WC16PS Series Restroom Control
INSTALLATION INSTRUCTIONS

1. 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.

2. 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 (Relay3), 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 POT 2 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 panels 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.

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 :

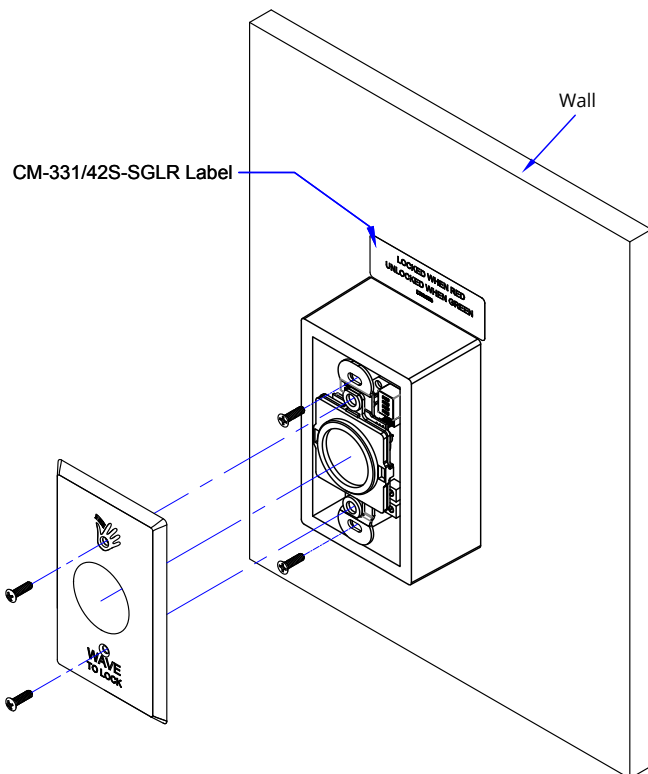## SINGLE GANG ELECTRICAL BOX MOUNT - CM-331/43S-SGLR

1. a) If using an in-wall box ensure the box is plumb and square, and flush with the wall surface. (See Diagram 1)

   b) If using a surface box, ensure it is secure & plumb.

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.
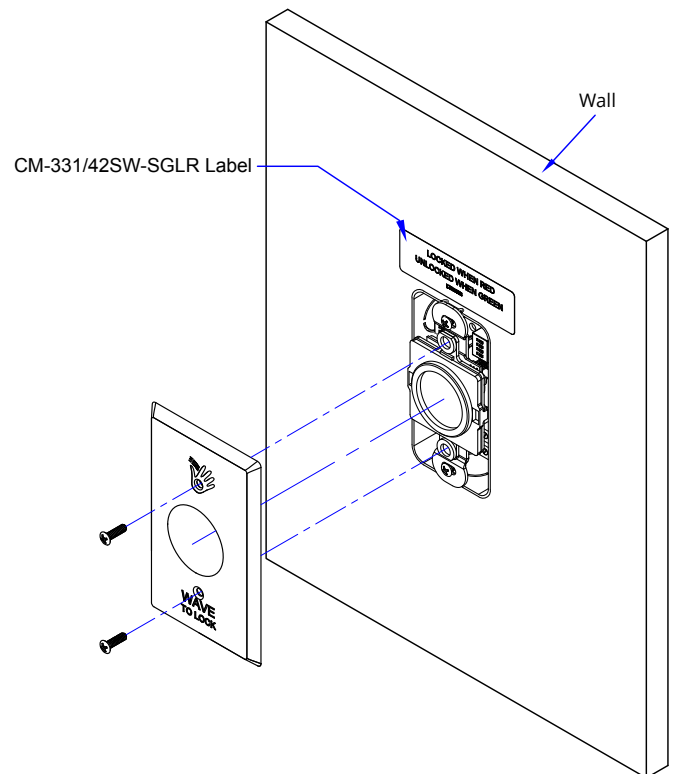
NOTE: Do not overtighten!

