FCC ID:P27MDC845

IC: 527A-MDC845



**Quick Installation Guide** 

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## 1 Introduction

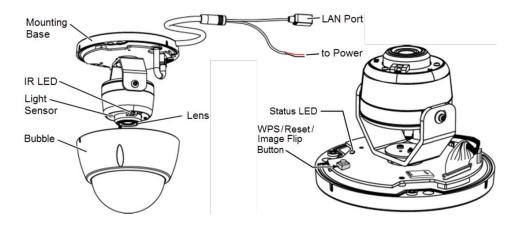
This section provides information about the MDC845 FHD Wi-Fi Mini Dome Camera's features, components and capabilities.

### 1.1 Feature Overview

The MDC845 is a Wi-Fi Mini Dome Camera with FHD resolution and 802.11ac Wi-Fi connectivity intended for use with both ADT Control® and Pulse®.

- Standalone Design. The camera is a standalone system with built-in CPU and video encoder. It requires only a power source and a connection to the network (customer router for Control or ADT Pulse gateway).
- **Dual Video Support**. The MDC845 supports H.264 and MJEPG video compression.
- Day/Night Switch. With the day/night switching feature, you can view and record images even at night.
- IR LED Support. The two infrared (IR) LEDs can provide illumination for up to 5 meters/16 feet, providing superior video quality under low-light conditions.
- Built-in Heater. The built-in heater ensures that the camera operates even in extremely cold climates. The heater turns on when the temperature falls below -4°F (-20°C).
- **802.11ac Support**. The 802.11ac standard provides backward compatibility with the 802.11 a/b/g/n standards.
- Supports Soft AP, WPS PIN, and Wired Enrollment. Software-enabled Access Point (Soft AP) connectivity is used on the Control platform. Wi-Fi Protected Setup PIN (WPS PIN) uses a push button and PIN to connect to the Pulse platform. Both platforms support wired enrollment.
- Wireless and Wired Operation. The MDC845 operates either wired or wirelessly.

## 1.2 Physical Details





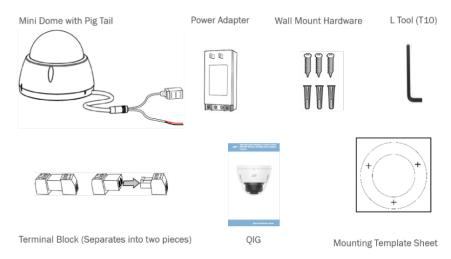
Component	Description
Power Port	The red and black flying leads connect to the terminal block, which attaches to a power cable (not supplied) and power adapter.
	Connect the supplied 12V power adapter. Do not use other power adapters; doing so may damage the camera.
LAN Port	Use a standard Ethernet cable (not included) to connect the LAN port to either the customer's router or the Pulse gateway.
Status LED	Off: Unit does not have power. On: (Blue) Unit is booting up then LED will blink blue ten times indicating the boot-up process is complete. Blinking: (Green/Amber) The power LED blinks green/amber after initial startup is completed. This indicates that the Soft AP OR WPS PIN mode is ready. On: (Green) Camera is connected to the network. Blinking: (Green) Camera has lost connection to the network Blinking: (Amber) Unit is in WPS PIN mode and/or the WPS connection is in progress. On: (Amber) If the LED is on for 5 seconds and then turns
WPS/Reset/Image Flip Button	off, the WPS function has failed.  This button serves three functions on the camera.  WPS PIN Mode: When pressed and held for 5 seconds during the Pulse enrollment process, the camera creates an encrypted secure wireless connection.  Reset: When pressed and held for 15 seconds, the camera reboots and settings are restored to default values.  Image Flip Button: When double-clicked, the image rotates 180°.
Lens	The lens is fixed and cannot be adjusted. Please ensure that the lens cover remains clean of dust and debris.
IR LED	Built-in infrared LEDs for night time illumination.
Light Sensor	This is a hardware sensor to detect daylight level or lux.
Micro SD Card Slot	Built-in microSD card slot for future enhancements.

**Note:** Because the microSD card slot is not currently functional, please do not remove this protective cover.

**Note:** Plugging in the Ethernet cable disables the wireless interface. Only one interface can be active at any time.

**Note:** The Ethernet cable should be connected or disconnected only when the camera is powered off. Attaching or detaching the Ethernet cable while the camera is powered on does NOT switch the interface between wired and wireless.

