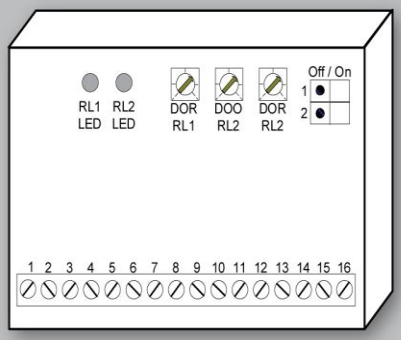
Camden DOOR CONTROLS

5502 Timberlea Boulevard, Mississauga, ON L4W2

Telephone: 877-226-3369
Fax: (905) 366-3378

www.camdencontrols.com



CX-22 Dual-Function Relay

Section 1
General Description

The CX-22 is a dual function relay. Specifically, it is a Washroom Door Controller, and a Bi-Directional Door Sequencer. It is designed to be versatile yet user friendly with easy to understand terminology and adjustments.

The inputs to the CX-22 may be either dry or wet, (or both), meaning that 3-terminal radio receivers may be connected directly to the CX-22 without fear of malfunction.

The relays have adjustable delay-on-release times of 1 to 30 seconds. The delay between the two relays is also adjustable from 1 to 30 seconds.

Washroom Door Controller

In this mode, complete control of a single occupant barrier-free washroom is obtained. It allows the user to lock and secure the door from the inside by depressing a *Push-to-Lock* button. The exterior wall switch is removed electronically from the circuit.

To exit the washroom, simply exit manually via the lever-handle set (the Door Contact Switch resets the relay), or, press the interior wall switch to unlock and activate the door operator. The door remains unlocked upon closure.

Another feature is the ability to use the CX-22 on "Normally Secure" washrooms. In this mode, the door is usually locked. To gain access, the user must first swipe a card, or enter a code into the Access System (ie - Keypad), which then signals the CX-22 to unlock and open the door. Once inside, the occupant presses the *Push-to-Lock* button, which removes the exterior wall switch from the circuit.

Exiting may be accomplished manually via the lever-handle set (the Door Contact Switch resets the relay), or, by pressing the interior switch to unlock and activate the door operator. The door will re-lock upon closure.

NOTE: We ***highly*** recommend the use of a regulated power supply when powering strikes for barrier-free washroom applications where the strike power may be maintained from a few minutes to many hours. We offer a low-cost board-only regulated power supply - CX-PS13 V2, which can be powered from a small 24VAC transformer, (or the auxiliary power on the door control) and will supply clean, filtered & regulated 24VDC power for the strike.

Bi-Directional Door Sequencer

In this mode, the relay will sequence two Automatic doors, in both directions.

Upon a switch closure from one side, a signal is sent to the first door (relay 1), then after an adjustable delay, the second door (relay 2) receives a signal.

When a switch closure is made from the opposite side, the sequence is reversed – Relay 2 is activated, then after the adjustable delay, relay 1 activates.

When used as a door sequencer the user can select either momentary position for the inputs, or maintained position. In the momentary position, even a stuck switch input will allow the door to time out and close, thereby providing security to the occupants. The CX-22 will however, still operated normally if one of the other inputs is activated. Essentially, it ignores the faulty activation source, as all the inputs are isolated. In the maintained position, a switch that is held on will cause its respective relay (operator) to be held on. So switch #1 would hold in relay #1, and switch #2 would hold in relay #2.

If an emergency (or anti-entrapment) switch is desired in the vestibule, then wire that switch directly to one of the operator inputs. Usually the exterior door is used in this case.

Section 2
Installation

Mounting

The LED's are visible through the wrap-around sleeve, which also has cutouts for adjusting the potentiometers, and setting the dipswitch. Once the unit has been adjusted, it may be tucked up into the operator header or affixed using the supplied Velcro.

Wiring

Wiring of this unit is dependant on the mode desired, however the following commonalities apply.

