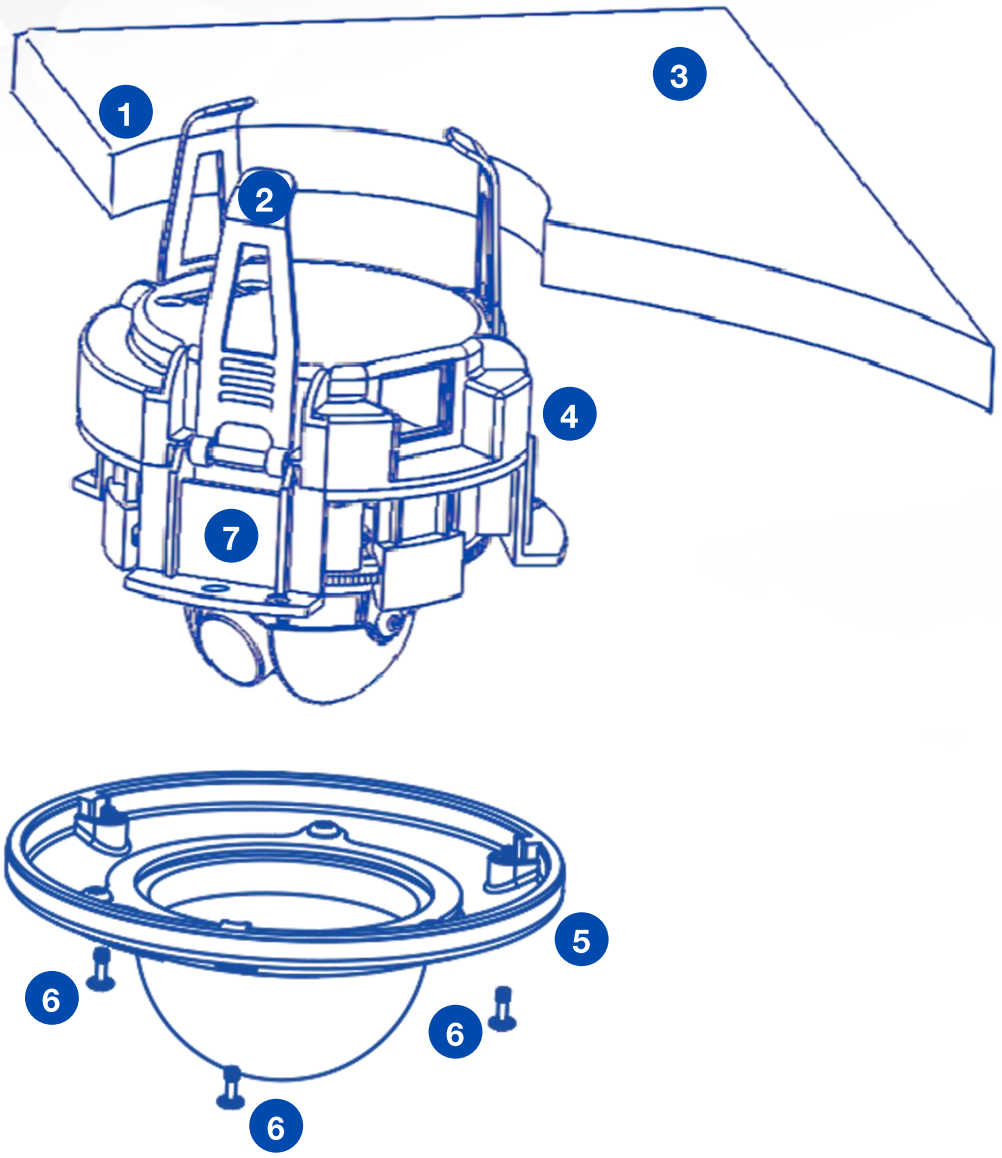
> ⚠ **CAUTION!** The captive fasteners must be used to properly secure the Dome Cover. Failure to use the captive fasteners may result in serious injury.



Reference #	Description
1	Captive Fastener

10. Tighten the captive fasteners with the supplied Philips head screwdriver to secure the dome cover in place.

NOTE: The supplied security torx screws may also be used.



Reference #	Description
1	3.25” Diameter Hole
2	Retention Arms
3	Ceiling
4	RJ-45 Network Connector with LED Indicators
5	Dome Cover
6	Captive Fasteners
7	Camera Housing

11. Use the Costar Camera Utility located on the AV Costar website https://sales.arecontvision.com/software.php for camera discovery and setup (see Instruction Manual located on the website).

Surface Mount (-S Models)

1. Determine a secure location to mount the camera.
2. Remove the dome cover from the camera by unscrewing the three captive fasteners.

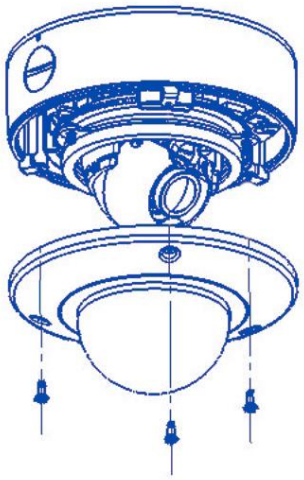


Figure 1: Remove dome cover

3. The camera can be mounted two ways: surface mount or via a junction box to a wall or ceiling. Choose the best method for your installation below:
   a. **Surface Mount:** use the supplied template to mark three desired holes (there are six holes to choose from; see Figure 3). Then drill the holes with a diameter of 8mm (0.3in.) and insert the supplied anchors into the holes. Attach the camera module and supplied gasket securely using the supplied screws.

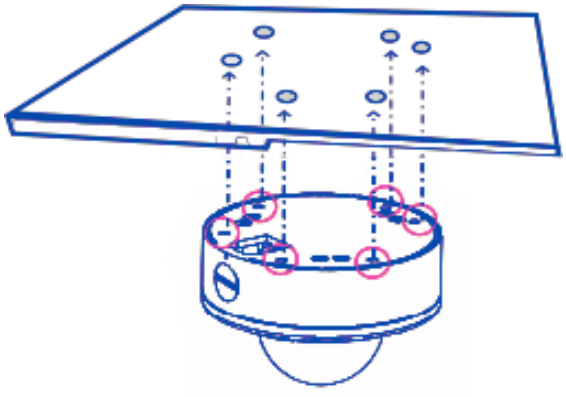


Figure 3: Drill three of the six holes provided.

NOTE: For installations in harsh environments, it is recommended to use all six mounting screws supplied with the camera to create the best seal possible between the camera and the mounting surface using the supplied gasket.

b. **Junction Box**

1. Install a 4 in. gang box or square metal junction box (not supplied)

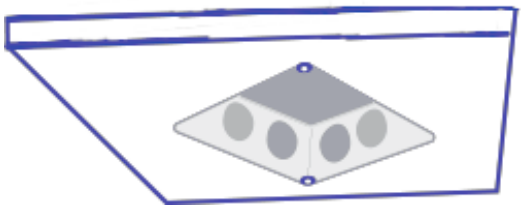
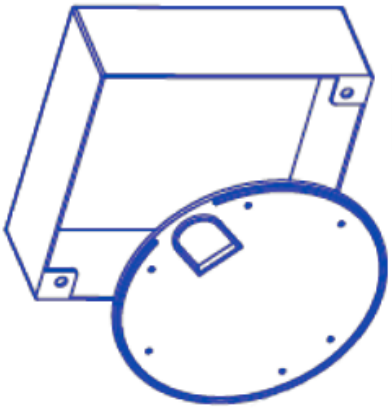


Figure 4: Install 4S junction box (not supplied)

NOTE: Ensure openings for cables are accounted for prior to installation.

2. Insert the supplied gasket inside the gang box.

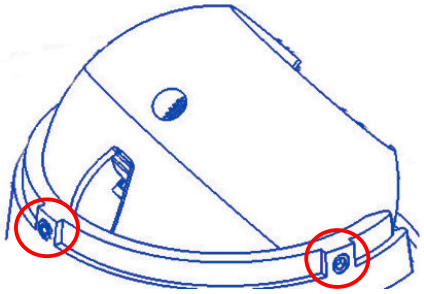


3. Insert the camera flush against the gasket inside the 4S gang box; this will be a tight fit.

NOTE: If you use the side connection of the NPT port, remove the cap covering the side entrance, otherwise; leave the cap in place. If using the NPT port, always use Teflon tape around the threads to ensure proper sealing.

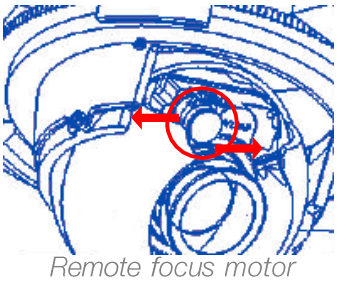
4. Route the cable tree from the camera around the rear of the camera module and secure all cables. See the Connections section for details on how to connect the camera.
5. Check that the indicator LEDs are illuminated to the desired conditions (see LED Indicator table).

6. Adjust the pan and tilt to obtain the desired field of view. Then, lock the camera head in place by tightening at least two of the three setscrews with the supplied flat-head screwdriver.
   i. Do not over torque the screws.



Lock camera head after adjusting the field of view

NOTE: Ensure not to press the remote focus motor against the sides of the camera module when adjusting the field of view.

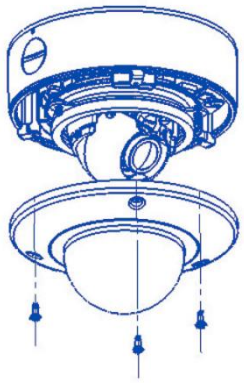


Remote focus motor

7. Install the dome cover by aligning the captive fasteners on the camera housing. If installing inside a 4S junction box, the MCD-4S accessory dome cover plate (sold separately) is required.

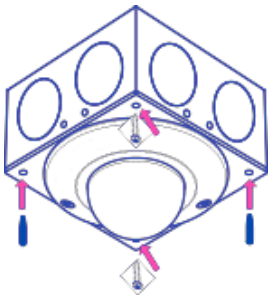
NOTE: There's no IR function if using MCD-4S

⚠ **CAUTION!** The captive fasteners must be used to properly secure the Dome Cover and Camera Housing. Failure to use the captive fasteners may result in serious injury. When mounting the Dome Cover to the Camera Housing, ensure that the gasket is properly seated and not folder. Failure to do so may result in water and dust ingress. Water damage from improper installation is not covered by the warranty.



Attach dome cover with captive fasteners

8. If using the MCD-4S accessory plate, tighten the two captive fasteners with the supplied Philips head screwdriver to secure the dome cover to the user supplied 4S junction box. Tightly insert the two black plugs supplied with the MCD-4S for the remaining open holes. Cut any excess off the rubber plugs, flush against the dome cover, with a utility knife.

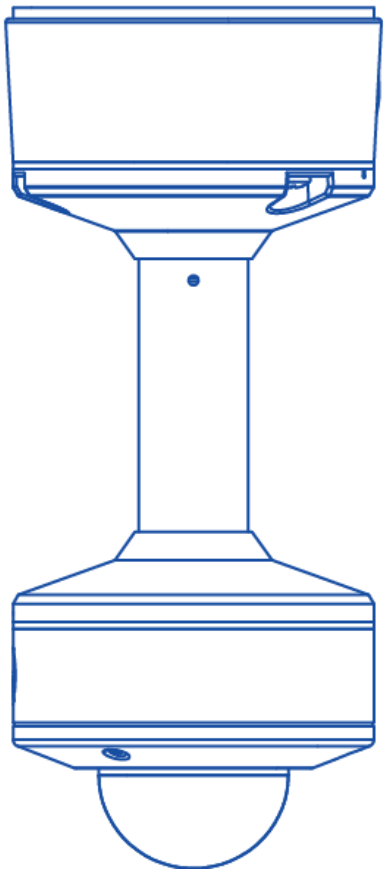


Attach the MCD-4S accessory plate to the user supplied 4S junction box

NOTE: The supplied security torx screws may also be used.

Pendant Mount (-S Models)

For a proper pendant mount installation, the MCD-CMT-W pendant mount is required (sold separately).
A pendant mount should only be attached onto hard ceilings such as wood, plastic, metal, and concrete.