## 1.3 Packaging Contents

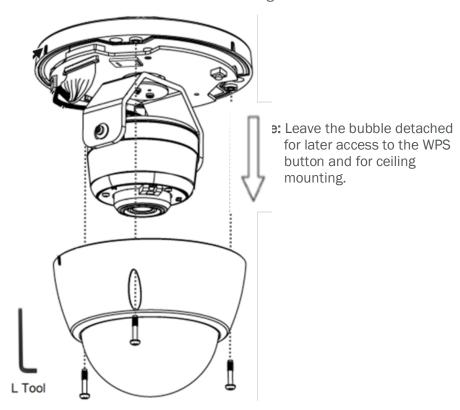


## 2 Basic Setup

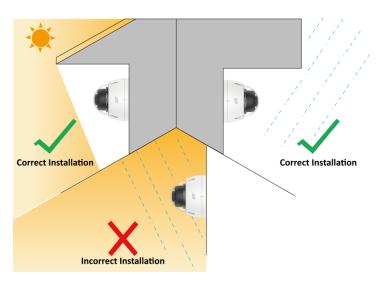
This section provides information on how to assemble and configure the MDC845 FHD Wi-Fi Mini Dome Camera for enrollment.

## 2.1 Assembling the Camera

• Use the L tool to remove the three retaining screws and bubble



- While the MDC845 is water resistant, it is must to limit direct exposure to rain.
- Install the MDC845 under a building overhang to ensure the least amount of exposure to the elements.
- The camera is only to be connected to PoE networks without routing to outside plants.



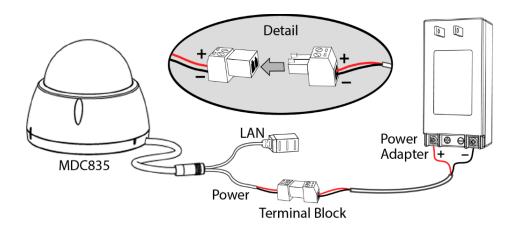
## 2.2 Power Up

- The green terminal block separates into two sides (male / female). Insert
  the red and black flying leads from the camera's power cord into the female
  side of the terminal block (see figure below). Secure both wires by
  tightening the screws on the terminal block.
- Similarly, secure both wires from one end of the power cable (not included) into the male side of the terminal block, ensuring that like-colored wires (red and black) are aligned with those just installed.
- Secure both wires from the other end of the power cable onto the appropriate (+ and –) screw terminals of the power adapter.
- Plug the power adapter into an AC power outlet.



**Caution:** Use the power adapter provided. Using a different power adapter may result in hardware damage.







**Caution:** To avoid damaging the camera, be sure to observe proper polarity. Although the + and – terminals are marked on the power adapter, they are white on white and may be difficult to see.



## 2.3 Final Steps

- Check LED status
  - The LED lights up solid blue and then blinks ten times during startup, which takes about 30 seconds. After startup is completed, and prior to enrollment, the power LED blinks green/amber.
- Network connections
  - If you are using a wired connection to the MDC845, prior to powering up, connect a standard Ethernet cable (not included) from the LAN port of the camera cable to either the device LAN port on the Pulse Gateway or directly to the customer's router for Control.
  - If you are using a wireless connection to the MDC845, this step is performed during enrollment.

**Note:** The Wireless and LAN interfaces cannot be used simultaneously. Using a wired LAN connection disables the wireless interface.

### • Enroll the camera

- The process for enrolling the camera on Control is described in "Section 3: ADT Control Enrollment".
- The process for enrolling the camera on Pulse is described in "Section 4: ADT Pulse Enrollment".

### Mounting the camera

 Mount the camera in its final permanent location. For details about using the mounting bracket, see "Section 5: Ceiling Mounting".

## 3 ADT Control Enrollment

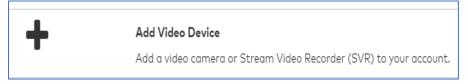
This section provides examples of two different methods for enrolling the MDC845 FHD Wi-Fi Mini Dome Camera onto the ADT Control platform. The first method uses a wired connection while the second method uses the Soft AP to wirelessly connect the FHD camera to the customer's network.

