

# CM-8536VR Series Column™ Switch with Sensor and Back Box

## INSTALLATION INSTRUCTIONS

### THIS PACKAGE INCLUDES:

- |                                 |                            |
|---------------------------------|----------------------------|
| 1 - CM-8536 Column™ Switch      | 4 - Concrete Anchors       |
| 1 - CM-8536 Back Box            | 4 - 1/4"-20 Machine Screws |
| 4 - #14 x 1-1/2" Tapping Screws | 2 - Wire Nuts              |
| 4 - Nylon Anchors               | 1 - Jumper                 |



### 1. GENERAL DESCRIPTION

Camden CM-8536VR Series Hands-Free Column™ Switches use active infra-red microburst sensor technology, designed for use in ADA compliant automatic door control applications and access control. All models are ROHS compliant with lead-free construction. Built-in remote LED switching allows for integration with third-party applications, such as guard and nurse station annunciators or washroom indicator status. Adjustable time delay from 0.5 to 20 seconds and an adjustable range from (2" to 8" / 5cm to 20cm).

The CM-8536VR Series Hands-Free Column™ can be activated manually by pressing any part of its actuating column.

The CM-8536VR Series Hands-Free Column™ Switch has a Back Box which facilitates mounting to narrow frames, and provides easier maintenance/service.

### 2. SPECIFICATIONS

Voltage	12 to 24VDC +/- 10%
Current	45 mA (peak)
Contact Rating	1 Amp @ 30 VDC
Contacts	Common/ N.O./ N.C.
Temperature Range	14°F to 122°F (-10 to 50 °C)
Response Time	10ms
Construction	Heavy duty extruded aluminum
Finish	Anodized clear, dark bronze or black
Mounting	4 x #14 x 1-1/2" Tapping Screws with anchor plugs or 1/4"-20 Machine Screws
Actuator Width	3" (76mm)
Dimensions (Overall)	37-1/2" H x 5-7/8"W x 2-1/2"D (955mm x 150mm x 63.5mm)

### Code Requirements:

If installed according to these instructions the CM-8536VR Column™ Switch will meet the requirements of the California Building Code (Section 1117B.6, Date: 2009), and Section 3.8.3.3.17(b) of the Ontario Building Code.

CM-8536VR complies with the National Building Code of Canada reference to CSA Regulation 5.2.9.3 (c) ii.

### 3. FEATURES

- Built-in Red and Green LED indication. Factory default = Red (Standby), Green (Triggered)
- Red and Green LEDs can be controlled by sensor or externally
- Adjustable detecting distance: 2 to 8 inches (5 cm to 20 cm) (IR only)
- Adjustable Time Delay: 0.5 seconds to 20 seconds (IR only)
- 1P65 rating (IR only)
- IR lens to provide stable and reliable operation

### 4. OPERATION AT A GLANCE

In a typical application, the LED will be red as you approach the CM-8436VR. When you wave your hand in front, it will change the LED to green and trigger its relay to change state and unlock the door, or trigger the door operator to open the door, or you can press anywhere on the actuating column to activate mechanically.

**NOTE:** Do NOT use AC Voltage for this unit. Please see section 8 for power requirements.

## 5. CONFIGURING THE CM-8536VR

### Range of Detection and Output Duration

Looking at the back of the CM-8536VR with the Mode pins located at the top, you will see two adjustment potentiometers. The one on the left can be turned clockwise to set the range of detection (2" to 8" / 5cm to 20cm), and the one on the right will set the duration of the output (0.5 to 20 seconds).

If the output needs to be triggered and maintained in that state until triggered once more, then the Toggle feature can be used by turning the output duration adjustment potentiometer to the fully clockwise position.

