

# **SECTION 3**

## **DOOR CONTROL**



# SECURE-TECH

DETENTION ELECTRONIC SYSTEMS  
ETECH CONTROLS CORPORATION - MANUFACTURER  
4051 ALVIS COURT #3, ROCKLIN, CALIFORNIA, USA 95677  
TEL (916) 630-1300 • FAX (916) 630-1100 • FREE (800) 800-2523

## LOC-DOOR SERIES

### DOOR CONTROL / MONITOR ASSEMBLIES

#### FEATURES:

- **NEC 725 COMPLIANT** - FACTORY TESTED
- HC-0819 8 DOOR CONTROL / MONITOR
- HC-0707 8 DOOR RED & GREEN MONITOR OPTION
- HC-0803 8 FUSED 10 AMP RELAYS OPTION
- HC-0811 INTERLOCK CONTROLLER OPTION
- HC-0821 16 OUTPUT SEQUENCER OPTION
- ALL PLUG CONNECTION (EXCEPT POWER)
- OPTO-ISOLATED (7500V) INPUTS
- FUSED 12VDC POWER SUPPLY
- NEMA RATED ENCLOSURE
- 2 YEAR WARRANTY



#### FUNCTIONAL DESCRIPTION:

Factory assembled and tested door control / monitor electronics packages are **NEC 725 compliant**, and are designed for use with a hardwired type custom control panel. A separate hardwired control panel is an available option, see the Operator Interface Section.

The HC-0819 8 Door Control / Monitor PCBs are suitable for operation of all types of solenoid operated swing door locks. Both red and green LED status outputs are available for use. See the HC-0819 catalog sheet for more information.

Options are available to accommodate additional monitored only doors (HC-0707), motor operated locks and / or motor operated sliding door operators (HC-0803), door interlocking (HC-0811), and sequential operation (HC-0821).

All assemblies are custom designed to meet the application, and are available in whatever door control / monitor capacity is required.

#### INSTALLATION:

Wall or floor mount (as sized for the application) the Nema rated enclosure. Connect fifteen amp circuits of 120vac 60hz single phase power, as required for the control circuitry load. Connect separate 120vac 60hz single phase door operation power circuits and / or low voltage power supply circuits, as required to serve the controlled door locks and / or sliding door operators load. Door operation low voltage power supplies (24 vac/vdc), where required, are not included.

The 25 pair telephone type plug connections at the remote hardwired control panel **must match signal wirelists** that are provided by Secure-Tech. The remote hardwired control panel is factory tested and guaranteed to function properly **only when manufactured by Secure-Tech.**

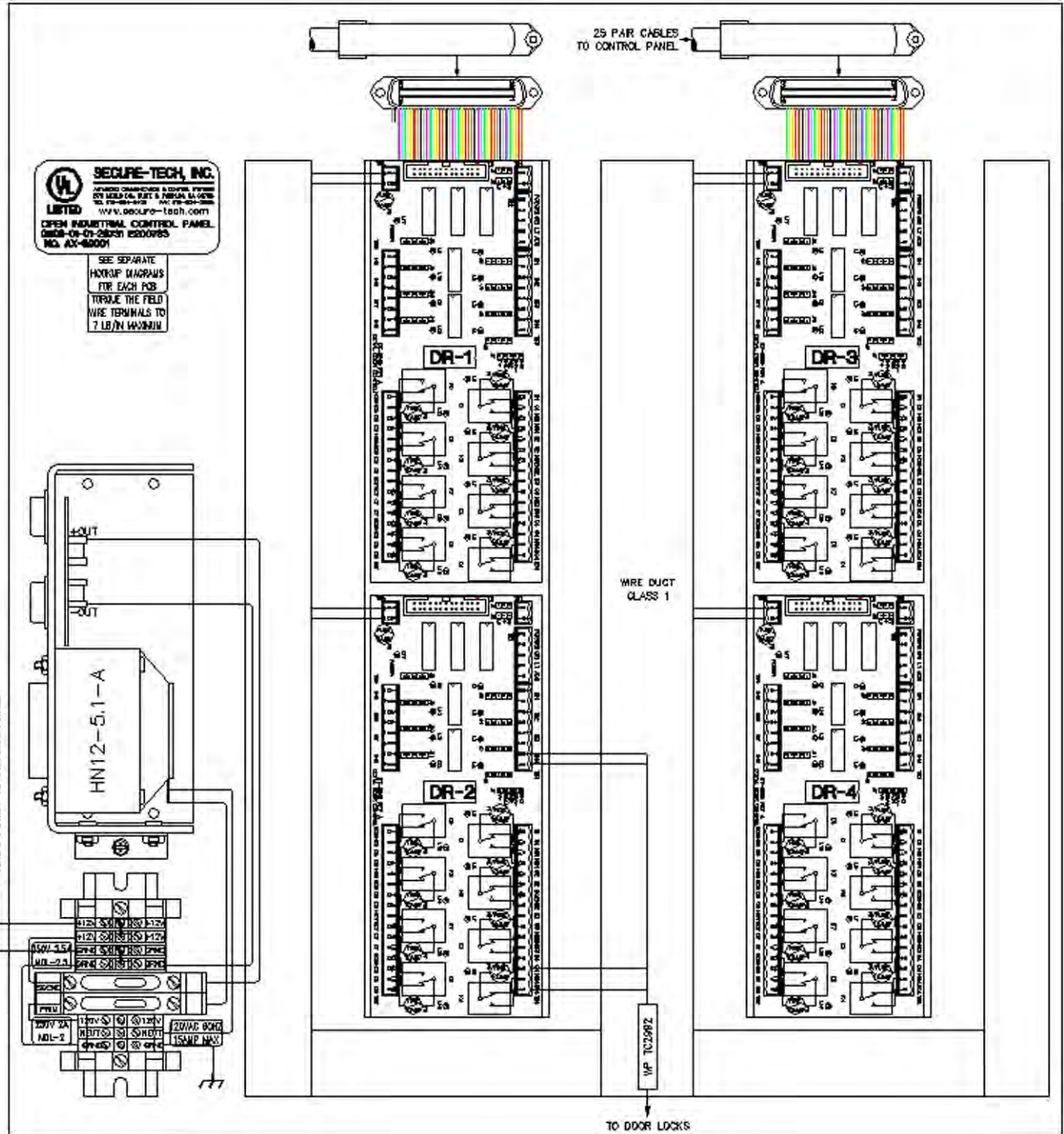
Field door wire / cables are to be connected directly to the Phoenix compression screw terminal type plug connectors provided on the control / monitor modules.