8. Apply the label as required.

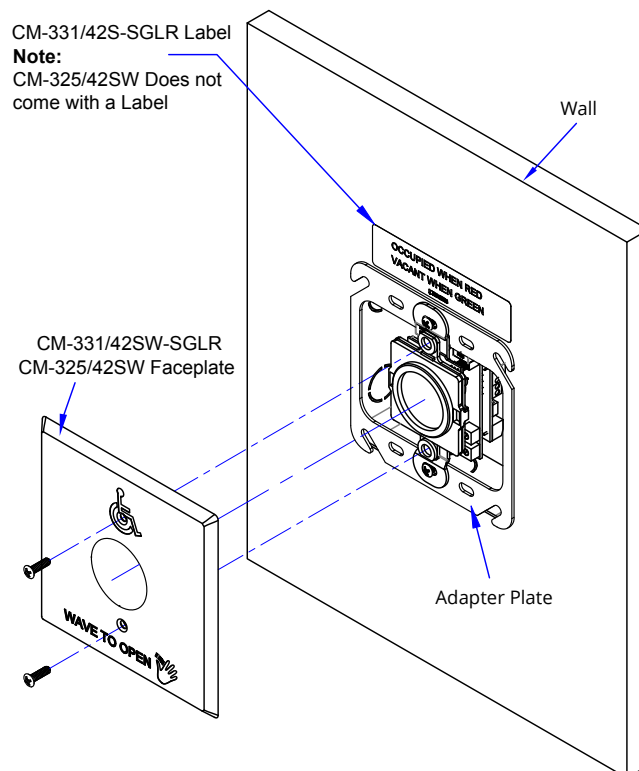**CM-331/43S-SGLR Surface Mount**

Wall

CM-331/42S-SGLR Label

CM-331/43S-SGLR Flush Mount

Wall

CM-331/42SW-SGLR Label

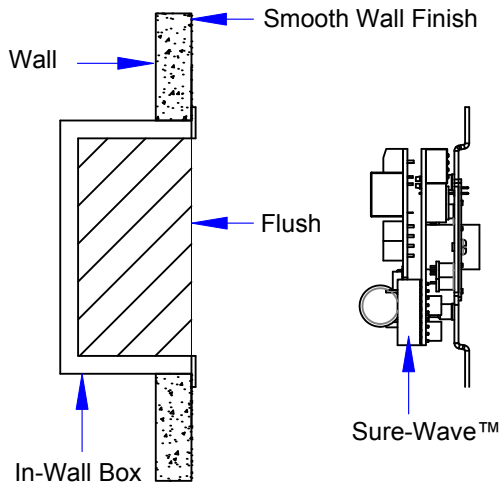## DOUBLE GANG ELECTRICAL BOX MOUNT - CM-331/42SW-SGLR - CM-325/42SW

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).
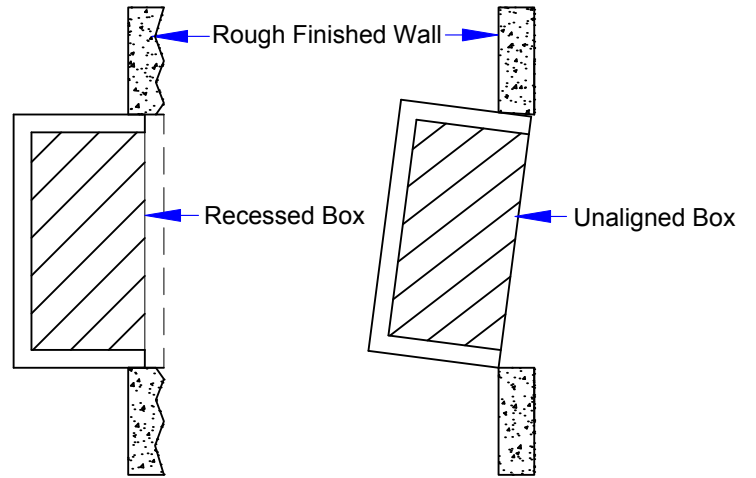
CM-331/42SW-SGLR & CM-325/42SW Flush Mount

