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CX-21 Bi-Directional Door Sequencer

Installation Instructions

MADE IN CANADA

PAGE 1 OF 3

Section 1 General Description

The CX-21 is a compact micro-processor controlled relay designed to sequence two automatic doors. It is designed to be versatile yet **user friendly** with easy to understand terminology and adjustments!

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.

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

The inputs to the CX-21 may be either dry or wet (or both), meaning that 3-terminal radio receivers may be connected directly to the CX-11 without fear of malfunction. The delay between the two doors is adjustable from 0.5 to 30 seconds, and the delay – on-release times for the operators are also adjustable for 0.5 to 30 seconds.

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.

It is recommended to leave the input selector jumper in the momentary position. In this position, even a stuck switch input will allow the doors to time out and close, thereby providing security to occupants. The CX-21 will however, **still operate normally if any other input is activated!** Essentially, it ignores the faulty activation source. (All inputs are isolated & independent)

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 jumper. Once the unit has been programmed, the relay may be tucked up in the header or affixed using the double-sided tape.

Wiring

CAUTION: Do not apply 120V AC primary power to the transformer until all secondary wiring is complete. For 24V operation use terminals #1 & 2. For 12V operation use terminals #2 & 3.

NOTE: We will call the Interior door **Door #1** and connect it to relay 1. The Exterior door is **Door #2**, and is connected to relay 2.

Connect the *Interior* wall switch, to the **DRY INPUT & DRY COM** terminals (#13 & 12 respectively). Connect a wet output, as found on a 3-Terminal Radio Receiver, to the INPUT terminals marked **WET INPUT & WET COM** (#14 & 11). (You may connect both types of inputs simultaneously.)

Connect the *Exterior* wall switch to the terminals marked **DRY REVERSE SEQUENCE & DRY COM** (#15 & 12). Connect a wet output to the INPUT terminals marked **WET REVERSE SEQUENCE & WET COM** (#16 & 11).

Both relay outputs are Form C and are rated at 4 amps maximum. Use Relay #1 for the Door 1 operator. Typically, the **NO & COM** terminals (#4 & 5) are used. The Exterior door, (operator # 2) will be wired to Relay #2, **N.O. & COM** terminals (#7 & 8).

Section 3

Set Up Instructions

As you make the following adjustments, refer to the diagram on Page 3 for locations of the LED's, jumper, and potentiometers.

Turn on power, and activate the interior activating device. 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 sequence delay (or *delay-on-activate*) for the second door operator is observed with **LED2**, and adjusted with potentiometer **DOO/RL2**. While observing **LED2** adjust the *delay-on-release* time with **DOR/RL2**. The ideal time delay between the two doors is set by actual walk-testing. It should be set so a person can walk in either direction without having to pause before the second door activates. Test in both directions.

Note that since most door operators have adjustable time delays it is preferable to add time via the operator time delay and *NOT* the CX-21. In this case set bot **DOR** timers to just send a 1 or 2 second pulse to the door operator.

For sequential operation, it is required to set the jumper to the momentary (**MOM**) position. This way a stuck input will not hold the door open indefinitely. If the jumper is in the maintained position, use needlenose pliers to remove and re-insert the jumper on the appropriate two pins.

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-21
Size	3 ¼" x 2 ¼" x ¾"
Mounting	Double Sided Foam 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
Dry Inputs	N.O. dry contacts only
Wet Inputs	3 - 30V AC/DC, Optically isolated, non-polarity sensitive
Relay Output	2 x Form C (SPDT)
Contact Rating	4 amps @ 120VAC/ 30VDC
Electrical Life	100,000 @ rated capacity
Time Delays	DOR #1 - 0.5 - 30 seconds DOO #2 - 0.5 - 30 seconds DOR #3 - 0.5 - 30 seconds

