



Cisco Smart+Connected Video Door Station Reference Guide

This document provides information and installation instructions for the Cisco Smart+Connected Video Door Station, which includes the following options:

- Cisco Smart+Connected Video Door Station Internal (SCH-VDS-I)
- Cisco Smart+Connected Video Door Station External (SCH-VDS-E)
- Cisco Smart+Connected Video Door Station Back Box (SCH-VDS-BB)

Contents

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Introduction

The Cisco Smart+Connected Video Door Station provides easy-to-use, secure communications between a visitor at the door and the resident inside a dwelling. When a guest pushes the built-in doorbell, the resident hears an alert and is shown video of the guest on a Cisco In-wall Display or Cisco Portable Tablet. The resident can talk to the guest over the intercom and open the door with the press of a button.

The Cisco Video Door Station is available in two options designed for either internal or external use. There are also optional Wi-Fi antennas available in two lengths.

- The Internal Video Door Station is ideal for mounting within a protected building to view visitors before allowing them into the residence.
- The External Video Door Station is perfect for use outside a building or at a gated entrance where weather conditions vary.

Both Cisco Video Door Stations deliver full-motion video and the fidelity of wideband audio intercom for secure, crystal-clear communications throughout the residence.

Figure 1 *Cisco Video Door Station: Internal (SCH-VDS-I) and External (SCH-VDS-E)*



Box Contents

Carefully unpack the Video Door Station from the box and ensure that the following items are included in the box. Contact your Cisco representative immediately if any parts are missing or if any component is damaged.

Table 1 *Box Contents*

Cisco External Video Door Station (model SCH-VDS-E)	Cisco Internal Video Door Station (model SCH-VDS-I)
- Two (2) mounting screws - Security screw tool	- Mounting screws, security head (5) - Security screw tool - Plate attachment screw (1) - Plastic faceplate (1)

Accessories

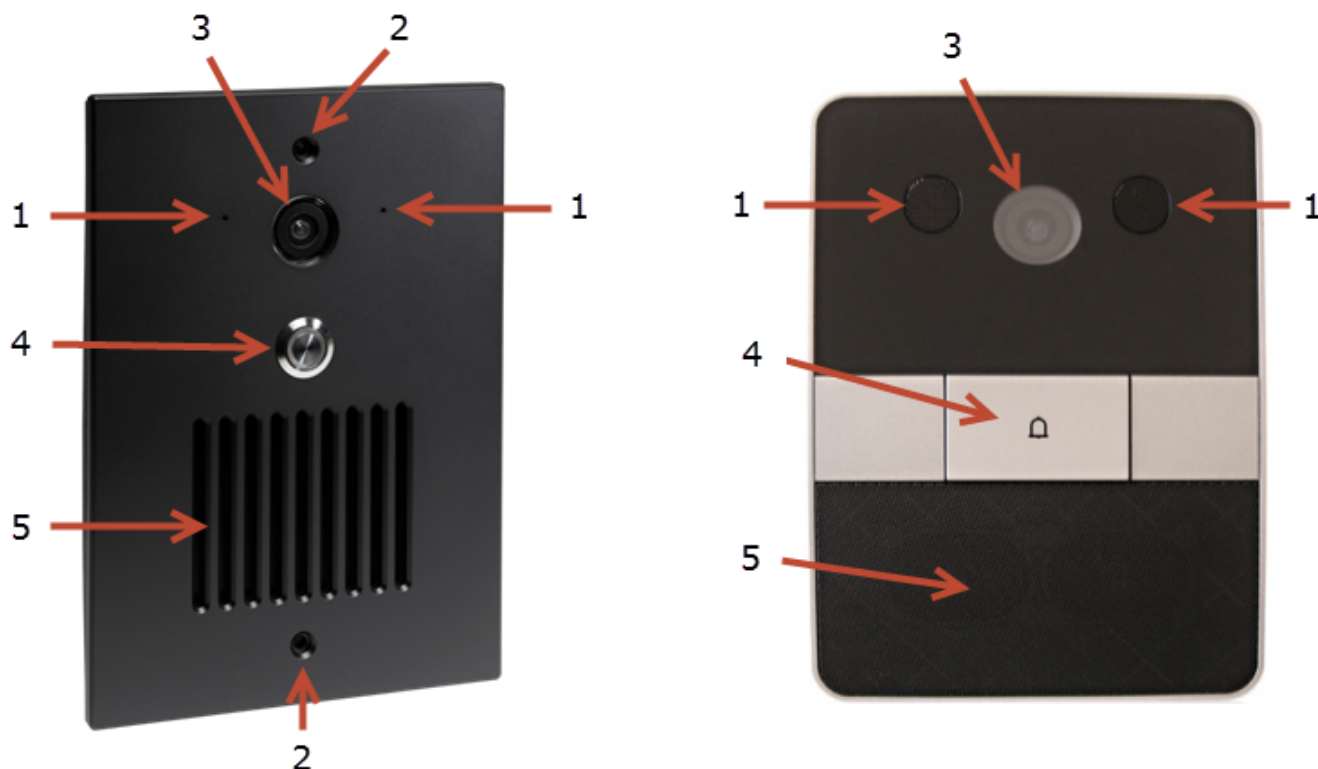
The following accessories are sold separately. The Back Box is used to mount the unit in the wall. The antennas provide Wi-Fi communication if a wired Ethernet connection is not available.

Table 2 *Accessories*

Accessory	Part Number	More Information
Back Box	SCH-VDS-BB	Installing the Back Box, page 11
26-cm External Wi-Fi Antenna	SCH-VDS-WIFI-26CM	Installing the Wi-Fi Antennas, page 27
3m External Wi-Fi Antenna	SCH-VDS-WIFI-3M	Installing the Wi-Fi Antennas, page 27

Front Panel Description

Figure 2 *Front Faceplate: External Video Door Station (Left) and Internal Video Door Station (Right)*



1	Microphones (2)—Used for audio and video intercom.
2	Screw holes (2)—(External Video Door Station Only) Used to screw the faceplate into the exterior wall.
3	Camera—640 x 480 wide angle. Used for video intercom.
4	Call button—Used to call the person inside the unit or in another room.
5	Speaker—Used for audio and video intercom.

Prerequisites and Requirements

Before you begin, review the following topics to ensure the unit will be properly installed, powered and available on the network.

- [Prerequisites, page 6](#)
- [Understanding the Power and Network Connection Options, page 7](#)
- [Grounding Requirements, page 9](#)
- [Backlit Button Indicator, page 9](#)
- [Mounting Tips, page 9](#)

Prerequisites

Table 1-3 *Pre-Installation Requirements and Best Practices*

Prerequisite	Prerequisite Complete? (✓)
Install the Internal Video Door Station in an interior building location only.	☐
Install the External Video Door Station where it will have minimum exposure to the outside elements.	☐
To determine the best location for the Cisco Video Door Station, see the “Mounting Tips” section on page 9	☐
Install the Back Box before you install the Cisco Video Door Station. See the “Installing the Back Box” section on page 11 for details. Note (External Video Door Station) When attaching the Cisco Video Door Station’s faceplate to the Back Box, ensure that the rubber gasket on the inside panel completely covers and seals the Cisco Video Door Station’s faceplate to the Back Box; otherwise, water could leak through.	☐
Determine which network and power options to use. The Cisco Video Door Stations can use Ethernet or Wi-Fi network connection and can be powered using Power over Ethernet (PoE), AC, or DC. We recommend using a wired network connection for the best video intercom experience. See the “Understanding the Power and Network Connection Options” section on page 7 for more information.	☐
Review the additional requirements and limitations for Wi-Fi networks. • Before the Cisco Video Door Station is fully installed, we recommend to test the Wi-Fi signal strength in Composer Pro’s System Manager; a strong, robust signal is required. See the Composer Pro User Guide for details. • Review the “Wireless Network Limitations” section on page 8 • Review the “Wi-Fi Considerations” section on page 8	☐

Table 1-3 **Pre-Installation Requirements and Best Practices (continued)**

Prerequisite	Prerequisite Complete? (✓)
Determine the grounding requirements for the Cisco Video Door Station. See the “Grounding Requirements” section on page 9 . Note The grounding requirements are different for the internal and external units.	☐
Use the contacts and relays for non-secure devices only. For example, don’t use it for a secured electronic gate. See the “Security Best Practices” section on page 34 .	☐
Determine whether you want a backlit button for the Cisco Video Door Station. The button’s backlight can be enabled or disabled in Composer Pro. You can also program the On/Off backlit button. See the Composer Pro User Guide for details.	☐
Before adding this device to a Composer Project - Make sure the wireless access point (WAP) is on the same network as your Controller and that the signal is strong. - Determine the other Cisco touchscreens that will be communicating with this Cisco Video Door Station.	☐

Understanding the Power and Network Connection Options

The Cisco Video Door Stations can use Ethernet or Wi-Fi network connection and can be powered using Power over Ethernet (PoE), AC, or DC. We recommend using a wired network connection for the best video intercom experience.

Refer to the following topics for more information:

- [Network Options, page 7](#)
- [Power Options, page 8](#)
- [Connecting the Power and Network Cables, page 19](#)

Network Options

The Cisco Video Door Station can be connected using one of these network types:

- Standard Ethernet—(Recommended) Connect the Cisco Video Door Station to the RJ-45 LAN port using the RJ-45 Ethernet cable.
- Wi-Fi—The Wi-Fi antenna will communicate with the LAN’s WAP. If the LAN has a WAP set up, no additional wiring is needed except for power. See the [“Installing the Wi-Fi Antennas” section on page 27](#) for details.



Note

We recommend using an Ethernet connection rather than Wi-Fi for the best communication with the Cisco Smart+Connected Residential system.