## 3.1 Using a Wired Connection to Enroll the Camera

- Set up the camera as described in the previous section.
  - Ensure the Ethernet cable is plugged into the customer's router.
  - Connect the camera's power adapter and plug it into a power outlet.
  - Wait for the power LED to become solid green.
- Connect a laptop or mobile device to the customer's network and then log in to the Control web portal, https://www.adt.com/control-login, to complete the setup.
- Select Video from the menu list.



Click Settings and then select Add Video Device.



Select Install from the video device list to begin adding the camera. If a
laptop or mobile device are not on the customer's network, then enter the



MAC address of the camera.

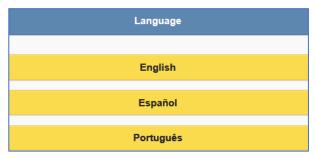
Follow the on-screen instructions to finish adding the camera.

## 3.2 Using Soft AP to Enroll Camera

- Set up the camera as described in the previous section.
  - Connect the camera's AC power adapter and plug it into a power outlet.
  - Wait for the power LED to blink green/amber.
- Connect to the camera's network SSID using a laptop or mobile device.
   The SSID is the model number of the camera and part of the MAC address. (for example, SSID = MDC845 (XX:XX:XX)).



- Open a web browser (Internet Explorer, Chrome, Firefox, etc.). Enter adt1.com and you are directed to the install wizard page.
- Choose a language.



• Click Scan for Wi-Fi Networks and select the customer's router SSID.





Note: Control cameras connect to the customer's Wi-Fi network to access the Internet and be added to the Control platform. It is imperative that the customer understand that all camera locations are

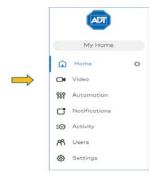
ome Camera Installation Guide

limited by the existing Wi-Fi network and its range. Additionally, the **customer** will need to enter the SSID password during the subsequent step.

Enter the wireless credentials and click Save.



- The LED turns solid green when data is being transmitted indicating that the connection to the customer's router is complete.
- Connect a laptop or mobile device to the customer's network and log in to the Control web portal, https://www.adt.com/control-login, to complete the setup.
- Select Video from the menu list.



Click Settings and select Add Video Device.



- Select Install from the video device list to begin adding the camera. If a
  laptop or mobile device are not on the customer's network, enter the MAC
  address of the camera.
- Follow the on-screen instructions to finish adding the camera.

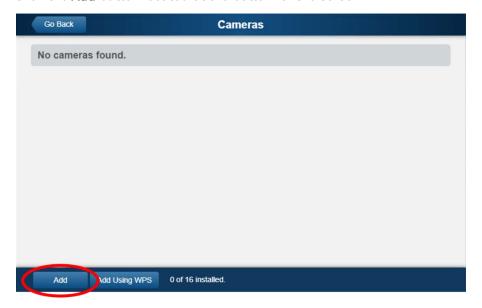
### 4 ADT Pulse Enrollment

This section provides examples of two different methods for enrolling the MDC845 FHD Wi-Fi Mini Dome Camera onto the ADT Pulse network. The first method uses a wired connection while the second method uses the Wi-Fi Protected Setup (WPS) with PIN method to wirelessly enroll the FHD camera to the gateway with the ADT Pulse Portal or TS Installer App.

## 4.1 Using a Wired Connection to Enroll Camera

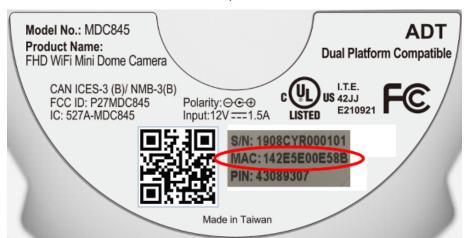
**Note:** This method is not supported by Cloud Link, as that device does not have a Device LAN port for making the wired connection

- Set up the camera as described in "Section 2: Basic Setup".
  - Ensure the ethernet cable is plugged into the Pulse gateway.
  - Connect the camera's power adapter and plug it into a power outlet.
  - Wait for the power LED to become solid green.
- Launch an Internet browser and log in to the Pulse portal or TS Installer app.
- Enter the Manage Devices screen using one of these methods:
  - For Pulse portal, select the System Tab and click Manage Devices.
  - For TS Installer app, click the Pulse Devices link. The Manage Devices screen appears.
- In the Manage Devices screen, click Cameras.
- Click the Add button located at the bottom of the screen.

