



# CAMDEN CX-WC16PS Series Restroom Control Touchless Switch Kits Instruction Manual

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**CAMDEN CX-WC16PS Series Restroom Control Touchless Switch Kits**



## Product Information: Electrified Locks, Relays and Timers

The WC16PS Series Restroom Control is a kit that allows access in and out of a restroom while providing the ability to secure the door and indicate whether the restroom is occupied or vacant. This kit uses Camden's hands-free SURE-WAVE touchless switches for convenience and hygiene. The kit includes the CM-331/42WS-SGLR as the outside WAVE TO OPEN switch, the CM-325/42WS as the inside WAVE TO OPEN switch, and the CM-331/43S-SGLR as the WAVE TO LOCK switch. The SGLR circuit board is installed on the front of both WAVE TO OPEN and WAVE TO LOCK switches for easy visibility by patrons.

## Product Usage Instructions

### Installation

1. Before installation, read the instructions carefully and make any required adjustments.
2. Mount the CX-WC16PS cabinet in a clean dry location away from direct contact with the elements.
3. **Wiring:**
  - Refer to the provided wiring diagram on the inside of the door for a layout reference
  - The CX-WC16PS comes with pre-wired CX-33 terminal strips, making it easier to connect the WAVE TO OPEN/WAVE TO LOCK sensors.
  - **There are two terminal strips**
    - **Left strip:** Connect power to the CX-33, PUSH TO OPEN (WAVE TO OPEN), and PUSH TO LOCK (WAVE TO LOCK) sensors, door position switch, and Wet trigger.
    - **Right strip:** Connect outputs for driving the strike (Relay 1), door operator (Relay 2), SGLR light ring (Relay 3), and providing VDC power for the door strike.
  - All SURE-WAVE devices can be powered with 12/24 VAC/VDC.
  - **Note:** Install the SGLR option (light ring) before applying power to the sensor.

## GENERAL DESCRIPTION

The Restroom Control Kit allows access in and out of a Restroom, with the ability to secure the door and make patrons aware that the location is either occupied or vacant while using Camden's hands-free SURE-WAVE touchless switches.

The CX-WC16PS Series of Restroom Control Kits are controlled by Camden's advanced relay logic controller part number CX-33. The CX-33 currently has 2 pre-set modes that will accommodate most Restroom applications, Mode 7 (normally unlocked) or Mode 8 (normally locked). The default Mode for the CX-WC16PS is Mode 7 (normally unlocked). Each Restroom Control Kit will have the ability to physically open the door then allow the patron to lock the door once inside. When locked, the CX-33 will change the coloring of the inside & outside SURE-WAVE touchless switches (with the SGLR light ring option) from green to red, displaying that the Restroom is in use. When the inside WAVE TO OPEN switch is activated it will unlock the door, then physically open the door and change the color of the inside & outside WAVE TO OPEN touchless switches SGLR light ring back to green, displaying that the Restroom is now vacant. The locked Restroom can be unlocked by either activating the inside WAVE TO OPEN touchless switch, or by using the crash bar, paddle or turning the knob set to open the door. Either method will reset the SGLR light ring back to green.

The CX-WC16PS Series of Restroom Control Kits kit uses Camden's CM-331/42WS-SGLR as the outside WAVE TO OPEN, the CM-325/42WS as the inside WAVE TO OPEN and the CM-331/43S-SGLR as the WAVE TO LOCK. The SGLR circuit board is installed on the front of the outside WAVE TO OPEN and on the front of the inside WAVE TO LOCK touchless switches making them easily seen by patrons at a distance.

## INSTALLATION

### Operation at a Glance

- When the outside WAVE TO OPEN touchless switch is activated it will trigger its N.O. relay contact to send a momentary closure to the CX-WC16PS allowing the door to swing open.
- When the interior WAVE TO LOCK touchless switch is activated it will trigger its N.O. relay contact to send a momentary closure to the CX-WC16PS to lock the Restroom and switch the SGLR light ring color from green to red. The inside WAVE TO OPEN. When activated will unlock the door, and the door will swing open. The Restroom can also be unlocked by opening the door from the inside which will break the door contact circuit causing the CX-WC16PS to reset and unlock the door. The SGLR light ring will switch back to green signalling the Restroom is now vacant.

### Mounting

**IMPORTANT:** Do not apply power to the unit until you

have fully read the instructions and have made the required adjustments.

The CX-WC16PS cabinet should be mounted in a clean dry location out of direct contact with the elements.

### Wiring the CX-WC16PS Series Restroom Control Kit is as follows:

The CX-WC16PS comes with the CX-33 pre-wired to a labeled set of two terminal strips. This will make the wiring of the WAVE TO OPEN/WAVE TO LOCK sensors easier since the wiring manual will no longer need to be directly referenced for termination points. A complete wiring diagram is adhered to the inside of the door to provide a layout of the wiring as a reference when wiring the field devices to the kit.