CM-331/42S-SGLR Label
Note:
CM-325/42SW Does not come with a Label

Wall

CM-331/42SW-SGLR
CM-325/42SW Faceplate

OCCUPIED WHEN RED
VACANT WHEN GREEN

WAVE TO OPEN

Adapter Plate

IN-WALL MOUNTING

Proper Mounting

Wall

Smooth Wall Finish

Flush

In-Wall Box

Sure-Wave™

Improper Mounting

Rough Finished Wall

Recessed Box

Unaligned Box

SUREWAVE ASSEMBLY

Surface Mount Enclosure

CM-331/42SW-SGLR
CM-325/42SW Sealing Gasket

#6-32 x 3/4" (2 Pcs)

IR Lens

CM-331/43S Faceplate

#6-32 x 1/2"
(2 Pcs)

WAVE TO OPEN

WAVE
TO LOCK

Polypropylene
Lens Holder Set

CM-331/42SW-SGLR
CM-325/42SW Faceplate

CM-331/43S
Sealing Gasket
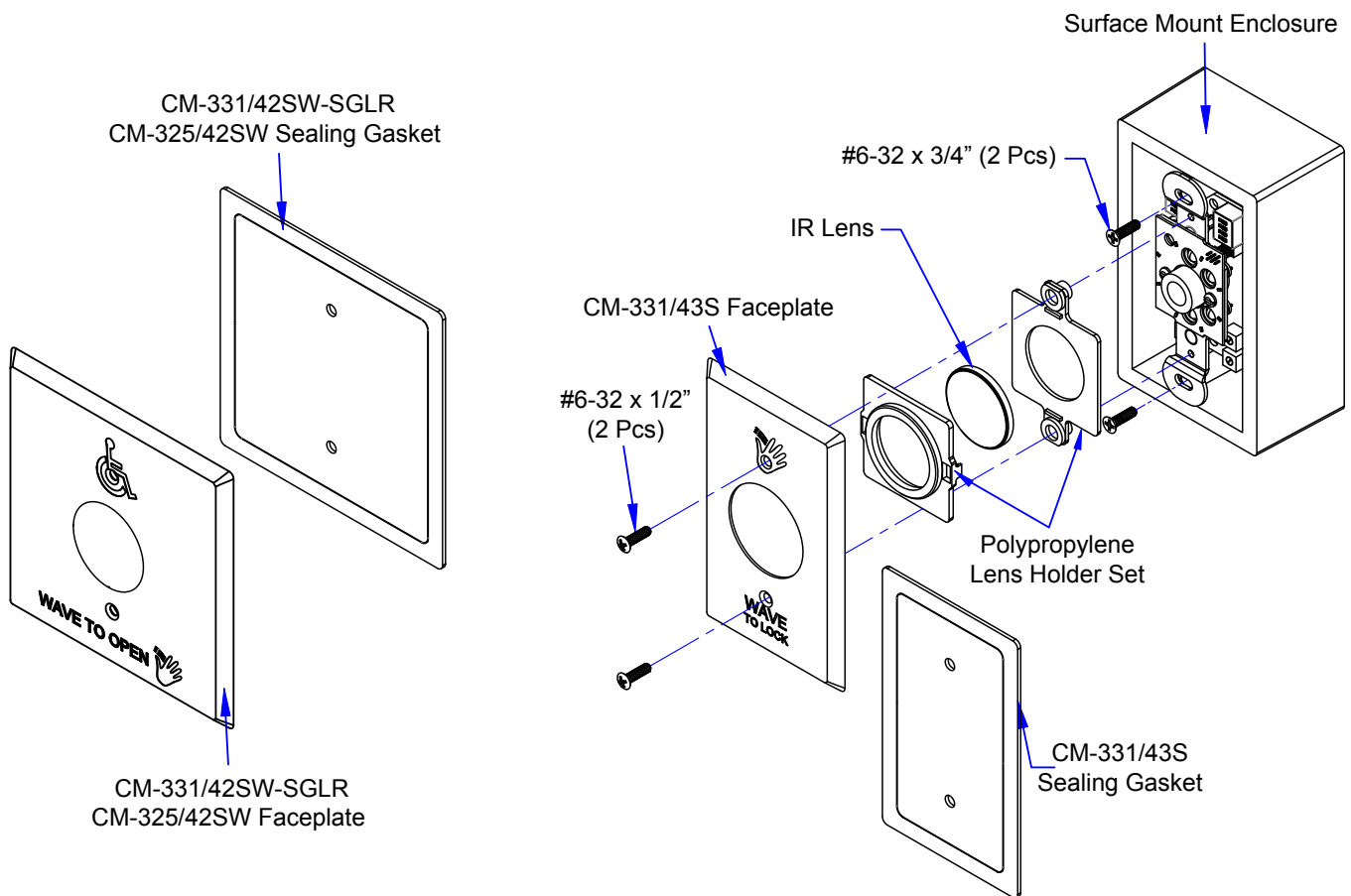
CX-ED2079 'UNIVERSAL' ELECTRIC STRIKE INSTALLATION

