

# CM-150-08 Control Module Installation Instructions



dormakaba Group



## BEFORE ATTEMPTING INSTALLATION

Disconnect power, verify wire run from chart, and use with ELR-150 Power Supply ONLY.

## ELECTRICAL RATINGS:

In: 42V 115mA Continuous, 8.75A 1.75s  
Out: 42V 1.70A Continuous, 7.00A 1.75s

1

**SELECT MODE (DIP Switch S1)** - Determines what set of inputs will trigger the cards output.

- **Independent Mode: S1-A=OFF**  
Allows each card to be controlled by its own inputs.
- **Sequence (Auto) Mode: S1-A=ON**  
The card is controlled by inputs from the previously mounted card.

2

**SELECT TIME DELAY (DIP Switch S1)** - Time delay will hold latch retraction up to 4 minutes after input is removed.

- **No Time Delay: S1-SW=OFF and S1-V=OFF**
- **Switched Input Delay: S1-SW=ON**  
The input from TB1-1 and TB1-2 will be held until the time delay ends.
- **Voltage Input Delay: SW-V=ON**  
The input from TB1-7 and TB1-8 will be held until the time delay ends.

### To adjust Time Delay:

Turn R41 clockwise to increase time delay.  
Turn R41 counterclockwise to decrease time delay.

3

**WIRE INPUTS** - Switch or voltage inputs trigger exit device operation. Fire override may be used.

- **Trigger Input: Switch**  
TB1-1 and TB1-2 can be wired to a switch or relay, a closed contact rated at 12 VDC, .5 AMP min. will retract the latches.
- **Trigger Input: Voltage**  
TB1-7 and TB1-8 can be wired to a voltage source, when 5 to 24 VDC, .1 AMP min. is applied, the latches will retract. (Note Polarity)
- **No Fire Detection:**  
If no fire detection is needed, connect TB1-3 and TB1-4 together with a jumper wire.
- **Fire Detection Override:**  
Switch: Connect TB1-3 and TB1-4 to a normally closed contact rated 12 VDC, .5 AMP min. Switch must be closed for exit device operation.  
Voltage: Connect TB1-5 and TB1-6 to a 5 to 24 VDC, .1 AMP min. source. Voltage must be present for exit device operation. (Note Polarity)

4

**WIRE OUTPUTS** - Exit device connections and control relay connections.

- **Exit Device:**  
Connect TB2-1 and TB2-2 to the white wires at the exit device.  
Connect TB2-3 and TB2-4 to the black wires at the exit device.
- **Control Relay:**  
Can be used to activate door operators, rated 30 VDC, 1 AMP max.  
Normally Open contact - Connect TB2-6 and TB2-7, closes when exit device has retracted the latches.  
Normally Closed contact - Connect TB2-6 and TB2-8, opens when exit device has retracted the latches.

5

**INSTALL THE CONTROL MODULE** - With the components on the control module toward the breaker, align card edge with socket & push card in until seated. Fill slots in order, use slot 1 first, then slot 2, etc.

6

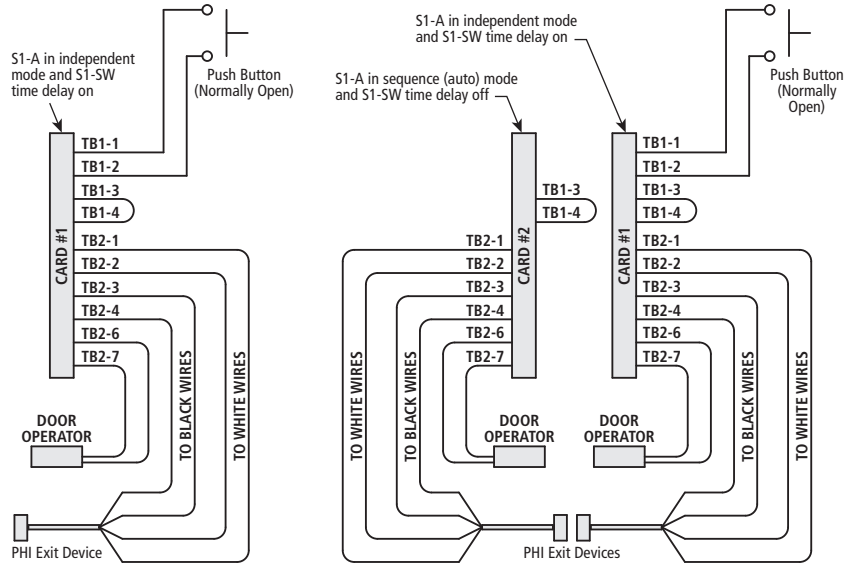
**FINAL CHECK** - Check for shorts, excessive wire runs and open connections. With the power off and the control module completely wired, place the probes of an ohmmeter on the screw heads of TB2-1 and TB2-2. The reading should be 4-5 ohms.