There are two terminal strips that mirror the locations on the CX-33. The left strip is used for power to the CX-33, the PUSH TO OPEN (WAVE TO OPEN) and PUSH TO LOCK (WAVE TO LOCK) sensors, the door position switch, and the Wet trigger. The right strip is for the outputs to drive the strike (Relay 1), door operator (Relay 2), SGLR light ring (Relay 3), and to provide VDC power for the door strike.

All SURE-WAVE devices can be powered with 12/24 VAC/VDC.

**Note:** The SGLR option (light ring) must be installed before applying power to the sensor.

## **Wiring the Outside WAVE TO OPEN Sensor (CM-331/42WS-SGLR)**

- Wire in power to the TB1 terminal block on the back lower left side (not polarity sensitive). On terminal block TB3, wire the common and normally open poles of the relay to Dry1 & Input on the CX-33. The Remote terminal (TB2) will be wired in parallel with the Remote terminal (TB2) of the Inside WAVE TO LOCK.
- Then it's wired to Relay 3 (common & normally open) of the CX-33. Install the SGLR (light ring) circuit board on the front face of the Outside WAVE TO OPEN sensor.
- Confirm the DIP switch settings using the legend below. Adjust the range accordingly with POT1 and POT2 for the desired activation time.

## **Wiring the Inside WAVE TO OPEN Sensor (CM-325/42WS)**

- Wire in power using the two red wires (not polarity sensitive). Next, connect the Blue wire (normally open) and the green wire (common) to Dry2 & Input on the CX-33.
- The range and the activation time can be adjusted from the front-face of the sensor. The range adjustment is on the top and the activation time is located on the bottom.

## **Wiring the Inside WAVE TO LOCK Sensor (CM-331/43WS)**

- Wire in power to the TB1 terminal block on the back lower left side (not polarity sensitive).
- On terminal block TB3, wire the common and normally open poles of the relay to Dry3 & Input on the CX-33.
- The Remote terminal (TB2) will be wired in parallel with the Remote terminal (TB2) of the Outside WAVE TO OPEN. Then it's wired to Relay 3 (common & normally open) of the CX-33. Install the SGLR (light ring) circuit board on the front-face of the Inside WAVE TO LOCK sensor.
- Confirm the DIP switch settings using the legend below. Adjust the range accordingly with POT1 and POT2 for the desired activation time.
- Once all field devices are wired to the CX-WC16PS then AC power can be wired in.

**IMPORTANT:** Do not apply power to the unit until you have fully read the instructions and have made the required adjustments. The supplied CX-TRX-5024 transformer will have its secondary terminals wired to the terminals on the top of the left terminal strip marked as "AC". Next, wire the primary terminals to the AC feed to be used. Confirm your connections and apply power by turning on the electrical panel breaker.

## **Selecting a Mode**

- The CX-WC16PS has two Restroom applications built in (Mode 7 & 8). The default mode for the CX-WC16PS is Mode 7 (normally unlocked).
- Determining which mode is correct for you will be based on whether the Restroom will be normally unlocked (Mode 7) or normally locked (Mode 8).
- There are three LED displays that will allow you to see what mode you have selected when advancing through the modes.
- To change the mode of the CX-WC16PS, simply press the
- MENU button once and use the UP button to advance to the desired mode.

## **Editing the Settings for a Mode**

- Camden builds in typical times for lock release and door operator activation and is ready to use without changing any parameters. If you need to change the timing or delay for an output, it can be done by pressing the “MENU” button within the mode you selected.
- Once the option is selected you can use the “UP or DOWN” buttons to select the timing needed. The first option (H & 1 flashing) will be how long relay 1 will be activated for (0-50 seconds).
- The second option (d & 1 flashing) will be how long to wait before activating relay 2 (0-15 seconds).
- The third option (H & 2 flashing) will be how long relay 2 will be activated for (0-50 seconds).
- The fourth option (d & 2 flashing) will be how long to wait before activating relay 3 (0-15 seconds).
- The fifth option (H & 3 flashing) will be how long relay 3 will be activated for (0-50 seconds). See chart below.

### **Factory Reset (Defaulting the CX-33)**

- To return the CX-33 back to its factory default settings you will need to remove power, then hold down the “MENU” button while powering up the CX-33.
- Once started you will see the firmware version listed then a number “1” will be displayed. Reconnect your power and press the “MENU” button once then use the “UP” or “DOWN” button to advance to the desired mode.
- Fully test the operation of the CX-WC16PS for proper functionality.