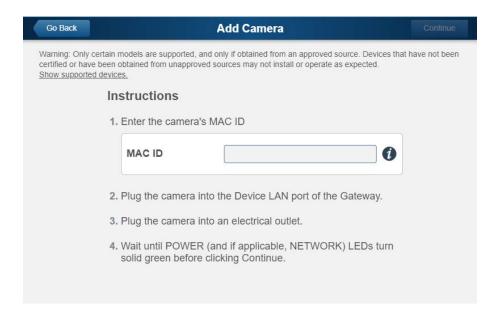




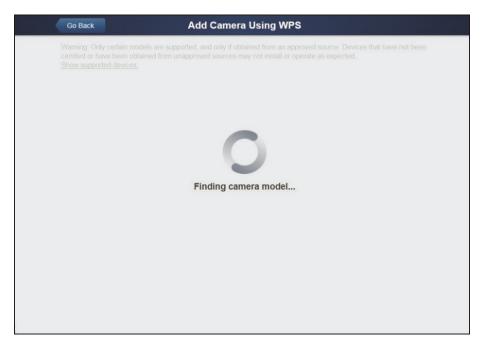
Locate the camera's MAC ID on the product label on the rear of the camera.



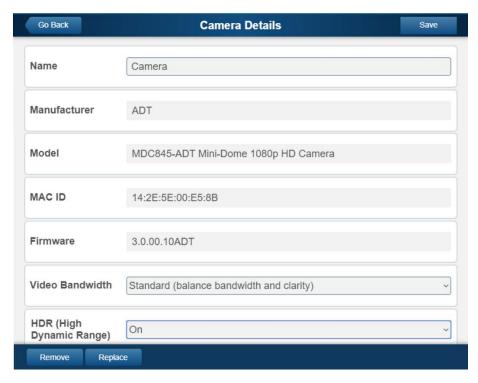
• Enter the camera's MAC into the MAC ID field and click Continue.



• The following screen is shown while the camera is configured

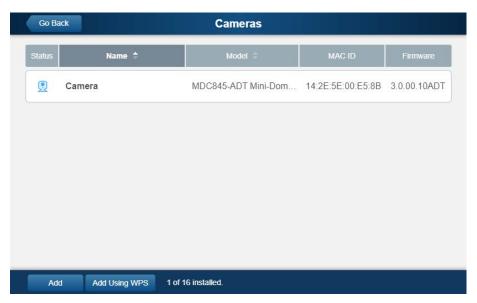


 When the Camera Details screen appears, showing that the camera has been enrolled, assign the MDC845 a unique name (usually based on the location of the camera) in the Name field, and then click Save.





 The Pulse enrollment is complete. The newly added device is shown in the Cameras list.



- At the top of the screen, click Go Back.
- You are returned to the **Manage Devices** screen. The total number of installed cameras has increased by one.

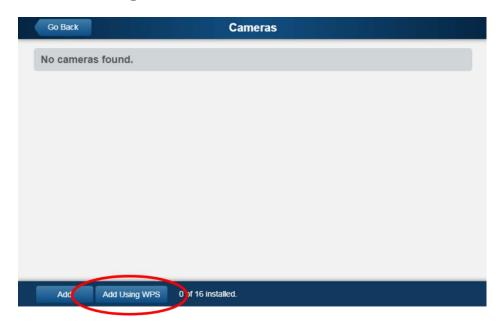


- Click Close and Close again to confirm.
- Wait until the LED is lit solid green, and then disconnect the camera from power.

- Install the camera in its final location.
- Please refer to "Section 5: Wall Mounting".

## 4.2 Using WPS PIN to Enroll Camera

- Set up the camera as described in "Section 2: Basic Setup".
- Launch an Internet browser and log in to the Pulse portal or TS Installer app.
- Navigate to the Manage Devices screen using one of these methods:
  - For Pulse portal, select the System Tab and click Manage Devices.
  - For TS Installer app, click the Pulse Devices link. The Manage Devices screen appears.
- In the Manage Devices screen, click Cameras.
- Click the Add Using WPS button located at the bottom of the screen.