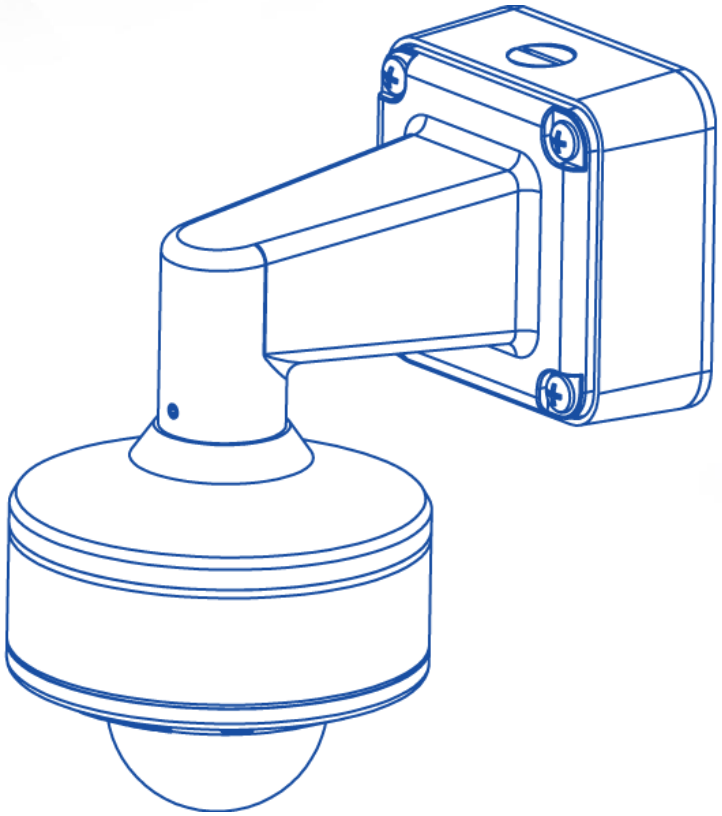


Installation Notes:

1. Three mounting screws are #10x1” wood or sheet metal screws (Three mount anchors also included).
2. Always ensure gaskets are properly seated.
3. Use Teflon tape on threaded interfaces.
4. 3/8” male to 1/2” female NPT adapter included.
5. Mount holes from camera housing to flange are not symmetrical. Alignment features indicated must be properly lined up for mount hole alignment.

Wall Mount (-S Models)

For a proper pendant mount installation, the MCD-WMT-W wall mount is required (sold separately). A wall mount should only be attached onto hard ceilings including wood, plastic, metal, and concrete.



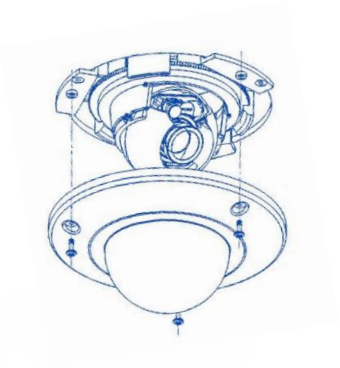
Installation Notes:

1. Four mounting screws are #10x1" wood or sheet metal screws (Four mount anchors also included).
2. Always ensure gaskets are properly seated.
3. Use Teflon tape on threaded interfaces.
4. 3/8" male to 1/2" female NPT adapter included.
5. Mount holes from camera housing to flange are not symmetrical. Alignment features indicated must be properly lined up for mount hole alignment.

Changing the Lens

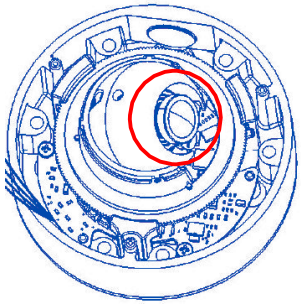
1. Remove the dome cover by loosening the captive fasteners with the supplied Philips head screwdriver.

SURFACE MOUNT (IR-S Model)



FLUSH MOUNT (-F Model)

2. Manually unscrew the lens counterclockwise, this may take several seconds.



3. Install spacers if necessary and screw the replacement lens clockwise until you feel some resistance and hit a hard stop.
4. Reinstall the dome cover per instructions outlined above.

Lens Options

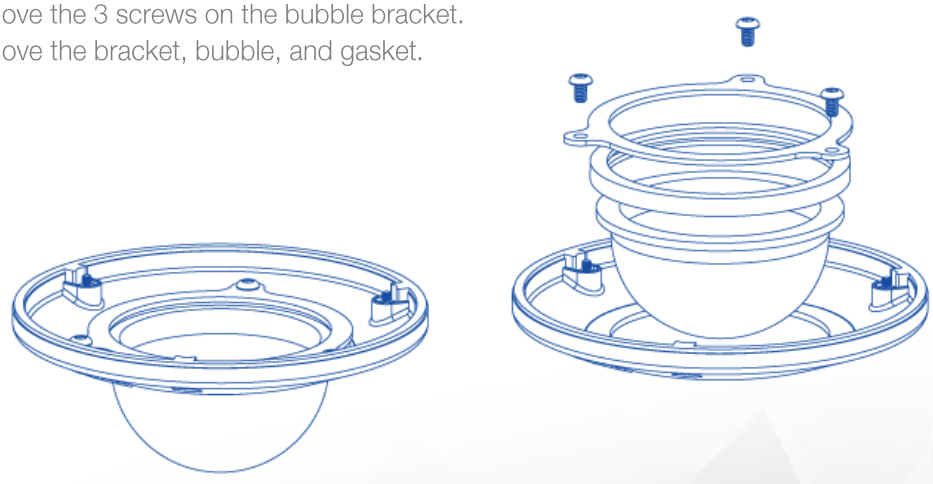
NOTE: Spacers are required for some lens options. See table below.

Lens Part Number	Description	Numbers of Spacers Needed
MPM2.4	2.4mm	0
MPM2.8C	2.8mm	0
MPM4.0A	4mm	2
MPM6.0	6mm	2
MPM8.0	8mm	2
MPM12.0A	12mm	2
MPM16.0	16mm	1

Removing the Bubble

For best image quality in an indoor environment the bubble can be easily removed.

1. Remove the 3 screws on the bubble bracket.
2. Remove the bracket, bubble, and gasket.

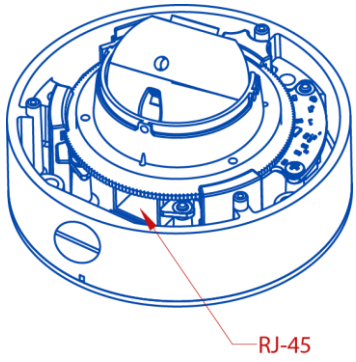


Camera Power Up

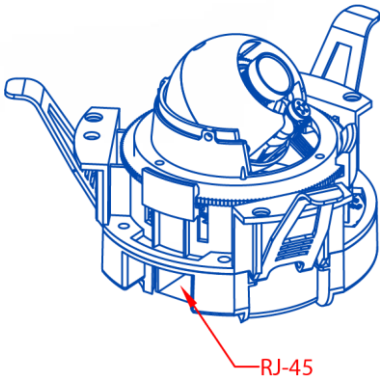
CAUTION! This product should be installed by a qualified service technician in accordance with the National Electrical Code (NEC 800 CC Section 60) or applicable local code. Wiring methods should be in accordance with the National Electrical Code/NFPA 70/ANSI, also with all local codes and authorities having jurisdiction. Wiring should be UL Listed and/or Recognized wire suitable for the application.

CAUTION! Make the connections inside a watertight compartment. Isolate unused power wires individually. After connections are made, ensure that the watertight compartment is tightly closed and cables and conduits are properly sealed to prevent ingress of water.

1. Connect the camera to a PoE port on 100Mbps network PoE switch using an Ethernet cable.



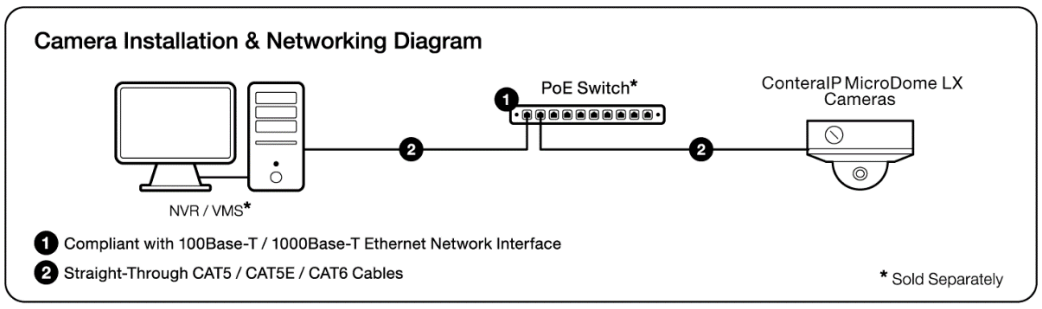
SURFACE MOUNT (-S Model)



FLUSH MOUNT (-F Model)

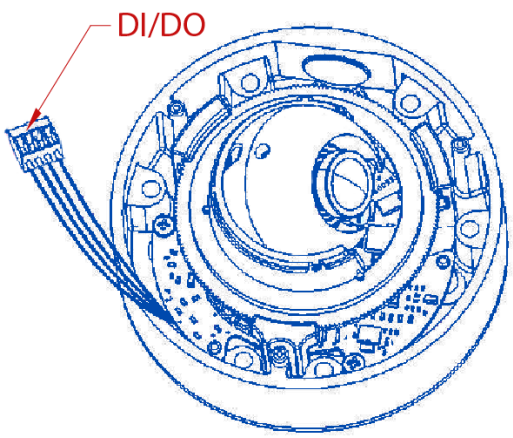
NOTE: This product is intended to be supplied by a Listed Power Adapter or DC power source, rated 48VDC, (Max. 8.5W) for PoE, Tma = 50ºC, and the altitude of operation = 2000m. For assistance with purchasing the power source, please contact AV Costar for further information. Ensure the power cord connection of the power adapter at the socket-outlet provides an earthing connection.

2. Connect the PoE switch to your computer's network port by using an ethernet cable.

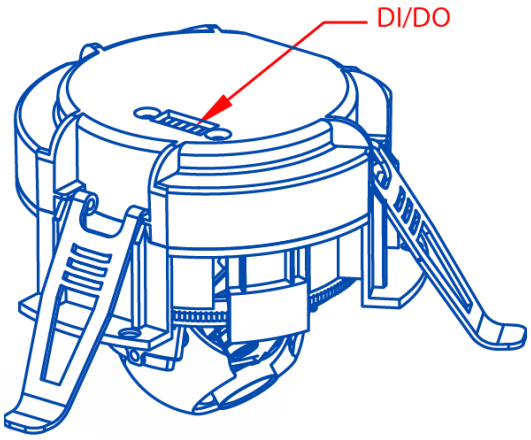


LED	Status	Description
Green	Quick Flashing	Link has been established
	Slow Flashing	Normal operation
None	None	No connection

Alarm I/O Functions



SURFACE MOUNT (-S Model)



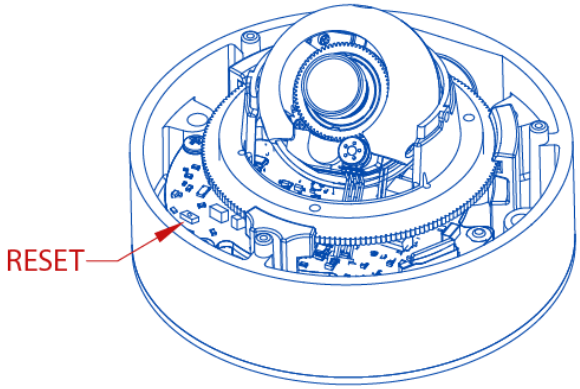
FLUSH MOUNT (-F Model)

Connect the Alarm In (DI) connector to the alarm input sensor, and then connect the Alarm Out (DO) connector to the alarm output signal.
To avoid any damage, please follow the specification of the part as below:

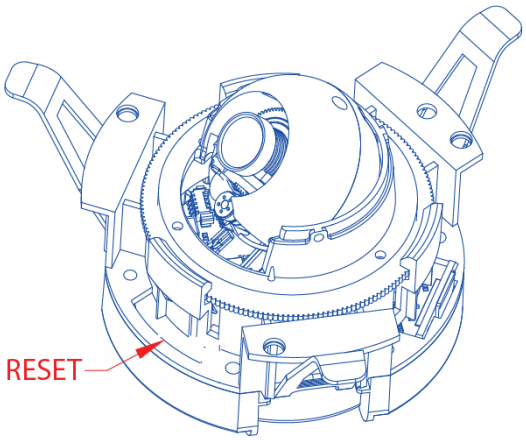
Alarm In (Wet Contact)		Alarm Out (Wet Contact)	
3.5-12 VDC	50mA (max)	**0-30 VDC**	50mA (max)

Reset to Factory Default

1. Press and hold the reset button for 2 to 5 seconds, then release the reset button. This resets the camera to the factory default except for the network settings.
2. Press and hold the reset button for more than 5 seconds, then release the reset button. This resets the camera to the factory default, and this resets the network settings to the factory default.



SURFACE MOUNT (-S Model)

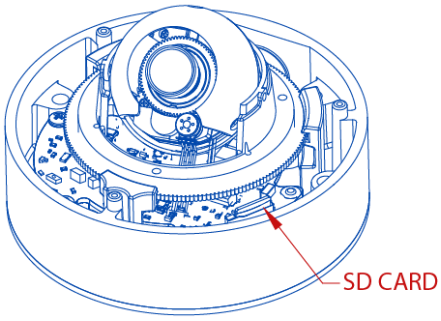


FLUSH MOUNT (-F Model)

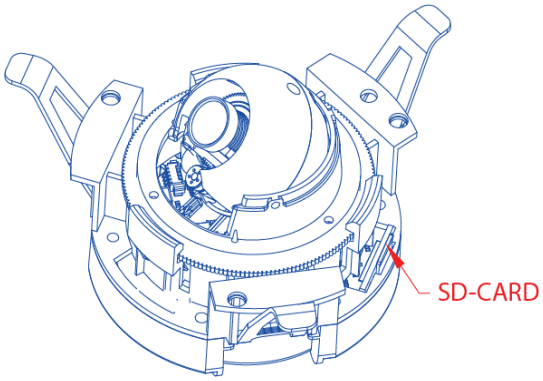
3. The User can also reset the camera to factory default via the camera web interface or Costar Camera Utility.