## **WC16PS SERIES RESTROOM CONTROL**

### **INSTALLATION INSTRUCTIONS**

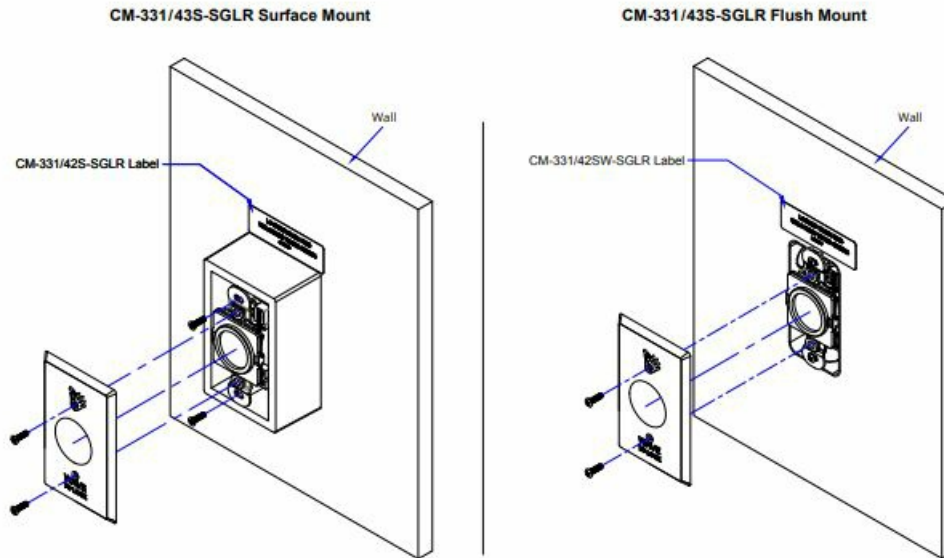
Display (M)	Description ( Mode you are in)	Parameters ( 1-15 )
H, then 1	Relay 1 Hold Time	0.0 to 50 seconds
d, then 1	Relay 2 Delay Time	0.0 to 15 seconds
H, then 2	Relay 2 Hold Time	0.0 to 50 seconds
d, then 2	Relay 3 Delay Time	Depends on Mode
H, then 3	Relay 3 Hold Time	0.0 to 50 seconds
d	Sets the display ON or OFF during operating mode	ON or OFF
A	Input delay on Activate. If other than 0.0 is selected, the input must be held in for the time period chosen before the CX-33 will activate.	0.0 to 10 seconds
1	Set Dry Input 1 to activate on normally open or normally closed contact.	N/O OR N/C
2	Set Dry Input 2 to activate on normally open or normally closed contact.	N/O OR N/C
3	Set Dry Input 3 to activate on normally open or normally closed contact.	N/O OR N/C
4	Set Dry Input 4 to activate on normally open or normally closed contact.	N/O OR N/C
5	Set Wet Input 5 to activate on normally open or normally closed contact.	N/O OR N/C

### Mounting

The Sure-Wave™ may be mounted in single or double gang electrical boxes, and 4 x 4 boxes. NOTE: The sealing gasket (included) is recommended for outdoor or wet locations. If using with Automatic doors install in accordance with ANSI A156.10 / A156.19. Select from one of the following mounting subsections :

#### SINGLE GANG ELECTRICAL BOX MOUNT – CM-331/43S-SGLR

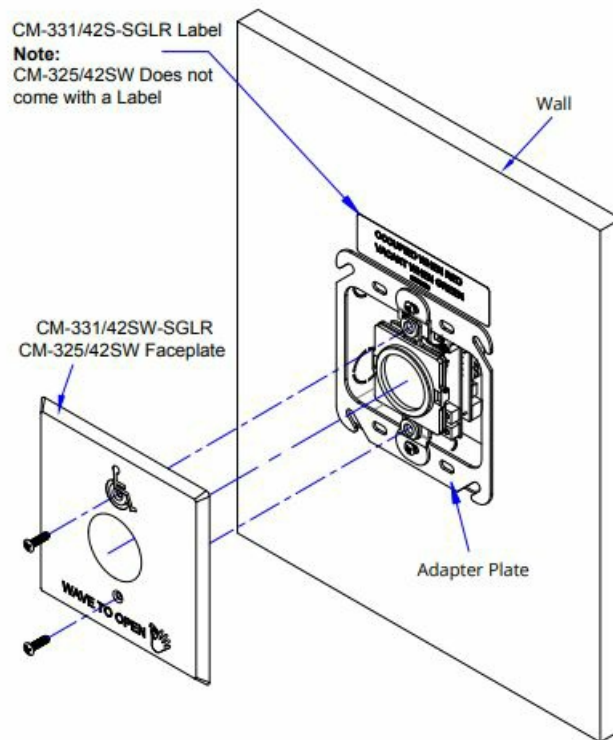
- If using an in-wall box ensure the box is plumb and square, and flush with the wall surface. (See Diagram 1)
  - If using a surface box, ensure it is secure & plumb.
- Bring your 4 or 6-conductor wire through the back or side of the enclosure and leave approximately 6" tail for wiring connection.
- Make the electrical connections to the device according to the wiring section.
- Using the dip switch located on the end of the unit, set the operating mode.
- Attach the unit to the enclosure using the two #6-32 screws provided.
- Apply power and adjust range and time delay via the potentiometers on the front of the unit.
- Attach the faceplate to the unit using the two black #6-32 x 1/2" machine screws or tamperproof screws.  
**NOTE:** Do not overtighten!
- Apply the label as required.



