**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 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 use 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 inside 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 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.

### Wiring the CX-WC16PS Series Restroom Control Kit 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 12/24VAC/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 Dry2 & 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-332/42WS)

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 Dry2 & 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 POT 2 for the desired activation time.

### 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.

### 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)

<table>
<thead>
<tr>
<th>Description (Mode you are in)</th>
<th>Parameters (1-15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relay 1 Hold Time</td>
<td>0.0 to 50 seconds</td>
</tr>
<tr>
<td>Relay 2 Delay Time</td>
<td>0.0 to 15 seconds</td>
</tr>
<tr>
<td>Relay 3 Hold Time</td>
<td>Depends on Mode</td>
</tr>
<tr>
<td>Relay 2 Hold Time</td>
<td>0.0 to 50 seconds</td>
</tr>
<tr>
<td>Relay 3 Delay Time</td>
<td>0.0 to 50 seconds</td>
</tr>
<tr>
<td>Sets the display ON or OFF during operating mode</td>
<td>ON or OFF</td>
</tr>
</tbody>
</table>

- **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. **b)** Bring your 4 or 6-conductor wire through the back or side of the enclosure and leave approximately 6" tail for wiring connection.
3. **b)** Make the electrical connections to the device according to the wiring section.
4. **b)** Using the dip switch located on the end of the unit, set the operating mode.
5. **b)** Attach the unit to the enclosure using the two #6-32 screws provided.
6. **b)** Apply power and adjust range and time delay via the potentiometers on the front of the unit.
7. **b)** 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. **b)** Apply the label as required.

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

**CM-331/43S-SGLR Flush Mount**
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).

IN-WALL MOUNTING

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

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 assure flush final assembly of faceplate into jamb. Add one or 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.

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

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

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

Fail Safe Changing

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.

How to modify fail-safe to fail-secure or vice versa.
# ORDERING INFORMATION FOR REPLACEMENT PARTS

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

Questions? Call us toll-free at 1-877-226-3369 or technical support 905-366-3377 (ext. 505)
Place Sign On The Door
Inside The Restroom
At Eye Level

INSIDE THE RESTROOM

Indicators on switch will turn red when door is locked.
Use "WAVE TO LOCK" switch to lock the door.
Wait for door to close.
CX-WC16FM-PS Wiring Diagram with CX-WEC10-K2 Integration

1. CX.33 can be set to Mode 7 (Normally Unlocked) or Mode 8 (Normally Locked).

2. Mode 7 = Set Strike to Fail Safe.

3. Mode 8 = Set Strike to Fail Secure.

Notes

1. Ensure wiring polarity is consistent from Relay 3 to each Aura Remote Input terminals

2. Connect directly to DPS if no Emergency Call System is installed

3. MOV wire MOV directly to strike or magnet

4. CM-AF540SO Model: 60-40E033

5. N.O. N/C

6. BLK

7. GRY

8. RED

9. BLUE

10. GREEN

11. + Strike

12. - Strike

13. Door

14. Operator

15. Inside

16. Push To Open

17. + WET

18. - INPUT

19. + VDC

20. - VDC

21. + Strike

22. - Strike

23. Door

24. Operator

25. Inside

26. Push To Open

27. + WET

28. - INPUT

29. + VDC

30. - VDC

31. Door

32. Operator

33. Inside

34. Push To Open

35. + WET

36. - INPUT

37. + VDC

38. - VDC

39. Door

40. Operator

41. Inside

42. Push To Open

43. + WET

44. - INPUT

45. + VDC

46. - VDC

47. Door

48. Operator

49. Inside

50. Push To Open

51. + WET

52. - INPUT

53. + VDC

54. - VDC

55. Door

56. Operator

57. Inside

58. Push To Open