#### OPTIONS:

1. HC-0707 8 Door Red and Green Monitor
2. HC-0803 8 Fused 10 Amp Relays
3. HC-0811 Interlock Controller
4. HC-0821 20 x 20 Controller (with 16 output sequencer program)

# LOC-DOOR SERIES DOOR CONTROL / MONITOR ASSEMBLIES

## HOOK-UP DIAGRAM



UL508 assembly shown, NEC requirements differ



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**MODEL  
HC-0819**

## 8 DOOR CONTROL / MONITOR

### FEATURES:

- 8 OPTO-ISOLATED (7500V) INPUTS
- LAMP TEST INPUT
- ENABLE / DISABLE INPUT
- GROUP RELEASE INPUT
- 8 RED LED STATUS OUTPUTS
- 8 GREEN LED STATUS OUTPUTS
- ANY DOOR OPEN LED STATUS OUTPUT
- 8 FORM C FUSED 10 AMP RELAY OUTPUTS
- ALL PLUG CONNECTION
- 3.25" SNAP TRACK MOUNT
- 2 YEAR WARRANTY

### FUNCTIONAL DESCRIPTION:

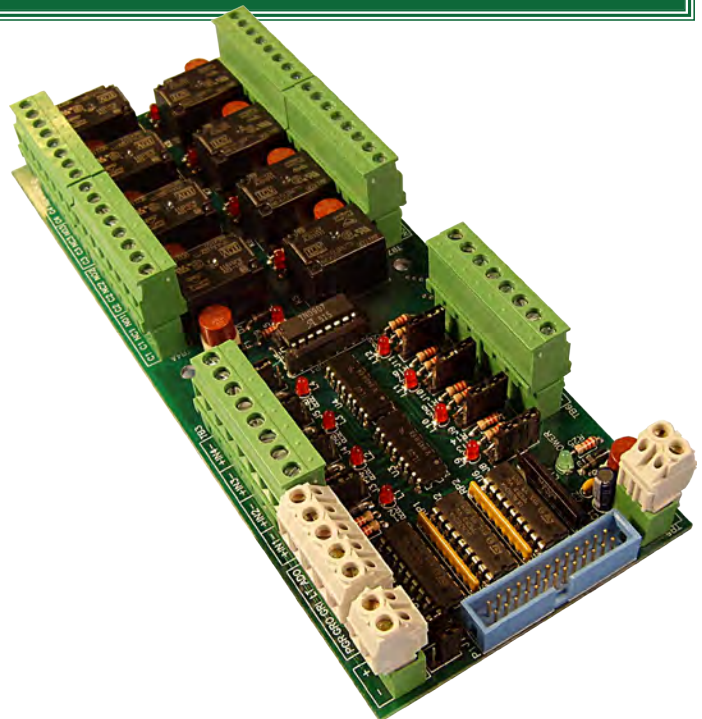
The HC-0819 controls and monitors eight swing doors with solenoid operated locks.