Note: *Do not* wire *Safety devices* to the CX-22. If installed, wire your safety device directly to the operator control box as per usual.

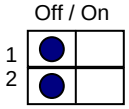
CAUTION: Do not apply power to the unit until all secondary wiring is complete, and dip-switches have been set.

The unit will operate on 12 or 24 volts, AC or DC. Connect to Terminals 1 & 2 (they are non-polarity sensitive).

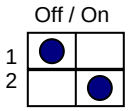
APPLICATIONS & SET-UP INSTRUCTIONS:

Bi-Directional Door Sequencer*:*

For Momentary output
set dipswitches as shown >



For Maintained output
set dipswitches as shown >



Refer also to Diagram #1.

Connect the Interior wall switch to **DRY1** (Terminals 11 & 12). A Wet (powered) output connects to **WET 1** (Terminals 9 & 10).

Connect the Exterior wall switch to **DRY 2** (Terminals 15 & 16). A Wet (powered) output connects to **WET 2** (Terminals 13 & 14).

The Interior operator is connected to **Relay 1** output (Terminals 3 & 4). The Exterior operator is connected to **Relay 2** output (Terminals 6 &7).

The unit will operate on 12 or 24 volts, AC or DC. Connect to Terminals 1 & 2, (they are non-polarity sensitive).

Set up

Turn on power and activate the Interior input (switch). Observe **LED1**, which should light immediately. The length of hold time is determined by adjusting the pot marked DOR/RL1, clockwise for more time, counterclockwise for less time.

The delay between the two doors is adjusted via the DOO RL2 potentiometer.

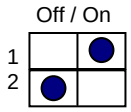
After the above-mentioned delay, **LED2** should light. The length of hold time is adjusted by the pot marked DOR/RL2.

The ideal time delay between the two doors is best set by actual walk-testing. It should be set so that a person can walk in either direction without having to pause before the second door activates. Test in both directions.

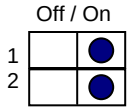
Finally perform a "Stuck Switch" test. If set up in momentary mode, then the doors will time out and close regardless of how long you hold the input. If set to Maintained Mode, then whichever input is held the corresponding output will hold on. When the input (switch is released) then that output will release.

Washroom Door Controller*:*

For Normally Unlocked Door
set dipswitches as shown >



For Normally Locked Door
set dipswitches as shown >



Refer to Diagram #2 for normally unlocked doors, or
Refer to Diagram #3 for normally locked doors.

Connect the inputs from the various switches according to the appropriate diagram.

Please note that the Magnetic contact switch should be a Normally Closed switch (contacts closed when door is closed (at rest), and contacts open when the door opens).

The "Push to Lock" switch should be a normally-open momentary switch.

The door lock is connected to **Relay 1** (Terminals 3 & 4, or 4 & 5). Both fail safe, and fail secure locks may be used with the CX-22 controller.

The Automatic Door Operator is typically connected to **Relay 2** (N.O. Terminals 6 & 7).

The unit will operate on 12 or 24 volts, AC or DC. Connect to Terminals 1 & 2, (they are non-polarity sensitive).

Set up

Apply power to the CX-22 and observe the LED's. Pot **DOR/RL1** adjusts the Lock release time (up to 30 seconds). The Pot marked **DOO/RL2** adjusts the delay before the Door operator relay fires, and the Operator hold time is adjusted with Pot **DOR/RL2**.

Normally Unlocked Mode:

Press the exterior wall switch. If the washroom is unoccupied the door will open automatically. After entering the washroom, wait for the door to close, then push the "Lock" button. The CX-22 will energize the lock, and remove the outside wall switch from the circuit.

To exit the washroom, two options are available:

1. To have the door unlock and open automatically, push the interior wall switch. This also resets the relay for the next person to use.
2. Manual use. The door may also be used manually. To exit the washroom, turn the lever handle and pull (push) the door open. The magnet switch resets the relay for the next person to use.