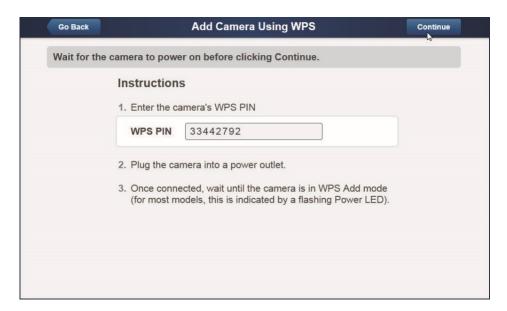




 Locate the camera's PIN number on the product label on the rear of the camera.

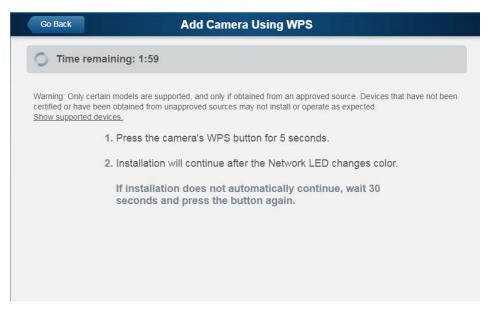


• Enter the camera's PIN in the WPS PIN field.

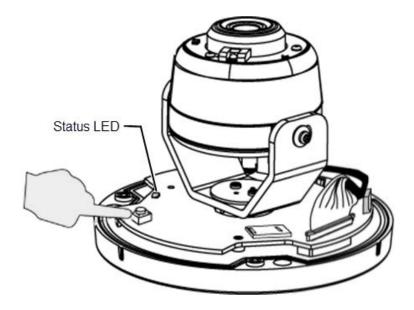


• Ensure that the camera is powered on and that the LED is flashing green/amber.

• Click the **Continue** button to initiate the WPS process. The following screen appears.



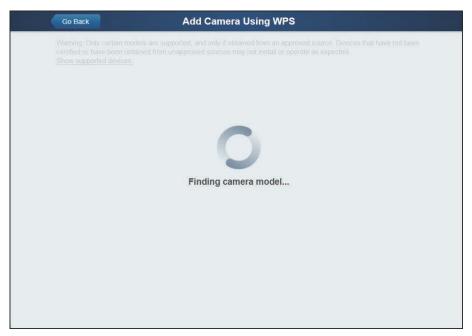
• Press and hold the **WPS/Reset/Image Flip** button on the camera for 5 seconds to establish a wireless connection.



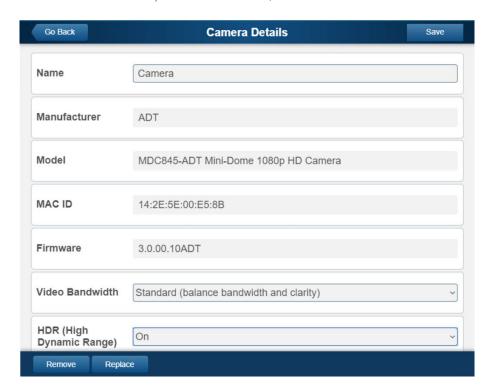
• The LED flashes amber as the gateway attempts to connect to the camera. The wireless connection is successful when the LED turns solid green.

**Note:** You must complete the WPS connection within 2 minutes or the process will time out. The time remaining appears in the upper-left portion of the screen.

• The following screen is shown while the camera is configured

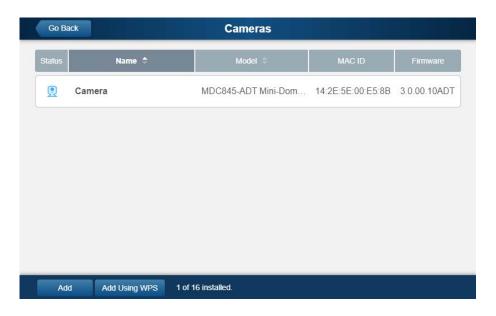


• When the **Camera Details** screen appears, showing that the camera has been enrolled, assign the MDC845 a unique name (usually based on the location of the camera) in the **Name** field, and then click **Save**.