SD Card Info

MicroSDXC Card Slot



SURFACE MOUNT (-S Model)



FLUSH MOUNT (-F Model)

Camera Discovery, Setup, and Configuration

For camera discovery and setup, the Costar Camera Utility is recommended. The software can be found by scanning the QR code on the camera's box or at: http://www.arecontvision.com/softwares.php

The Costar Camera Utility can discover cameras, check the status of a camera, change camera settings, import and export camera settings via a .csv file, and update firmware and/or hardware from virtually anywhere with a network connection.

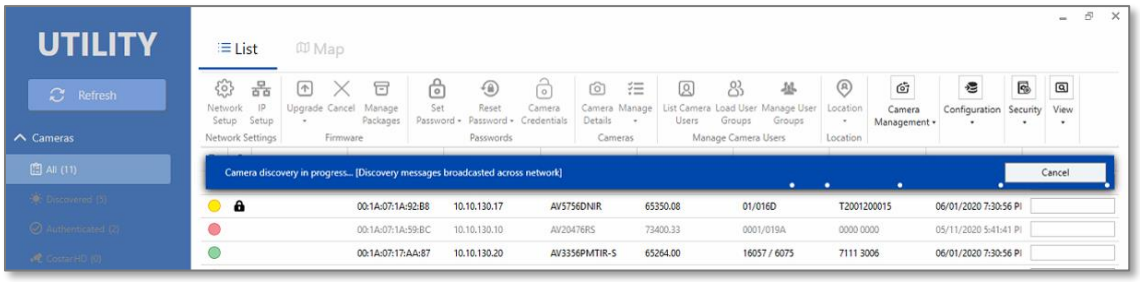
Whether used for large installations that require an update to multiple settings, or smaller installations where only one camera needs a change, the Costar Camera Utility tool is efficient and convenient for mass or single camera uploads.

The Costar Camera Utility is compatible with all AV Costar and CostarHD cameras. The user manual for the software is available on our website.

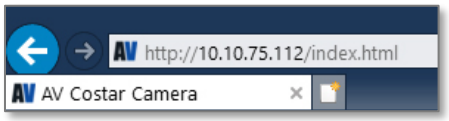
Camera Discovery

1. Locate and double click Costar Utility shortcut on the desktop and login.

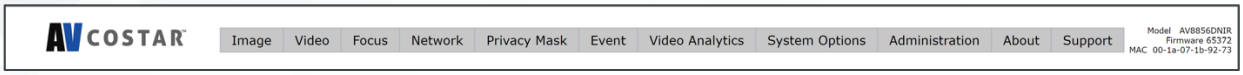
2. When the Costar Camera Utility is launched, it will automatically search the network for AV Costar and CostarHD cameras on the network and over a time interval. You can also manually search cameras by clicking the "Refresh" button.



3. You can access the camera web user interface by typing the camera IP address on the preferred web browser.



Web Interface Navigation



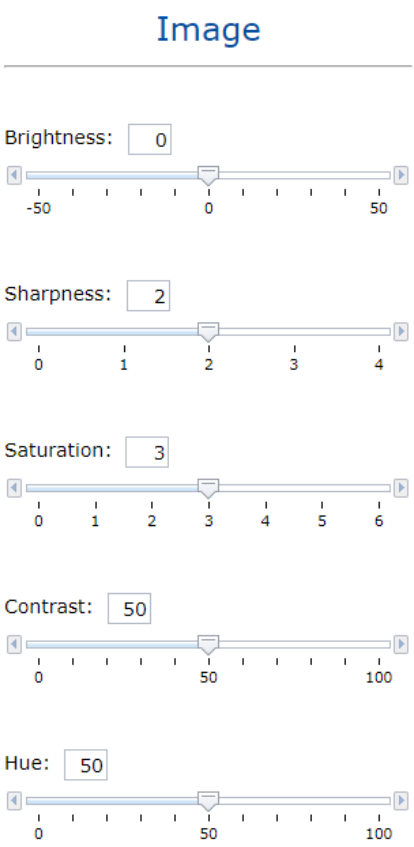
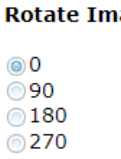
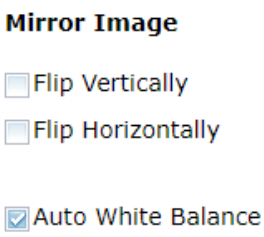
The entire menu is located on the top of the web interface.

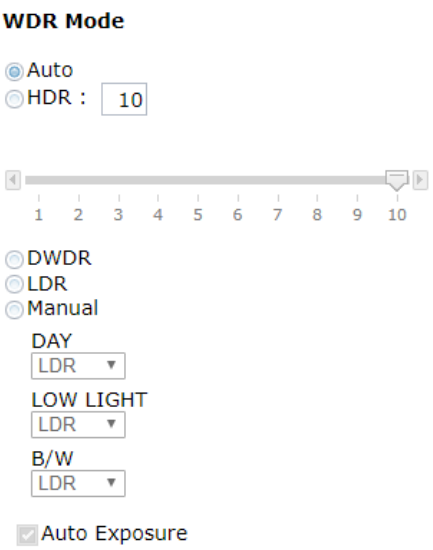
The following camera settings are available on the top of the menu in the web interface, and the user will be directed to the page that they click on the menu:

- **Image**
  - Basic Image Settings
  - WDR (Wide Dynamic Range) Settings
  - Day/Night Mode
  - IR Control
  - OSD (On-Screen Display)
  - ROI (Regions of Interest)
- **Video**
  - Show Video Type
  - Control Video with mouse
  - Resolution
  - Main Stream Configuration
  - Sub Stream Configuration
  - Third Stream Configuration
- **Focus**
  - Focus Range
- **Network**
  - IP Assignment
  - QoS (Quality of Service)
  - UPnP (Universal Plug and Play)
  - RTSP (Real Time Streaming Protocol)
  - DDNS (Dynamic DNS)
  - SNMP (Simple Network Management Protocol)
  - SSL (Secure Sockets Layer)
  - FTP (File Transfer Protocol)
  - 802.1x
  - LDAP
- **Privacy Mask**
- **Event**
  - Motion Detection
  - Alarm Handler
  - Digital I/O
  - Tamper Detection
  - Network Failure
  - FTP Upload
  - SMTP (Simple Mail Transfer Protocol) Notification
  - Network Storage
  - SD Card

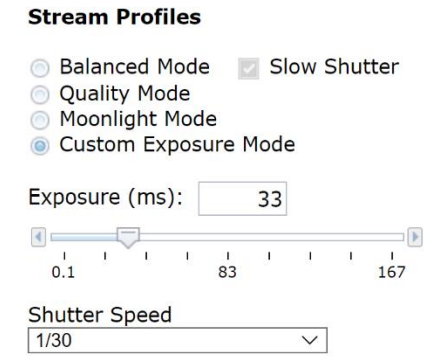
- **Video Analytics**
  - Analytics Settings
  - Object Calibration
  - Event List
  - License
- **System Options**
  - Firmware Upgrade
  - Configuration Management
  - Download Log
  - Reboot & Restore Settings
  - Camera Name
  - Date/Time
- **Administration**
  - Administrator
  - Viewer Management
- **About**
- **Support**

Image

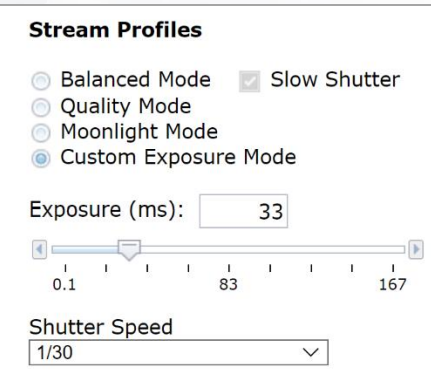
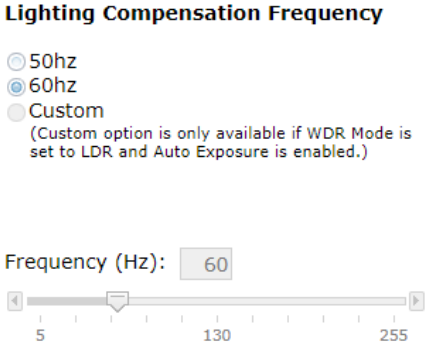
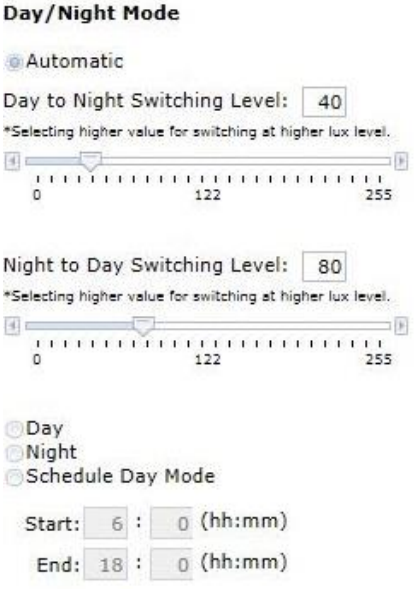
Menu	Feature	Description
	Brightness	Controls the overall brightness of the camera image and works in conjunction with the exposure controls to maintain the image brightness.
	Sharpness	Controls sharpness and edge definition of the image. Setting this to lower levels may make overall image appear a bit softer while causing lines and edges in the image to look smoother.
	Saturation	Controls the color saturation of the image.
	Contrast	Manually controls Gamma level (affects the overall luminance of the image).
	Hue	Configures the overall hue of the image, the range is 0 ~ 100. Increasing the value will adjust the image hue towards red. Decreasing the value will adjust the image hue towards blue.
	Rotate Image: 0, 90, 180, 270	Digitally rotates image 0°, 90°, 180°, or 270°. **NOTE: Analytics will only function when image rotation is set to 0° or 180°**
	Mirror Image: Flip Vertically Flip Horizontally	Flips the image horizontally (flip left-to-right) or vertically (flip top-to- bottom). They can be selected at the same time.
	Auto White Balance	Checkbox enables the automatic white balance feature of camera, which will automatically remove unrealistic color cast so that white color is rendered white in the image.

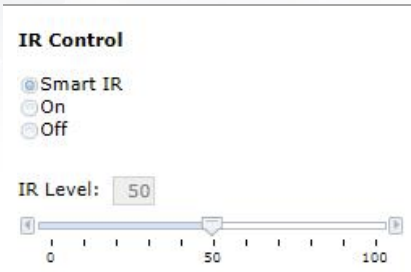


Auto	Auto detects bright backlight, glare or high contrast lighting and automatically selects the WDR level.
HDR	Manually adjusts the intensity of backlight compensation.
DWDR	Digital WDR (DWDR) is to enhance dark areas by adjusting the gamma value.
LDR	Will not combine long and short exposures into one frame, resulting in better low light performance.
Manual DAY LOW LIGHT B/W	Allows manual configuration of WDR by selecting the WDR level for the three lighting environment types (DAY, LOW LIGHT, B/W). The choices for each lighting environment are the same as the choices above LDR, AUTO, HDR, DWDR. Note: Manually adjust the HDR backlight compensation in the main HDR section above before selecting HDR for a lighting environment.
Auto Exposure	Automatically adjusts illumination and exposure values.

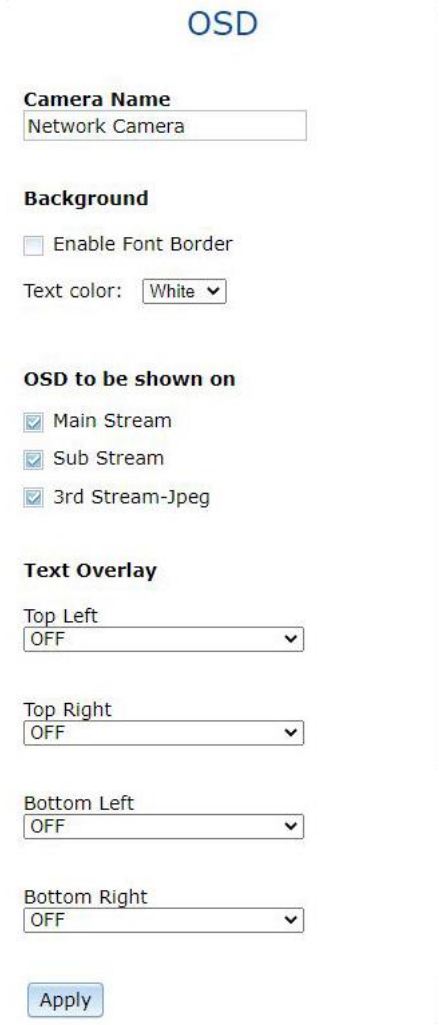


Stream Profiles: Balance Mode —Slow Shutter Quality Mode	Balanced Mode: Limits exposure time from 0.1ms to 66ms. The camera will keep highest FPS when Slow Shutter is unchecked. Quality Mode: Limits exposure time from 0.1ms to 200ms. This mode is a good compromise between reducing noise and motion blur under most lighting conditions, but with an increase in motion blur under low light conditions.