### DOOR OPERATORS ARE NOT WORKING -

- Check exit device for proper mechanical operation, the vertical rods may need adjusting. (See exit device installation instructions for adjustment procedures)
- Check for bad connections going to TB2-3 and TB2-4  
(Need feedback switch closure from the exit device for proper operation)

### SINGLE OR PAIR OF DOORS TYPICAL APPLICATION -

Pressing the push button retracts the latches. When the latches have retracted, the door operators activate. The door(s) will remain open until the time delay on card #1 releases the exit device. (Shown without fire override and a normally open contact for the door operator)



SINGLE DOOR

PAIR OF DOORS

### DOOR OPERATOR NOTES -

1. Check the adjustment of the vertical rods, they MUST be adjusted correctly for proper ELR operation. (See exit device installation instructions for adjustment procedures)
2. For normally open contact, wire door operator to TB2-6 and TB2-7. For normally closed contact, wire door operator to TB2-6 and TB2-8. (Consult door operators installation instructions)
3. Use the time delay when interfacing with operators.

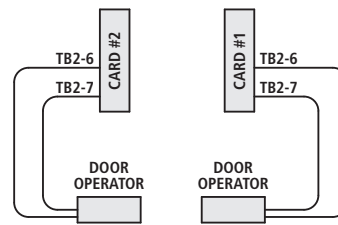


DIAGRAM A

Shows two cards controlling two independent operators

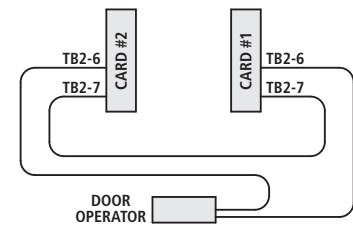


DIAGRAM B

Shows two cards controlling one integrated operator

### TROUBLESHOOTING:

#### CONTROL LIGHTS -

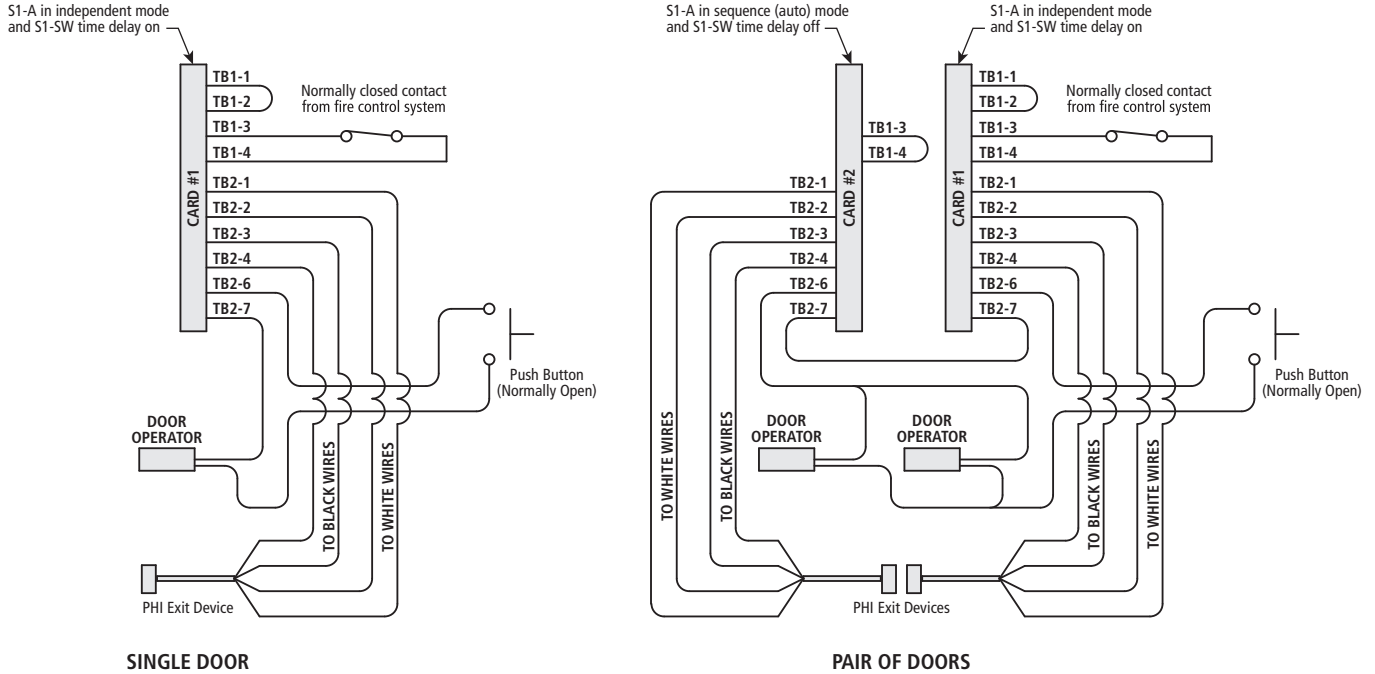
- D4: POWER LIGHT - Lights green when the power is available to the control module.
- D3: FIRE LIGHT - Lights red when ready for input, will flash when in the fire override mode.
- D2: STATUS INDICATOR - Lights green when the latches have retracted.
- D1: STATUS INDICATOR - Lights green as input is received.