Wireless Network Limitations

Many Wi-Fi Access Points handle Multicasts (Wi-Fi simultaneously sent to multiple devices, for example, when the Cisco Video Door Station broadcasts video to all stations) by slowing down transmission speed to the 1 Mb basic rate. This can cause overall Wi-Fi congestion in the Wi-Fi network during the broadcast. Video intercom response times and images may degrade at each device.

If a residence requires a large number of Wi-Fi video intercom devices, ensure that you have a robust Wi-Fi network (possibly consisting of multiple access points).

Wi-Fi Considerations

- Wi-Fi requires an antenna (sold separately). See the [“Accessories” section on page 4](#).
- Ensure that the antenna’s tip does not touch the Cisco Video Door Station’s Back Box metal when threaded through the Back Box hole or any other metal surfaces. See the [“Installing the Wi-Fi Antennas” section on page 27](#).
- Check the signal strength after you wire the Video Door Station but before securing the device in the wall. You can do that at the driver’s Properties page in Composer Pro. See the [Composer Pro User Guide](#) for details.
- Wireless-N is recommended for video intercom. See the [“Wireless Network Limitations” section on page 8](#). Although this device supports b/g/n, 802.11 b is not recommended or supported for video intercom.

Power Options



Caution

Do not attempt to use PoE, AC, and DC power at the same time. Choose only one power option.

The Cisco Video Door Station can be powered using one of the following options:

- Power over Ethernet (PoE)—The Ethernet network connection for the Cisco Video Door Station is provided through the PoE Injector. No additional wiring is needed.
- AC or DC—Used to power the Cisco Video Door Station when using an Ethernet (not PoE) or Wi-Fi network connection.



Note

Ethernet cable. Install the ferrite clamp on the Ethernet cable inside the Back Box.

Grounding Requirements

The following table indicates which power options require an earth ground.

Table 4 **Grounding Requirements**

Power Type	Cisco External Video Door Station Earth Ground?	Cisco Internal Video Door Station Earth Ground?	Requirement Complete? (✓)
AC	Yes, required for safety.	Yes, required for safety.	☐
Power over Ethernet (PoE)	Optional; not required.	Recommended; not required.	☐
DC	Recommended; not required.	Recommended; not required.	☐



Note

Cisco does not support using earth ground for contacts as this could damage the Cisco Video Door Station. Do not use contacts that are grounded. The Cisco Video Door Station only supports non-grounded contacts. See the [“Contact and Relay Connections” section on page 32](#).

Backlit Button Indicator

The Cisco Video Door Station button’s light can be turned on or off depending on what is required for the installation.

The backlit button may make it easier to see the button when it is dark outside. Normally, the light on the button remains on or off depending on how it is configured in the system, however, it is also used to convey device status during certain times.

When the device is first powered on, the button will blink slowly until the device is ready to be used in the system. If the button continues to blink slowly for over 3 minutes, then the device may be experiencing a problem and should be factory restored. During a factory restore process the button will blink rapidly.

Mounting Tips

Follow these tips for the best results.

1. Install the Cisco Video Door Station in a place where it will be protected from water (for example, rain or sprinklers).



Note

The Internal Video Door Station is for interior use only.

2. Do not expose the Cisco Video Door Station to direct sunlight (to reduce fading and degradation of the faceplate).
3. Mount the Cisco Video Door Station in a location where the caller can be seen and heard.

- Mount the Video Door Station where the video camera is aimed at an average person's height so the person inside the building gets a good view of the person calling in.
 - Mount the Video Door Station so that the caller can comfortably speak into the microphone (about two (2) feet away or 60 cm).
 - See the [“Installing the Back Box” section on page 11](#) for more information.
4. We do not recommend using wireless (Wi-Fi) networking for a Video Door Station mounted outside your dwelling. If Wi-Fi is used, follow these guidelines:
- The wireless access protocol (WAP) broadcast to the installed location must be strong.
 - Use Composer Pro's System Manager to test the wireless signal after you've installed the Cisco Video Door Station, and then verify that the signal works correctly. See the [Composer Pro User Guide](#) for details.

Installing the Back Box

Both Cisco Video Door Stations require a Back Box for installation. You can order the Back Box with the Video Door Station or in advance as a spare (see the [“Accessories” section on page 4](#) for more information).

Refer to the following topics for more information:

- [Back Box Requirements, page 12](#)
- [Back Box Network and Power Considerations, page 12](#)
- [Back Box Mechanical Drawing, page 13](#)
- [Installing the Back Box, page 14](#)
- [Back Box Specifications, page 37](#)

Figure 3 **Back Box**



Back Box Requirements

Table 5 *Back Box Requirements*

Requirement	Requirement Complete? (✓)
Mount the Back Box in an appropriate location. See the “Mounting Tips” section on page 9 .	☐
Tools to install the Back Box, such as a tape measure, pencil, hammer or screwdriver (depending on whether you are using screws or nails).	☐
Nails or screws (4 to 6).	☐
Antenna Kits (optional, sold separately). See the “Accessories” section on page 4 and the “Installing the Wi-Fi Antennas” section on page 27 .	☐

Back Box Network and Power Considerations

This device uses an Ethernet or Wi-Fi network connection, and can be powered using PoE, AC, or DC.



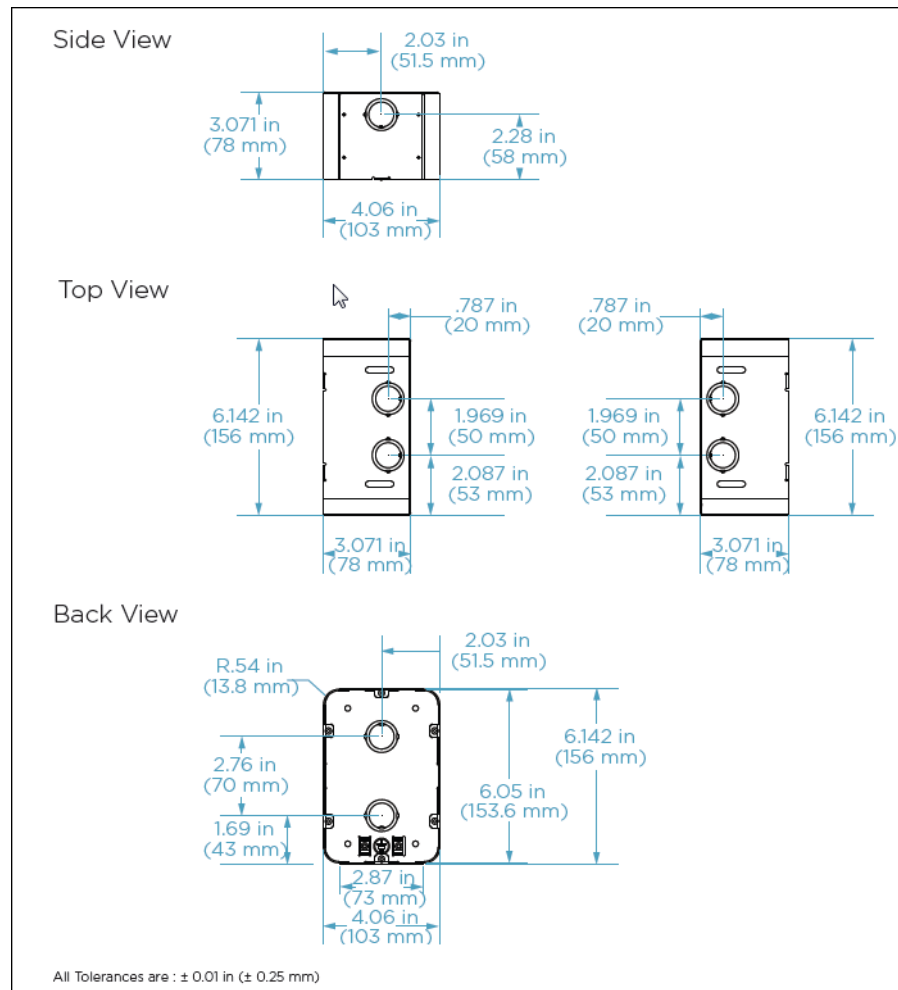
Note

We recommend using Ethernet rather than Wi-Fi for the best network connectivity. See [“Understanding the Power and Network Connection Options” section on page 7](#) for wiring installation details.

Back Box Mechanical Drawing

The following figure shows the dimensions of the metal black box. All tolerances are : ± 0.01 in (± 0.25 mm).

Figure 4 **Back Box Mechanical Drawing**



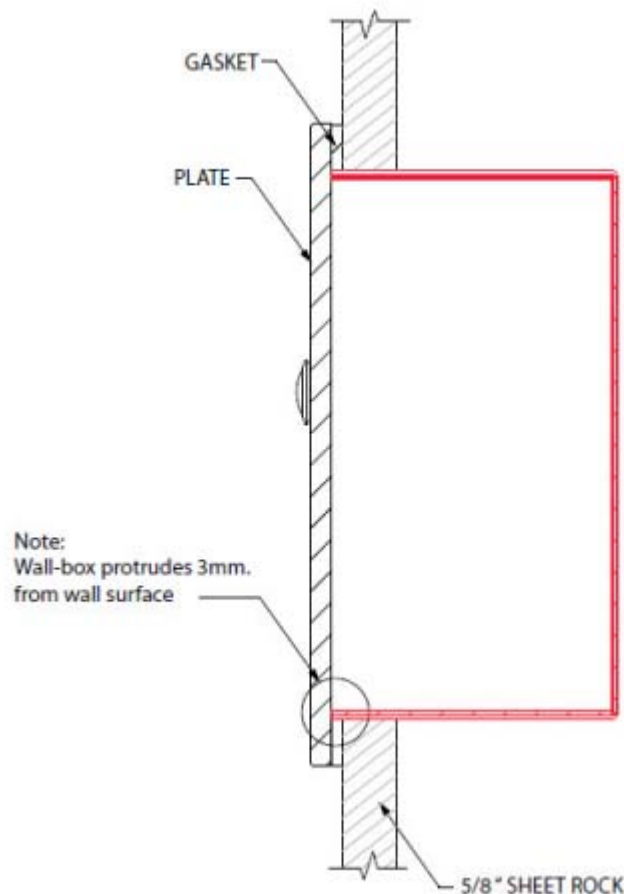
Installing the Back Box



Note

- Place the Back Box between studs. Do not attempt to install a Back Box over a wall stud.
- If you are required to conform to NEMA safety standards, make sure you install a strain-relief cord (sold separately) in the punchout on the Back Box before inserting the wires. See the “Regulatory/Safety Information” section on page 37 or the NEMA website at: <http://www.nema.org/stds/> for details.
- IMPORTANT! Make sure the Back Box protrudes far enough out (0.118” or 3 mm) from the exterior wall surface (brick, rock, stucco, wood, concrete, etc.) to allow the plate and gasket to seal the Cisco Video Door Station. See Figure 5.