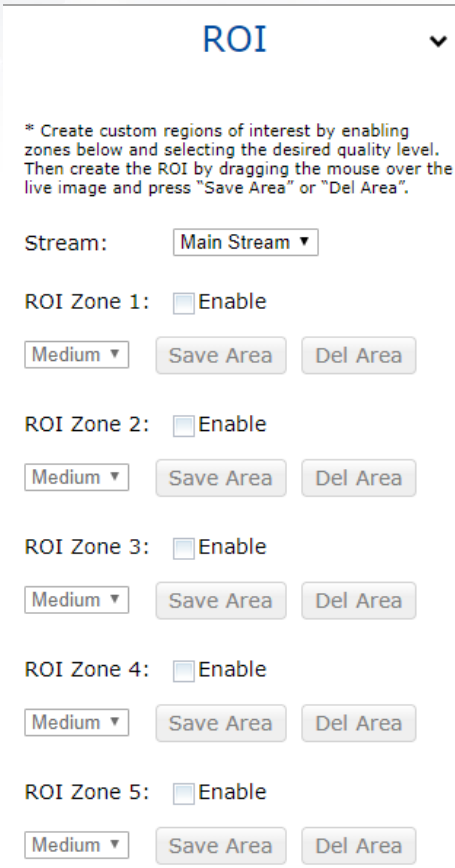
	Moonlight Mode Custom Exposure Mode	Moonlight Mode: Limits exposure time from 20ms to 500ms. This mode produces the best image quality under very low light conditions with the least amount of image noise. The trade-off is in favor of low noise at the expense of high motion blur. Custom Exposure Mode: Enables manual setting of exposure time between 0.1 and 167ms using the manual entry field, the slider, or the pull-down menu. Shorter exposure times reduces motion blur for applications such as monitoring fast moving objects and reading license plates. The trade-off is an increased level of noise. It is recommended that this mode be used only when there is constant scene illumination sufficient to provide a quality image.
	Lighting Compensation Frequency: 50hz, 60hz, Custom	Prevents flicker caused by the power line frequency of lighting. Chooses 50Hz for Europe and China and 60Hz for US and Japan. This parameter will have no effect when the dominate light is sunlight. Or, user can select frequency between 5Hz and 255Hz. It will be enabled when user select “Custom”.
	Day/Night Mode: Automatic Day Night Schedule Day Mode	Automatic: Enables the camera to automatically switch from day mode to night mode. User can define the switching level from Day to Night or Night to Day. Day: Forces the camera to stay in day mode. Night: Forces the camera to stay in night mode. Schedule Day Mode: User defined times that the camera remains in night mode.



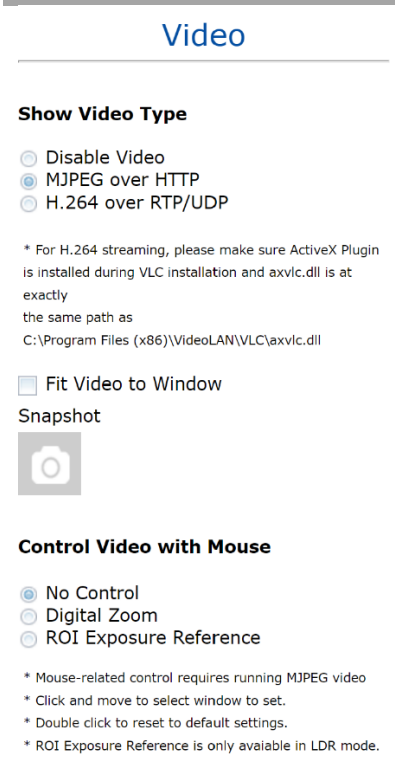
IR control: Smart IR On Off IR Level	Smart IR: Automatically adjusts output in response to the distance of an object in view to prevent overexposure when the object is very close to the camera. On/ Off: Manually turns on or off the IR LED array. IR Level: Manually adjusts the IR intensity.

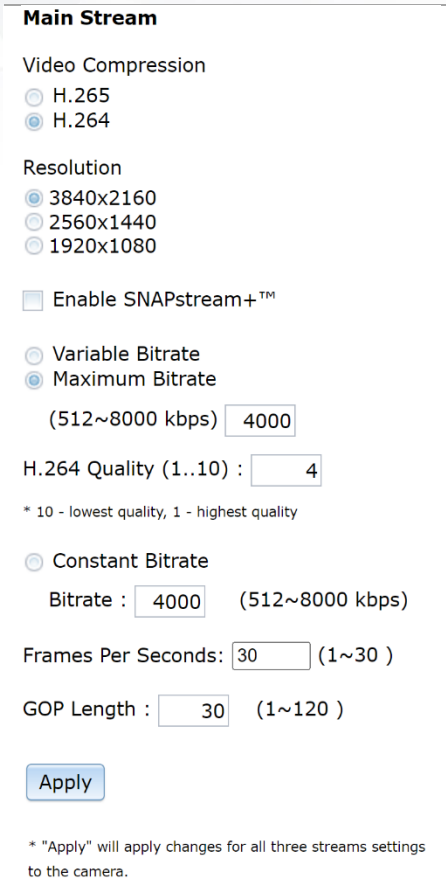


Camera Name	Specifies a name for the camera. The maximum length is 32 characters.
Background Enable Font Border	Enables a border for the text overlay.
Text Color	Options are Black, White, Green, or Yellow.
Text Overlay Off Date/Time Camera Name Camera Name + Date/Time Custom Text	There are four content positions (Top Left, Top Right, Bottom Left and Bottom Right) to display the text overlay. Date/ Time: Displays the current date/time. It will force the camera to synchronize the date/time information. Camera Name: Displays the camera name you set. Camera Name + Date/Time: Displays both camera name and date/time information. Custom Text: Displays a customized text.

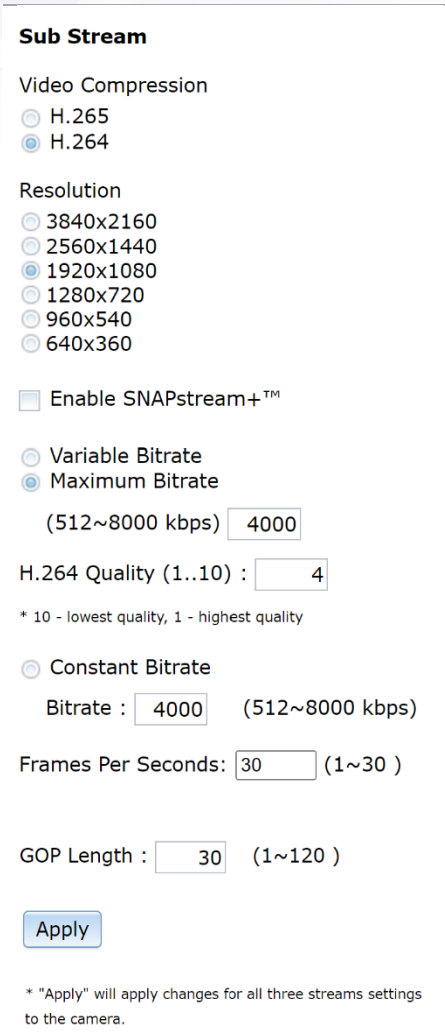
	ROI (Regions of Interest)	ROI (Regions of Interest) is used to select which areas will be monitored and recorded with higher image quality while using lower image quality for other non-ROI zones to save bandwidth and storage. To setup the ROI: 1. Select Main Stream or Sub Stream 2. Enable zones (up to five zones) and select the desired quality level (High, Medium, or Low). 3. Create the ROI by dragging the mouse over the live image 4. Press Save Area or Del Area.

Video

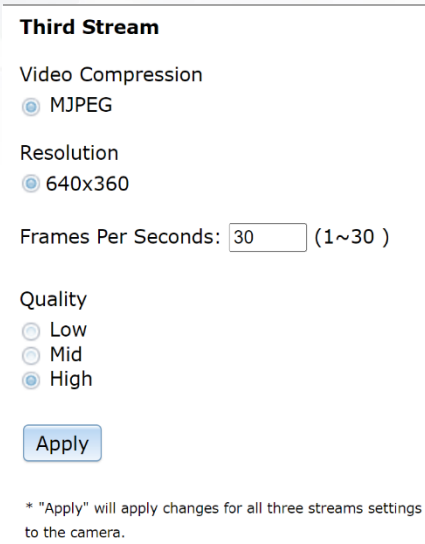
Menu	Feature	Description
	Show Video Type: Disable Video MJPEG over HTTP H.264 over RTP/UDP	**Disable Video:** Disables live video on the screen. **MJPEG over HTTP:** This radio button is the default browser display option. No plugin is required as most browsers can decode MJPEG images. **H.264 over RTP/UDP:** Displays video using H.264. If viewing this way for the first time you will see the following prompt to download the necessary browser plugin to display the video in the browser using this compression.
	Fit Video to Window	Scales the full field of view image to fit the browser window. When in default unselected images will be displayed in the browser at VGA resolution.
	Snapshot	Takes a snapshot of the current video.
	Control Video with Mouse No Control PTZ ROI Exposure Reference	Radio buttons control various functions using the mouse to select them on screen. Whichever function is selected can be controlled by left clicking in the image with the mouse and dragging to select an image region relevant to the corresponding control function. **No Control:** Disables mouse control of these functions. **PTZ:** Zooms in the selected region. Double clicks on the image will restore the image to default. **ROI Reference:** Creates a custom exposure reference using the selected region to customize backlight.
	Resolution: Left Top Right Bottom	Controls the image size and image cropping features. **Left, Top, Right, and Bottom** numeric fields set custom image size cropping and crop area coordinates in pixels. Supported values are 0 to maximum resolution in pixels (maximum varies based on the sensor resolution being cropped)



Video Compression: H.265 H.264	Radio buttons to select the desired compression.
Resolution	Radio buttons select the desired resolution. Options vary based on the sensor resolution being used.
Enable SNAPstream+™	Enables the SNAPstream+ feature on camera. This feature utilizes both Smart GOP and Smart ROI to reduce bitrate without impacting the image quality. Smart GOP sets GOP to automatically increase when no moving objects are detected. Smart ROI will increase the bitrate of moving objects and make them clearer.
Variable Bitrate	Maintains the Quality setting configured. There may be variation in the bit rate output from the camera using this mode.
Maximum Bitrate	Maintains variable bit rate control and maintains the bitrate under the rate limit you set to. It can be set from 512kbps to 8000kbps.
Constant Bitrate	Maintains a constant bit rate at the rate entered. It can be set from 512kbps to 8000kbps.
H.264 Quality	H.264 image quality setting for variable bit rate control. Setting a lower value results in higher image quality, higher value results in lower image quality.
Frames Per Seconds	Frame rate adjustment for the camera video stream. **Note: For 2MP models, FPS will be up to 50% of specified FPS if WDR is enabled.**
GOP Length	Specifies how many frames between two consecutive I-Frames.



Video Compression: H.265 H.264	Radio buttons to select the desired compression.
Resolution	Radio buttons select the desired resolution. Options vary based on the sensor resolution being used.
Enable SNAPstream+™	Enables the SNAPstream+ feature on camera. This feature utilizes both Smart GOP and Smart ROI to reduce bitrate without impacting the image quality. Smart GOP sets GOP to automatically increase when no moving objects are detected. Smart ROI will increase the bitrate of moving objects and make them clearer.
Variable Bitrate	Maintains the Quality setting configured. There may be variation in the bit rate output from the camera using this mode.
Maximum Bitrate	Maintains variable bit rate control and maintains the bitrate under the rate limit you set to. It can be set from 512kbps to 8000kbps.
Constant Bitrate	Maintains a constant bit rate at the rate entered. It can be set from 512kbps to 8000kbps.
H.264 Quality	H.264 image quality setting for variable bit rate control. Setting a lower value results in higher image quality, higher value results in lower image quality.
Frames Per Seconds	Frame rate adjustment for the camera video stream. **Note: For 2MP models, FPS will be up to 50% of specified FPS if WDR is enabled.**
GOP Length	Specifies how many frames between two consecutive I-Frames.