### INPUTS / OUTPUTS:

Eight opto-isolated door status inputs are configured with pin jumpers to monitor from 5 to 24 VDC positive or negative voltage circuits or dry contact closures. Outputs are provided to switch control panel red and green LEDs for each door status input and a group indication Any Door Open LED. Eight green LEDs monitor the status of the inputs. A Group Release input is provided to activate all of the relay outputs simultaneously. A Power Grant input is provided to remotely enable / disable the door control outputs.

Eight form C relay outputs are provided to control door locks. Each relay output circuit is fuse protected. The replaceable fuses are available in various amp sizes to match the controlled circuit load. The 10 amp size is standard. Each relay's energized status is indicated by a red LED. The relay contacts are rated as follows:

FORM CUL class B	CSA	
277 VAC	6 AMP	6 AMP
250 VAC	10 AMP	10 AMP
30 VDC	5 AMP	5 AMP



Field wiring connects to Phoenix type compression screw terminal plugs sized for 22 to 12 AWG stranded conductors. Control panel wiring is connected via a 26-pin male header. The mating female ribbon plug is provided.

### SIZE:

3.25" W x 8.00" L x 1.25" D  
82.6mm W x 203.2mm L x 31.8mm D

### POWER:

12 - 14 VDC, 580ma, 2 amp plug-in fuse, green LED indicated

### OPTIONS:

1. Other plug-in fuse amp sizes to better protect the controlled circuit load.

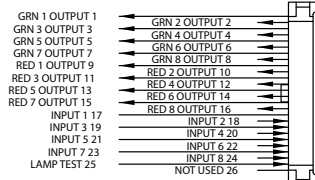
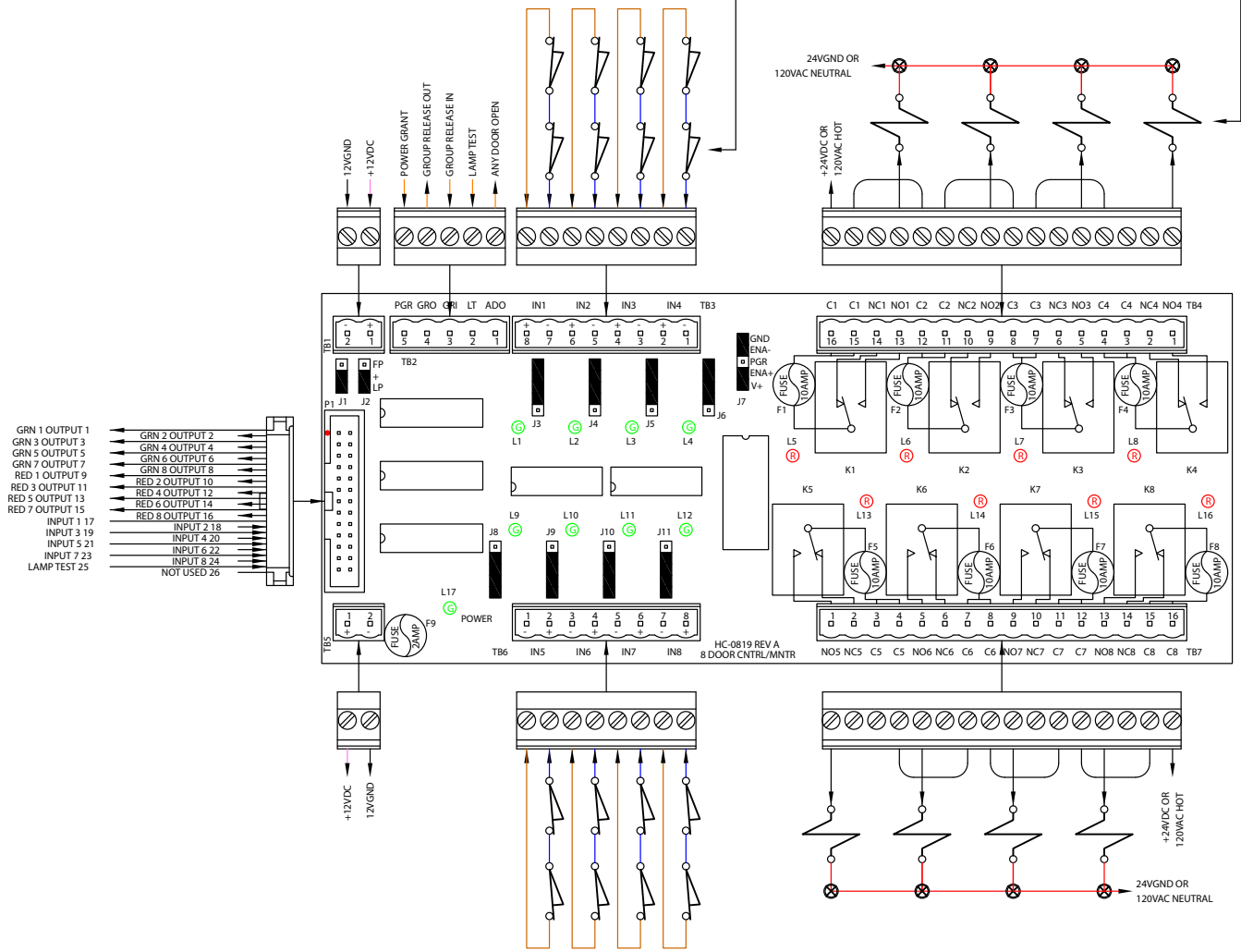
**\*Please note: Do not exceed a cumulative total of 10 amps when using relay common terminals for bussing.**