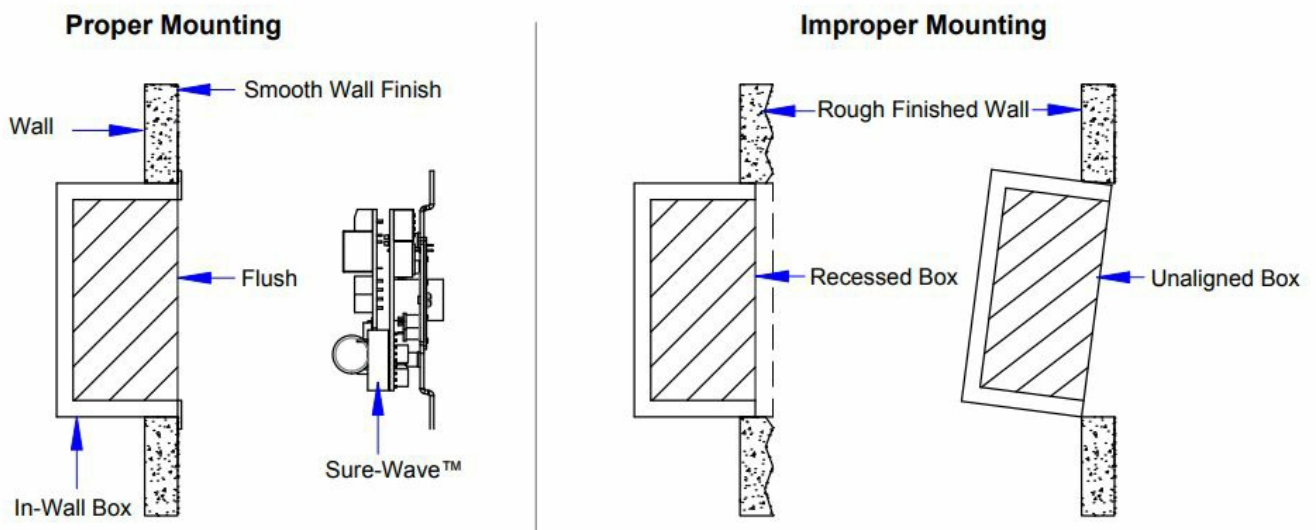
## DOUBLE GANG ELECTRICAL BOX MOUNT – CM-331/42SW-SGLR – CM-325/42SW

1. **a)** If using an in-wall box ensure the box is plumb and square, and flush with the wall surface.  
**b)** If using a surface box, ensure it is secure & plumb.  
**c)** If using a 4 x 4 box, ensure the box is plumb and square, and flush with the wall surface, then attach the metal adaptor plate (included in the packages) to the box using appropriate fasteners.
2. Bring your 4 or 6-conductor wire through the back or side of the enclosure and leave approximately 6" tail for wiring connection.
3. Make the electrical connections to the device according to the wiring section.
4. Using the dip switch located on the end of the unit, set the operating mode.
5. Attach the unit to the enclosure using the two #6-32 screws provided.
6. Apply power and adjust range and time delay via the potentiometers on the front of the unit.
7. Attach the faceplate to the unit using the two black 6-32 x 1/2" machine screws or tamperproof screws.  
**NOTE:** Do not overtighten!
8. Apply the label as required (only for the CM-331/42SW-SGLR).

