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CX-29

Besam Switching Network & Bi-Directional Door Sequencer Installation Instructions

MADE IN CANADA

PAGE 1 OF 8

Section 1

General Description

The CX-29 is a special version of our CX-12 designed to work on doors with Besam Swingmaster operators and equipped with Magnetic locks.

When set in mode 2 or 3, the relay will unlock the door(s), then activate the Besam operator(s). The locks will stay deactivated until the door position switch tells the CX-29 that the doors have closed. Then after a delay, the doors are relocked. An optional connection to a fire alarm panel will unlock the doors and disable the operators when a signal is received. The signal can be Normally Open, or Normally Closed. **SEE DIAGRAM 02.**

There are **4 Modes of operation:**

1. Standard make/break relay mode
2. Besam Swingmaster with N.O. Fire alarm input
3. Besam Swingmaster with N.C. Fire alarm input
4. Bi-directional door sequencing.

In the standard **make/break relay** mode, even a stuck switch input will allow the door to time out and close, thereby providing security to occupants. The CX-29 will however, still operate normally if one of the other inputs is activated. Essentially, it ignores the faulty activation source, as all inputs are isolated.

The inputs to the CX-29 may be either dry or wet (powered), meaning that 3-terminal radio receivers may be connected directly to the CX-29 without fear of malfunction. **SEE DIAGRAM 01.**

Additionally, we provide a direct connection from an apartment interphone panel. Only Relay #1 (strike) will operate when a voltage is applied to this input. A vestibule courtesy switch will be energized for the time set by Pot. 1. **SEE DIAGRAM 03 a or b.**

Select **Bi-directional Sequencer** mode when you wish to sequence two doors in both directions using just one relay. The CX-29 allows for either wet or dry inputs for both directions. **SEE DIAGRAM 04.**

IMPORTANT: Do not apply power to the unit until you have read the instructions fully and made the required adjustments.

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 dip-switch. 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-29. 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.

Both relay outputs are Form C and are rated at 3 amps maximum. Use relay # 1 for the strike or electromagnet. Generally the **N.O. & COM.** terminals (3 & 4) are used for a strike, and **COM & N.C.** (4 & 5) are used with an electromagnet.

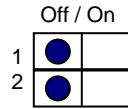
The door operator will be wired to relay #2 **N.O. & COM** terminals (6 & 7). In a door sequencing application, door 1 is relay #1, and door 2 is relay #2.

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

APPLICATIONS & SET-UP INSTRUCTIONS:

STANDARD TIMER MODE (Make/Break Relay)

Set dipswitches as shown >



Refer also to Diagram 01.

Connect a dry contact such as a wall switch to **DRY1** (Terminals 11 & 12). A Wet (powered) output connects to **WET 2** (Terminals 13 & 14).

Upon a switch activation the strike relay will fire for the time set by potentiometer 1 (**DOR RL1**). After a delay adjustable by potentiometer 2 (**DOO RL2**) the operator relay will fire. The hold time for relay #2 is set with potentiometer 2 (**DOR RL2**).

Most modern door operators have built-in time delays, and if so, it is usually desirable to use them to add sufficient hold-open time. In this case adjust the CX-29 to send just a momentary pulse (1 or 2 seconds only).

Observe the door and adjust timers until desired operation is observed.

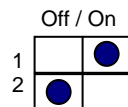
The above dipswitch setting is also used for applications such as apartment entries with an interphone panel. Refer to Diagrams 03a & 03b.

In each case the interphone input (**WET 1**) will activate the strike relay only. If a courtesy switch is located in the vestibule, it is connected to **DRY 2** (Terminals 15 & 16). This input is only active when the strike relay is energized.

Another application using this mode is door sequencing in one direction only. Connect Door 1 operator to relay 1, and door 2 operator to relay 2. The delay between the two doors is adjusted via the **DOO RL2** potentiometer. For bi-directional sequencing refer to specific set-up instructions at right.

BESAM MODE – with N/O Fire Alarm Input

Set dipswitches as shown >



Refer also to Diagram 02.

Connect the Activating wall switch(es) to **DRY 1** (Terminals 11 & 12). This input will unlock and open the door. The door unlock time is adjusted by **DOR RL1** (note that this timer does not start until the door closes).

The delay between the lock relay and the operator relay is adjusted by **DOO RL2**, and the hold open time

for the operator is adjusted by pot **DOR RL2**.