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# MODEL HC-0819 8 DOOR CONTROL / MONITOR HOOK-UP DIAGRAM


DOOR POSITION AND LOCK STATUS SWITCHES (SECURE)

DOOR LOCK SOLENOIDS




**FIELD POWER**



**FIELD POWER ON TB5 (STD)**


**FIELD POWER ON TB1**

**MONITORING**



**2 POINT CONTACT (STD)**



**EXTERNAL VOLTAGE**


**1 POINT CONTACT (GND)**


**TEST**

**POWER GRANT**


**POWER GRANTED IF TB2-5 IS GND**


**POWER GRANTED IF TB2-5 IS +12VDC**

**\*Please note: Do not exceed a cumulative total of 10 amps when using relay common terminals for bussing.**



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MODEL  
HC-0707

## 8 DOOR RED AND GREEN MONITOR

### FEATURES:

- INTERPOSING DEVICE (OPTO)
- 8 OPTO-ISOLATED (7500V) INPUTS
- 8 GREEN STATUS LEDs
- 2 LAMP TEST INPUTS, RED AND GREEN
- 8 RED LED OUTPUTS
- 8 GREEN LED OUTPUTS
- ANY DOOR OPEN OUTPUT
- ALL PLUG CONNECTION
- 3.25" SNAP TRACK MOUNT
- 2 YEAR WARRANTY

### FUNCTIONAL DESCRIPTION:

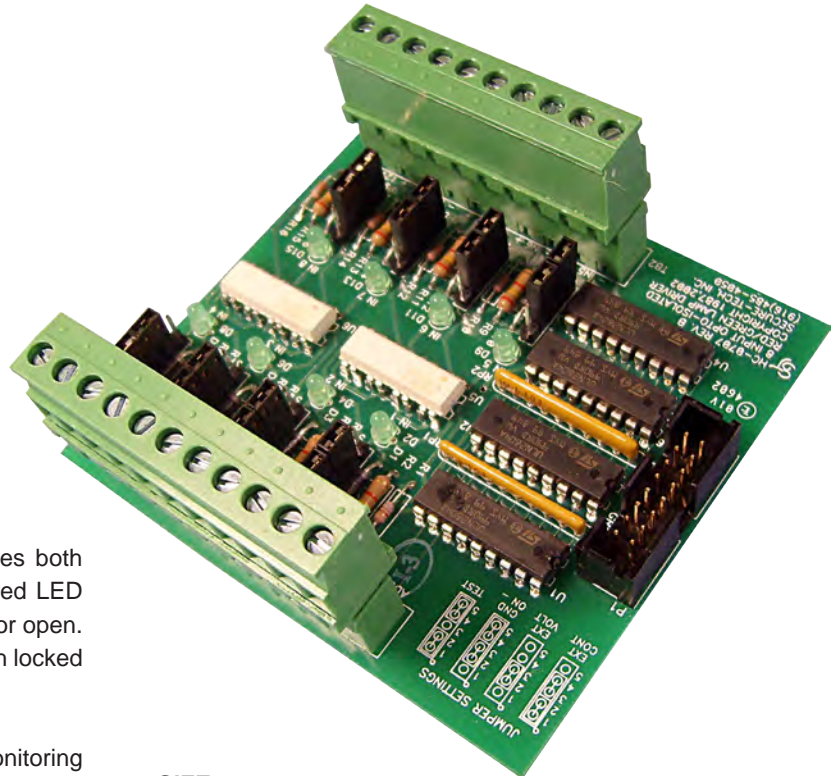
The HC-0707 monitors eight doors and provides both red and green LED outputs for each door. A red LED output indicates when a door is either unlocked or open. A green LED output indicates when a door is both locked and closed.