If a CM-9600 switch is used with this system, you can connect the LED's using a CM-9600C harness. Wire as per Diagram #4.

If using an **"OCCUPIED WHEN LIT**" sign, such as our CM-30-OWL, wire as per Diagram #5.

Normally Locked Mode:

In this situation the door is always locked from the exterior.

Enter code or swipe card. The door unlocks and after the adjustable delay, opens the door. After entering the washroom, wait for the door to close, then push the "Lock" button. You will hear a brief double click of the strike indicating the door is now locked, and the outside access control device is removed from the circuit.

To exit the washroom, two options are available:

3. To have the door unlock and open automatically, push the interior wall switch. This also resets the relay for the next person to use.
4. Manual use. The door may also be used manually. To exit the washroom, turn the lever handle and pull (push) the door open. The magnet switch resets the relay for the next person to use.

Once the desired operation is achieved, proceed to Section 4, for **System Inspection Instructions**.

Section 4
System Inspection Instructions

After the Installation and operational check of the system:

1. Place warning label on the door (as per ANSI A156.10 or A156.19 guidelines). This will advise the person entering the swing side zone that the door will move.
2. Instruct the owner on door system operation and how to test it. This should be checked on a daily basis.
3. Instruct the owner on what to do if the door or any of its components become damaged.
4. Strongly recommend to the owner that the complete entry be inspected twice a year as part of the service agreement.