Figure 5 *Back Box Side View in Wall with Cisco Video Door Station Faceplate*



Warning

Failure to ground the metal Back Box and Cisco Video Door Station faceplate properly can result in a potentially hazardous condition.

**Warning**

IMPORTANT! Improper use or installation can cause LOSS/DAMAGE OF PROPERTY.

**Warning**

WARNING! Before you install the Cisco Video Door Station Back Box, switch off the circuit breaker or remove the fuse from the fuse box.

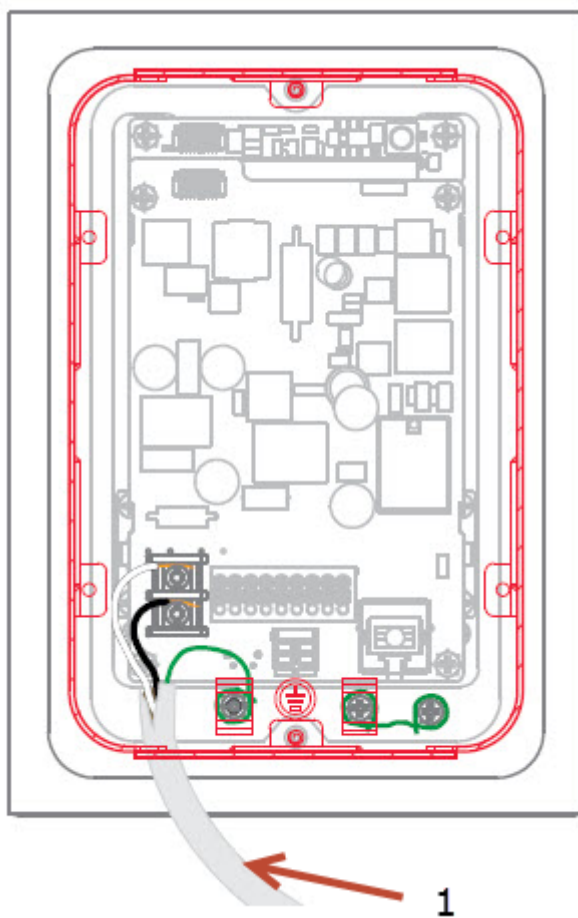
Procedure

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- Step 1** Feed either the AC, DC, or PoE wires through a tab in the back of the Back Box. See the [“Installing the Cisco Video Door Station” section on page 18](#) to determine your installation option.
- Step 2** After you’ve placed the Back Box inside the wall, tighten the screws or nails.
- Step 3** Attach the ground wires to the Back Box and Cisco Video Door Station plate in the location indicated by the ground symbol  (also, see [Figure 6](#) and [Figure 7](#)).
There are two (2) ground screws in the Back Box: one (1) for earth ground and one (1) for grounding the Cisco Video Door Station faceplate to the Back Box.
- Step 4** If you use Wi-Fi, the Wi-Fi antenna must be installed in the Back Box and extend outside the box.

**Note**

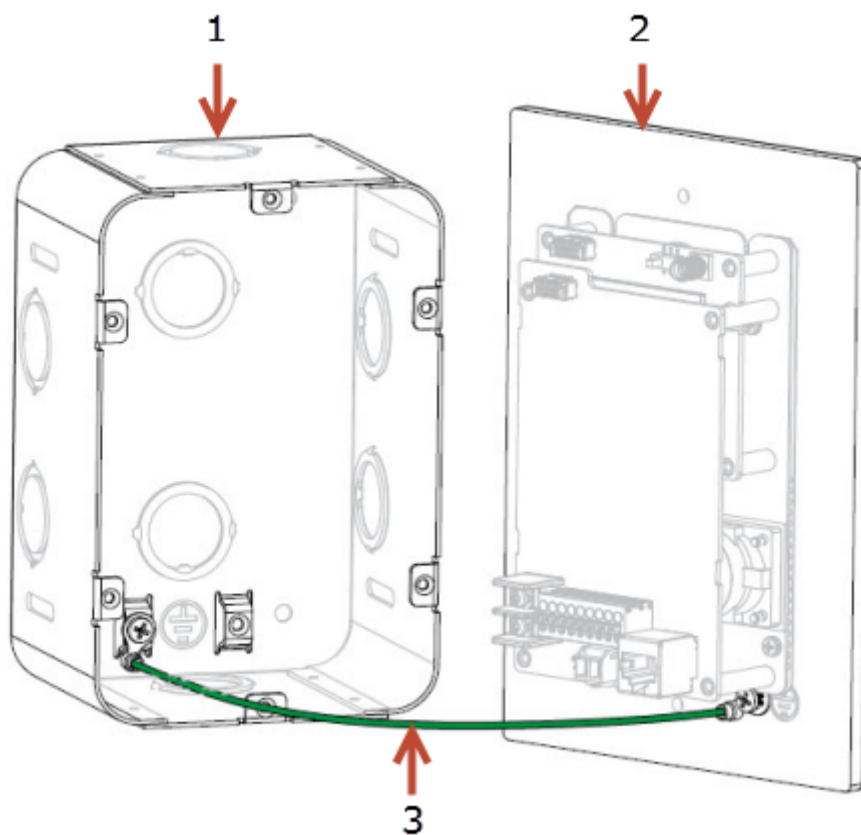
Do not allow any contact of the antenna element to any metal surface on the Back Box; otherwise, antenna performance will diminish.

Figure 6 *Ground Wire to Cisco Video Door Station*



1	Ground wire
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Figure 7 **Ground Wires from Cisco Video Door Station to Back Box**



1	Back box
2	Cisco Video Door Station faceplate
3	Ground wire

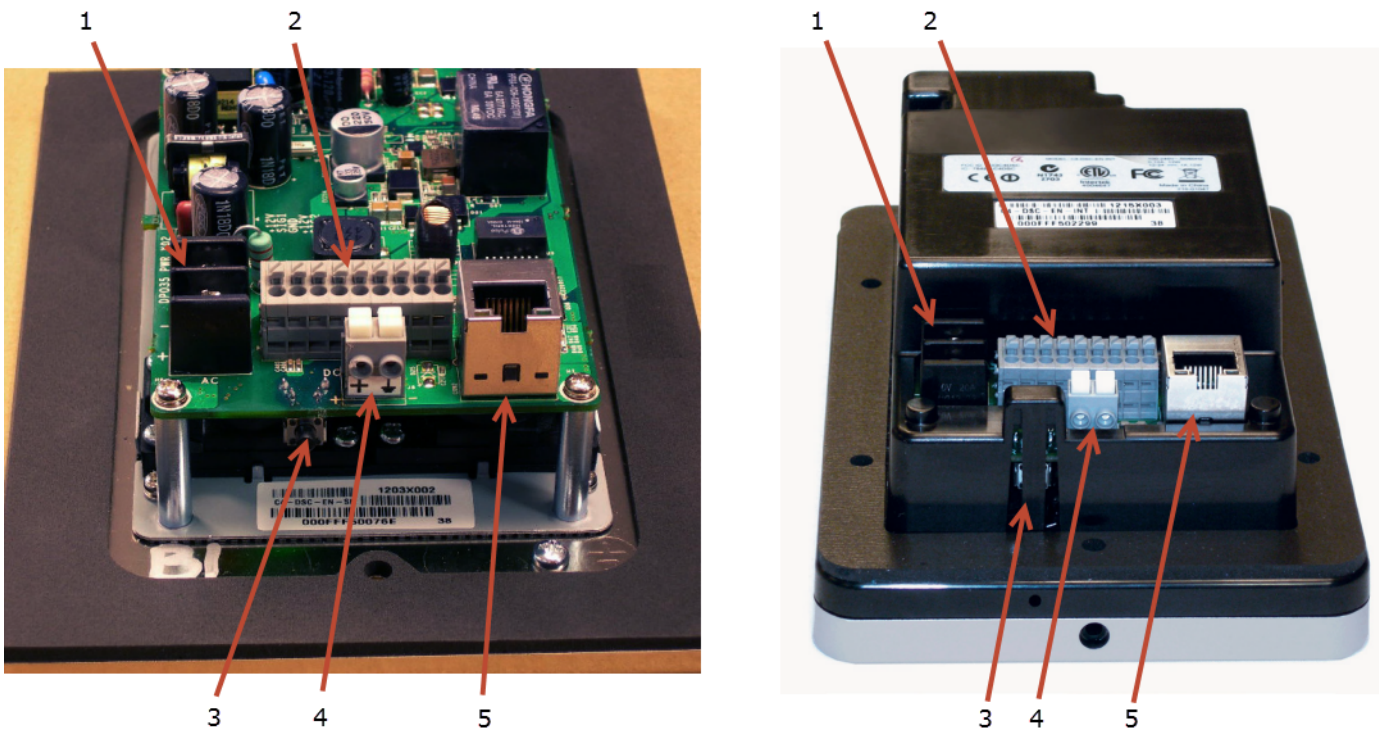
Installing the Cisco Video Door Station

Refer to the following topics for information and instructions to install the Cisco Smart+Connected Video Door Station.