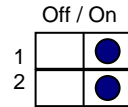
Connect the door position switch to **DRY 2** (Terminals 15 & 16). The switch can be a magnetic contact switch on the header, or the HNO terminals on the CU2 control. Regardless, the contacts need to be normally open when the door is closed.

The door position switch tells the CX-29 when the door is open and will not let the locks engage until **AFTER** the door has closed.

The **WET 2** (Terminals 13 & 14) are for a connection to the Fire Alarm Panel. In this mode we are looking for a N/O connection. When this contact closes, Relay 1 turns on immediately, unlocking the door. The wall switches are ignored. When the Fire Alarm signal drops out, Relay 1 releases after the time set by Pot #1, and the door re-locks (but not before the door closes).

BESAM MODE – with N/C Fire Alarm Input

Set dipswitches as shown >

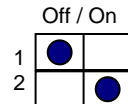


Refer to Diagram 02.

Similar to previous mode with the following exception: the CX-29 is looking for a N/C Fire alarm signal. Connect the Wet (powered) output of the Fire panel to **WET 2** (Terminals 13 & 14). When the fire alarm input opens, Relay 1 will turn on immediately, unlocking the door.

Bi-Directional Sequencing MODE

Set dipswitches as shown >



Refer to Diagram 04.

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.

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.

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-29
Size	3 1/4" x 2 1/4" x 3/4"
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 @ 20 VDC
Time Delays	DOR #1 1 to 30 seconds DOO # 2 1 to 30 seconds DOR #2 1 – 30 seconds
Electrical Life	1,000,000 operations @ 1/2 rated capacity