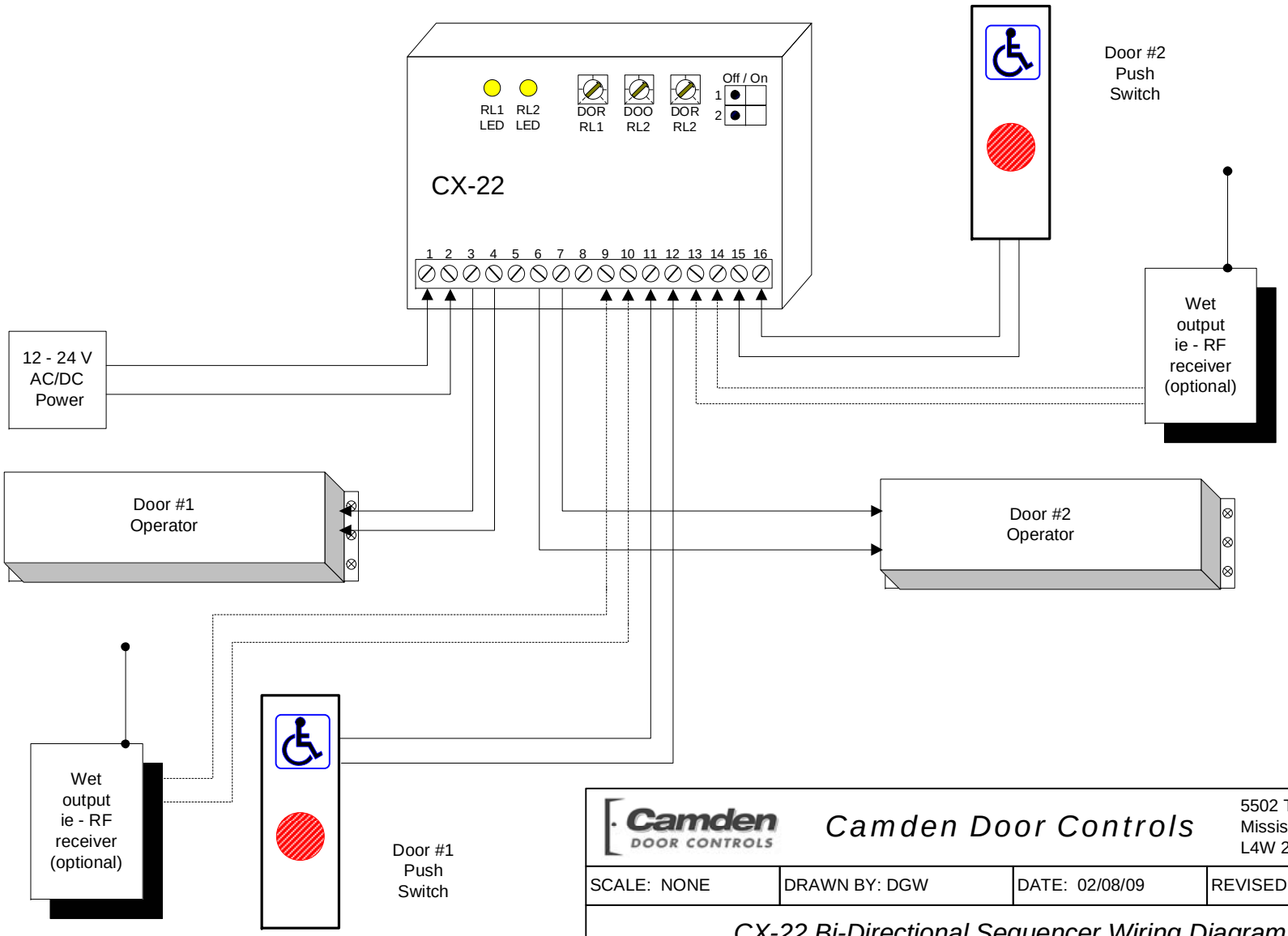
Section 5
Technical Data

Model	CX-22
Size	3 ¼" x 2 ¼" x ¾"
Mounting	Velcro or double-sided tape
Enclosure	Protective paper sleeve.
Operating voltage	12 / 24 Volts, AC / DC
Current Draw	18 mA standby, 40 mA max.
Response time	0.3 seconds
Inputs	2 x "dry" contacts, 2 x "wet" contacts: (3-30 V AC/DC, Optically isolated, non-polarity sensitive).
Relay Output	2 x Form C (SPDT)
Relay contact rating	3 amps @ 24 VDC/120 VAC
Time Delays	3 @ 1 to 30 seconds each
Electrical Life	100,000 operations @ rated capacity 500,000 operations @ ½ rated capacity

Section 6
Warranty

Camden Door Controls guarantees the CX-22 to be free from manufacturing defects for 3 years from date of sale. If during the first 3 years the CX-22 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.