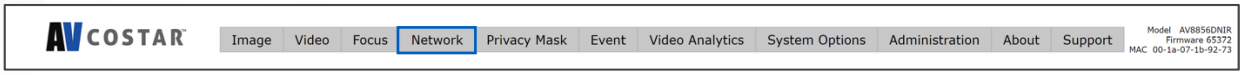


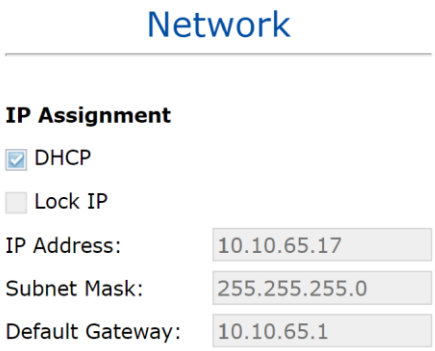
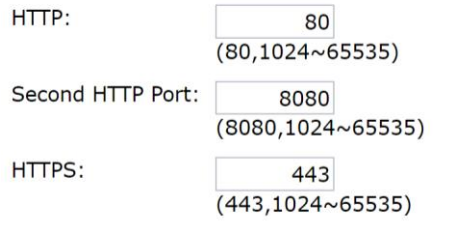
Video Compression: MPJEG	The third stream is designed for the live view on web interface, and the only option of Video Compression is MPJEG.
Resolution	The third stream is designed for the live view on web interface, and the only option of Resolution is VGA.
Frames Per Seconds	Frame rate adjustment for the camera video stream.
Quality: Low Mid High	Adjusts the compression level for JPEG images

Focus

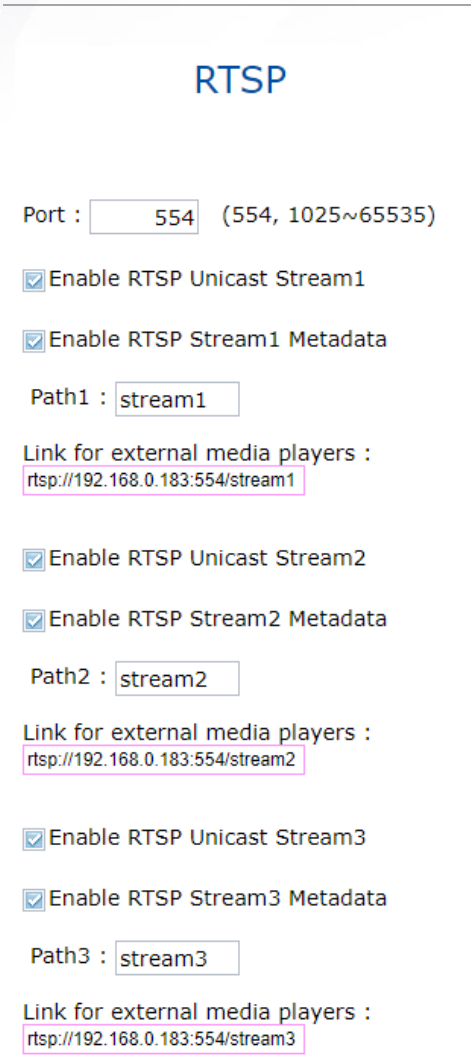
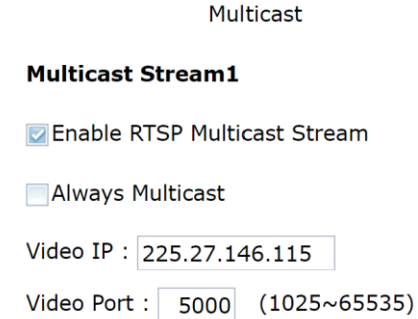
Menu	Feature	Description
Focus Focus : +20 +5 +1 -20 -5 -1 Full-range Focus Stop Reset Focus Position	Manual Focus: +20, +5, +1, -20, -5, -1	Number indicates the level of focusing in order to adjust the field-of-view.
	Full-range Focus	Full-range Focus button. The camera begins to autofocus with the lens stopping at the best overall point of focus.
	Stop	Stops any command in progress.
	Reset Focus Position	Resets Focus lens groups to zero position.

Network

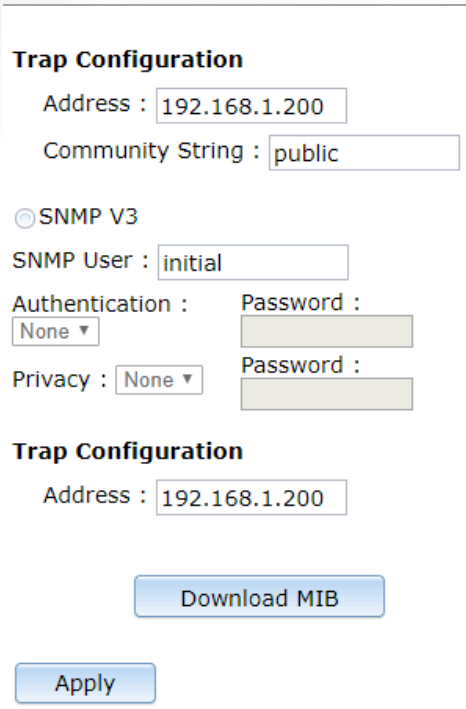


Menu	Feature	Description
	IP Assignment: DHCP Lock IP IP Address Subnet Mask Default Gateway	DHCP: If checked, the camera will attempt to obtain its IP address from the DHCP server available on the network. Lock IP: If checked, locks the IP address in the IP Address field. IP Address: Sets the current IP address of the camera. Subnet Mask: Once set, the camera will use these mask bits to determine if a destination is from a different network Default Gateway: Once set, the camera will use send traffic to the specified gateway if the destination is on a different network
	Port: HTTP Second HTTP Port HTTPs	HTTP: The port default is 80. It is used to access the camera via the web browser. Second HTTP port: Sets an alternative HTTP port. This port can be useful when the standard HTTP port (80) is not appropriate for this camera. HTTPs: The port default is 443. It can be used when you use HTTPs.
	DNS: Primary DNS Secondary DNS	Configures the Primary and Secondary DNS.

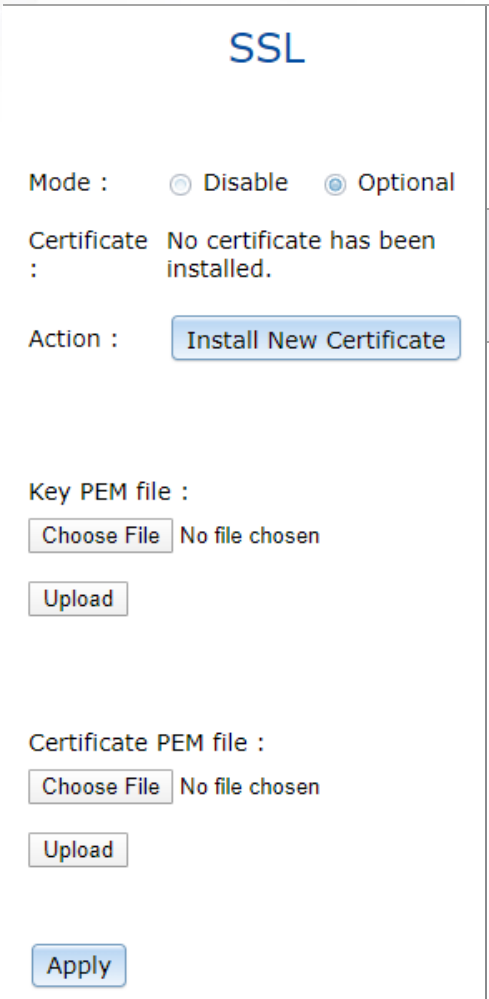
IPv6 Settings Enable IPv6 Link-Local: IPv6 Address: Address Prefix: 64 (0~127) Default Route: Router Advertisement DNS:	IPv6 Settings: Enable IPv6 IPv6 Address Address Prefix Default Route Router Advertisement DNS	Enable IPv6: Enables IPv6 function. Manually configures IPv6 address, Address prefix, Default route, and DNS server address. Router Advertisement: Enables Router Advertisement
QoS Enable QoS Video QoS (0-63) : 34 Management DSCP (0-63) : 0 Apply	Enable QoS	Enables quality of service.
	Video QoS	Sets DSCP value for video traffic.
	Management DSCP	Sets DSCP value for non-video traffic.
UPnP Enable UPnP Apply	Enable UPnP	Enables Universal Plug and Play function.

	Port	Configures the port number for stream 1 to stream 3. The range is 554/1025~65535.
	Enable RTSP Unicast Stream	Enables RTSP Unicast for stream 1(Main stream), stream 2(Sub Stream), and stream 3(Third Stream)
	Enable RTSP Stream metadata	Enables RTSP stream metadata for stream 1 (Main stream), stream 2 (Sub Stream), and stream 3 (Third Stream)
	Path	Configures the pathname for each stream.
	Link for external media players	Copies the link from here for external media players
	Enable RTSP Multicast Stream	Enables RTSP Multicast stream for stream 1 (Main stream), stream 2 (Sub Stream), and stream 3 (Third Stream)
	Always Multicast	Enables the video streams to start multicast steaming without using RTCP
	Video IP Video Port	Configures the multicast address and the port number to stream video.

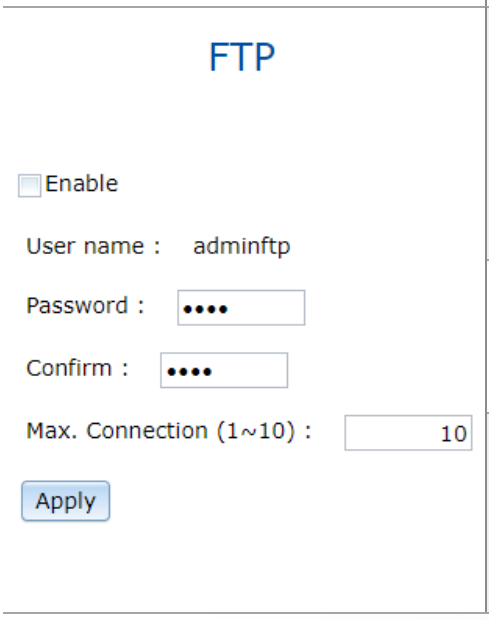
Meta IP : 227.27.146.115 Meta Port : 5004 (1025~65535) Path : stream1m TTL : 255 (1~255)	Meta IP Meta Port	Configures the multicast address and the port number to the HTML meta.
	Path	Configures the URL address of the video stream.
	TTL	Configures the time-to-live threshold of the multicast datagram before it is discarded by the router.
DDNS Enable DDNS Host Name : DDNS Server : DynDNS User Name : Password : Password Confirmation :	Enable DDNS	Enables DDNS service.
	Host Name	Specifies the Host name registered with the DDNS server.
	DDNS Sever	Selects one of the pubic DDNS severs from the dropdown menu. Options are DynDNS, NO-IP, and Twi-DNS.
	User Name	Specifies the user name of the DDNS account.
	Password	Specifies the password of the DDNS account.
	Password Confirmation	Confirms the password of the DDNS account.
SNMP No SNMP Server SNMP V2c Community String : public	No SNMP Sever	Disables SNMP function
	SNMP v2c	Enables SNMP version 2 support
	Community String	Specifies the name of the community to access to SNMP information.



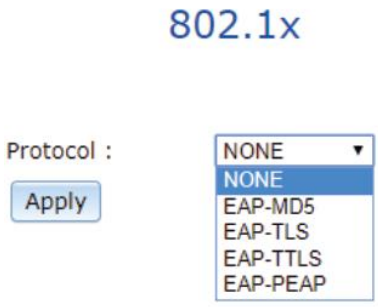
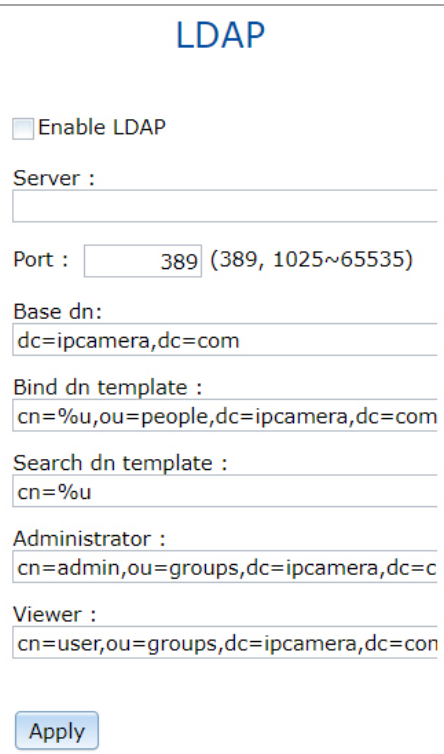
Trap Configuration: Address Community String	Specifies the destination IP address to send SNMP trap messages.
SNMP v3	Enables SNMP version 3 support.
SNMP User	Specifies the user name of the SNMP v3.
Authentication Password	Selects one of the Authentication modes from the dropdown menu. Options are None, MD5, and SHA. Specifies the Password for the Authentication.
Privacy Password	Selects one of the encryption methods for SNMP v3 from the dropdown menu. Options are DES and AES. Specifies the Password for the encryption.
Trap Configuration: Address	Specifies the destination IP address to send SNMP trap messages.
Download MIB	Clicks to download MIB file for SNMP.



Mode: Disable Optional	**Disable:** Support for HTTP only. **Optional:** Support for HTTP and HTTPs both.
Certificate	Shows the current status of the Certificate
Install New Certificate Key PEM file Certificate PEM file	1. Locate **Key PEM file** and **Certificate PEM file** and click Upload. 2. Click **Install New Certificate** to upload the Certificate.