- [Inside Panel Description, page 18](#)
- [Connecting the Power and Network Cables, page 19](#)
- [Attach the Cisco Video Door Station, page 26](#)
- [Configure the Cisco Video Door Station, page 27](#)
- [Reset/Factory Restore the Cisco Video Door Station, page 27](#)
- [Installing the Wi-Fi Antennas, page 27](#)
- [Contact and Relay Connections, page 32](#)

Inside Panel Description

Figure 8 *Inside Panel: External Video Door Station (Left) and Internal Video Door Station (Right)*



1	AC connection—Used to connect the wires for AC power.
2	Contacts/Relays—Used to connect the wires for third-party devices.
Note Use the contacts and relays for nonsecure devices only. For example, don't attach security gate wires to this terminal block.	

3	Reset Button—Used to reset or factory restore the Cisco Video Door Station. Press the vertical bar to reset.
4	DC connection—Used to connect the wires for DC power.
5	Ethernet connection—Supports PoE.

Connecting the Power and Network Cables

Choose one of the following options to connect the Cisco Video Door Station's wiring:

Table 6 Power and Network Connection Options

Option	More Information
Ethernet with PoE (recommended)	Option 1 (Recommended): Ethernet Connection with a PoE Injector or Switch, page 19
Ethernet with AC	Option 2: Ethernet Connection with AC Power, page 20
Ethernet with DC	Option 3: Ethernet Connection with DC Power, page 21
Wi-Fi with AC	Option 4: Wi-Fi Connection with AC Power, page 22
Wi-Fi with DC	Option 5: Wi-Fi Connection with DC Power, page 24
Wi-Fi with PoE	Option 6: Wi-Fi Connection with PoE, page 25

Option 1 (Recommended): Ethernet Connection with a PoE Injector or Switch

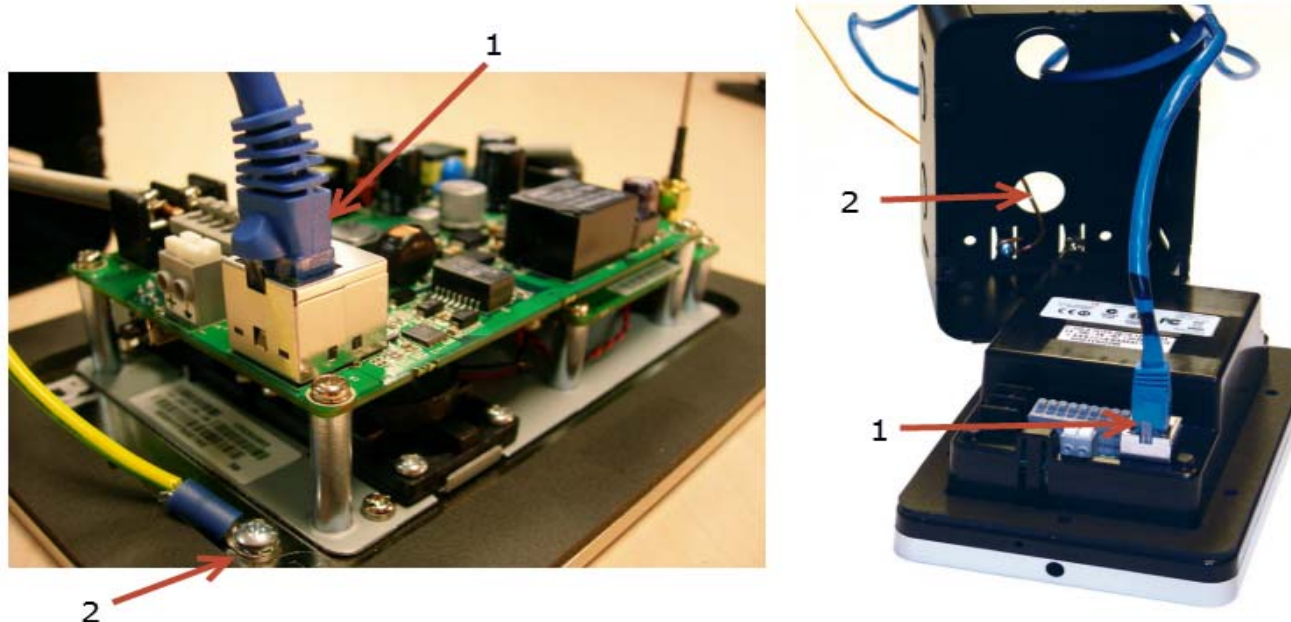
In this option, electrical current is injected into the Ethernet cable by a PoE Injector. This method provides the Cisco Video Door Station with both power and a network connection.

Procedure

- Step 1** Plug the Ethernet cable into the Cisco Video Door Station ([Figure 9](#)).
- Step 2** (Optional) Connect an earth ground:
 - a. Connect a ground wire from the Video Door Station to one of the back box lugs.
 - b. Connect a second earth-ground or house-ground wire from the second back box lug to the home.



Note See the [“Grounding Requirements” section on page 9](#) for more information.

Figure 9 Ethernet Connection: External Video Door Station (Left) and Internal Video Door Station (Right)

1	Ethernet connection
2	Ground wire. Optional for the see the Internal Video Door Station only. See the “Grounding Requirements” section on page 9).

Option 2: Ethernet Connection with AC Power

Use this option to connect Ethernet networking and AC power.

Procedure

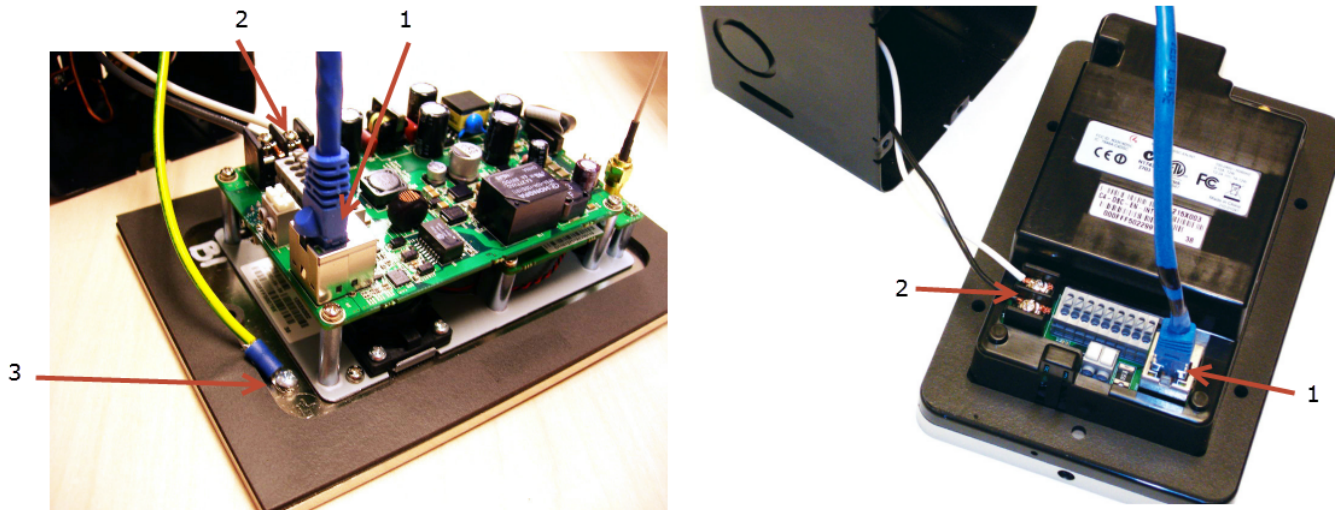
- Step 1** Plug the Ethernet cable into the Cisco Video Door Station ([Figure 10](#)).
- Step 2** Connect a ground wire from the Cisco Video Door Station to one of the Back Box lugs (see [Figure 17](#)).
- Step 3** Connect a second earth-ground or house-ground wire from the second Back Box lug to the residence. See [“Grounding Requirements” section on page 9](#) for details about earth grounding.
- Step 4** Connect the neutral (N) (-) and hot (L) (+) wires to the AC power source for the Cisco Video Door Station according to the national and local electrical codes.



Tip The hot or ‘L’ (+) wire’s connector is closest to the bottom of the Cisco Video Door Station’s plate.

- Step 5** Your installation may require alternative wires and the use of a terminal block. Strip the power wires to 1/4” on the end if necessary.

Figure 10 Ethernet with AC Power: External Video Door Station (Left) and Internal Video Door Station (Right)



1	Ethernet cable
2	AC connections (hot and load)
3	Ground wire

Option 3: Ethernet Connection with DC Power

Use this option to connect Ethernet networking and DC power.