Questions?
Call us toll-free at 1-877-226-3369



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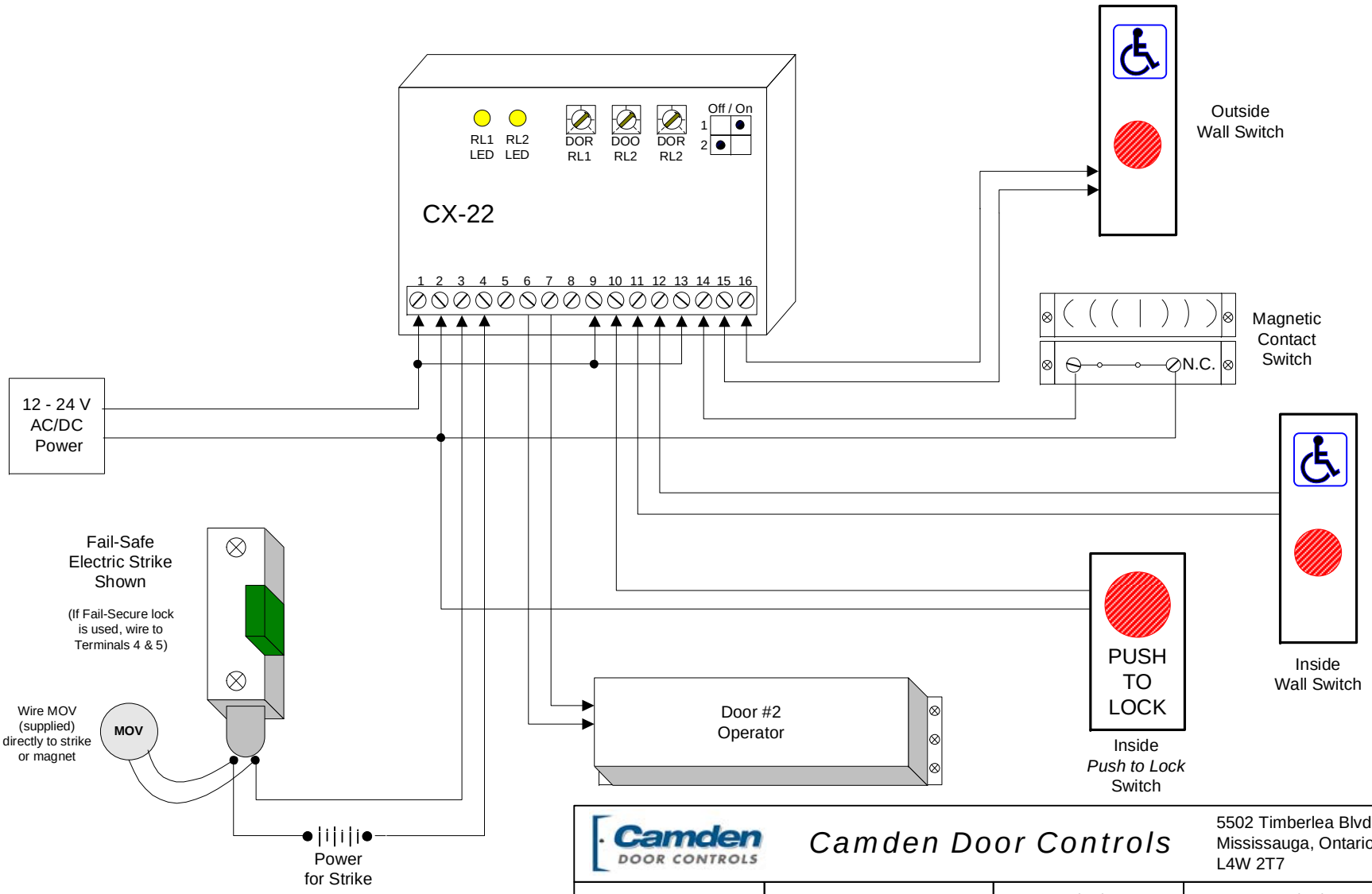
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5502 Timberlea Blvd
Mississauga, Ontario
L4W 2T7

SCALE: NONE	DRAWN BY: DGW	DATE: 02/08/09	REVISED:

CX-22 Bi-Directional Sequencer Wiring Diagram

DRAWING No: DRG-CX-22-01	FILENAME: CX_22 Diagram 1.vsd



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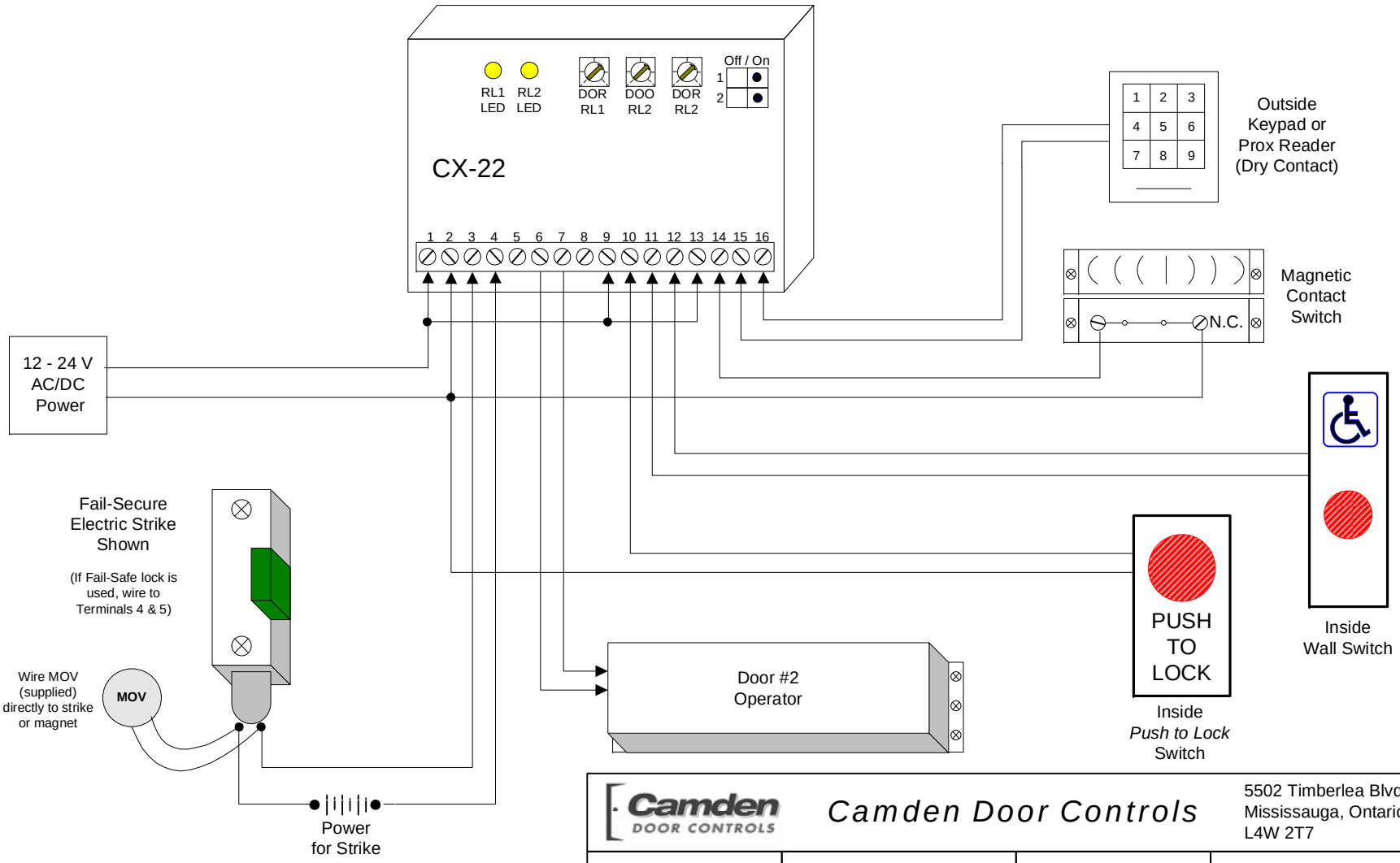
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L4W 2T7

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CX-22 Normally Unlocked *Washroom Door Wiring Diagram*