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 assure flush final assembly of faceplate into jamb. Add one of more spacers between jamb and mounting bracket when face plate extends beyond the jamb. When the faceplate sits inside the jamb, spacers must be added between the mounting bracket & the lip bracket. Make sure clearance hole in spacer aligns with hole in mounting bracket.

4. Connect wires coming from the low voltage side of the transformer to wires (black) from strike.

5. Install electric strike jamb by attaching with # 10-32 screws and lockwashers.

6. Secure M5x12 screws holding mounting brackets to jamb.

Vertical Centerline

ESP1B + ESP2B

ESP3B

ESP4B
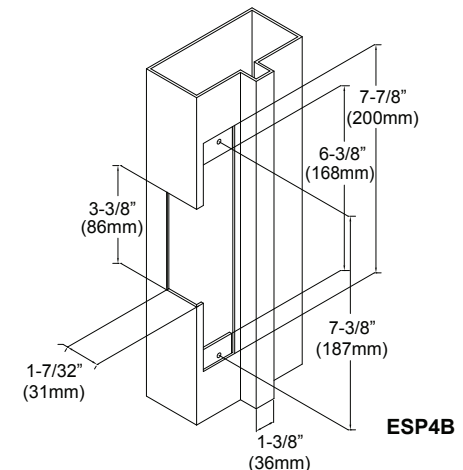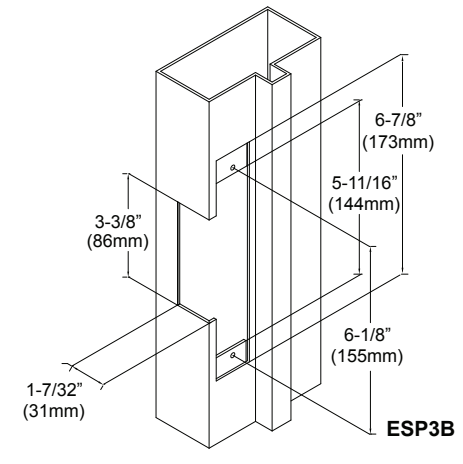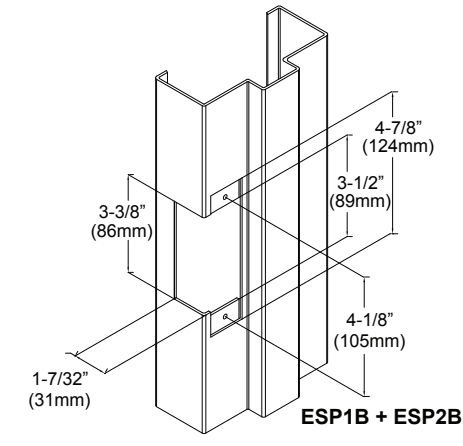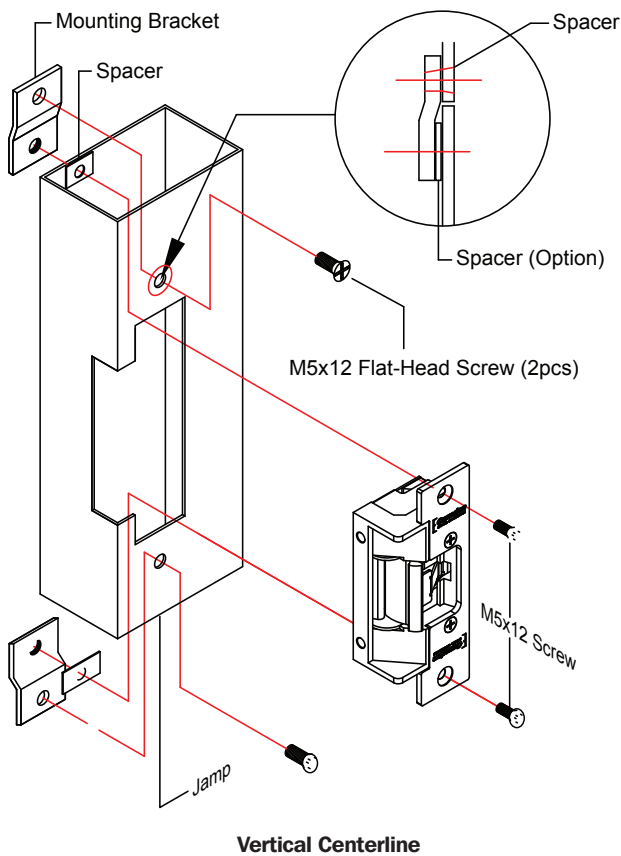
Note: The products are intended to be installed in accordance with the installation wiring diagram, mechanical assembly drawings provided with each product, the local authority having jurisdiction (AHJ) and the National Electric Code, NFPA 70. When installed in fail secure mode, the local authority shall 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.