Section 6

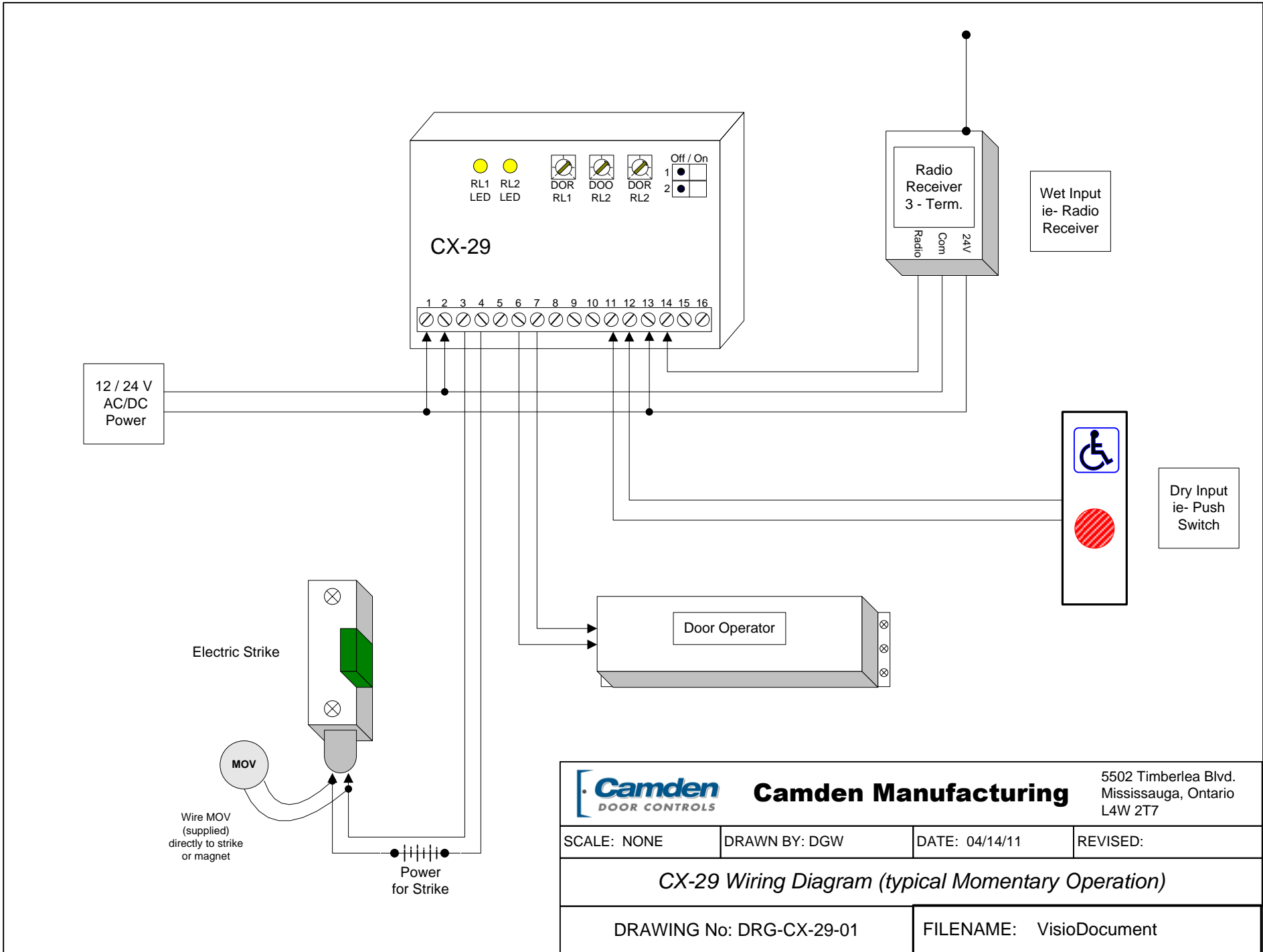
Warranty

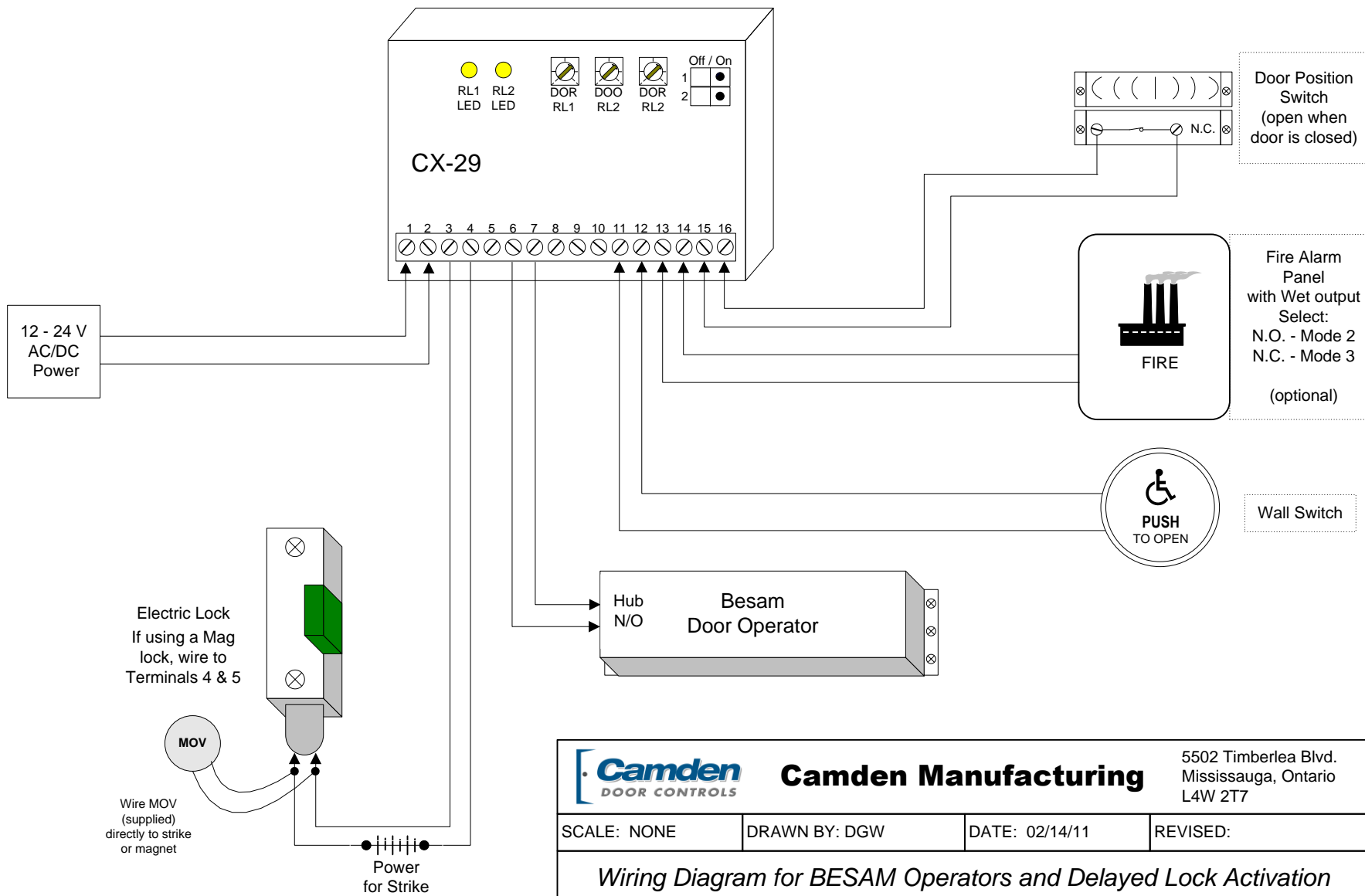
Camden Door Controls guarantees the CX-29 to be free from manufacturing defects for 3 years from date of sale. If during the first 3 years the CX-29 fails to perform correctly, it may be returned to our factory where it will be repaired or replaced (at our discretion) without charge. Except as stated herein, Camden extends no warranties expressed or implied regarding function, performance or service.