A green door status LED is provided for each monitoring circuit. Pin jumpers are provided for each monitoring circuit to select two conductor normally open contact closure, one conductor normally open contact ground input, or external voltage application input. All input circuits are opto-isolated to 7500 volts.

### INPUTS / OUTPUTS:

Eight opto-isolated door status inputs are configured with pin jumpers to monitor from 5 to 24 VDC positive or negative voltage circuits or dry contact closures. Outputs are provided to switch control panel red and green LEDs for each door status input, and a group indication Any Door Open LED or audio alarm.

The door monitoring inputs are connected to Phoenix type compression screw terminal strips, sized for 22 to 12 AWG stranded conductors. The outputs can sink from 5 to 24 VDC @ 50ma each. The LED outputs connector is a 16-pin male header. The mating female ribbon plug is provided.



### SIZE:

3.25" W x 4.00" L x 1.25" D  
82.6mm W x 101.6mm L x 31.7mm D

### POWER:

12 - 14 VDC, 180ma

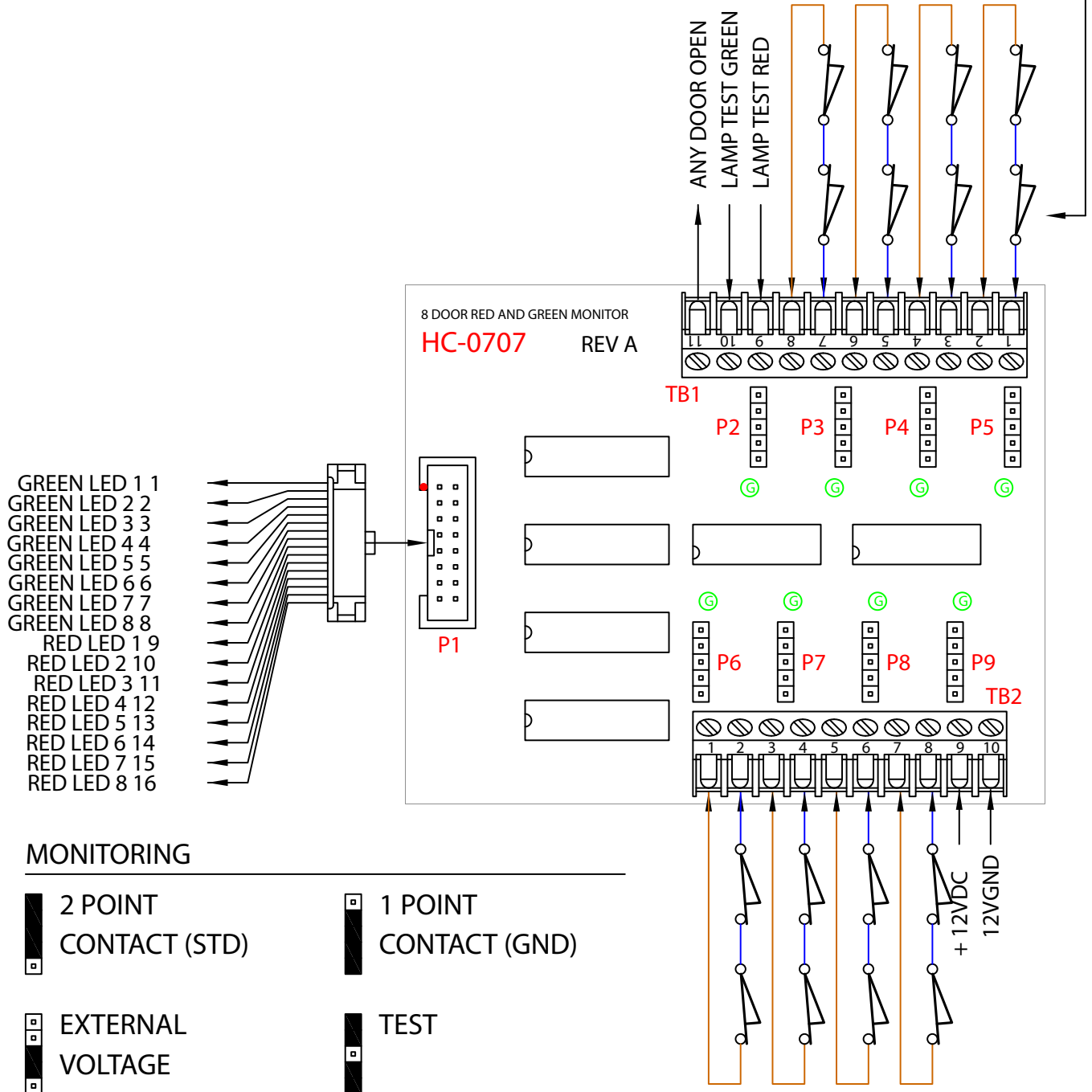
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# MODEL