Power

12V	
(+12V) ——— Varistor	Red / Black
(-)	Blue / Green

24V	
(+24V) ——— Varistor	Red
	Black / Blue
(-)	Green
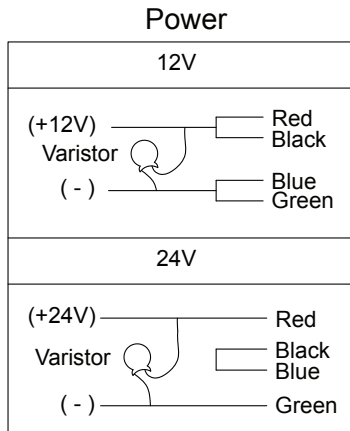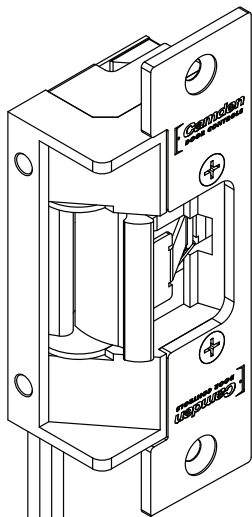
Black
Red
Blue
Green
} Power

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.

Fail Safe

Changing

Fail Secure

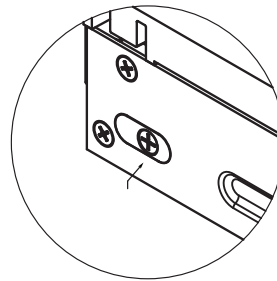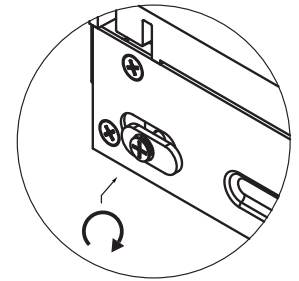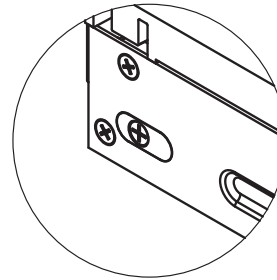## ORDERING INFORMATION FOR REPLACEMENT PARTS