## CM-331/42SW-SGLR & CM-325/42SW Flush Mount

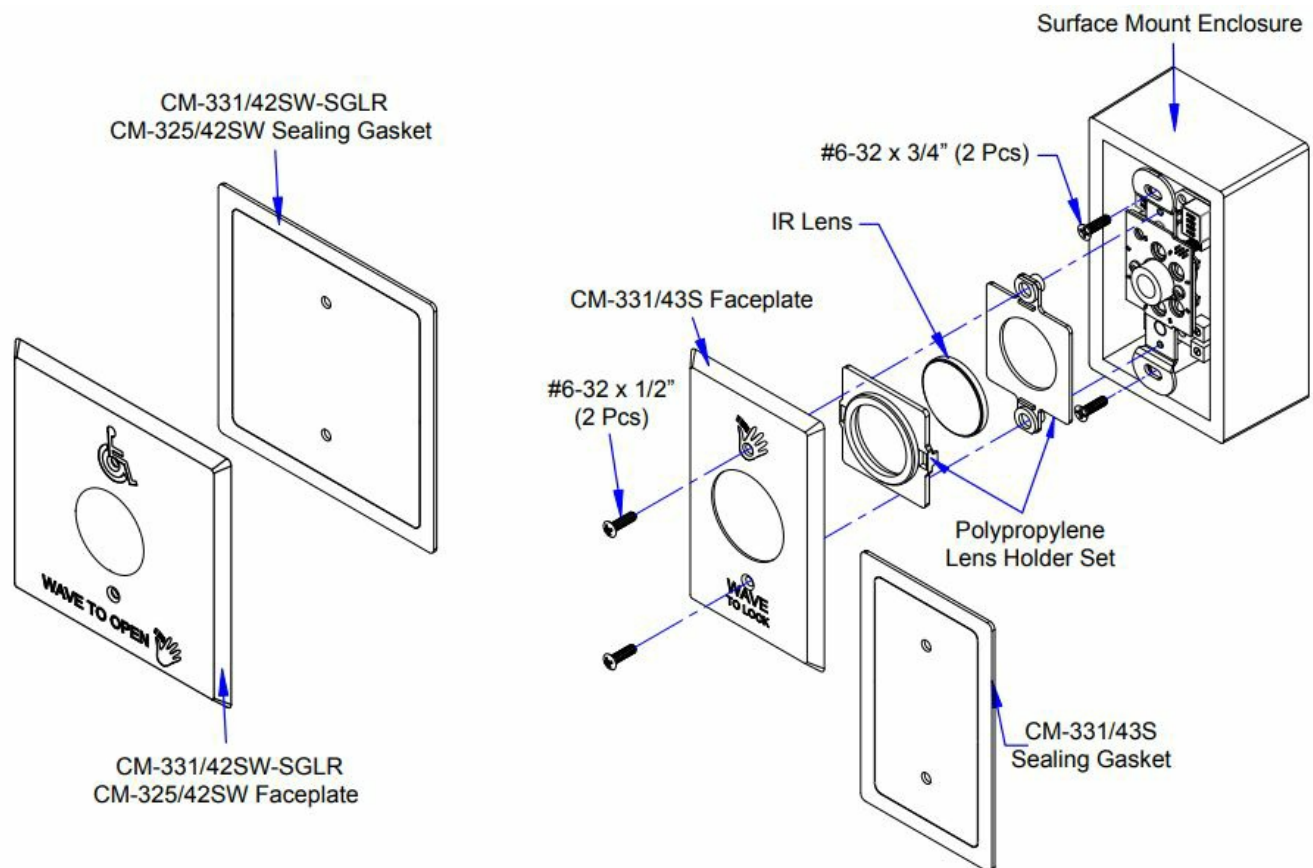


## IN-WALL MOUNTING



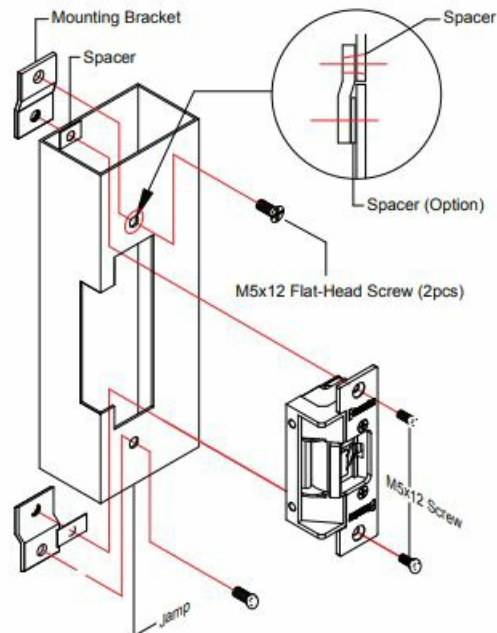
## SUREWAVE ASSEMBLY



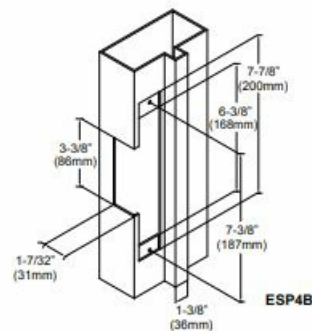
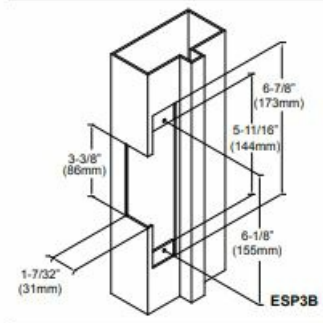
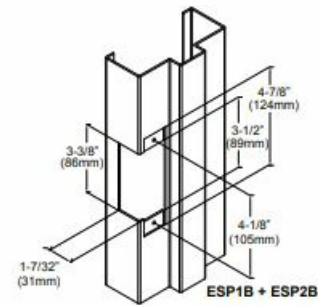


## CX-ED2079 'UNIVERSAL' ELECTRIC STRIKE INSTALLATION

1. Prepare the door jamb as per the appropriate drawing.
2. Install mounting brackets to jamb using M5x12 screws and pressed metal nuts. Do not tighten.
3. Spacers are used to ensure flush final assembly of the faceplate into the jamb. Add one or more spacers between the jamb and mounting bracket when faceplate extends beyond the jamb. When the faceplate sits inside the jamb, spacers must be added between the mounting bracket & the lip bracket. Make sure the clearance hole in the spacer aligns with the hole in the mounting bracket.
4. Connect wires coming from the low voltage side of the transformer to wires (black) from the strike.
5. Install electric strike jamb by attaching with # 10-32 screws and lock washers.
6. Secure M5x12 screws holding mounting brackets to the jamb.



Vertical Centerline



**Note:** The products are intended to be installed in accordance with the installation wiring diagram, mechanical assembly drawings provided with each product, the local authority having jurisdiction (AHJ) and the National Electric Code, NFPA 70. When installed in fail secure mode, the local authority shall be consulted with regard to the use of possible panic hardware to allow emergency exit from the secure area.