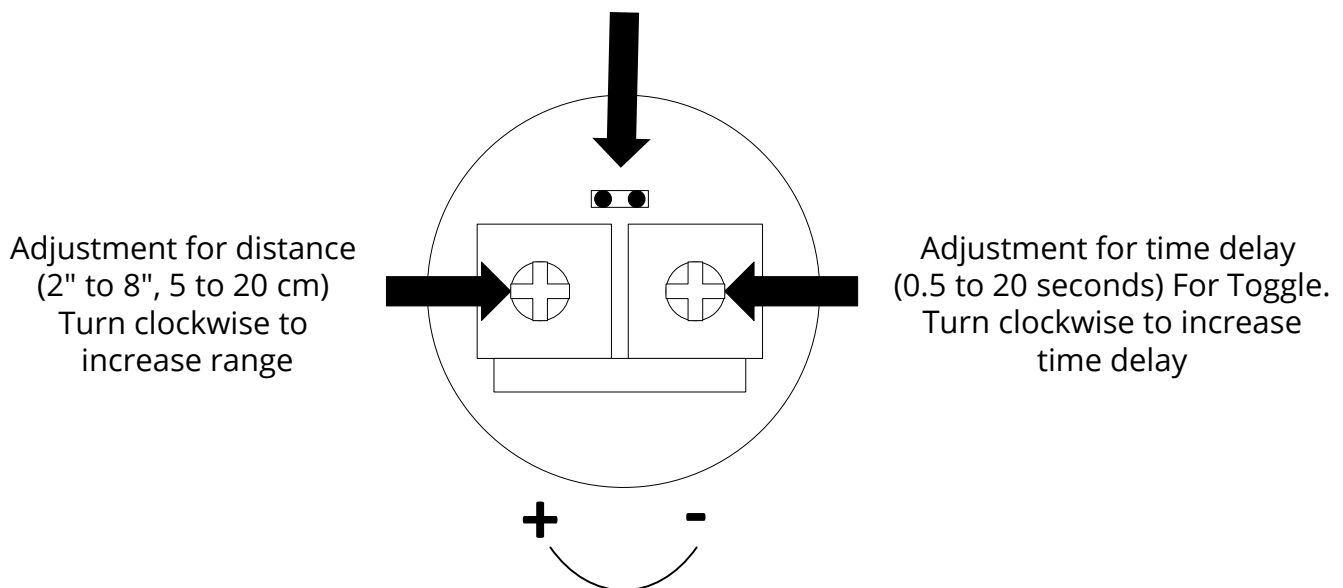
### Remote LED Switching

The CM-8536VR can also have its LED states controlled remotely. This is done by installing the supplied jumper from the parts bag onto the two pins on the back of the unit. Once installed the green and red LED's can be triggered to change by bringing either one low (to ground). The yellow wire controls the green LED, whereas, the white wire controls the red LED. They can be individually turned on or off, or they can be wired to a SPDT contact to turn red on and green off, or vice versa.

#### MODE PINS:

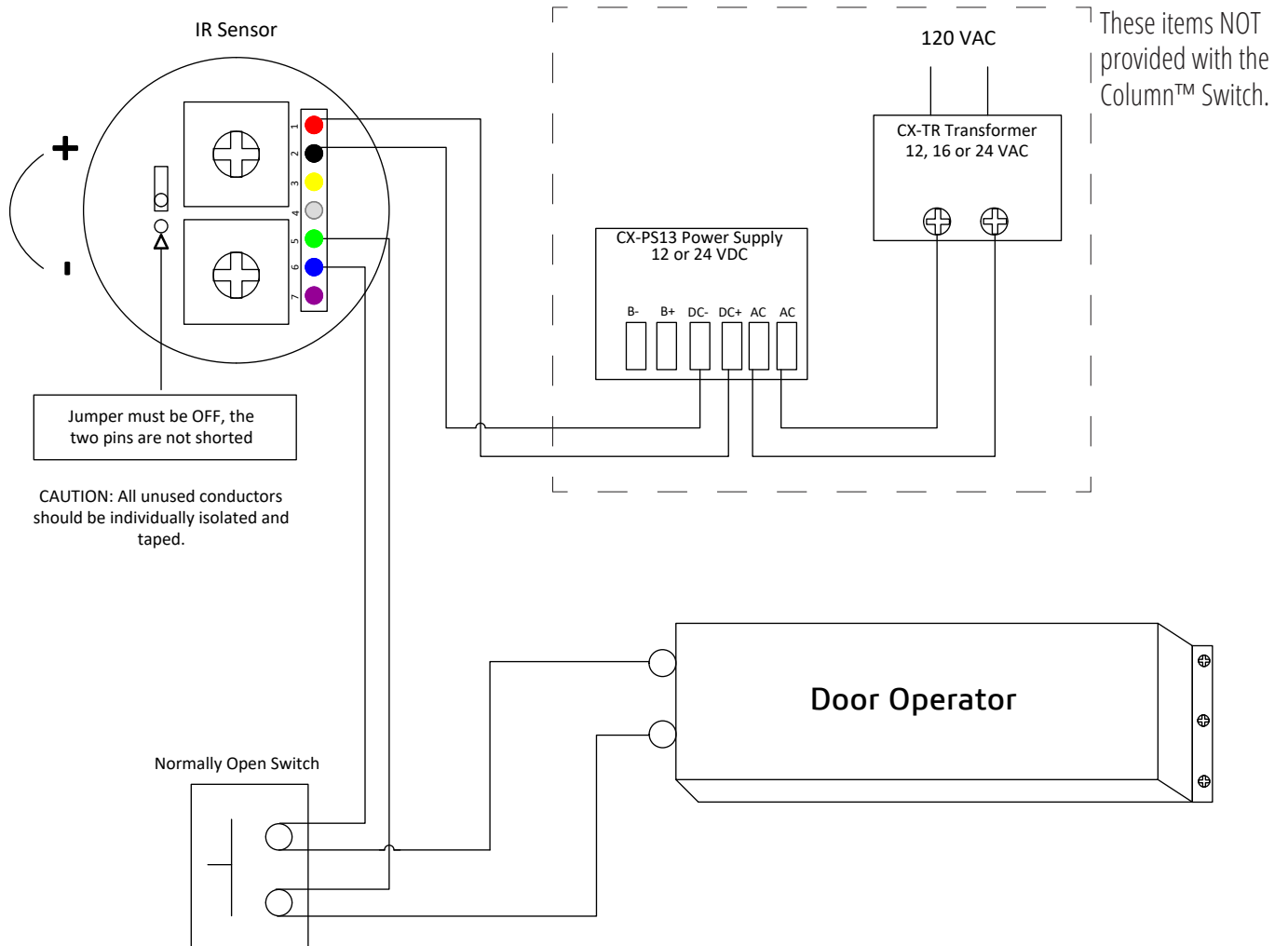
OPEN (Default position)=  
Internal mode where the LED  
colours will be controlled by  
the IR sensor.