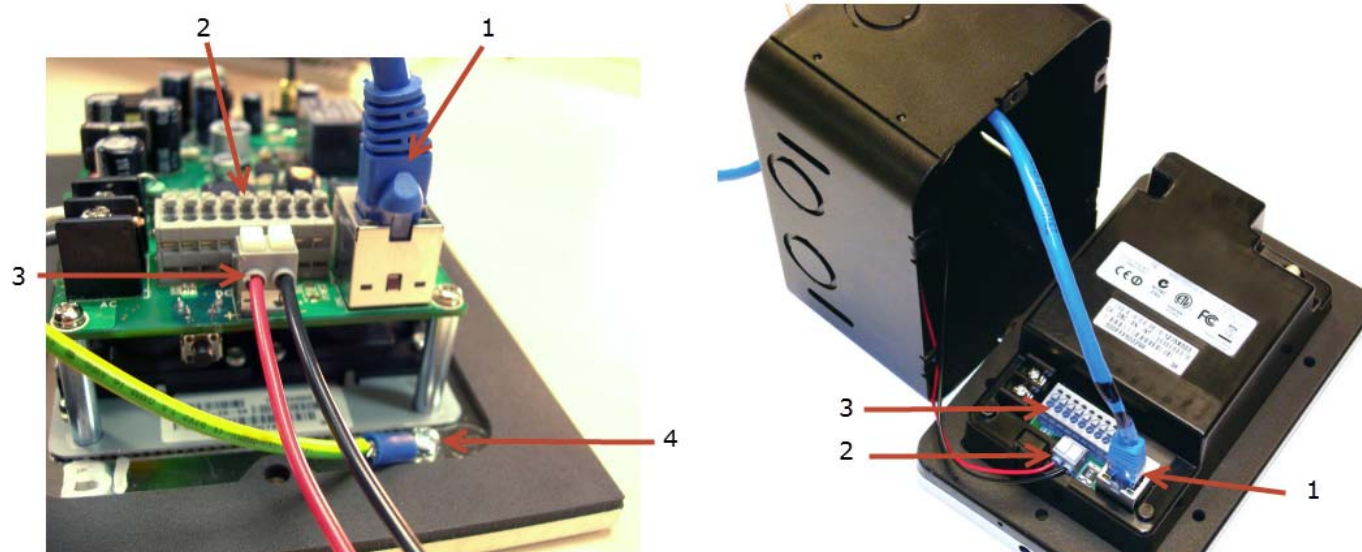
Procedure

- Step 1** Plug the Ethernet cable into the Cisco Video Door Station (see [Figure 11](#)).
- Step 2** Connect a ground wire from the Video Door Station to one of the Back Box lugs (see [Figure 17](#)).
- Step 3** Connect a second earth-ground or house-ground wire from the second Back Box lug to the residence. See the “[Grounding Requirements](#)” section on [page 9](#) for details about earth grounding.
- Step 4** Connect the negative (-) and positive (+) wires to the DC power source for the Video Door Station according to the national and local electrical codes.



Tip The positive (+) wire’s connector is located on the bottom left side of the Video Door Station’s plate.

- Step 5** Your installation may require alternative wires and the use of a terminal block (see [Figure 11](#)). Strip the power wires to 1/4” on the end if necessary.

Figure 11 Ethernet with DC Power: External Video Door Station (Left) and Internal Video Door Station (Right)

1	Ethernet cable
2	Contacts and relays
3	DC Connections (hot and load)
4	Ground wire

Option 4: Wi-Fi Connection with AC Power

Use this option to connect Wi-Fi networking and AC power.

- Ensure that you have Wi-Fi in the residence.
- Wi-Fi requires an antenna (sold separately). See the [“Accessories”](#) section on page 4.

Procedure

- Step 1** Connect a ground wire from the Cisco Video Door Station to one of the Back Box lugs (see [Figure 12](#)).
- Step 2** Connect a second earth-ground or house-ground wire from the second Back Box lug to the residence. See the [“Grounding Requirements”](#) section on page 9 for details about earth grounding.
- Step 3** Connect the neutral (N) (-) and hot (L) (+) wires to the AC power source for the Video Door Station according to the national and local electrical codes.

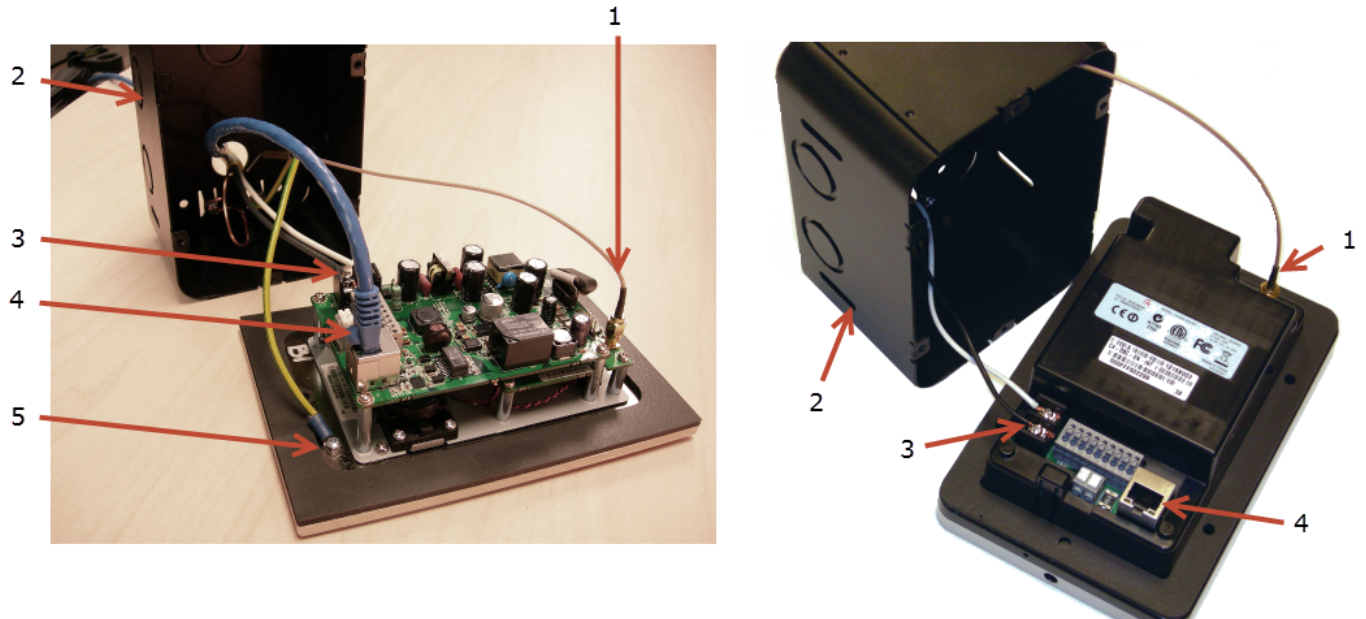


Tip The hot or ‘L’ (+) wire’s connector is closest to the bottom of the Video Door Station’s plate.

- Step 4** Your installation may require alternative wires and the use of a terminal block. Strip the power wires to 1/4” on the end if necessary.

- Step 5** Attach the antenna (3m or 26cm) to the Video Door Station. See the [“Installing the Wi-Fi Antennas” section on page 27](#) for details.
- Step 6** Run the antenna wire through the Back Box hole (see [Figure 12](#)). Ensure that the wire doesn’t touch the Back Box.
- Step 7** Align the antenna vertically to the wall outside the Back Box (26cm antenna) or run the antenna through the wall (3m antenna). See the [“Installing the Wi-Fi Antennas” section on page 27](#) for details.

Figure 12 *Wi-Fi with AC Power: External Video Door Station (Left) and Internal Video Door Station (Right)*



1	Antenna
2	Back box
3	AC connections (hot and load)
4	Ethernet (not used)
5	Ground wire

Option 5: Wi-Fi Connection with DC Power

Use this option to connect Wi-Fi networking and DC power.

- Ensure that you have Wi-Fi in the residence.
- Wi-Fi requires an antenna (sold separately). See the [“Accessories” section on page 4](#).

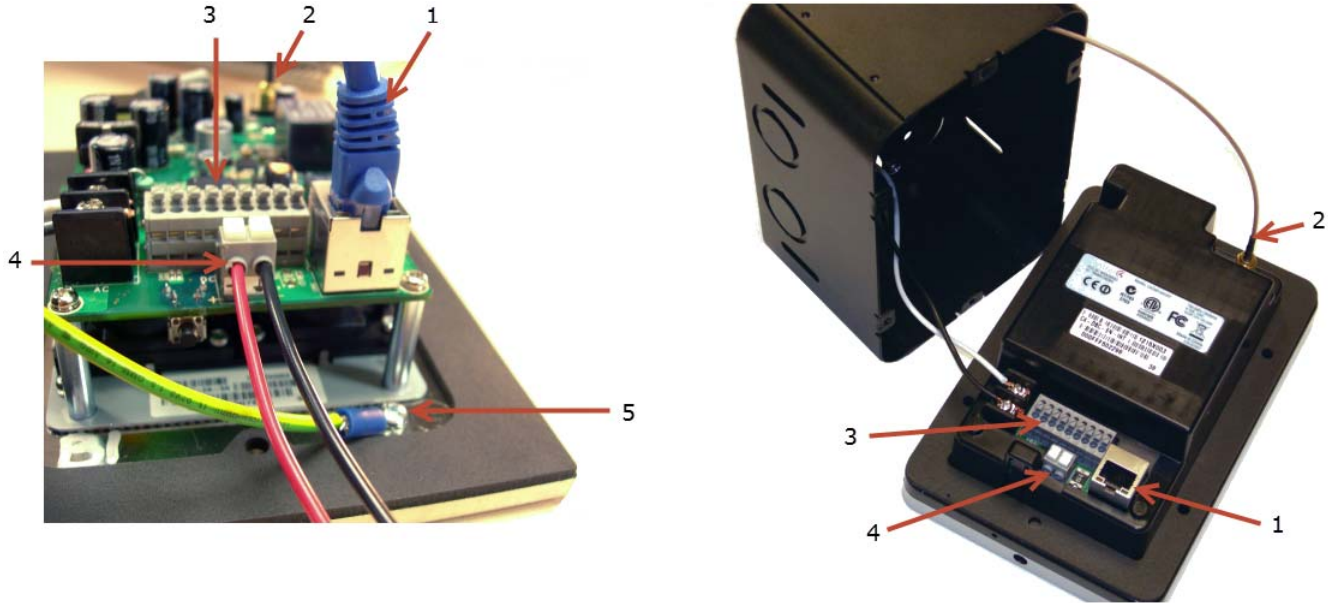
Procedure

-
- Step 1** Connect a ground wire from the Cisco Video Door Station to one of the Back Box lugs (see [Figure 17](#)).
- Step 2** Connect a second earth-ground or house-ground wire from the second Back Box lug to the residence. See the [“Grounding Requirements” section on page 9](#) for details about earth grounding.
- Step 3** Connect the negative (-) and positive (+) wires to the DC power source for the Video Door Station according to the national and local electrical codes.