The electric door strike shall be installed in such a way and in such a location so as to not impair the operation of an emergency exit device or panic hardware mounted on the door.

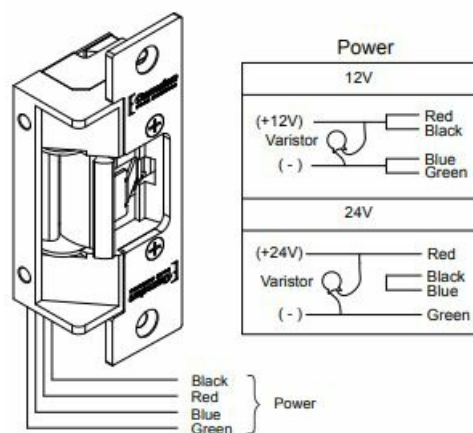
## CONNECTIONS

## POWER

- **12VDC**
  - **Red/Black:** +12V
  - **Blue/Green:** Ground
- **24VDC**
  - **Red:** +24V
  - **Black/Blue:** –
  - **Green:** Ground

A varistor is provided to protect/prevent strike from spikes. Connect varistor between input wires.

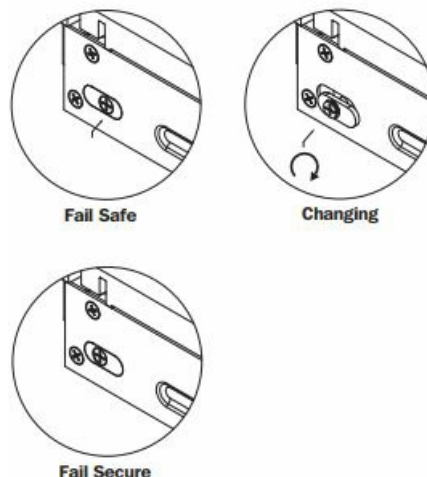
**Note:** For UL 294 / UL 1034 compliance the door strikes are to be powered via a UL 294/ UL 603 class 2 power limited output from a control panel and or power supply. Furthermore, when powered by AC/DC the units shall use a UL regulated UL 294/ UL 603 power limited class 2 output rated 12/24V with AC on indicator.



## OPERATIONS

How to modify fail-safe to fail-secure or vice versa.

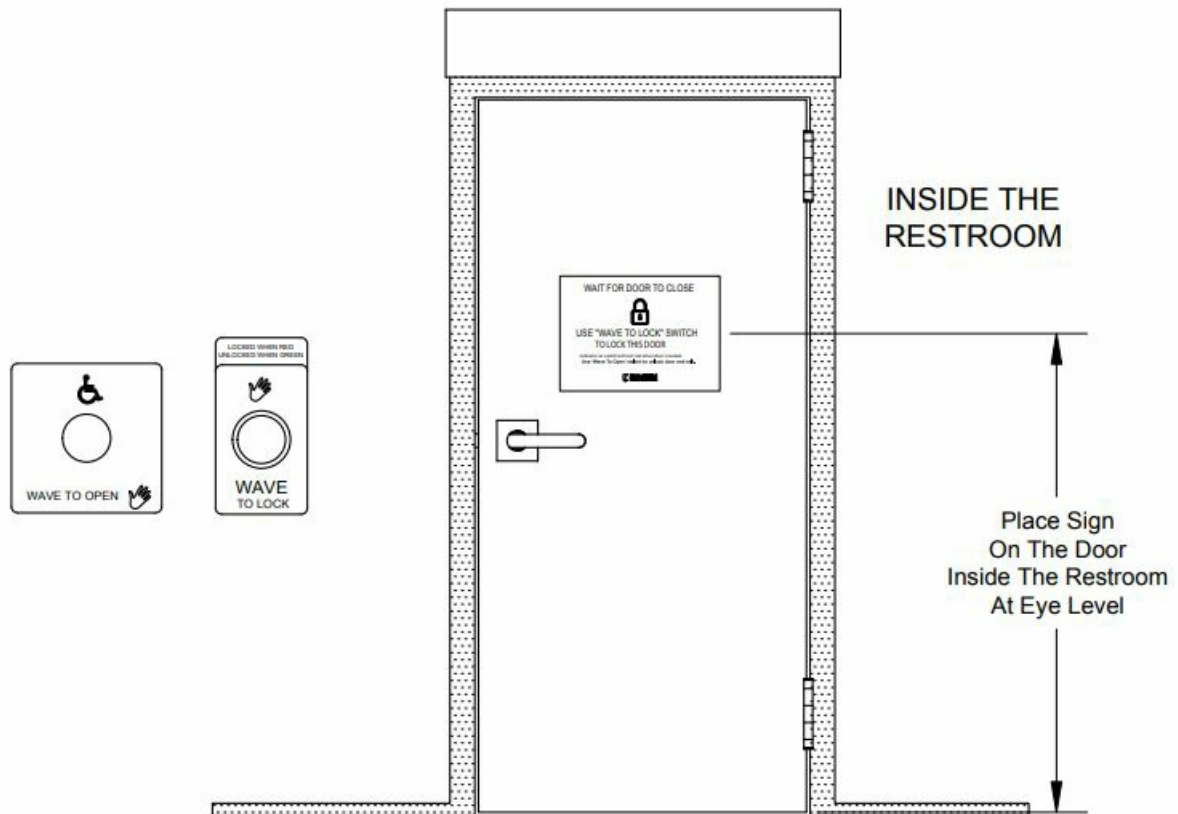
1. Loosen the screw as per the product diagram below.
2. Rotate the set plate 180° and slide the plate until it is properly seated.
3. Tighten the screw.