SHORTED = External mode  
where the LED colours will be  
controlled by Yellow and  
White wires.



**6. WIRING THE CM-8536VR**

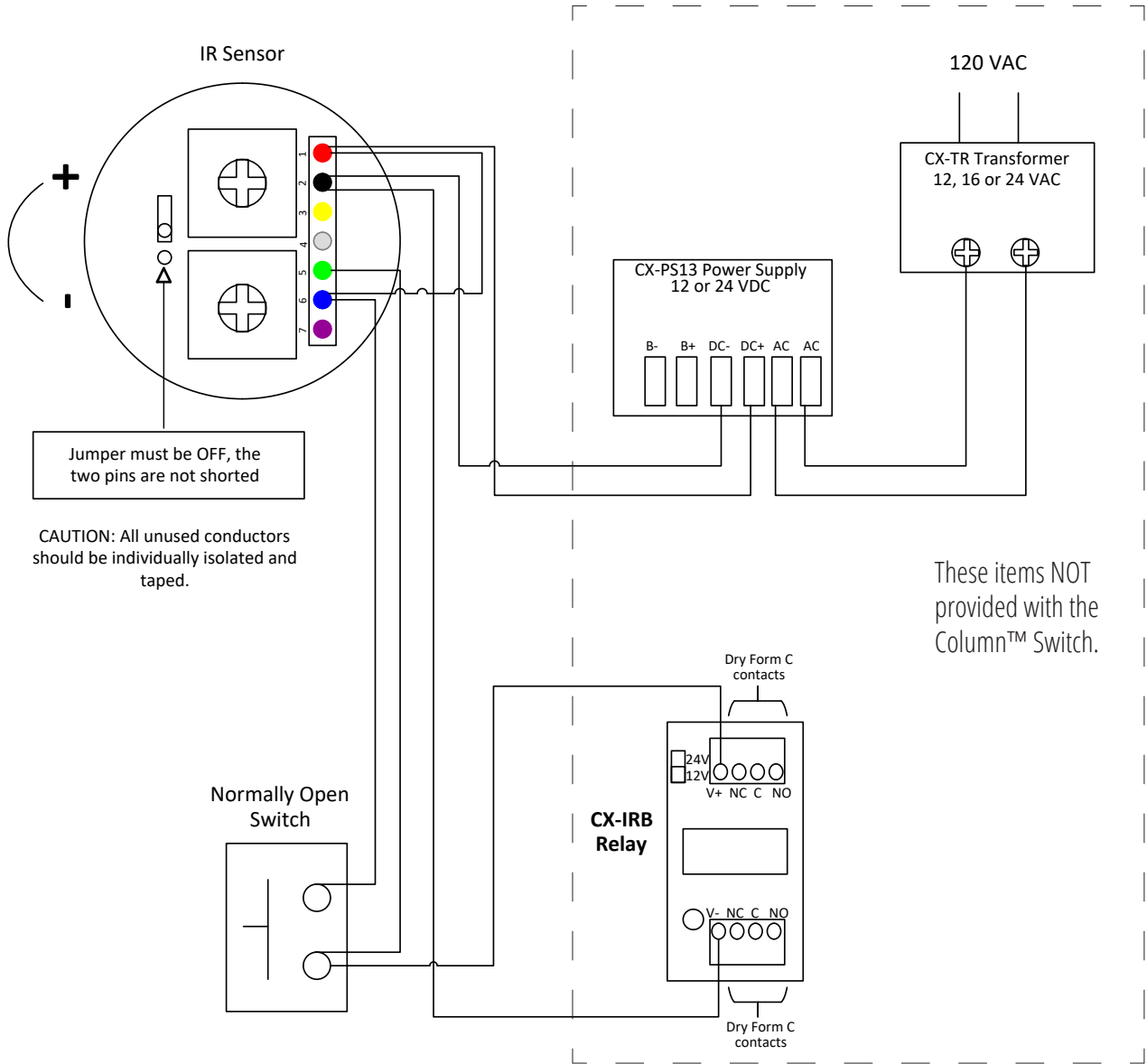
**The CM-8536VR Touchless Column™ Switch connected to Door Operator where LED Color is determined by Wave Switch**



