

# INSTALLATION INSTRUCTIONS

## CONTROL MODULE

CM-150-08

**BEFORE ATTEMPTING INSTALLATION: DISCONNECT POWER, VERIFY WIRE RUN FROM CHART, AND USE WITH ELR-150 POWER SUPPLY ONLY**

- ① **SELECT MODE (JUMPER REQUIRED)** Determines what set of inputs will trigger the cards output.  
**Independent Mode:** Jumper CNI-C and I; allows each card to be controlled by it's own inputs.  
**Sequence (auto) Mode:** Jumper CNI-A and C; the card is controlled by inputs from the previously mounted card.
  
- ② **SELECT TIME DELAY** Time delay will hold latch retraction for up to 4 minutes after input is removed.  
**No Time Delay:** No jumper required.  
**Switched Input Delay:** Jumper CN2-SW, the input from TBI-1 and TBI-2 will be held until the time delay ends.  
**Voltage Input Delay:** Jumper CN2-V, the input from TBI-7 and TBI-8 will be held until the time delay ends.  
**TO ADJUST TIME DELAY** Turn VRI clockwise to increase time delay.  
Turn VRI counterclockwise to decrease time delay.
  
- ③ **WIRE INPUTS** Switch or Voltage inputs trigger exit device operation. Fire Override may be used.  
**Trigger Input: Switch** TBI-1 and TBI-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** TBI-7 and TBI-8 can be wired to a voltage source, when 5 to 24 VDC/VAC, .1 AMP MIN. is applied, the latches will retract. (NOTE POLARITY)  
**No Fire Detection:** If no fire detection is needed then connect TBI-3 and TBI-4 together with a jumper wire.  
**Fire Detection Override:** Switch: Connect TBI-3 and TBI-4 to a normally closed contact rated at 12 VDC, .5 AMP MIN. Switch must be closed for Exit Device operation. OR:  
Voltage: Connect TBI-5 and TBI-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 at 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 and push card in until seated. FILL SLOTS IN ORDER. Use slot #1 first, then Slot #2 second, 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 Ohm Meter on the screw heads of TB2-1 and TB2-2; the reading should be 4 - 5 Ohms.

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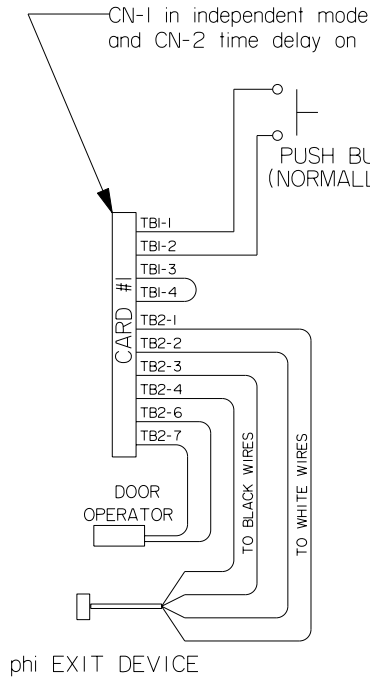
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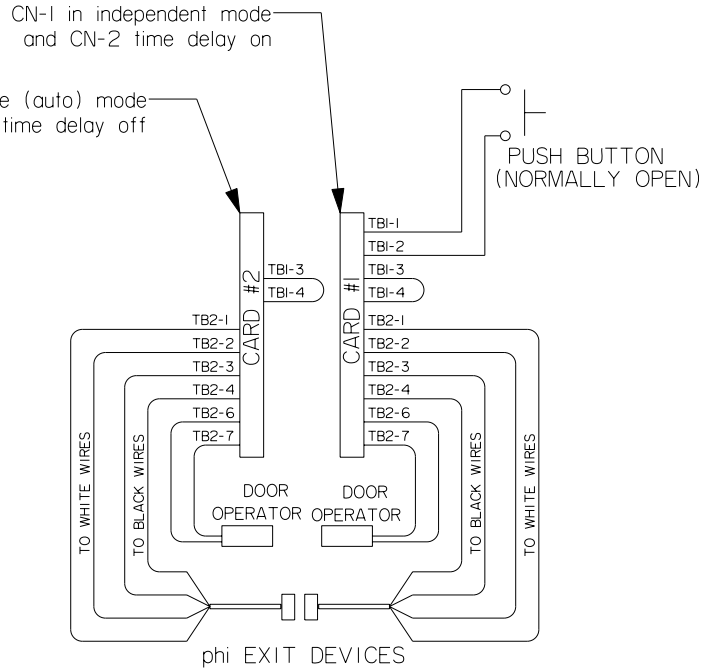
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### SINGLE OR PAIR OF DOORS TYPICAL APPLICATION