Note The positive (+) wire’s connector is located on the bottom left side of the Video Door Station’s plate.

- Step 4** Your installation may require alternative wires and the use of a terminal block. Strip the power wires to 1/4” on the end if necessary.
- Step 5** Attach the antenna (3m or 26cm) to the Cisco Video Door Station. See the [“Installing the Wi-Fi Antennas” section on page 27](#) for details.
- Step 6** Run the antenna wire through the Back Box hole (see [Figure 17](#)). Ensure that the wire doesn’t touch the Back Box.
- Step 7** Align the antenna vertically to the wall outside the Back Box (26cm antenna) or run the antenna through the wall (3m antenna).

Figure 13 Wi-Fi with DC Power: External Video Door Station (Left) and Internal Video Door Station (Right)

1	Ethernet (not used)
2	Antenna
3	Contacts and relays
4	DC connections (hot and load)
5	Ground wire

Option 6: Wi-Fi Connection with PoE

Use this option for a Wi-Fi network and PoE power.

- Ensure that you have Wi-Fi in the residence.
- Wi-Fi requires an antenna (sold separately).

Procedure

Step 1 Plug the Ethernet cable into the Video Door Station (see [Figure 14](#)).

Step 2 (Optional) Connect the earth ground:

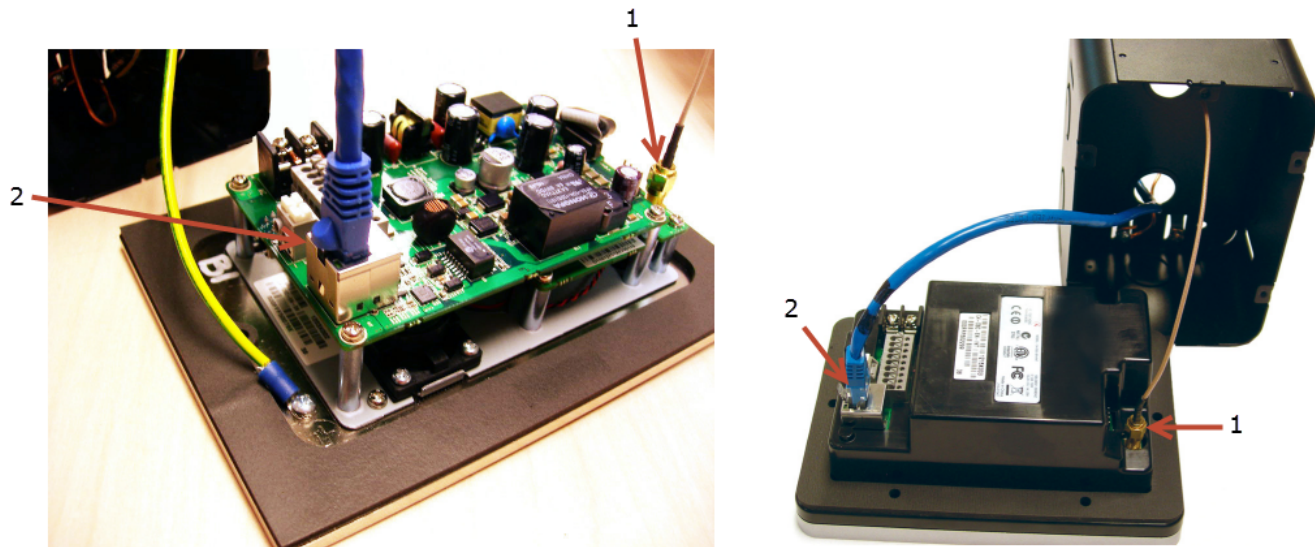
- Connect a ground wire from the Video Door Station to one of the back box lugs.
- Connect a second earth-ground or house-ground wire from the second back box lug to the home.



Note See the [“Grounding Requirements”](#) section on page 9 for more information.

- Step 3** Attach the antenna (3m or 26cm) to the Video Door Station. See the [“Installing the Wi-Fi Antennas” section on page 27](#) for details.
- Step 4** Run the antenna wire through the Back Box hole (see [Figure 17](#)). Ensure that the wire doesn’t touch the Back Box.
- Step 5** Align the antenna vertically to the wall outside the Back Box (26cm antenna) or run the antenna through the wall (3m antenna).

Figure 14 *Wi-Fi with PoE: External Video Door Station (Left) and Internal Video Door Station (Right)*



1	Antenna
2	Ethernet and PoE connection

Attach the Cisco Video Door Station

After you install the Back Box, all wiring, cables, and antennas, carefully insert the Cisco Video Door Station into the Back Box and the wall.

Procedure

- Step 1** Align the Video Door Station’s top and bottom screw holes on the faceplate with the screw holes on the Back Box.
- Step 2** Use the screws provided to attach the Video Door Station to the Back Box.

- Step 3** To prevent future moisture and dust from getting inside the Video Door Station, make sure the rubber gasket on the inside panel of the Video Door Station completely covers and seals the Video Door Station's faceplate against the Back Box.

Configure the Cisco Video Door Station

Procedure

To configure the Video Door Station in Composer Pro:

- Step 1** Open Composer Pro.
- Step 2** Double-click the Video Door Station driver to add it to a room in the project.
- Step 3** Identify the device to the project.



Note

(Wi-Fi only) For your convenience, the Cisco Video Door Station driver includes a meter to check Wi-Fi signal strength. Use System Manager in Composer Pro to configure the Wi-Fi parameters. See the [Composer Pro User Guide](#) for details.

Reset/Factory Restore the Cisco Video Door Station

Procedure

To reset or factory restore the Video Door Station:

- Step 1** Remove the faceplate and pull the Video Door Station out from the Back Box just enough to expose the Reset button (see [Figure 8](#)).
- Step 2** While powered press the Reset button on the bottom of the Video Door Station to reset or restore the Cisco Video Door Station.
- **Quick press**—Press to reset the Video Door Station.
 - **Long press**—Press until the button on the faceplate begins to blink rapidly. At that time, the factory restore starts. This action restores the Video Door Station to its factory default settings.
- Step 3** When you are finished, insert the Video Door Station back into the Back Box and screw the faceplate back on.

Installing the Wi-Fi Antennas



Note

We recommend installing the Cisco Video Door Station using wired Ethernet. Use the Wi-Fi option only if a wired Ethernet connection is not available.

Two (2) types of Wi-Fi antenna kits are available for purchase: 26cm (dipole, best performance) or 3m (when you need to install the wire further away from the Cisco Video Door Station for a better Wi-Fi signal).

- 26cm Antenna Kit—(sold separately). Recommended for walls that do not have thick concrete or metal. See [Figure 15](#).
- 3 meter Antenna Kit—(sold separately). Extend the range when walls have thick concrete or metal. See [Figure 18](#).

Refer to the following topics for more information:

- [Wi-Fi Antenna Pre-Requisites](#), page 28
- [Installing the 26cm Antenna Kit](#), page 28
- [Installing the 3 Meter Antenna Kit](#), page 31

Wi-Fi Antenna Pre-Requisites

Before you install the antenna:

- Make sure the Cisco Video Door Station is assembled.
- Make sure the Cisco Video Door Station Back Box is installed in the wall. See the [“Installing the Back Box”](#) section on page 11 for details.