#	Color	Function
1	Red	12 to 24 VDC
2	Black	0 VDC (Ground)
3	Yellow	Green LED controlled by external mode.
4	White	Red LED, controlled by external mode.
5	Green	Relay: Normally Open
6	Blue	Relay: Common
7	Purple	Relay: Normally Closed

} Not used in this example.

**CM-8536VR Touchless Column™ Switch connected to DPDT Relay**



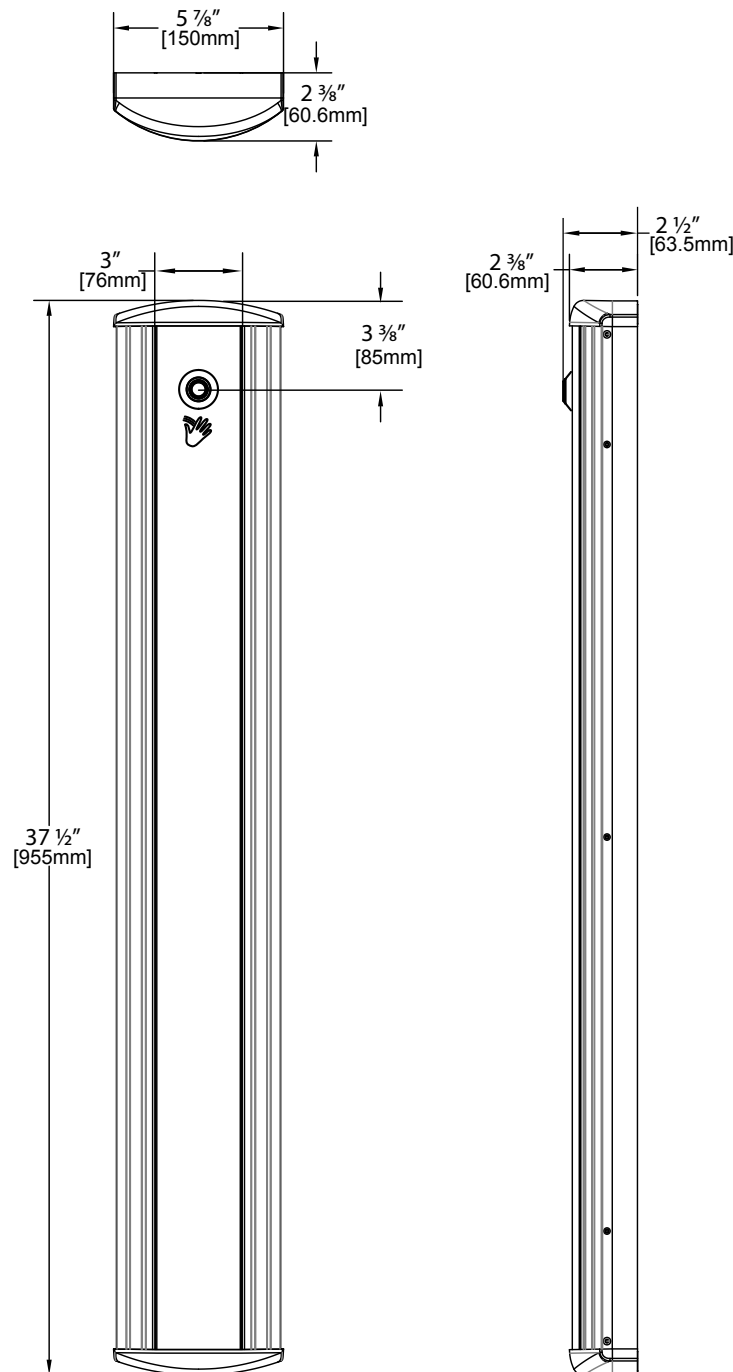
#	Color	Function
1	Red	12 to 24 VDC
2	Black	0 VDC (Ground)
3	Yellow	Green LED controlled by external mode.
4	White	Red LED, controlled by external mode. } Not used in this example.
5	Green	Relay: Normally Open
6	Blue	Relay: Common
7	Purple	Relay: Normally Closed