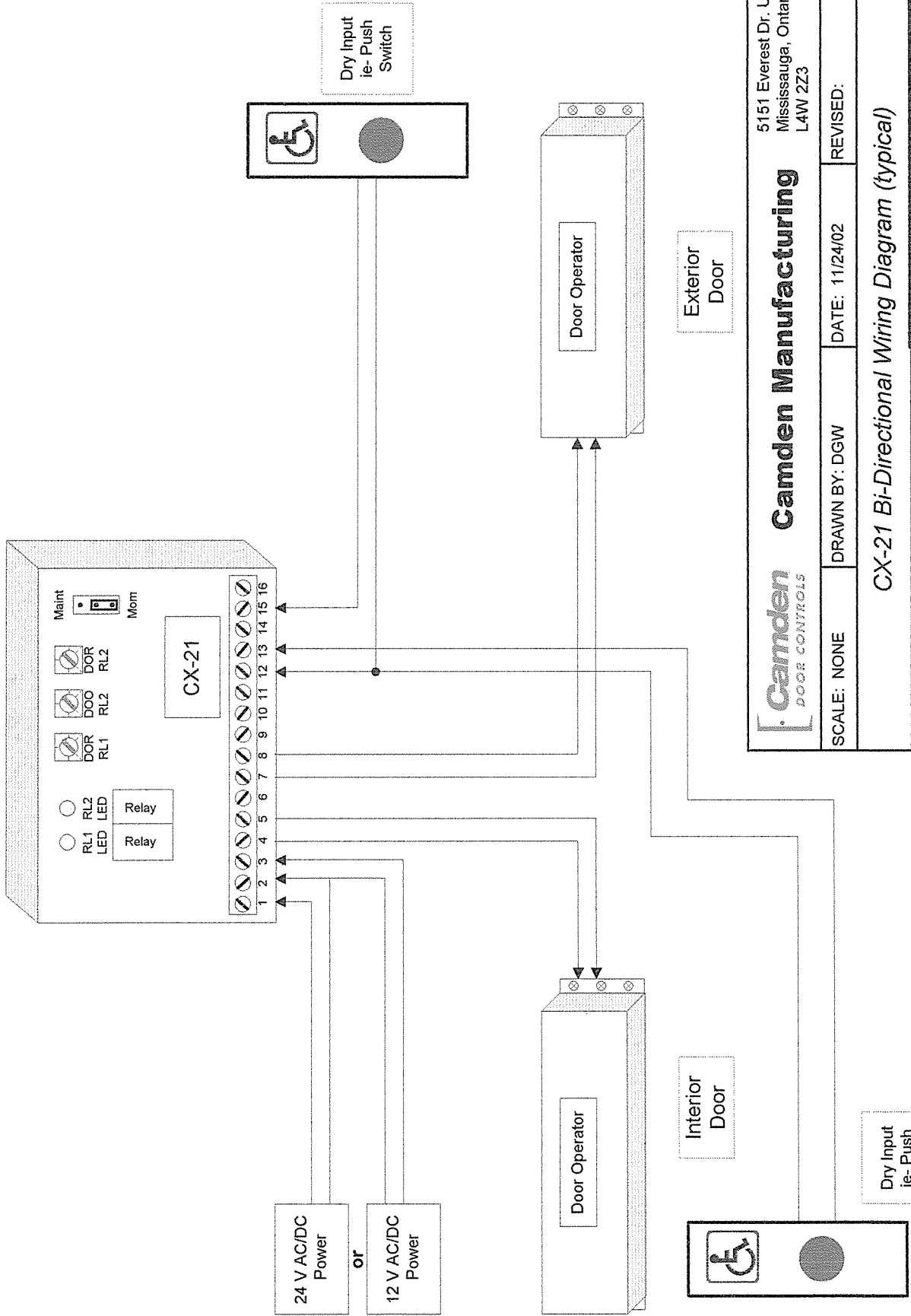
Section 6


Warranty

Camden Manufacturing guarantees the CX-21 to be free from manufacturing defects for 3 years from date of sale. If during the first 3 years the CX-21 fails to perform correctly, it may be returned prepaid 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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CX-21 Bi-Directional Wiring Diagram (typical)			
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