## HC-0707 8 DOOR RED AND GREEN MONITOR

### HOOK-UP DIAGRAM

#### DOOR POSITION AND LOCK STATUS SWITCHES (SECURE)





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MODEL  
HC-0802

## 8 DOOR RED OR GREEN MONITOR

### FEATURES:

- INTERPOSING DEVICE (OPTO)
- 8 OPTO-ISOLATED (7500V) INPUTS
- 8 RED STATUS LEDs
- GREEN POWER STATUS LED
- LAMP TEST INPUT OPTION
- 8 LED OUTPUTS , RED OR GREEN
- BOARD AND FIELD GROUND ARE SEPARABLE FOR BETTER OPTO-ISOLATION
- FUSE PROTECTED
- ALL PLUG CONNECTION
- 3.25" SNAP TRACK MOUNT
- 2 YEAR WARRANTY

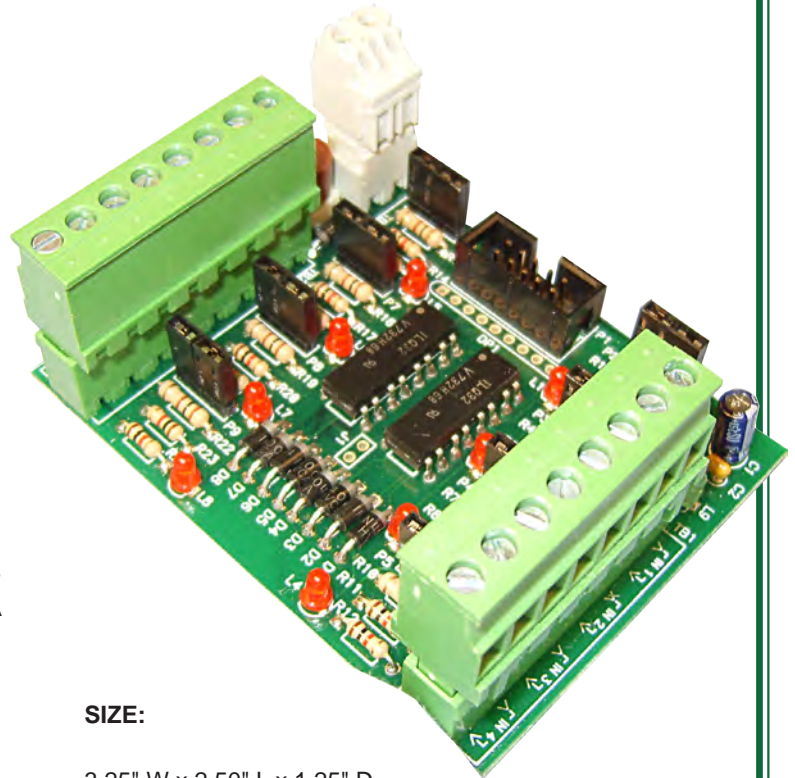
### FUNCTIONAL DESCRIPTION:

The HC-0802 monitors eight doors and provides an LED output for each door, either red or green. A red LED output indicates when a door is either unlocked or open. A green LED output indicates when a door is both locked and closed.

A red door status LED is provided for each monitoring circuit. A green power-on LED is also provided. Pin jumpers are provided for each monitoring circuit to select either unsecure red or secure green LED outputs. All input circuits are opto-isolated to 7500 volts. For even better opto-isolation, the board operating power and field monitoring circuit power may be separated by a pin jumper to allow two different power supply sources when only red LED outputs are selected.

### INPUTS / OUTPUTS:

Eight door monitoring LED outputs are selected for either unsecure red or secure green indication. The door monitoring inputs are connected to Phoenix type compression screw terminal plugs, sized for 22 to 12 AWG stranded conductors. The outputs can sink from 5 to 24 VDC @ 50ma each. The LED outputs and Lamp Test input connector is a 10-pin male header. The mating female ribbon plug is provided.



### SIZE:

3.25" W x 2.50" L x 1.25" D  
82.6mm W x 63.5mm L x 31.7mm D

### POWER:

12 - 14 VDC, 100ma, 2 amp plug-in fuse, green LED indicated

### OPTION:

Add (-LT) to model number to obtain the Lamp Test input function.