## 7. POWER

The CM-8536VR Hands-Free Column™ Switch is a VDC device only and will accept a range of VDC power from 12VDC to 24VDC (+/- 10%). Do not connect AC voltage to the CM-8536VR Hands-Free Column™ switch at any time.

**Note:** A linear output VDC power supply is strongly recommended. If using power from other than Camden's CX-PS13 filtered regulated power supply, you must measure the provided power before applying power to the CM-8536VR Hands-Free Column™ Switch. Voltages of more than 10% over the specified acceptable range or using a power supply with large amounts of AC voltage on it (unfiltered unregulated power such as a transformer and a rectifier) may damage the CM-8536VR Hands-Free Column™ Switch and void the warranty.

## 8. DIMENSIONS



# CM-8536VR Series Column™ Switch with Sensor and Back Box

## INSTALLATION INSTRUCTIONS

### 9. INSTALLATION

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#### Disassemble the Back Box

1. Unpack the pre-assembled CM-8536 Column™ Switch. The Column™ Switch is sold with its mounting Back Box attached. Disassemble the Back Box to mount on the wall or frame.
2. Unscrew the six 4-40 x 3/16" Phillips Screw along the sides of the Column™ Switch to detach the Back Box. (Figure 9.1)

#### Determine the Wall or Frame Mounting Location:

3. Determine and mark the optimum height from the finished floor. If using an in-wall electrical box, center the Back Box over the electrical box, while lining up the top edge with the mark. The bottom of the Switch should be located between 3" to 8" (76mm to 203mm) off the finished floor as per site conditions or code requirements.
4. Use a level to ensure the Back Box is plumb and level, locate and mark the mounting and hardwire locations on the wall or frame.