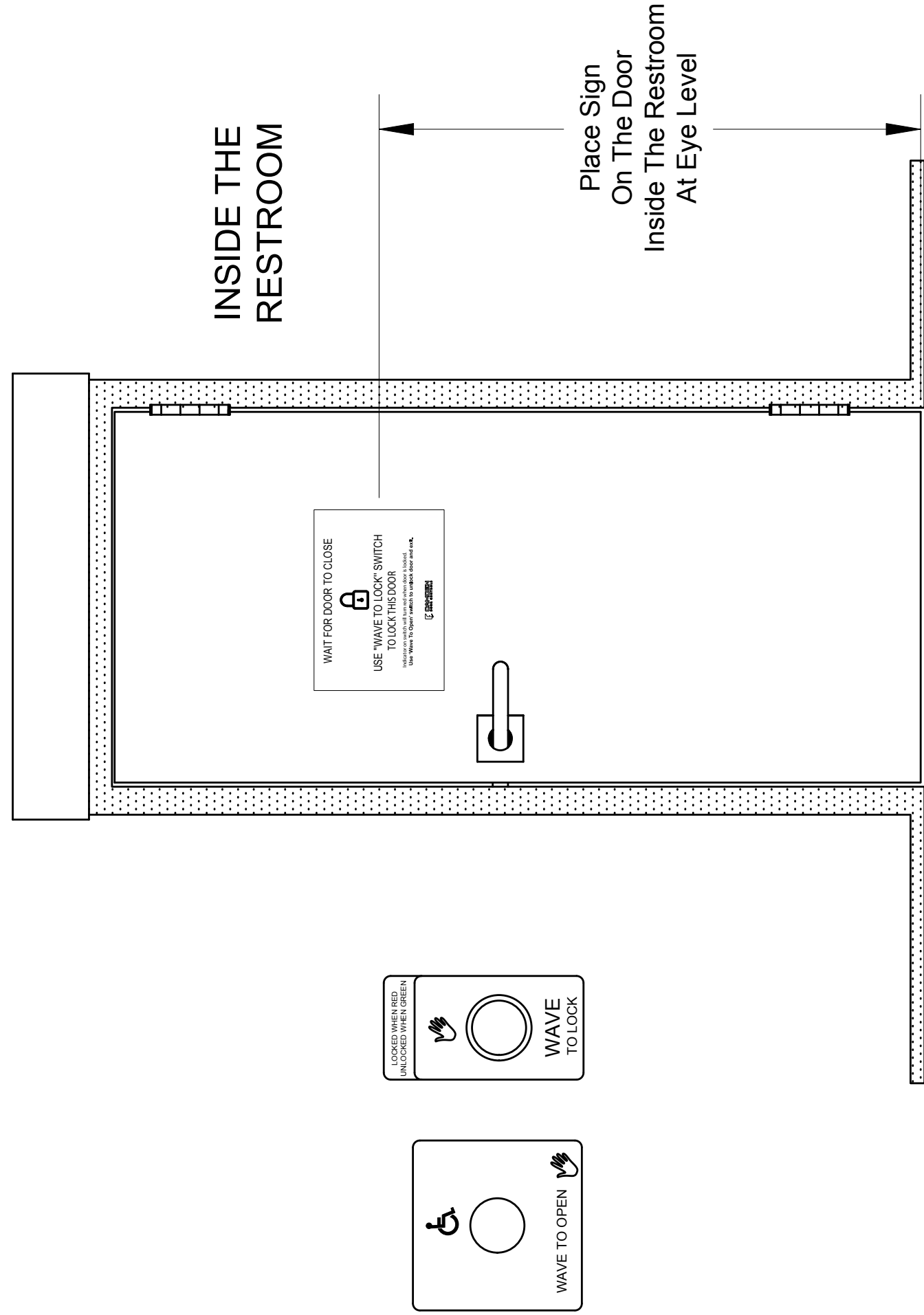| Item	Part Number	Description
1	60-31A008	Line Powered Surewave, 1 Relay for CM-331/43S-SGLR & CM-331/42SW-SGLR
	60-31A006	Touchless IR Sensor Short Range for CM-325/42SW
2	60-40E035	Advanced Logic Control Relay and 2 Amp Power Supply in pre-wired metal cabinet
3	CX-MDA	Magnetic Door Contact
4	60-81C024	English Self-Adhesive Vinyl Sign "WAIT FOR DOOR TO CLOSE"
CM-331/43S-SGLR		**Single Gang SureWave Label**
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"
		Single Gang SureWave Enclosure
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 (70mm x 114mm x 76mm)
CM-331/42SW-SGLR		**Double Gang SureWave Label**
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"