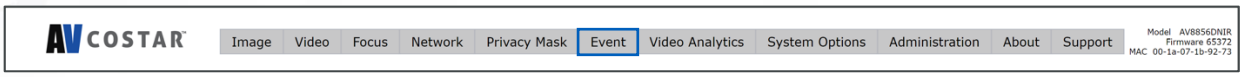
Enable	Enables FTP access to the camera. **NOTE: This function is only available when a SD card is installed. You can access files in the SD card via FTP.**
Password Confirm	Specifies and confirms the password to access the FTP.
Max. Connection	Specifies the maximum number of FTP connections to the IP camera.

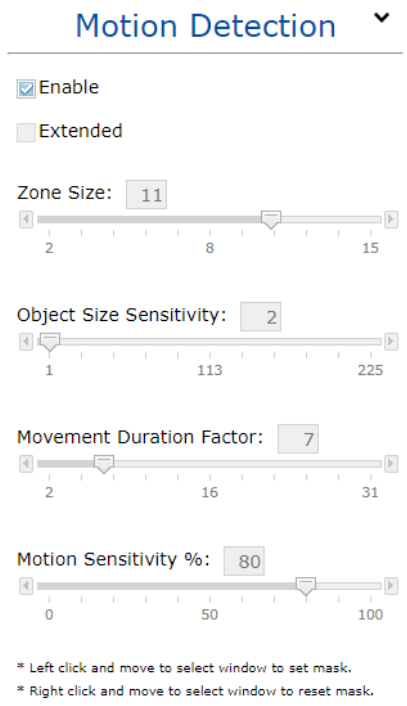
	Protocol	The default is None to disable 802.1 x functions. You can select one of the protocol options from the dropdown menu. The supported protocols are EAP-MD5, EAP-TLS, EAP-TTLS or EAP-PEAP. After the protocol has been selected, manually configures the username, password and other required information.
	Enable LDAP	Enables LDAP service.
	Server	Specifies the IP address of the LDAP server.
	Port	Specifies the port address of the LDAP server. Default port is 389.
	Base dn	Specifies the starting point an LDAP server uses when searching for user's authentication within the Directory.
	Bind dn template	Identifies the username that will be used to do the searching and request the authentication
	Search dn template	Defines at which node the search originates
	Administrator	Specifies the administrator
	Viewer	Specifies the viewer user

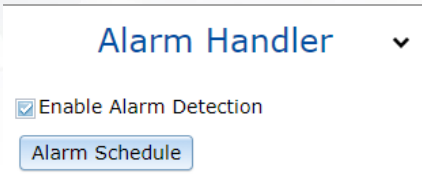
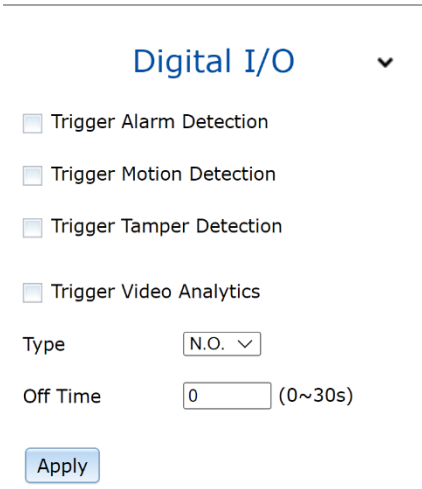
Privacy Mask

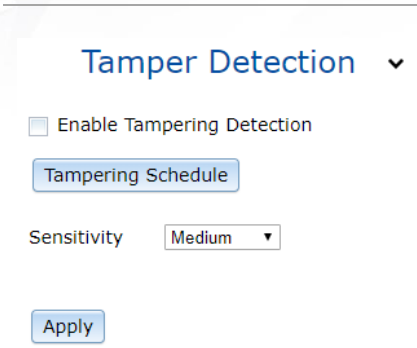
Menu	Feature	Description
Privacy Mask Enable Privacy Mask * Left click and drag to set mask * Right click and drag to erase mask *Note: It might take a few seconds for a privacy mask to show on the video stream.*	Enable Privacy Mask	Creates a privacy mask on the image so the selected areas will not be visible.
	Click and drag mouse to: Mask Unmask	Left click and drag mouse on video stream to add privacy masks or right click and drag mouse to erase privacy masks.

Event

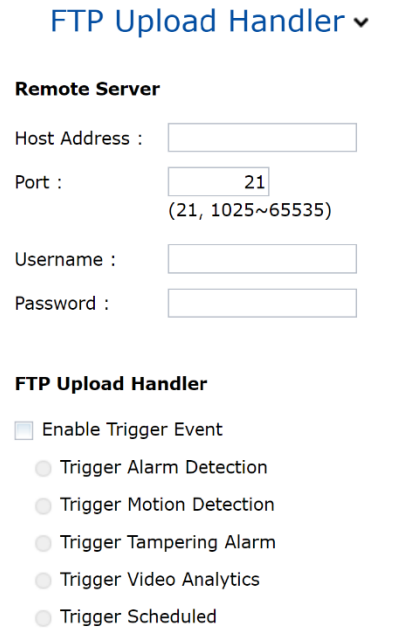


Menu	Feature	Description
	Enable	Turn on and off on-camera motion detection. Left Click and drag on the video stream to set a motion detection mask or right click and drag to remove the mask.
	Extended	Enables the extended motion detection and motion detection zones with an increase from default 64 to 1024 for enhanced motion detection sensitivity.
	Zone Size	Adjusts the size of motion detection zones.
	Object Size Sensitivity	Sets the size of each zone displayed by the motion detection grid. Contains sub zones where the number of sub zones is set by setting the zone size up to 32x32 (pixels). This setting configures the sensitivity of the motion detection to the size of objects in the image moving through the zone. Higher values will trigger motion only for larger objects moving through the zone, and lower values will cause detection of smaller objects in the zone (increasing sensitivity to smaller size objects moving through the image).
	Movement Duration Factor	Sets the sensitivity to brightness changes between dark and light objects within each grid zone. As an example, “Object Size Sensitivity” will set the size of the object detected within the zone, and “Movement Duration Factor” sets the duration that movement must be maintained to trigger motion detection. Lower settings can increase false motion alarms caused by image noise; higher settings will require more movement to trigger a motion event.
	Motion Sensitivity	Sets the sensitivity to sudden overall brightness changes in the image.

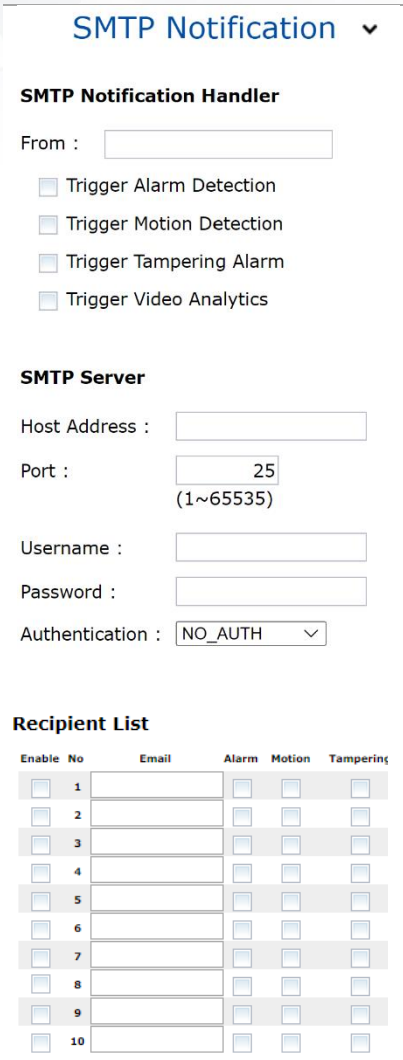
	Enable Alarm Detection	Enables Alarm Detection (Alarm In) function.
	Alarm Schedule	Configures the alarm schedule by holding down the mouse button and clicking the time block to enable the schedule settings on the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light grey color indicates that the alarm schedule is disabled. Alternatively, you can manually enter the numbers to configure the hours and minutes for the "start" and "end" of the day. S: Click "S" to set up a 24-hour schedule on a particular day. D: Click "D" to clear the previous schedule on a particular day.
	Trigger Alarm Detection	When a signal is detected from Alarm in the Alarm out will be triggered.
	Trigger Motion Detection	When a motion event is detected the Alarm out will be triggered.
	Trigger Tamper Detection	When a tamper event is detected, the Alarm out will be triggered.
	Trigger Video Analytics	When a video analytics event is detected, the Alarm out will be triggered.
	Type	Selects the type: N.O (Normally Open) or N.C (Normally Closed)
	Off Time	Specifies the alarm duration



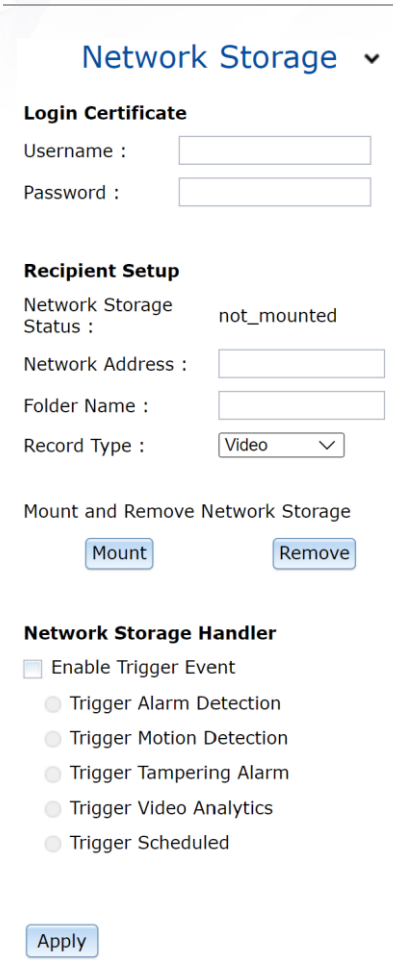
Enable Tampering Detection	Enables Tampering Detection function.
Tampering Schedule	Configures the alarm schedule by holding down the mouse button and clicking the time block to enable the schedule settings for the selected time. A light blue color on the time block indicates that the alarm schedule is enabled, while a light grey color indicates that the alarm schedule is disabled. Alternatively, you can manually enter the numbers to configure the hours and minutes for the "start" and "end" of the day. S: Click "S" to set up a 24-hour schedule for a particular day. D: Click "D" to clear the previous schedule for a particular day.
Sensitivity	Configures the sensitivity level of Tamper Detection: High, Medium, and Low.



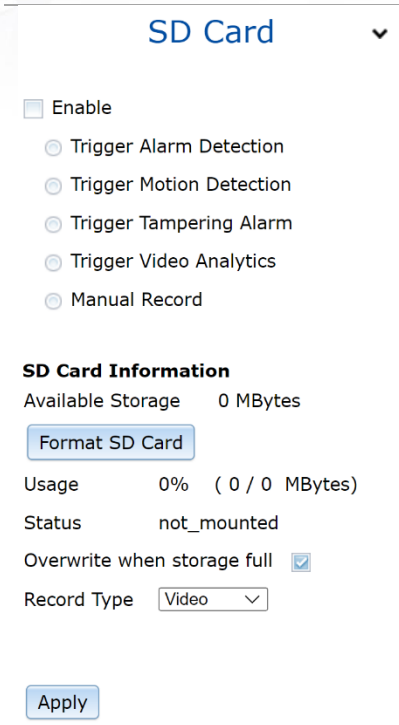
Remote Server Host Address Port Username Password	Host Address: Specifies the host name or IP address of the FTP server. Port: Specifies the port number of the FTP server. Username: Specifies the login username of the FTP server. Password: Specifies the login password of the FTP server.
FTP Upload Handler Enable Trigger Event	Enables and selects a desired trigger source. The options are Trigger Alarm Detection, Trigger Motion Detection, Trigger Tampering Alarm, Trigger Video Analytics, and Trigger Scheduled.



SMTP Notification Handler	From: Specifies the email address of the sender Selects a desired trigger source. The options are Trigger Alarm Detection, Trigger Motion Detection, Trigger Tampering Alarm, and Trigger Video Analytics.
SMTP Server Host Address Port Username Password Authentication	Host Address: Specifies the host name or IP address of the SMTP server. Port: Specifies the port number of the SMTP server. Username: Specifies the login username of the SMTP server. Password: Specifies the login password of the SMTP server. Authentication: Specifies the authentication mode of the SMTP sever. The options are NO_AUTH, SMTP_PLAIN, LOGIN and TLS_TLS.
Recipient List	Specifies the email address to send the email when selected events are triggered by Alarm, Motion, or Tamper. A maximum of 10 email addresses can be configured.