#### Drill Mounting Screw Holes on the Back Box:

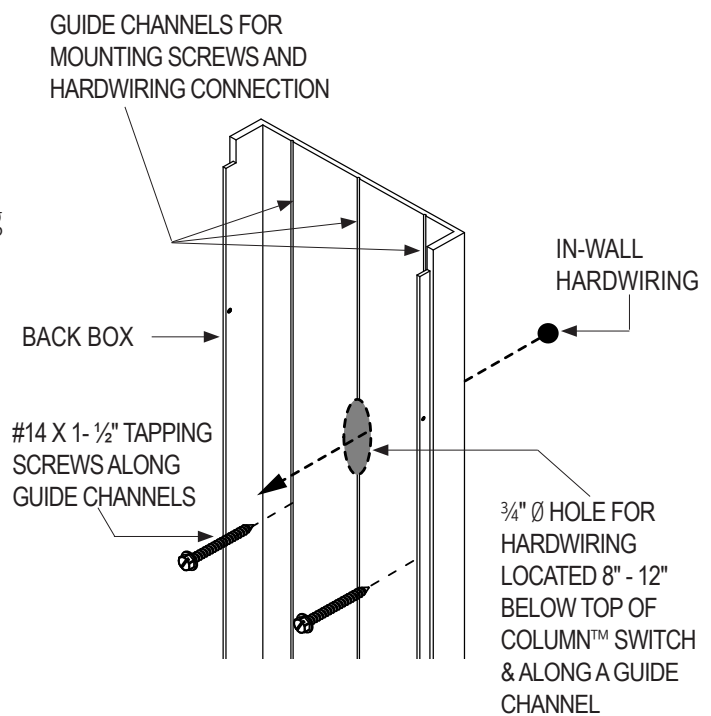
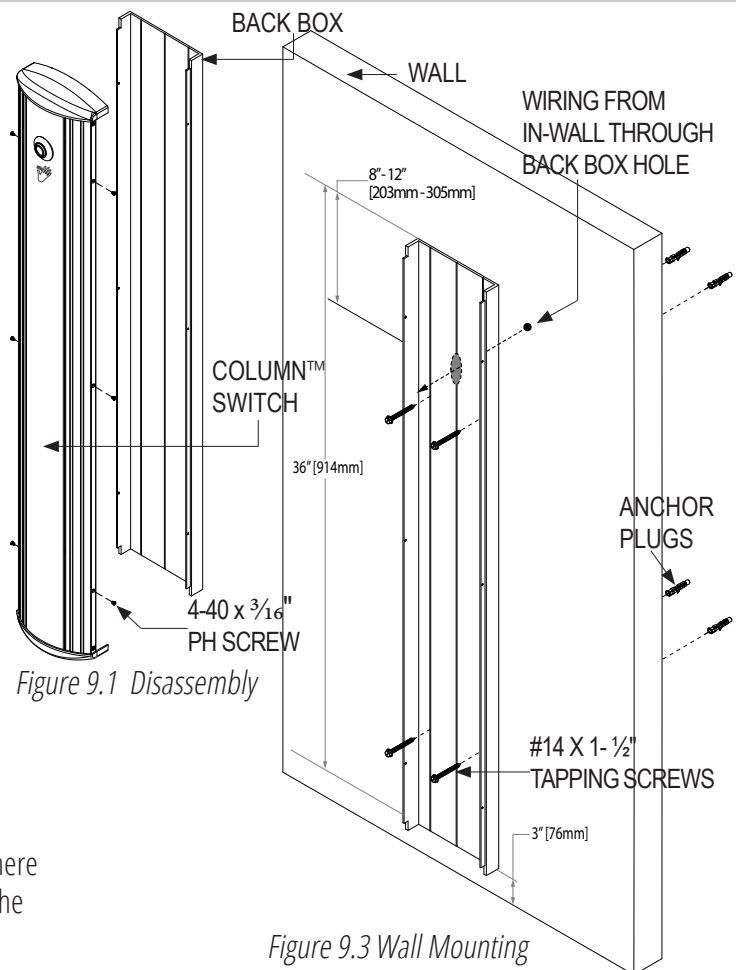
5. Locate and mark the matching holes for mounting screws anywhere along the Guide Channels of the Back Box and align them with the corresponding anchor locations on the wall or frame.
6. Drill the mounting screw holes on the Back Box using drill bit 17/64" for either #14 tapping screws or 1/4"-20 machine screws. (Figure 9.2 and 9.3)

#### Drill the Hardwiring Hole on the Back Box:

7. Locate and mark a through hole near the Column™ Switch wires on the Back Box for the hardwiring connection from the wall to the Column™ Switch wires. We recommend drilling a 3/4" Ø hole along the Guide Channels at the upper end of the Back Box between 8" and 12" from the top of the Column™ Switch. You may drill a different size that matches your in-wall wiring, this hole location must align with the wires from the wall or in-wall electrical box.
8. Drill the 3/4" Ø hole on the Back Box for hardwiring connection. (Figure 9.2 and 9.3)

#### A. Mount the Back Box to the Wall:

9. Mark and drill the holes in the wall using drill bit 7/32" for #14 Tapping Screws or a 3/8" for wall anchors/1/2" for concrete anchors, and insert the anchor plugs provided into the wall.
10. Align the Back Box to the wall mounting screw holes.
11. Insert the wiring connections through the hole.
12. Secure the Back Box to the wall with the #14 x 1-1/2" tapping screws provided. (Figure 9.3 and 9.4)



or

**B. Mount the Back Box to the Frame: (Insert Hardwiring)**

9. Drill and tap the screw locations in the frame. Use drill bit 13/64" or #7 for 1/4"-20 machine screw.
10. Align the Back Box to the frame mounting screw holes.
11. Insert the wiring connections through the hole.
12. Secure the Back Box to the frame with the 1/4"-20 machine screws. (Figure 4.3 and 4.4)

**Connect the Wires from the Wall: (If Hardwiring)**

13. Connect the two activating wires from the wall/frame, through the Back Box hole, to the lead wires of the Column™ Switch.
14. Use the supplied wire nuts to secure the wire connections. Push excess wiring into the back box and ensure wires are not exposed to the moving parts of the switch or pinched between the back of the Column™ Switch base unit and the Back Box.