Installing the 26cm Antenna Kit

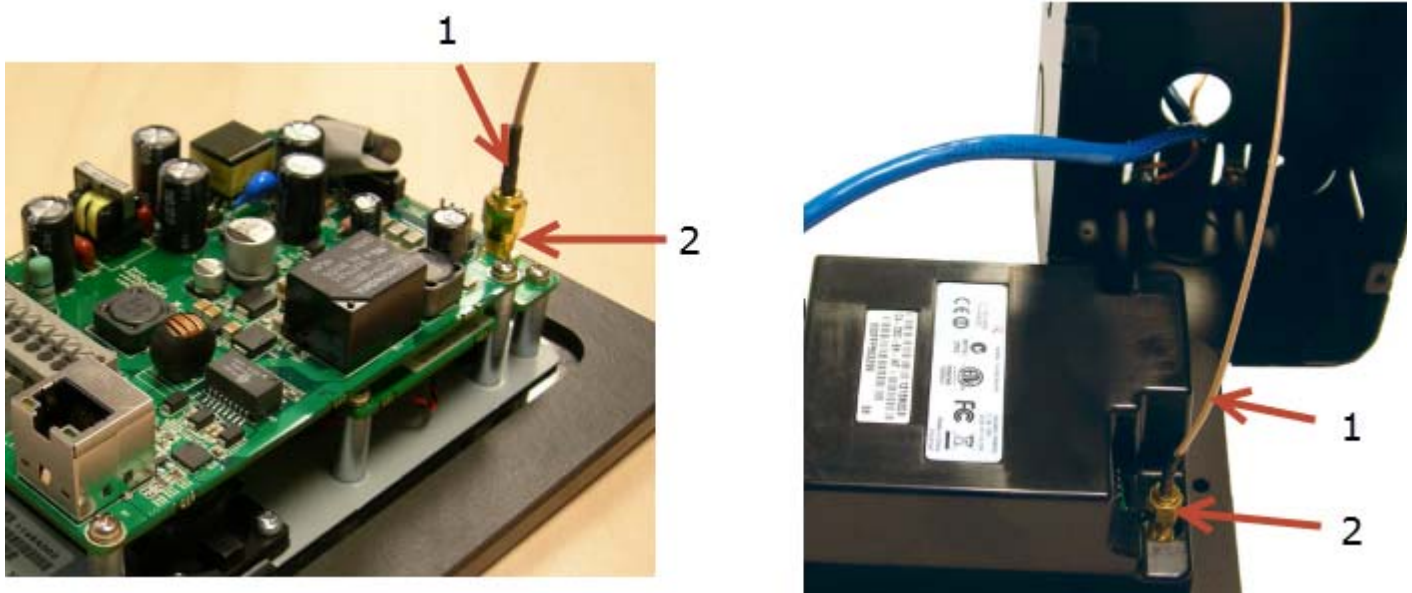
Figure 15 **26cm Antenna Kit**



Procedure

- Step 1** Remove the antenna from its packaging.
- Step 2** Attach the antenna's plug to the RSMA connector on the Cisco Video Door Station (see [Figure 16](#)).

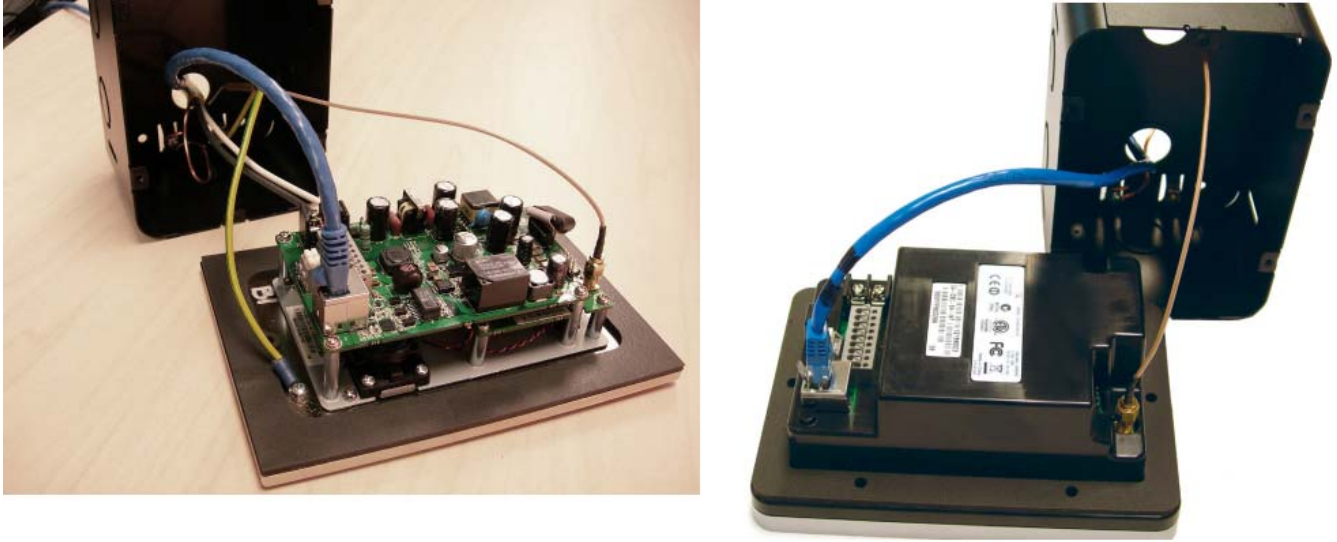
Figure 16 Antenna to RSMA Connector: External Video Door Station (Left) and Internal Video Door Station (Right)



1	Antenna
2	RSMA connector

Step 3 Thread the other end of the antenna through the back wall of the Back Box (see [Figure 17](#)).

Figure 17 Thread Antenna Through Back Box: External Video Door Station (Left) and Internal Video Door Station (Right)



Step 4 Leave the other end of the antenna hanging outside the Back Box. Adjust it vertically for the best signal.

Step 5 Carefully insert the Cisco Video Door Station into the Back Box (see the [“Attach the Cisco Video Door Station”](#) section on page 26).

Installing the 3 Meter Antenna Kit

Figure 18 **3 Meter Antenna Kit**



Procedure

-
- Step 1** Attach the antenna's plug to the RSMA connector on the Cisco Video Door Station (see [Figure 16](#)).
- Step 2** Thread the other end of the antenna through the back wall of the Back Box and through the wall as needed (see [Figure 17](#)).
- Step 3** Carefully insert the Cisco Video Door Station into the Back Box (see the "[Attach the Cisco Video Door Station](#)" section on page 26).
-

Contact and Relay Connections

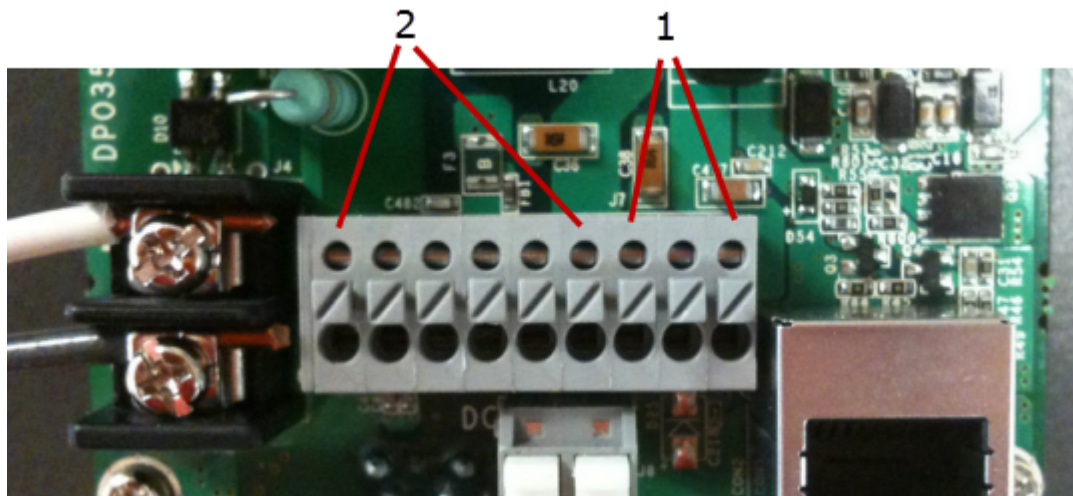
You can connect devices to the contact ports or the relay ports (see [Figure 19](#)).



Caution

Cisco Systems does not support using earth ground for contacts as this could damage the Cisco Video Door Station.

Figure 19 *Contacts and Relays*



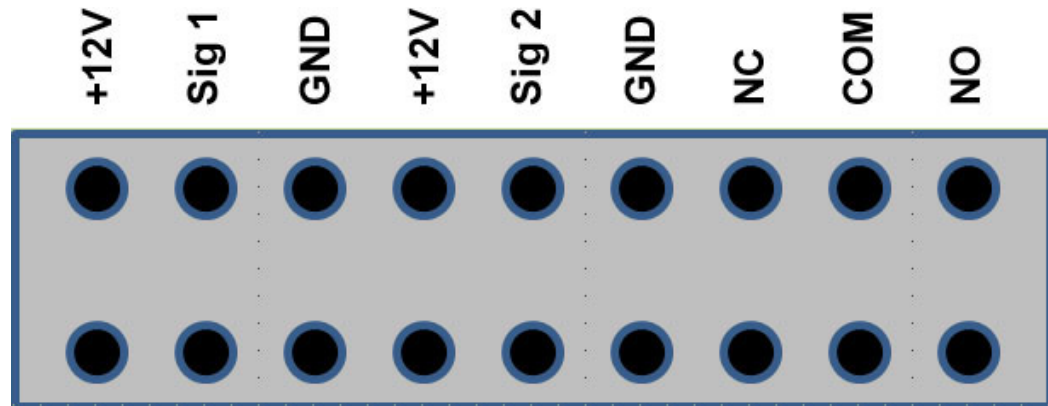
1	Relays
2	Contacts

Connect to a Port

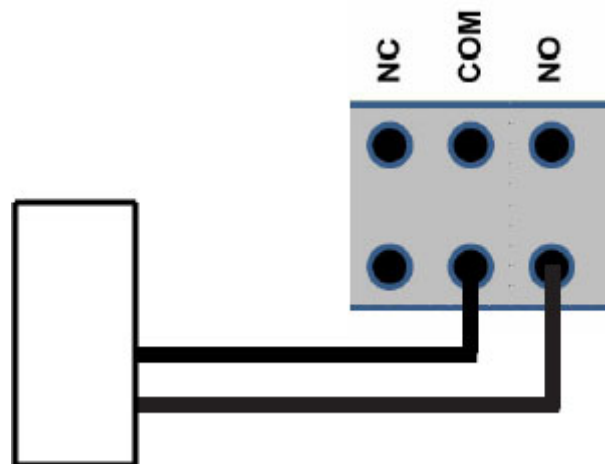
The Cisco Video Door Station provides six (6) ports for use as two (2) contact sets and one (1) relay (see [Figure 19](#)).