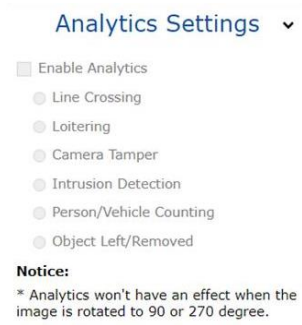


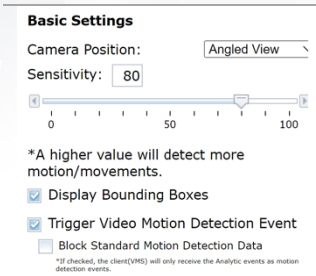
Login Certificate	Specifies the login Username and Password for the network storage sever.
Recipient Setup Network Storage Status Network Address Folder Name Record Type Mount and Remove Network Storage	Network Storage Status: Displays the current status of the connection with the network storage server. (not_mounted or ok) Network Address: Specifies the IP address of the network storage server. Folder Name: Specifies the folder name on the network storage server. Recoding Type: Specifies the desired action when an event is triggered. The options are Snapshot and Video. Mount: Sets up a network connection with the network storage server. All the video recordings or snapshots from event triggers will be uploaded to the network storage server. After the setting is complete, the Network Storage Status field will display “ok”. Remove: Deletes the previous setting. After the setting is removed, the Network Storage Status field will display “not_mounted”.
Network Storage Handler Enable Trigger Event	Enable Trigger Event: Enables and selects a desired trigger source. The options are Trigger Alarm Detection, Trigger Motion Detection, Trigger Tampering Alarm, Trigger Video Analytics, and Trigger Scheduled.

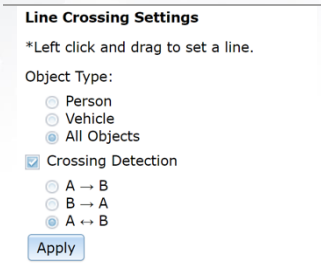
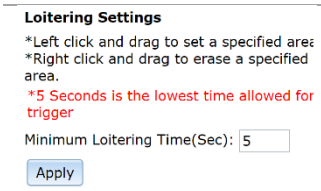
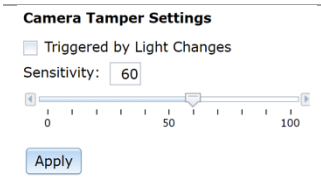
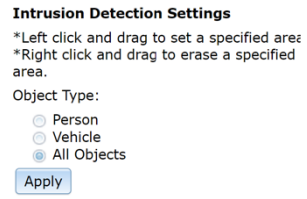


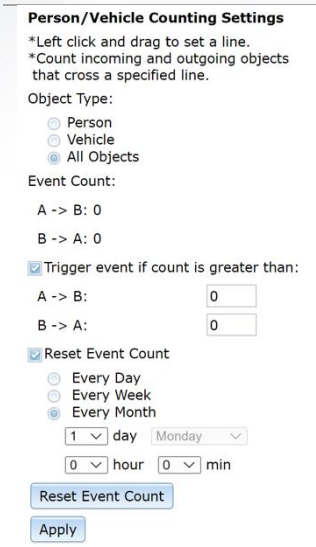
Enable	Enables and selects a desired trigger source. The options are Trigger Alarm Detection, Trigger Motion Detection, Trigger Tampering Alarm, Trigger Video Analytics, and Manual Record.
SD Card Information Available Storage Format SD Card Usage Status Overwrite when storage full Record Type	Available Storage: Displays the available storage of the SD card if it is installed. Format SD Card: Erases all the data stored on the SD Card. Usage: Displays the total storage that has been used now. Status: Displays the status whether the SD card is installed or not. (not_mounted or ok) Overwrite when storage full: Enables overwriting the SD card if the storage is full. Recoding Type: Specifies the desired action to record a stream. The options are Snapshot and Video.

Video Analytics

Menu	Feature	Description
	Enable Analytics Line Crossing Loitering Camera Tamper Intrusion Detection Person/Vehicle Counting Object Left/Removed	Enables and selects a desired Analytic function. The options are Line Crossing, Loitering, Camera Tamper, Intrusion Detection, Person/Vehicle Counting*, Object Left/Removed.* Line Crossing: Detects objects that cross a virtual line. Loitering: Detects objects that remain in a user-specified area beyond a specified time. Camera Tamper: Detects attempts to partially or completely block the lens or field of view, or drastic changes to the camera angle. Intrusion Detection: Detects objects that move into a user specified area. Person/Vehicle Counting*: Performs a continuous, multidirectional count of people, vehicles, or all objects. Object Left/Removed*: Continuously monitors a specified area to detect objects that have been left/removed. * Optional Advanced License Required

	Basic Settings Camera Position	When selecting the correct position for analytics care should be taken to avoid the following: 1. Objects that are too small (<10% of the image). 2. Objects that are too large (>40% of the image). 3. Objects that can be hidden from view. Angled View: Typically used for wall or corner mounts looking down. Useful for general intrusion. Top Down View: Typically used for vertical ceiling mounts. Primarily used for line crossing or directional movement. Horizontal View: Typically used for horizontal wall mounts at a lower height. It is not recommended for most situations since objects can be hidden from view.
	Sensitivity	Specify the desired trade-off between true detections and false alarms to minimize the effects from the background motions. 1. For night/low contrast scenes the sensitivity should be increased to 90-95. 2. For bright/noisy/sharp videos it should be lowered to 60-75. To minimize the effects of noise, Sensitivity can be reduced so that only more prominent objects will be detected and trigger events.
	Display Bounding Boxes	If checked, the video on the Web UI will display a bounding box around a valid object. **NOTE: Bounding boxes will not overlay on video streams. They are displayed in the camera web UI only.**
	Trigger Video Analytic Event	If enabled, Video Analytic Events will be treated as motion data. If Block Standard Motion Detection Data is enabled, the client (VMS) will only receive the Analytic events as motion detection events.

	Object Type Person Vehicle All Objects Crossing Detection A —> B A <— B A <—> B	1. Left clicks and drags a line on the live video. 2. Select a desired Object Type* to trigger events. The options are Person, Vehicle and All Objects. 3. Select a desired crossing direction to trigger events. The options are A —> B, A <— B, A <—> B. 4. Click Apply. * Optional Advanced License Required
	Minimum Loitering Time (Sec)	1. Left click and drag to draw a virtual area. 2. Right click and drag to erase a virtual area. 3. Specify the amount of time an object must be in the area to trigger the event. 4. Click Apply.
	Triggered by Light Changes	If enabled, lights turning on/off will be treated as a tamper event.
	Sensitivity	Sets the sensitivity to detect the tamper event due to the sudden changes in the image.
	Object Type: Person Vehicle All Objects	1. Left click and drag to draw a virtual area. 2. Right click and drag to erase a virtual area. 3. Select a desired Object Type* to trigger events. The options are Person, Vehicle and All Objects. 4. Click Apply. * Optional Advanced License Required



Object Type:

Person

Vehicle

All Objects

Event Count:

A —> B

B —> A

Trigger event if count is greater than:

A —> B

B —> A

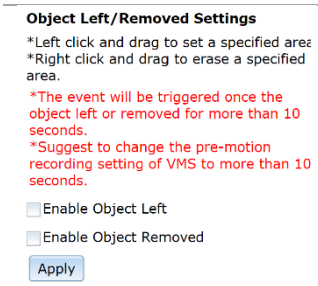
Reset Event Count

Every Day

Every Week

Every Month

1. Left click and drag to draw a virtual area.
2. Right click and drag to erase a virtual area.
3. Select the Object Type that will trigger the analytic.
4. Click Apply

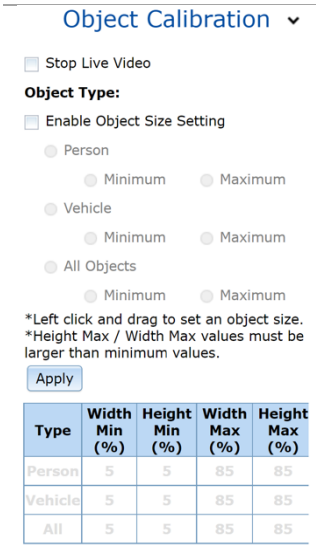


Object Left/Removed Settings

Enable Object Left

Enable Object Removed

1. Left click and drag to draw a virtual area.
2. Right click and drag to erase a virtual area.
3. Select Enable Object Left or/and Enable Object Removed.
4. Click Apply



Stop Live Video

Object Type

Enable Object Size Setting

Person

Vehicle

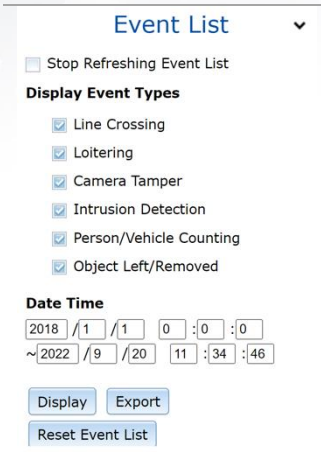
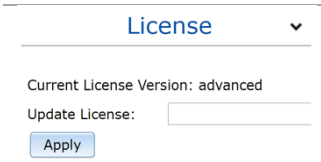
All Objects

Click Stop Live Video to perform object calibration.

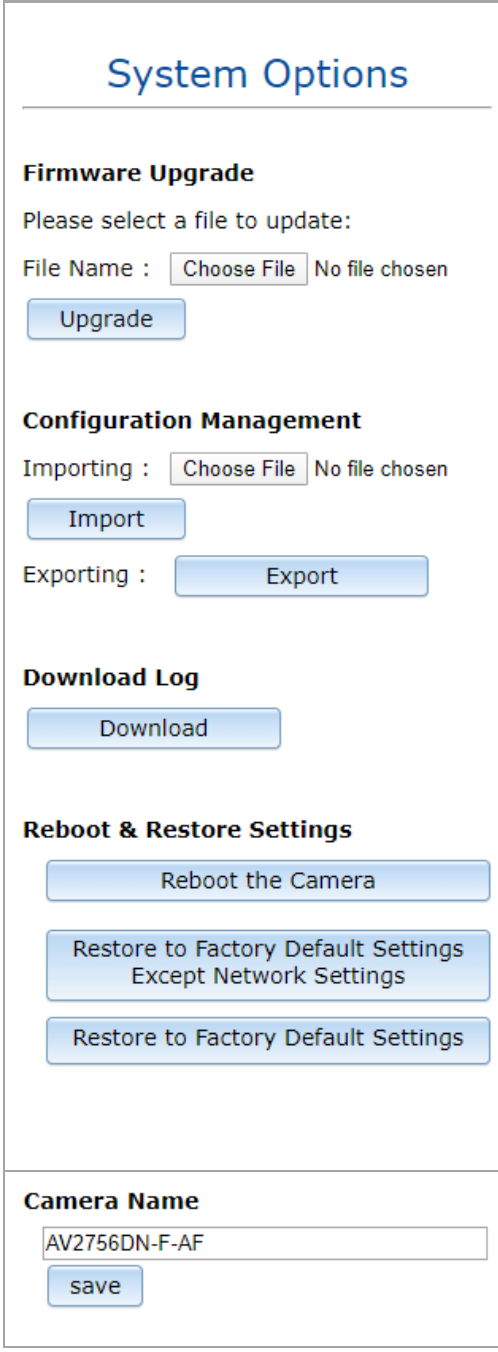
Enable Object Size Setting to start Object Calibration.

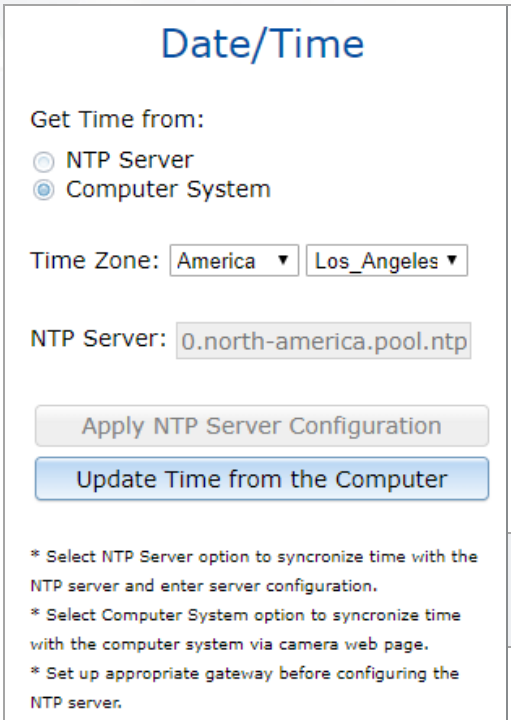
1. Select Minimum to specify the minimum object size of the target.
2. Left click and drag to set the object size.
3. Select Maximum to specify the maximum object size of the target.
4. Left click and drag to set the object size.
5. Click Apply

NOTE: It is recommended to set minimum object size to half the width and height of the average object and maximum object size to ~130% the width and height of the average object.