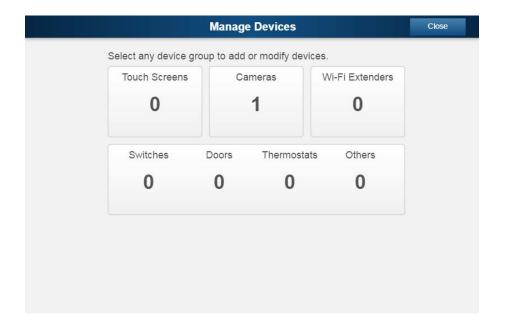




 The Pulse enrollment is complete. The newly added device is shown in the Cameras list.



- At the top of the screen, click Go Back.
- You are returned to the **Manage Devices** screen. The total number of installed cameras has increased by one.





- Click Close and then click Close again to confirm.
- Wait until the LED is lit solid green, and then disconnect the camera from power.
- Install the camera in its final location.
- Please refer to "Section 5: Ceiling Mounting".

## 5 Ceiling Mounting

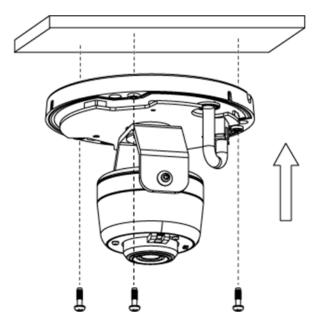
This section provides details for final mounting of the MDC845 FHD Wi-Fi Mini Dome Camera. You should ensure that the camera is configured and enrolled in the platform before permanently mounting it.

 Locate an unused, non-switchable, indoor outlet to plug the AC/DC power adapter into. This outlet should be located as close as possible to the location where the camera will be permanently mounted.



**Caution:** Do not plug in the power adapter until all the connections are completed and the camera is fully mounted.

- Identify the location where you would like to mount the camera. Using the mounting template included in the box as a guide, drill three mounting holes into the ceiling.
- If you have not done so already, use the L tool to remove the three screws and the bubble from the camera.
- If using the anchors, insert them into the mounting holes.
- Align the three mounting holes of the camera stand with the three drilled holes, and then mount the camera stand onto the ceiling using the provided screws.

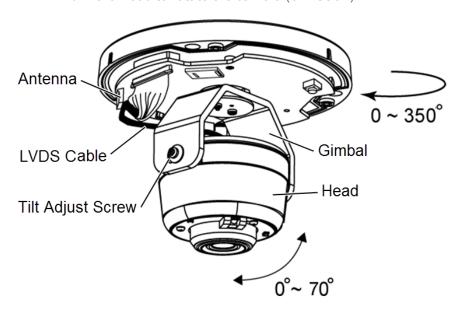


**Note:** It is recommended that you route the cable through the side opening of the mounting base.

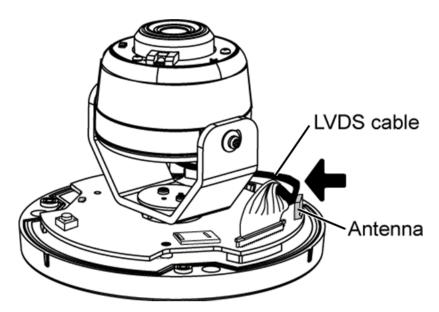
Make the camera angle adjustments. The camera offers 3 axis adjustments:



- Loosen the Tilt Adjust Screw to adjust the tilt angle (0°~70°).
- Adjust the Pan Angle (0°~330°) by turning the black Gimbal.
- Turn the Head to rotate the camera (0°~350°).



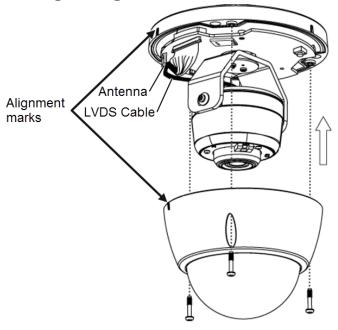
**Note:** Make sure that the LVDS cable does not cover up or become caught on the antenna.



 Attach the bubble to the camera, and then secure it using the three screws.



**Note:** Use the alignment marks to properly align the camera and bubble while attaching them together.





**Caution:** Make sure to tighten up the three screws in order to prevent water ingress.



**Caution:** Be careful not to let the bubble cover the light sensor or damage the LVDS cable while attaching the bubble to the camera.

- Make sure that the camera is firmly secured to the ceiling.
- Connect the power cable as described in "Section 2.2: Power Up".
- Remove the retaining screw from the receptacle plate and plug the power adapter into the lower power outlet.
- Insert the retaining screw through the opening at the top of the power adapter and reinstall it into the receptacle, securing the adapter to the wall.
- Verify that the camera is active on the wireless network and is recognized by the platform.