**Attach the Column Switch to the Back Box:**

15. Mount the Column™ Switch to the Back Box.
16. Match and insert the Back Box Lips into the Slots between the Endcap Tabs and the Endcap Side Walls. (Figure 9.5)
17. Align the matching screw holes along both sides of the Column™ Switch to the Back Box.
18. Secure the Column™ Switch to the Back Box with the 4-40 x 3/16" Phillips screws provided.

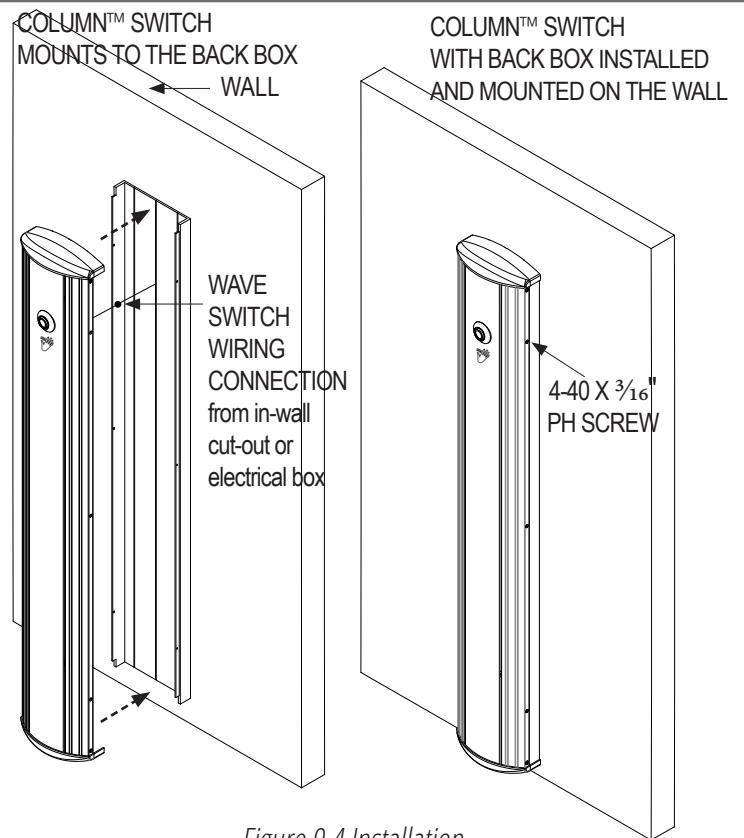


Figure 9.4 Installation

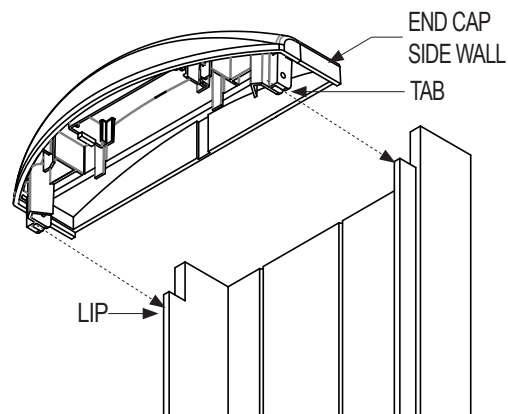


Figure 9.5 End Cap Alignment

**10. SYSTEM INSPECTION**

After the Installation and operational check of the system:

1. Place any applicable labels on the door (as per ANSI A156.10, A156.19, or A156.38 guidelines).
2. Instruct the owner on door system operation and how to test it. This should be checked on a daily basis.
3. Strongly recommend to the owner that the complete entry be inspected annually as per AAADM guidelines.

**11. WARRANTY**

Camden Door Controls guarantees the CM-8536VR Series to be free from manufacturing defects for 3 years from date of sale. If during the first 3 years the Column™ Switch fails to perform correctly, it may be returned to our factory where it will be repaired or replaced (at our discretion) without charge. Except as stated herein, Camden extends no warranties expressed or implied regarding function, performance or service.