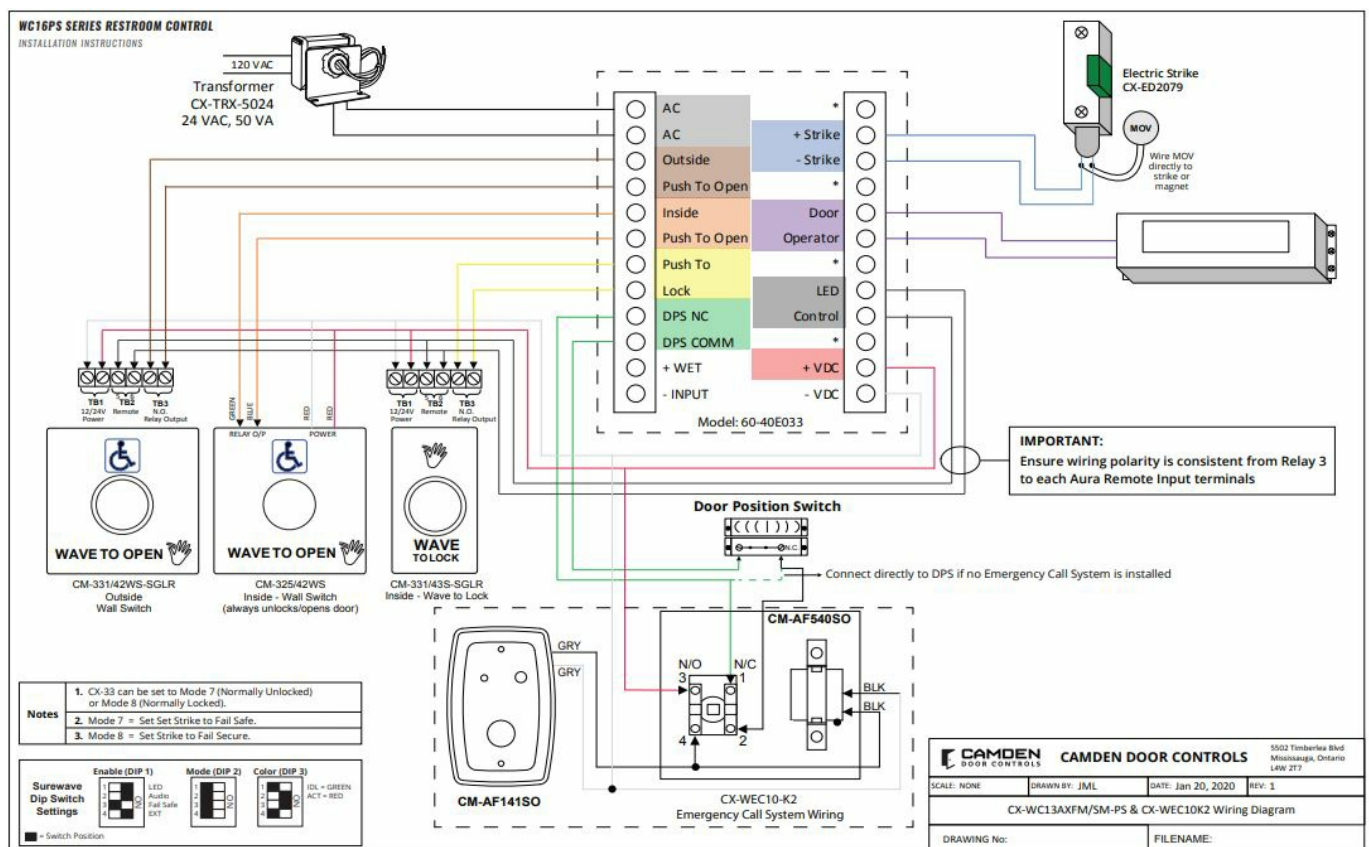
## ORDERING INFORMATION FOR REPLACEMENT PARTS