## 6 Wireless Connectivity Troubleshooting

This section provides details for troubleshooting wireless connection issues of the MDC845 FHD Wi-Fi Mini Dome Camera.

## 6.1 If the Camera Continually Goes Offline

If the camera continually goes offline (LED blinks green continually) after it is enrolled, the camera will automatically attempt to recover the wireless connection. If the camera cannot recover on its own, take the following measures to re-establish the Wi-Fi connection.

- Power cycle the camera.
- If the previous measure fails, power cycle the gateway.
- If the previous measure fails, move the gateway closer to the camera, if possible.
- If the previous measure fails, press the camera's reset button for 15 seconds, and then re-enroll the camera into the platform.
- If the previous measure fails, install a Wi-Fi Range Extender
  - EX6100 for Control
  - WN3000RPH-3ADPAS for Pulse

## 7 Appendix

## 7.1 Technical Specifications

Sensor ar	nd Lens
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Image Sensor 1/2.8" CMOS Senor	
Minimum Illumination	0 Lux (with IR LED On)
Lens FoV (Field-of-View) Diagonal Viewing Angle: 100°	
	LDC Enabled, Fix Focus Lens, Aperture: F2.0

### Video

Video Compression	H.264 Main Profile, M-JPEG
Video Streaming	Simultaneous, H.264, M-JPEG
Image Settings	Flip, Brightness, Sharpness, Mirror, Contrast
Resolution & Frame Rate	16:9 Full HD (1920*1080) ,HD 720p (1280*720), QHD
	640*360
	4:3 VGA (640*480) and QVGA (320*240)
	Mixed Mode 720p, VGA, and QVGA, Up to 30 FPS

**Alarm and Event Management** 

Alarms	Object Detection
Event Notification	Push Notification, Email, Text Notification
Network	
1100110111	

Wireless	IEEE 802.11ac, IEEE 802.11a/b/g/n, WPS	
Protocols	TCP/IP, HTTP, HTTPS, DHCP, FTP, uPnP, NTP, RTCP,	
	DNS, RTSP	

### Hardware

Connectors	Internal microSD Card Slot, External Wire split
	Ethernet port and DC flying lead
Processor	CPU: ARM Cortex A9, 720 MHz
Memory	Flash: 128MB, RAM: 256MB
Night Vision	IR LED x 2: Range: 16 feet (5 meters)
LED Indicator	1 tri-color LED for Power, Network/WPS
Push Button	Reset (with WPS Function)
Power Adapter	Input: 100~240 VAC, 50~60 Hz
	Output: 12v, 1.5A
Compliance	FCC, IC, UL, cUL
Dimensions (D x H)	110 x 92 mm
Weight	340g

### **Environment**

Operation	Temperature: -40° ~ 122°F (-40° ~ 50°C) Humidity: 0% - 85% RH (non-condensing)
Storage	Temperature: -40° ~ 158°F (-40° ~ 70°C) Humidity: 0% - 85% RH (non-condensing)
Ingress	IP66

### Accessories

Accessories	Screw Terminal Power Supply (12V / 1.5A, 100 -
	240V), Wall mount screw package

## **Ordering Information**

art Number	MDC845: FHD Wi-Fi Mini Dome Camera
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## 7.2 Regulatory Approvals

### 7.2.1 Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

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

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

### **IMPORTANT NOTE:**

### **Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/CANADA

### 7.2.2 Industry Canada Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference
- (2) This device must accept any interference, including interference that may cause undesired operation of the device

Cet appareil contient des émetteurs / récepteurs exempts de licence qui sont conformes au (x) RSS (s) exemptés de licence d'Innovation, Sciences et Développement économique Canada. L'opération est soumise aux deux conditions suivantes:

- (1) Cet appareil ne doit pas causer d'interférences
- (2) Cet appareil doit accepter toute interférence, y compris les interférences pouvant provoguer un fonctionnement indésirable de l'appareil

#### Caution:

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

#### **Avertissement:**

Les dispositifs fonctionnant dans la bande de 5150 à 5250MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux:

### Radiation Exposure Statement:

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

### Déclaration d'exposition aux radiations:

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.