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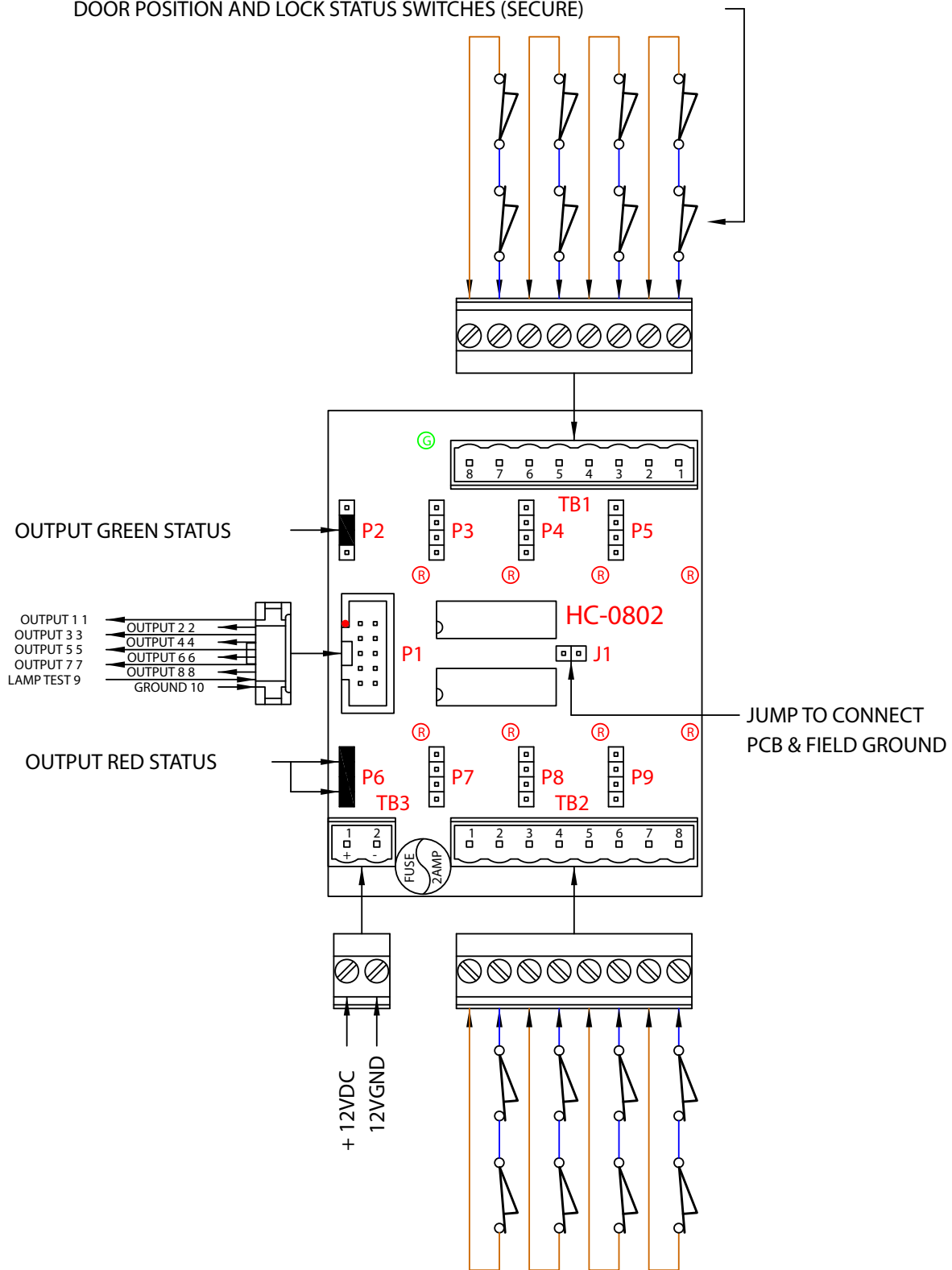


# MODEL

## HC-0802 8 DOOR RED OR GREEN MONITOR

### HOOK-UP DIAGRAM

DOOR POSITION AND LOCK STATUS SWITCHES (SECURE)





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**MODEL  
HC-0811**

## 8 DOOR INTERLOCK CONTROLLER

### FEATURES:

- 8 INTERLOCK INPUTS
- 8 INTERLOCK OUTPUTS
- 8 INTERLOCK OVERRIDES
- INTERLOCKED CONTROL SWITCHES
- ANY INTERLOCK SIZE
- MULTIPLE INTERLOCK GROUPS
- ALL PLUG CONNECTION
- 3.25" SNAP TRACK MOUNT
- 2 YEAR WARRANTY