Questions?

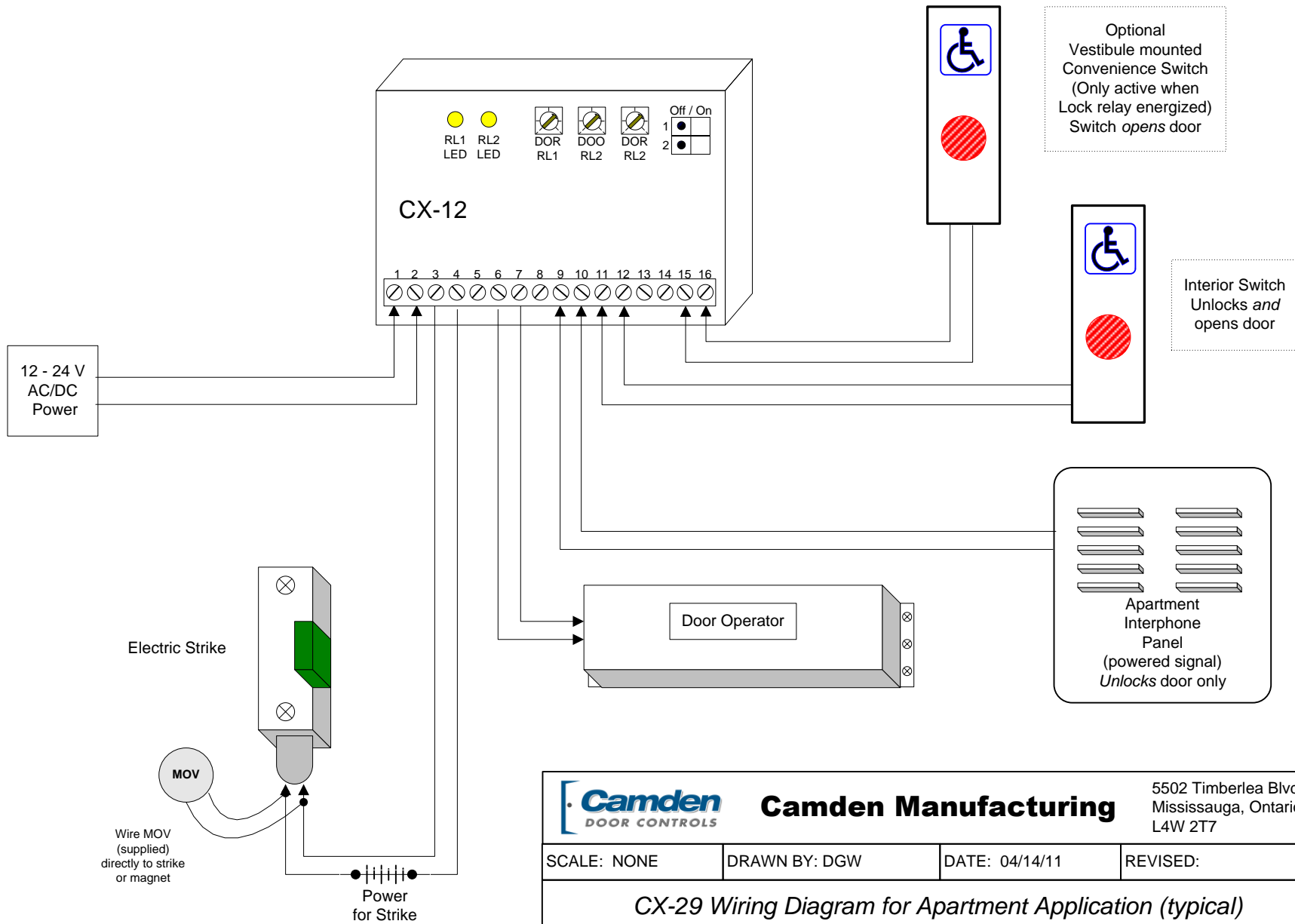
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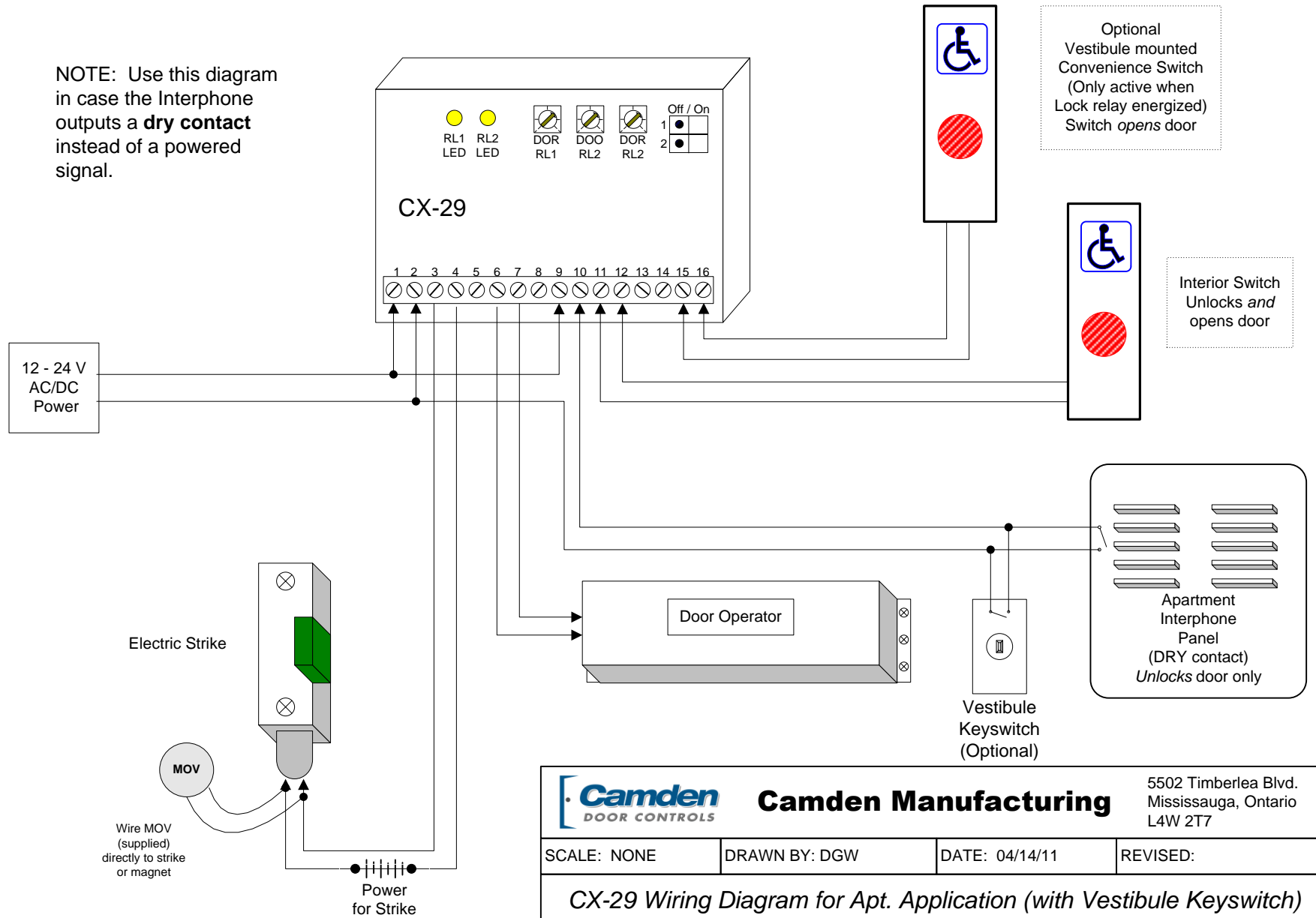


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SCALE: NONE	DRAWN BY: DGW	DATE: 02/14/11	REVISED:		
Wiring Diagram for BESAM Operators and Delayed Lock Activation					
DRAWING No: DRG-CX29-02			FILENAME: VisioDocument		