Table 7 *Contact and Relay*

Port Type	Description
Contact (2 sets)	Terminal connector for one (1) dry contact closure, logic input connection, for gate control, etc. Provides power for small devices (12 V), signal input (SIG), return path (GND). The current, 100 mA, is shared across both sets of contacts. Note Do not use contacts that are grounded. The Cisco Video Door Station only supports non-grounded contacts.
Relay (1)	Terminal connector for one (1) normally closed or normally opened switchable connection for doorbell control (see Figure 20) or gate control. The set contains a connection for Normally Opened (NO), Normally Closed (NC), and Common (COM).

Figure 20 **Contact/Relay Locations****Procedure**

-
- Step 1** To attach the wires to the contacts or relay, select one of the large bottom-row holes (see [Figure 19](#); notice that the top row holes are smaller than the bottom-row holes).
- Step 2** Using a small flat screwdriver, insert the screwdriver into the slot on the small block that sits between the two rows of holes adjacent to the port and push down firmly. The block will depress.
- Step 3** Insert the wire. Ensure that the wire inserts all the way into the hole.
- Step 4** Release the screwdriver.
-

Example Wiring**Figure 21** **Relay Port: Normally Open (e.g., Doorbell)**

Troubleshooting

Boot Up

When the Cisco Video Door Station is booting up, if the button blinks and does not stop after (3) minutes or longer, there is a problem with the device and it will have to be restored. See the [“Reset/Factory Restore the Cisco Video Door Station” section on page 27](#).

Factory Restore

To restore the device to its default factory settings. See the [“Reset/Factory Restore the Cisco Video Door Station” section on page 27](#).

Security Best Practices

The Video Door Station has connections for relays (to open doors, gates, etc.) and contacts. If installed without the proper security precautions, unauthorized access to the Video Door Station could provide access to Ethernet signals, signaling, and gate or door relays. We advise you to be aware of these risks and take all necessary precautions depending on each specific installation you will be doing.

It is each installer’s sole responsibility to advise their customer at each installation of any security risks specific to such installation. Cisco makes no claims, representations or warranties regarding the security of this product and accepts no liability for any security risk attendant to a specific installation.

1. The Cisco Video Door Station ships standard with security screws. Installers are encouraged to use these screws, or even substitute alternate security screws per the installer’s or customer’s preference. Screw size is metric M3.5x.6-30L.
2. Security gates or automatic doors should not be connected to the relay in the Cisco Video Door Station if mounted in an unsecured area; such relays could be accessed in the event of a breach of the device. Secure relay-driven devices should be connected to a more secure relay controller mounted behind a secure wall.
3. Security devices, for example numeric keypads, should not be connected to the contact sensors in the Cisco Video Door Station if mounted in an unsecured area; such devices could be accessed in the event of a breach of the device. Security-sensitive devices should be connected to more secure contacts mounted behind a secure wall.
4. Although the best video performance will be enabled by Ethernet connectivity, unauthorized access to the Cisco Video Door Station could provide access to the dwelling’s Ethernet network and corresponding personal data.

There are alternatives to mitigate this risk. The installer should consider the following options:

- Running the Cisco Smart+Connected Residential Solution on an isolated LAN from PCs on the network would limit exposure to personal data.
- Running MAC address filtering on the router or switch to force a hacker to spoof the Cisco Video Door Station’s MAC address to gain access to the LAN.
- Configuring the Cisco Video Door Station as Wi-Fi instead of Ethernet would allow the installer to use robust Wi-Fi security protocols, for example, WPA.

**Note**

Wi-Fi signals must be very strong and stable to support video intercom.

- Routing the Ethernet cable to the Cisco Video Door Station through a secure, managed switch to limit data access from the Cisco Video Door Station.

Installers should take time to assure they are not creating an unforeseen security risk for the customer, and any such risks should be discussed with the customer prior to the installation.

Carefully consider with your customer any contacts or relays before connecting them to the Cisco Video Door Station, and what implications could arise if someone gained access to the rear of the Cisco Video Door Station.

Also, think about what could happen if someone gained access to the Ethernet cable, and take necessary precautions to protect private customer information unless your customer is willing to assume these risks. Making available the proper security protections to a customer for their residence is the responsibility of the installer.

Specifications

- [Cisco Video Door Station Specifications, page 36](#)
- [Back Box Specifications, page 37](#)

Cisco Video Door Station Specifications

Table 8 *Cisco Video Door Station Specifications*

Product	Cisco Internal Video Door Station	Cisco External Video Door Station
Basic Functions		
Integrated camera	640 x 480 VGA 30 fps Min. lumination: 5 Lux Viewing angle: 120 degrees	640 x 480 VGA 30 fps Min. lumination: 5 Lux Viewing angle: 120 degrees
Intercom	Session Initiation Protocol (SIP) enabled, full-duplex video/audio intercom	SIP-enabled, full-duplex video/audio intercom
Microphone	Dual microphones Voice pick up from 10 feet away Beamforming	Dual microphones Voice pick up from 10 feet away Beamforming
Video and audio	Full-duplex video (H.264) and audio (G.722)	Full-duplex video (H.264) and audio (G.722)
Door bell	Programmable LED backlit push button	Programmable LED backlit push button
Communications		
Wi-Fi	Wireless-N (2.4-GHz 802.11n/g/b) RF frequency: 2.4 GHz Antenna: connector for external antennas Encryption: 64/128 Wired Equivalent Privacy (WEP), Temporal Key Integrity Protocol (TKIP)/Advanced Encryption Standard (AES) Authentication: WEP, Wi-Fi Protected Access (WPA), WPA2	Wireless-N (2.4-GHz 802.11n/g/b) RF frequency: 2.4 GHz Antenna: connector for external antennas Encryption: 64/128 WEP, TKIP/AES Authentication: WEP, WPA, WPA2
Ethernet	10/100 Base-T Ethernet RJ-45	10/100 Base-T Ethernet RJ-45
Power		
Power supply	PoE (IEEE 802.3af) 13 W peak or AC 100V to 240V, 50 to 60 Hz (Ethernet or Wi-Fi), or DC 12V – 1A, 24V – 0.5A (Wi-Fi only)	PoE (IEEE 802.3af) 13 W peak AC 100V to 240V, 50 to 60 Hz DC 12V, 24V

Table 8 Cisco Video Door Station Specifications (continued)

Power over Ethernet (PoE)	Yes	Yes
Environmental		
Operating temperature	For Ethernet operation: -22°F to 149°F (-30°C to 65°C) For Wi-Fi operation: -22°F to 122°F (-30°C to 50°C)	For Ethernet operation: -22°F to 149°F (-30°C to 65°C) For Wi-Fi operation: -22°F to 122°F (-30°C to 50°C)
Storage temperature	-49°F to 167°F (-45°C to 75°C)	-49°F to 167°F (-45°C to 75°C)
Buttons and Outputs		
Reset	Two operation modes: Press once to reboot system, or press and hold to restore to its factory default settings	Two operation modes: Press once to reboot system, or press and hold to restore to its factory default settings
Physical Attributes		
H X W X D	7.32" x 5.24" x 2.52" (186 mm x 133 mm x 64 mm)	7.19" x 5.13" x 2.3" (182 mm x 130 mm x 58 mm)
Mounting	In-wall (Back Box required)	In-wall (Back Box required)
Weight	2.95 lb. (1.34 kg)	3.25 lb. (1.474 kg)

Back Box Specifications

Table 9 Cisco Video Door Station Back Box Specifications

Specification	Description
Physical Attributes	
H X W X D	6.1" x 4.1" x 3" (156 mm x 104 mm x 76 mm)
Mounting	In-wall
Weight	1.10 lbs.
Communications	
Ethernet	Ethernet or Wi-Fi (802.11 b/g/n)

Regulatory/Safety Information

To review regulatory information, go to www.cisco.com/go/smartconnectedresidential/docs.

Related Documentation

For more information about the Cisco Smart+Connected Residential products, go to the following URLs:

For more information about the Cisco Smart+Connected Residential products, see the following documents and websites:

Subject / Document Title	Location
General	
Product Information and Home Page	www.cisco.com/go/smartconnectedresidential
Cisco 1-Year Limited Hardware Warranty Terms	www.cisco.com/go/smartconnectedresidential/warranty
Regulatory Compliance and Safety Information for Cisco Smart+Connected Residential Products	www.cisco.com/go/smartconnectedresidential/docs
Cisco Support	www.cisco.com/cisco/web/support/
Technical Documentaion	
Installation and Configuration	www.cisco.com/go/smartconnectedresidential/docs
Cisco Smart+Connected Residential Installation and Configuration Guide	
Cisco RMS Installation and Administration	
Cisco Smart+Connected Remote Management Console Administration Guide	
Cisco Smart+Connected Remote Management Server Installation Guide	
Reference Guides	
Cisco Smart+Connected Controller 200 Reference Guide	
Cisco Smart+Connected Controller 250 Reference Guide	
Cisco Smart+Connected Controller 800 Reference Guide	
Cisco Smart+Connected 7" In-wall Display Reference Guide	
Cisco Smart+Connected Portable Tablet Reference Guide	
Cisco Smart+Connected I/O Extender Reference Guide	
Cisco Smart+Connected Universal Remote 150 Reference Guide	
Cisco Smart+Connected Universal Remote 250 Reference Guide	
Cisco Smart+Connected Video Door Station Reference Guide	
Cisco Smart+Connected Residential Licensing Guide	See your Cisco representative or partner for more information.
Smart Device Compatibility and other information:	www.cisco.com/go/smartconnectedresidential
Cisco Smart+Connected Smart Device License for Real Estate Developers	
Composer Pro User Guide	http://www.control4.com/documentation/Composer_Pro_User_Guide/index.htm

Warranty

A Cisco 1-year warranty applies. Go to the following URL for more information:

www.cisco.com/go/smartconnectedresidentialwarranty

Service and Support

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