**12. PARTS INFORMATION**

Item	Parts Description	QTY
1	CM-8536VR Actuator	1
2	CM-8536 Base	1
3	CM-8536 Mounting Back Box	1
4	CM-8536 Black Nylon End Cap	2
5	SPDT Switch	2
6	12" Wire Harness	1
7	9" Wire Harness	1
8	S/S 4lbs Comp. Spring	2
9	Nylon Screw	4
10	Rubber Bumper	3
11	Edging Grommet	4
12	#4 x 1/2" FH Phillips S/S Tapping Screw	4
13	4-40 x 3/16" S/S Phillips Scw	6
14	Nylon Washer	2
15	CM-221 CM-221 Touchless Exit Sensor Switch	1
16	CM-221 Collar CM-7536 Series	1
17	Wire Nut (C/W) Spring	2
18	#14 x 1-1/2" Slot Hex Head Tapping Screws	4
19	Nylon Anchor Plugs 10 - 14 Screw x 1-9/16"	4
20	1/4"-20 Machine Screws	4

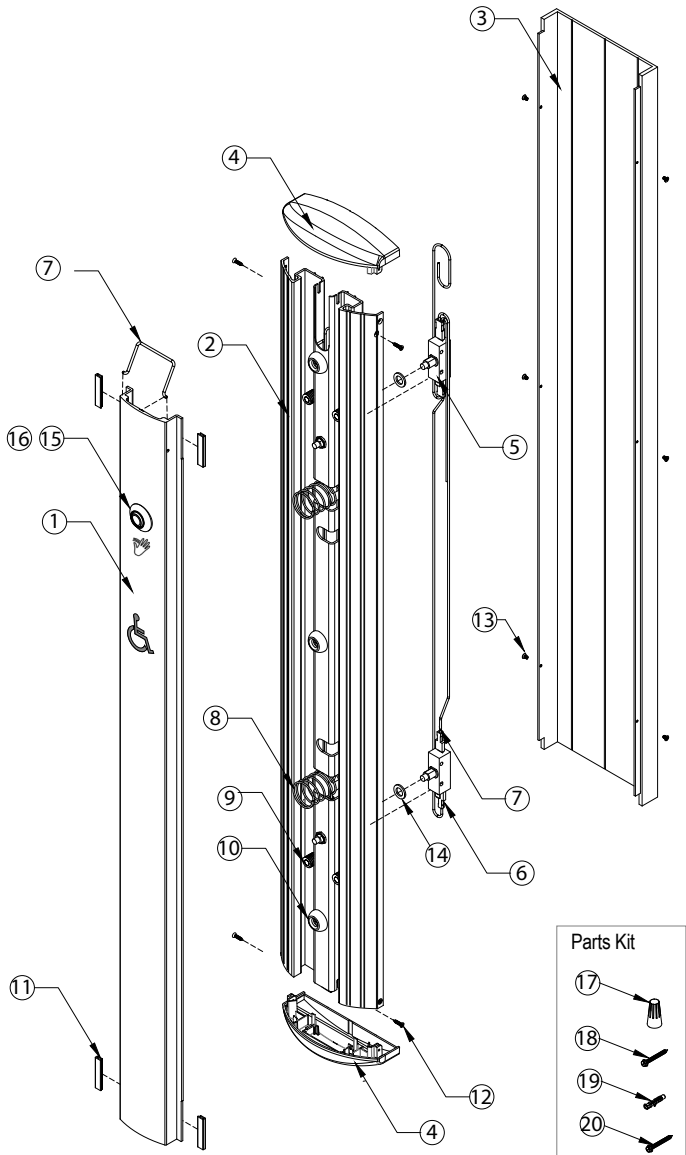


Figure 12.1 Exploded View

**ORDERING INFORMATION FOR REPLACEMENT PARTS**

Part Number	Description
60-34B113	CM-8536 Mounting Back Box w/ Screws Kit
60-34B114	CM-8536 Black Nylon End Cap Pair w/ Screws Kit
60-34B115	CM-8436/8536 SPDT Switch & Harness Assembly Kit
60-34B110	CM-8436/8536 Parts Kit
60-34B116	CM-221 Touchless Exit Sensor Switch w/ Collar
60-60H012	CM-221 Wiring Harness Only