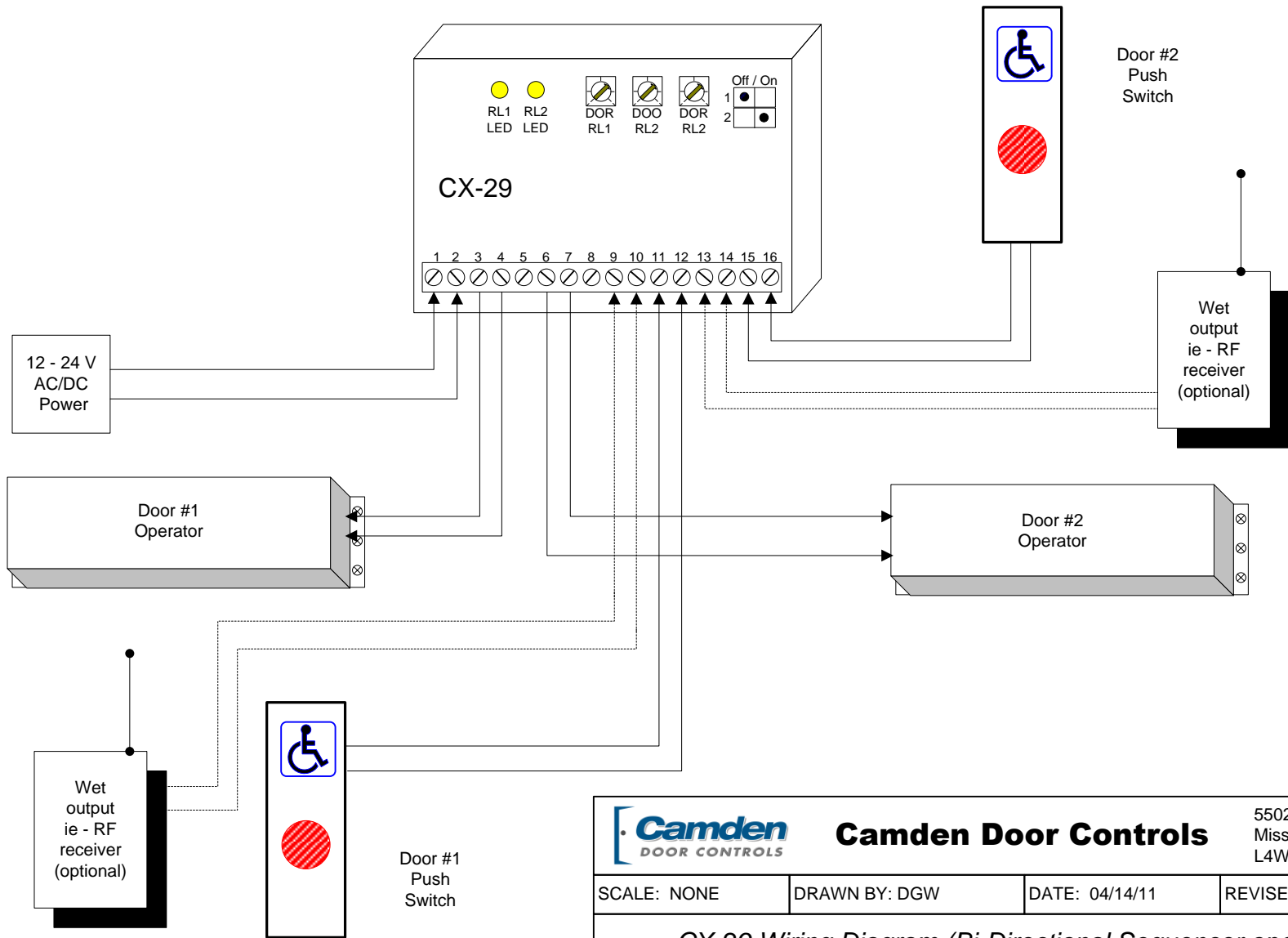


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SCALE: NONE	DRAWN BY: DGW	DATE: 04/14/11	REVISED:		
CX-29 Wiring Diagram for Apartment Application (typical)					
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NOTE: Use this diagram in case the Interphone outputs a **dry contact** instead of a powered signal.



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<i>CX-29 Wiring Diagram for Apt. Application (with Vestibule Keyswitch)</i>					
DRAWING No: DRG-CX29-03b			FILENAME: VisioDocument		



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SCALE: NONE	DRAWN BY: DGW	DATE: 04/14/11	REVISED:		
<i>CX-29 Wiring Diagram (Bi-Directional Sequencer operation)</i>					
DRAWING No: DRG-CX-29-04			FILENAME: VisioDocument		