Notes :

1. _____
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26. _____

Questions? Call us toll-free at 1-877-226-3369 or technical support 905-366-3377 (ext. 505)

RESTROOM SIGNAGE

INSIDE THE RESTROOM

Place Sign
On The Door
Inside The Restroom
At Eye Level

WAIT FOR DOOR TO CLOSE

USE "WAVE TO LOCK" SWITCH
TO LOCK THIS DOOR

Indicator switch will turn red when door is locked.
Use 'Wave To Open' switch to unlock door and exit.

LOCKED WHEN RED
UNLOCKED WHEN GREEN

WAVE
TO LOCK

WAVE TO OPEN

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

120 VAC

**Transformer
CX-TRX-5024
24 VAC, 50 VA**

Electric Strike
CX-ED2079

MOV

Wire MOV
directly to
strike or
magnet

AC		*
AC		+ Strike
Outside		- Strike
Push To Open		*
Inside		Door
Push To Open		Operator
Push To		*
Lock		LED
DPS NC		Control
DPS COMM		*
+ WET		+ VDC
- INPUT		- VDC

Model: 60-40E035

TB1 12/24V Power **TB2** 5 6 Remote **TB3** N.O. Relay Output

GREEN BLUE RED RED

RELAY O/P POWER

TB1 12/24V Power **TB2** 5 6 Remote **TB3** N.O. Relay Output

WAVE TO OPEN

CM-331/42WS-SGLR
Outside
Wall Switch

WAVE TO OPEN

CM-325/42WS
Inside - Wall Switch
(always unlocks/opens door)

WAVE TO LOCK

CM-331/43S-SGLR
Inside - Wave to Lock

Door Position Switch

N.C.

Connect directly to DPS if no Emergency Call System is installed

IMPORTANT:
Ensure wiring polarity is consistent from Relay 3 to each Aura Remote Input terminals

CM-AF540SO

N/O N/C
3 1

4 2

GRY
GRY

BLK
BLK

CM-AF141SO

CX-WEC10-K2
Emergency Call System Wiring

Notes

1. CX-33 can be set to Mode 7 (Normally Unlocked) or Mode 8 (Normally Locked).
2. Mode 7 = Set Set Strike to Fail Safe.
3. Mode 8 = Set Strike to Fail Secure.

Surewave Dip Switch Settings

Enable (DIP 1)		Mode (DIP 2)		Color (DIP 3)	
1		1		1	IDL = GREEN
2	LED	2		2	ACT = RED
3	Audio	3		3	
4	Fail Safe EXT	4		4	

■ = Switch Position
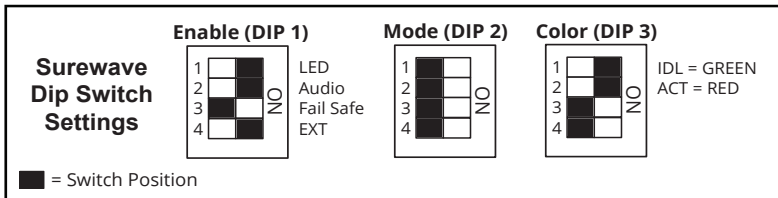
CAMDEN DOOR CONTROLS

5502 Timberlea Blvd
Mississauga, Ontario
L4W 2T7

SCALE: NONE	DRAWN BY: JML	DATE: Jan 20, 2020	REV: 1

CX-WC16FM-PS & CX-WEC10-K2 Wiring Diagram

DRAWING No:

FILENAME:

WC16PS SERIES RESTROOM CONTROL
INSTALLATION INSTRUCTIONS

CABINET BASE

11-1/16" (281.4 mm)

9-5/8" (243.9 mm)

℄

7-7/8" (200.2 mm)

6" (152.7 mm)

6" (152.7 mm)

℄

℄