	Stop Refreshing Event List Display Event Types Date Time Reset Event List	Click Stop Refreshing Event list to pause new events from being displayed. 1. Select Display Event Types. The options are Line Crossing, Loitering, Camera Tamper, Intrusion Detection, Person/Vehicle Counting*, Object Left/Removed*. 2. Specify a start time and end time for events you want to search for. 3. Click Display. Click Reset Event List button to reset the current event list. * Requires Optional Advanced License supports this function.
	Current License Version Update License	Current License Version shows the license level: Standard or Advanced. Enter a license key then click Apply. **NOTE: If you would like to upgrade to Advanced License, please contact Technical Assistance Center (TAC). Call at +1.818.937.0700 and select option #1. Cameras with Advanced License cannot be downgraded to Standard License.**

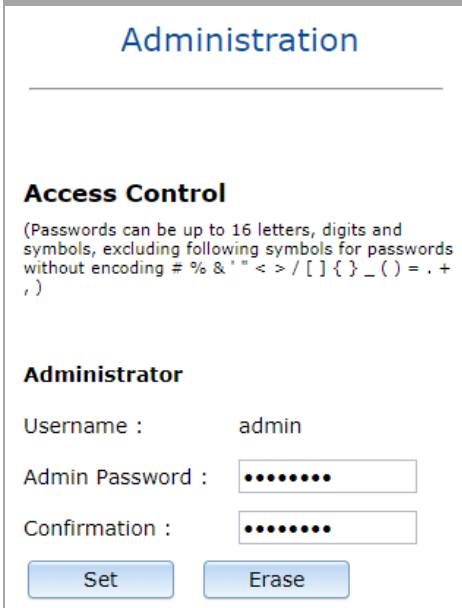
System Options

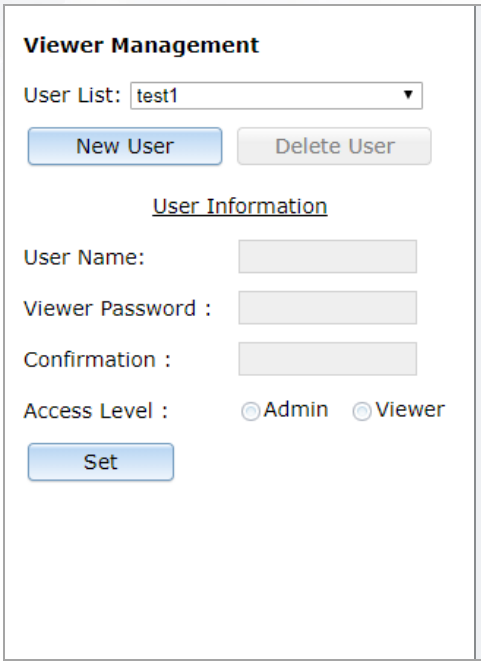
Menu	Feature	Description
	Firmware Upgrade	Click "Choose File" to choose the firmware upgrade file, and then click Upgrade.
	Configuration Management Importing Exporting	Importing: Allows the import of a configuration file to speed up installation. Click "Choose File" to choose the configuration file, and then click Import. Exporting: Allows the export of a configuration file to duplicate the settings of the camera on other cameras or use as a backup. Click Export and enter the desired name and location of the file.
	Download Log	Records all the status information of the camera in list format. Downloads the log file to the computer as a text file. **NOTE: The log file is protected by a password. Please contact the AV Costar Technical Support Team.**
	Reboot & Restore Settings Reboot the Camera Restore Factory Default Settings Except Network Settings Restore to Factory Default Settings	Reboot the Camera: Reboots the camera. Restore Factory Default Settings Except Network Settings: Restores all settings to factory default except the network settings. Restore to Factory Default Settings: Restores all settings to factory default.
	Camera Name	Allows the entry of a camera name to be entered.



Get Time from NTP Server Computer System	NTP Server: Synchronizes the date/time information with defined NTP server. After setting up the desired Time zone and NTP Server, click “Apply NTP Server Configuration”. **NOTE: Please make sure to set up appropriate gateway before configuring the NTP server.** Computer System: Synchronizes the date/time information with current computer’s date/time. Once this option is selected, click “Update Time from the computer”.
Time Zone	Specifies the country / city of the time zone from the drop-down menu.
NTP Server	Specifies the desired NTP server

Administration

Menu	Feature	Description
	Access Control	Passwords can be up to 16 letters, digits and symbols, excluding following symbols for passwords without encoding # % & ' " < > / [ ] { } _ ( ) = . + ,
	Administrator Username Admin Password Confirmation Set/ Erase	Username: The username of Administrator is admin and cannot be changed. Admin: full access to all camera settings and live video. Admin Password: Specifies the password for the administrator. Confirmation: Re-enters the password for the password validation. Set/ Erase: Saves or removes the password. **NOTE: If admin password was set but has been lost, it can be erased by AV IP Utility using the key file. Please contact Arecont Vision technical support to obtain the key file required to perform this function. Or, if the camera has a reset button, you can also reset to Factory default for removing the password.**



Viewer Management

User List

User Name

Viewer Password

Confirmation

Access Level

Set/ Erase

User List: Displays current user accounts created on the camera. Clicks New User/ Delete User to create or remove a user account.

User Name: Specifies the user name. It must be at least five and up to sixteen characters.

Viewer Password: Specifies the password for the viewer.

Confirmation: Re-enters the password for the password validation.

Access Level: Defines the authorization level for the user: Admin or Viewer.

Set/ Erase: Save or removes the password.

About

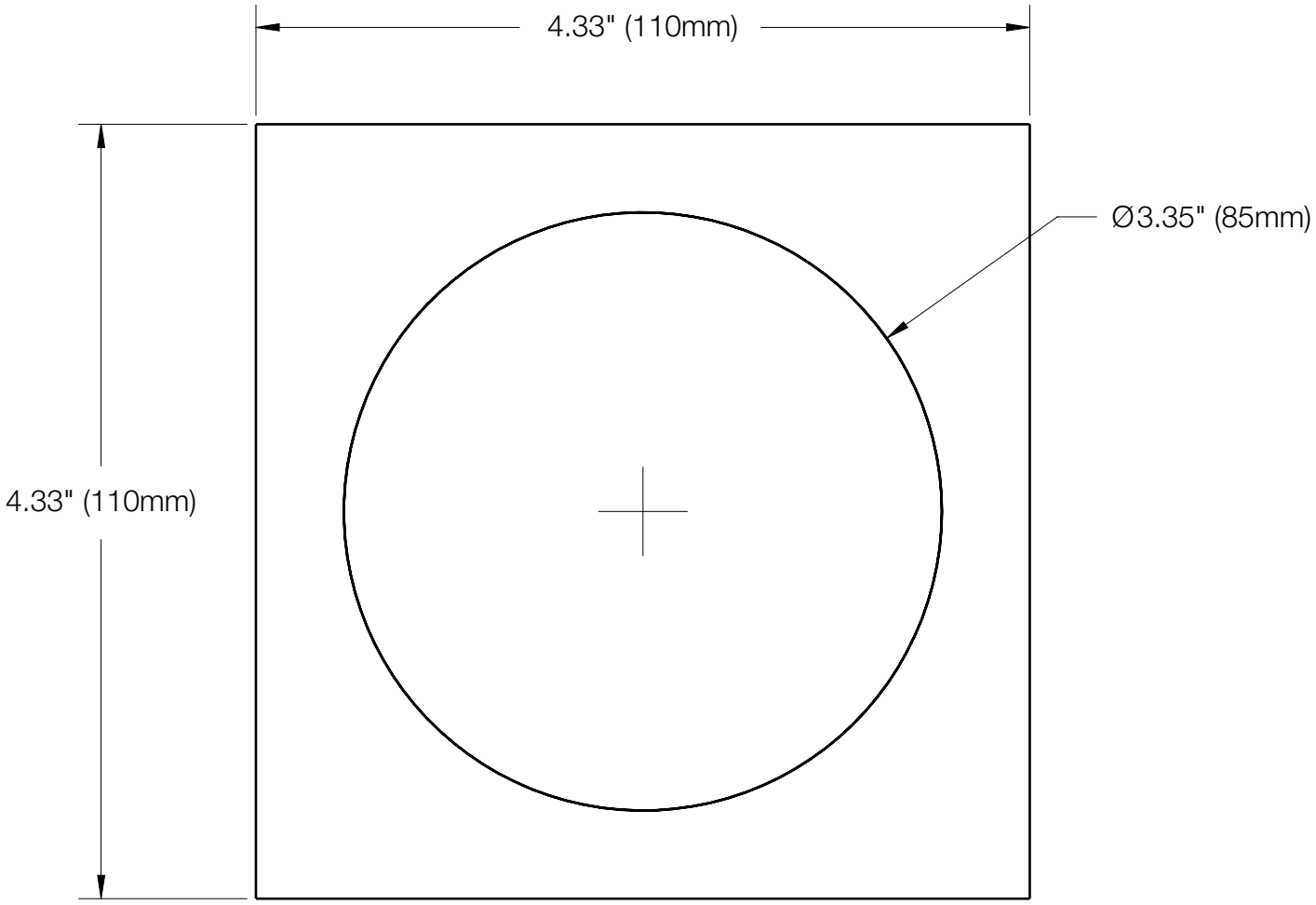
Menu	Feature	Description
About Model Name : AV8856DNIR Firmware : 65372 Serial Number : AVC22032883 MAC Address : 00-1a-07-1b-92-73	About	Model Name Firmware Serial Number MAC Address

Support

Menu	Feature	Description
Support • Resources • Online Support Request • Firmware Downloads • Software Downloads • Technical Updates • Product Selector • Downloads	Support	Provides several hyperlinks to get more information on the camera.

+1.818.937.0700 | www.avcostar.com | avsales@arecontvision.com

ConteraIP® MicroDome® LX Flush Mount Template



Need Assistance?

Get the configuration utility, installation manuals, and more information on this product at the AV Costar website.

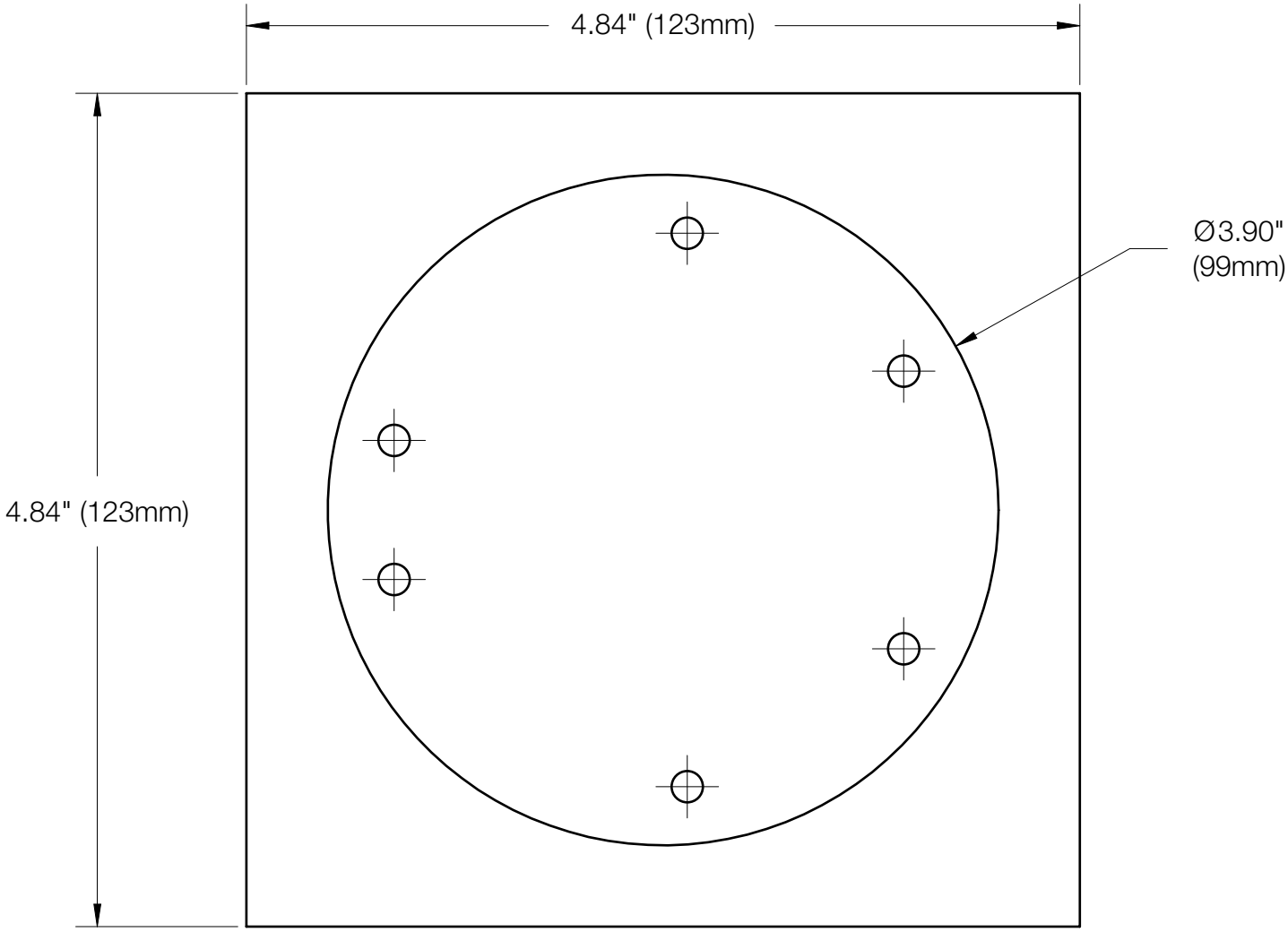
AV COSTAR™

avcostar.com/downloads

For further help, call +1.818.937.0700

Paper Size: Letter

ConteraIP® MicroDome® LX Surface Mount Template



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Paper Size: Letter