DRAWING No: DRG-CX-22-02

FILENAME: CX_22 Diagram 2.vsd



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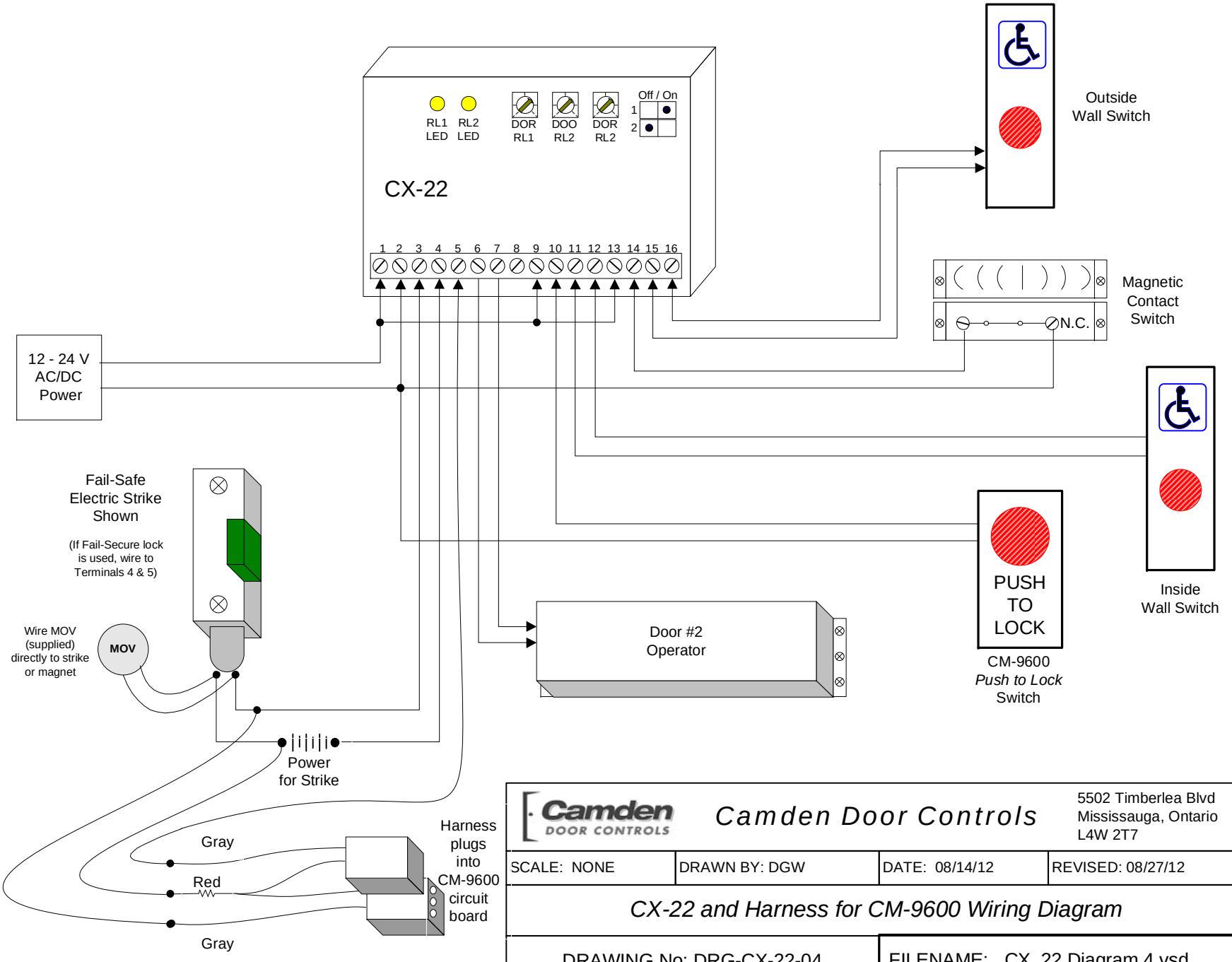
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SCALE: NONE	DRAWN BY: DGW	DATE: 02/08/09	REVISED: 08/27/12