Item	Part Number	Description
1	60-31A008	Line Powered Surewave, 1 Relay for CM-331/43S-SGLR & CM-331/42SW-SGLR
	60-31A006	Touchless IR Sensor Short Range for CM-325/42SW
2	60-40E033	Advanced Logic Control Relay and 2 Amp Power Supply in pre-wired metal cabinet
3	CX-MDA	Magnetic Door Contact
4	60-81C024	English Self-Adhesive Vinyl Sign "WAIT FOR DOOR TO CLOSE"
CM-331/43S-SGLR		<b>Single Gang SureWave Label</b>
5	60-81C010	Decal Print English Label "LOCKED WHEN RED/UNLOCKED WHEN GREEN"
6	60-81C010F	Decal Print French Label "PORTE BARRÉE/PORTE DÉBARRÉE"
7	60-81C010FE	Decal Print English & French Sign "WAIT FOR DOOR TO CLOSE"
8	60-81C011	Decal Print English Sign "OCCUPIED WHEN RED VACANT WHEN GREEN"
		<b>Single Gang SureWave Enclosure</b>
9	CM-34BL	Single Gang Black ABS Box, Surface Mount 2-7/8" W x 4-5/8"H x 1-3/4"D (73mm x 117mm x 44mm)
10	CM-34AL	Single Gang Aluminum Box, Surface mount 2-7/8"W x 4-5/8"H x 2"D (73mm x 117mm x 51mm)
11	CM-34D	Single Gang, Extra Deep heavy-duty grey polymer 2-3/4"W x 4-1/2"H x 3"D (70 mm x 114mm x 76mm)
CM-331/42SW-SGLR		<b>Double Gang SureWave Label</b>
12	60-81C012	Decal Print English Label "OCCUPIED WHEN RED/VACANT WHEN GREEN"
13	60-81C012F	Decal Print French Label "PORTE BARRÉE/PORTE DÉBARRÉE"
14	60-81C012FE	Decal Print English & French Label "OCCUPÉ QUAND ROUGE LIBRE QUAND VERT" & "OCCUPIED WHEN RED VACANT WHEN GREEN"

## RESTROOM SIGNAGE

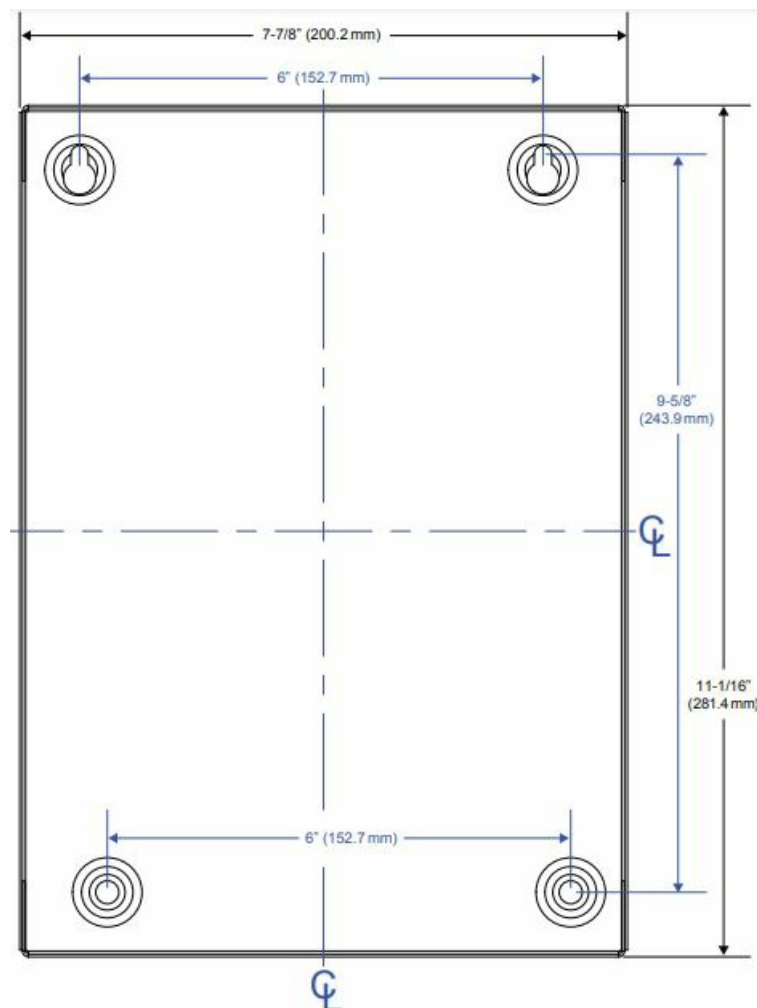


## CX-WC16FM-PS Wiring Diagram with CX-WEC10-K2 Integration




**DIMENSION**

**CABINET BASE**



## Documents / Resources

	<p><b><a href="#">CAMDEN CX-WC16PS Series Restroom Control Touchless Switch Kits</a></b> [pdf] Instruction Manual</p> <p>CX-WC16PS, CX-33, CM-331-42WS-SGLR, CM-325-42WS, CM-331-43S-SGLR, CX-WC16PS Series Restroom Control Touchless Switch Kits, CX-WC16PS, Series Restroom Control Touchless Switch Kits, Restroom Control Touchless Switch Kits, Touchless Switch Kits, Switch Kits, Kits</p>
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## References

- <sup>MH</sup> [Search - Manual-Hub.com](#)
-  [Camden Door Controls is the industry leading manufacturer of door activation and locking products.](#)
- <sup>MH</sup> [Search - Manual-Hub.com](#)