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



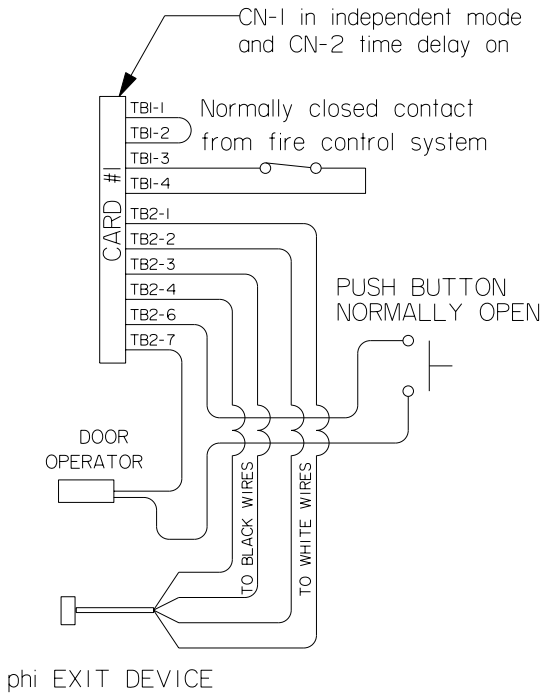
**SINGLE DOOR**



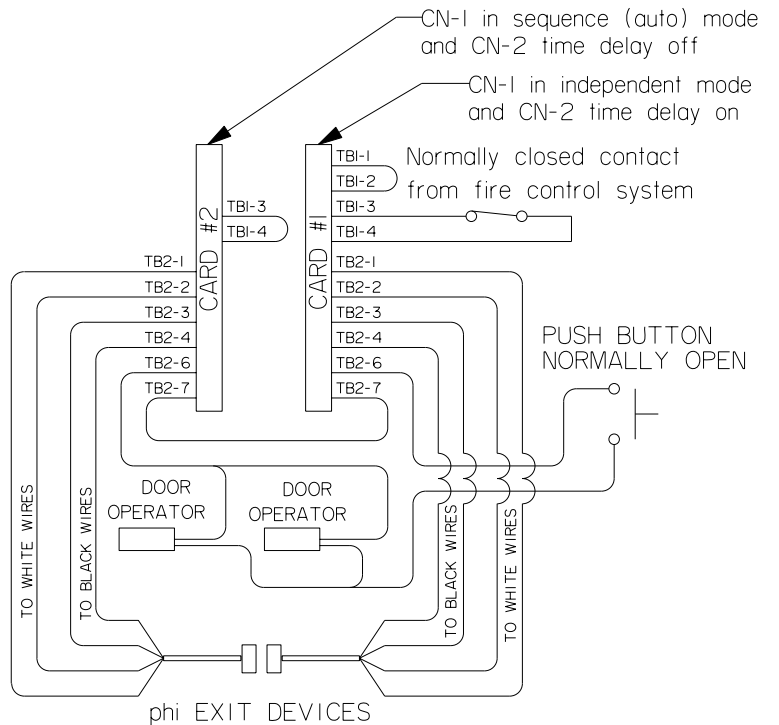
**PAIR OF DOORS**

### PUSH PULL APPLICATION

The exit device latch(es) remain retracted at all times. Pressing the push button cycles the door operator(s). 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)



**SINGLE DOOR**



**PAIR OF DOORS**

## DOOR OPERATOR NOTES

- A) Check the adjustment of the vertical rods; they MUST BE adjusted correctly for proper ELR operation.  
(see exit device installation instructions for adjustment procedures)
- B) Wire the door operator to TB2-6 and TB2-7 for normally OPEN contact OR TB2-6 and TB2-8 for a normally CLOSED contact for the operator.  
(consult door operator's installation instructions)
- C) Use the time delay when interfacing with operators.

### EXAMPLES:

Diagram A shows two cards controlling two independent operators.

Diagram B shows two cards controlling one integrated operator.

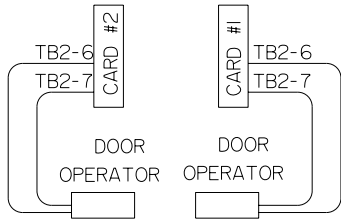


Diagram A

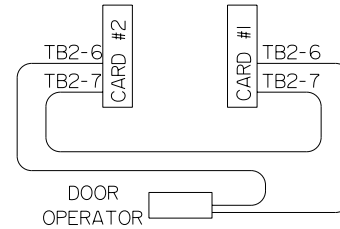


Diagram B

## TROUBLE SHOOTING GUIDE

**CONTROL LIGHTS** (see page 4): Used for trouble shooting.

- D 4: POWER LIGHT; Lights green when the power is available to the Control Module.
- D 3: FIRE LIGHT; Lights red when ready for input, will flash when in the fire override mode.
- D 2: STATUS INDICATOR; Lights green when the latches have retracted.
- D 1: STATUS INDICATOR; Lights green as input is received.

### LATCH BOLTS ARE NOT RETRACTING:

- A) If D 4 is off, check the 2 amp circuit breaker on the ELR-150, or check the line voltage at the power connection, also, if the Control Module was stressed it will enter thermal shutdown, wait for the Control Module to cool down.
- B) If D 3 is flashing, check the fire control system for a normally closed contact at TBI-3 and TBI-4 or a voltage present at TBI-5 and TBI-6. (if no fire override is being used, then connect TBI-3 to TBI-4).
- C) If D 2 never lights, but the latches sometimes retract, check the exit device for proper mechanical operation, the vertical rods HAVE to be adjusted properly. (see exit device installation instructions for adjustment procedures)
- D) If D 1 never lights, check the trigger input at TBI-1 and TBI-2 for proper operation.
- E) 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).
- D) Verify that the proper gage of wire is being used for the wire run distance. (See wire run chart on page 4).

### DOOR OPERATORS ARE NOT WORKING:

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

**CN-1 MODE SELECTION - JUMPER REQUIRED**

JUMPER	MODE
	INDEPENDENT MODE: THE CARD IS CONTROLLED BY AN INPUT AT TBI
	SEQUENCE (AUTO) MODE: THE CARD IS CONTROLLED BY THE PREVIOUSLY MOUNTED CARD

LED INDICATORS	
D4	POWER INDICATOR: GREEN WHEN POWER IS PRESENT
D3	FIRE INDICATOR: RED WHEN WAITING FOR INPUT FLASHING WHEN IN FIRE OVERRIDE
D2	STATUS INDICATOR #2: ON: LATCHES HAVE RETRACTED ONE BLINK: INDEPENDENT MODE DOUBLE BLINKS: SEQUENCE (AUTO) MODE
D1	STATUS INDICATOR #1: ON: INPUT RECEIVED

CN-2 TIME DELAY SETTINGS	
JUMPER	MODE