CX-22 Normally Locked *Washroom Door Wiring Diagram*

DRAWING No: DRG-CX-22-03

FILENAME: CX_22 Diagram 3.vsd



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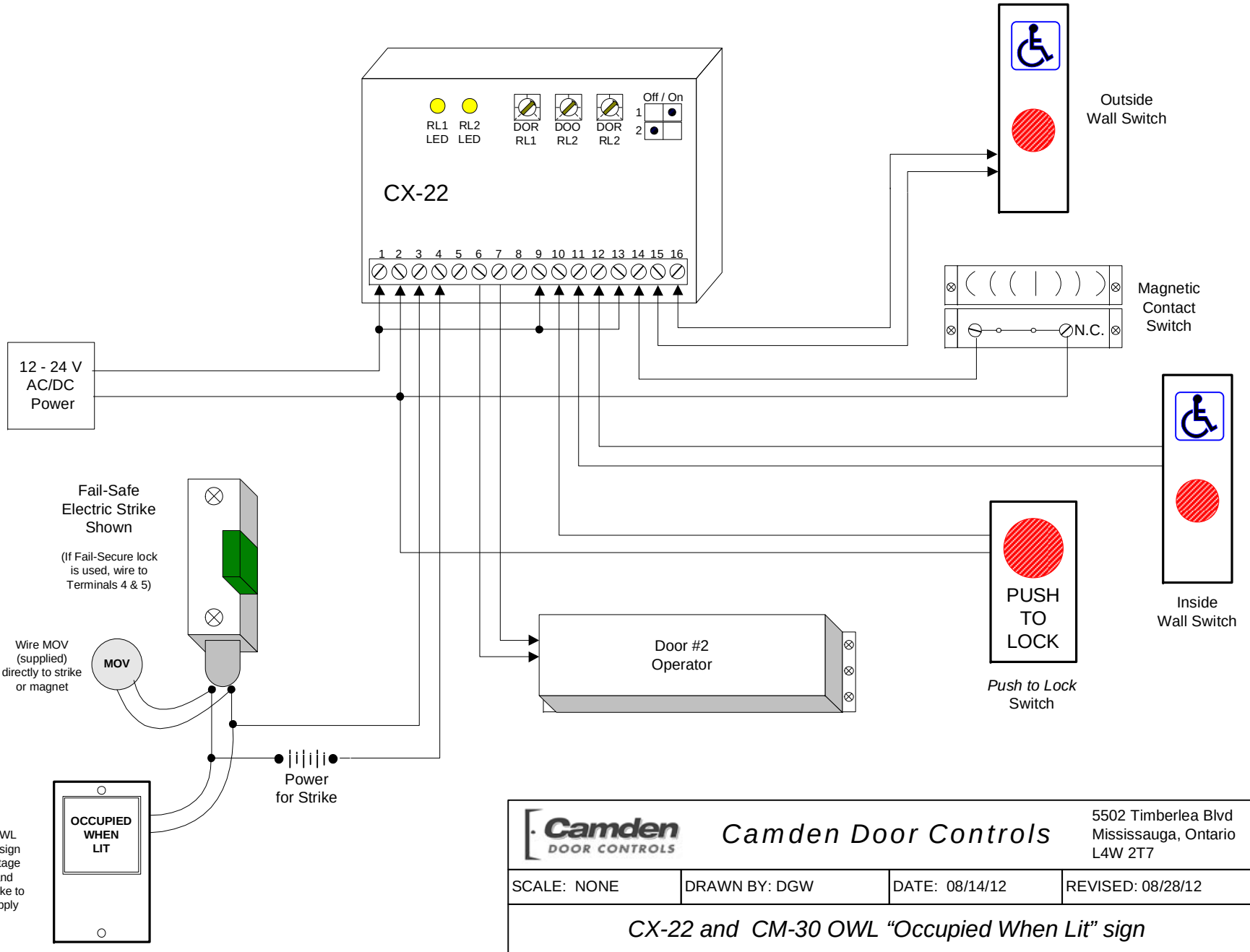
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CX-22 and Harness for CM-9600 Wiring Diagram

DRAWING No: DRG-CX-22-04

FILENAME: CX_22 Diagram 4.vsd



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SCALE: NONE	DRAWN BY: DGW	DATE: 08/14/12	REVISED: 08/28/12

CX-22 and CM-30 OWL "Occupied When Lit" sign

DRAWING No: DRG-CX-22-05

FILENAME: CX_22 Diagram 5.vsd