#### LATCH BOLTS ARE NOT RETRACTING -

- If D4 is off, check the 2 AMP circuit breaker on the ELR-150, or check the line voltage at the power connection.
- If the control module was stressed it will enter thermal shutdown, wait for the control module to cool down.
- If D3 is flashing, check the fire control system for a normally closed contact at TB1-3 and TB1-4 or a voltage present at TB1-5 and TB1-6. (If no fire override is being used, then connect TB1-3 to TB1-4)
- If D2 never lights, but the latches sometimes retract, check the exit device for proper mechanical operation. The vertical rods MUST be adjusted properly. (See exit device installation instructions for adjustment procedures)
- If D1 never lights, check the trigger input at TB1-1 and TB1-2 for proper operation.
- Check for bad connections from the exit device. The white wires should be connected to TB2-1 and TB2-2, and the black wires connected to TB2-3 and TB2-4. (Need feedback switch closure from the device for proper operation)
- Verify that the proper gauge of wire is being used for the wire run distance. (See wire run chart)

**PUSH/PULL APPLICATION -**

The exit device latches remain retracted at all times. Pressing the push button cycles the door operator. When fire alarm removes the closed contact, the exit device relatches and the push button input is removed from the door operator. (Shown with a normally open contact for the door operator)



**DISCONNECT POWER BEFORE SERVICING**  
For use with Precision Listed 2000 Series Exit Devices ONLY.

LED INDICATORS	
D4	<b>Power Indicator:</b> Green when power is present
D3	<b>Fire Indicator:</b> Red when waiting for input Flashing when in fire override
D2	<b>Status Indicator #2:</b> On - Latches have retracted One Blink - Independent mode Double Blinks - Sequence (auto) mode
D1	<b>Status Indicator #1:</b> On - Input received

MAXIMUM WIRE RUN		
Wire Gauge	With 22 Gauge Power Transfer	With 28 Gauge Power Transfer
16	75'	55'
14	125'	75'
12	200'	-

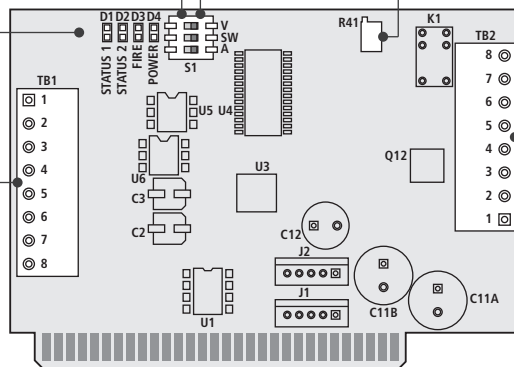
DIP SWITCH MODE SELECTION	
DIP Switch A	Mode
A OFF	<b>Independent Mode:</b> The card is controlled by an input at TB1
A ON	<b>Sequence (Auto) Mode:</b> The card is controlled by the previously mounted card

DIP SWITCH TIME DELAY SETTINGS	
DIP Switch SW & V	Mode
V OFF SW OFF	No Delay
V OFF SW ON	<b>Switched Input Delay:</b> Triggered by TB1-1 & TB1-2
V ON SW OFF	<b>Voltage Input Delay:</b> Triggered by TB1-7 & TB1-8

R41 **Clockwise:**  
Increases time delay  
**Counter Clockwise:**  
Decreases time delay.  
Up to 4 minutes of time delay available

TB1 INPUTS	
TB1-1	Trigger Input: Switch
TB1-2	Fire Input: Switch*
TB1-3	Fire Input: Voltage
TB1-4	Trigger Input: Voltage
TB1-5	+
TB1-6	-
TB1-7	+
TB1-8	-

\* If no fire override is needed then jumper TB1-3 with TB1-4



TB2 OUTPUT	
TB2-8	Normally Closed
TB2-7	Normally Open
TB2-6	Common
TB2-5	Not Used
TB2-4	ELR Feedback Switch: To Black Wires
TB2-3	
TB2-2	Solenoid Output: To White Wires
TB2-1	



For assistance or warranty information:  
Call 1-800-392-5209 or visit  
<https://dhwsupport.dormakaba.com/hc/en-us>



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llame al 1-800-392-5209 o visite  
<https://dhwsupport.dormakaba.com/hc/en-us>



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