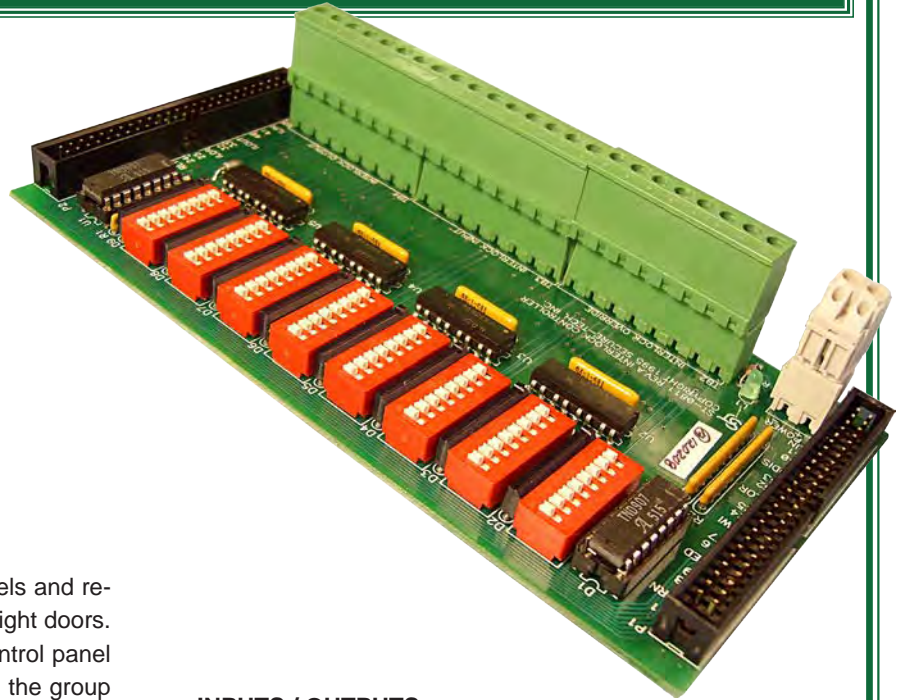
### FUNCTIONAL DESCRIPTION:

The HC-0811 interfaces between control panels and relay output boards to provide interlocking for eight doors. Interlocking a group of doors prevents the control panel operator from opening more than one door in the group at a time. An Override input is provided for each door to allow interlocked doors to be opened in case of fire or other emergency.

Control switch inputs are also interlocked to prevent the simultaneous activation of multiple control switches from using the time delay encountered in receiving a changed door status condition in an attempt to defeat the interlock. Only one switch input in an interlock group is recognized at a time.

The doors in an interlock group can be spread over multiple Interlock Controllers. This allows any number of doors to be in a single interlock group and any number of groups to be interlocked with other groups. This also allows all eight door interlock circuits to be utilized.

Each controlled door circuit is dip switch selected to interlock with other doors controlled by this board and with interlock group inputs from additional controller boards.



### INPUTS / OUTPUTS:

The Override, Group, and power inputs; and Group outputs are connected to Phoenix type compression screw terminal plugs sized for 22 to 12 AWG stranded conductors. Two 50-pin male headers are provided for door status I/O; door switch, Override, and Group inputs; Group and door relay outputs connection, via ribbon cable, to control panels (convert to 25 pair cable) and other boards. The mating female ribbon plugs are provided.

### SIZE:

3.25" W x 6.50" L x 1.25" D  
82.6mm W x 165.1mm L x 31.7mm D

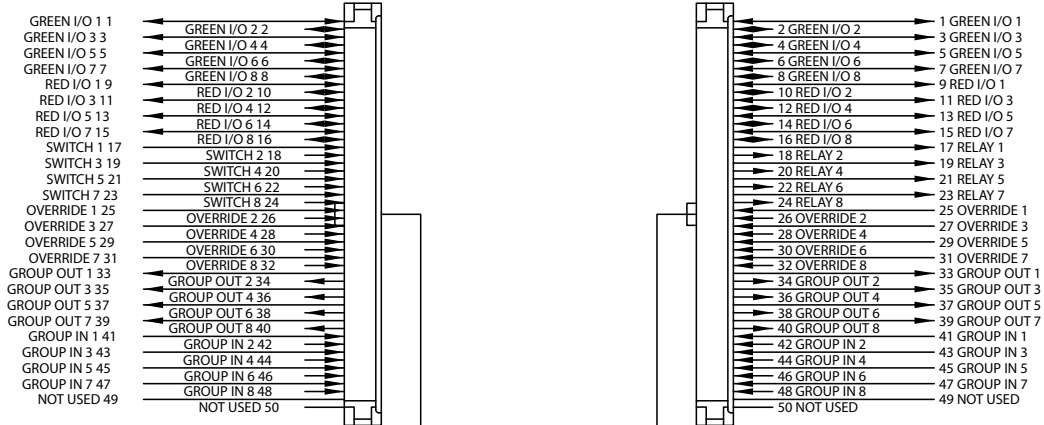
### POWER:

12 - 14 VDC, 200ma, green LED indicated

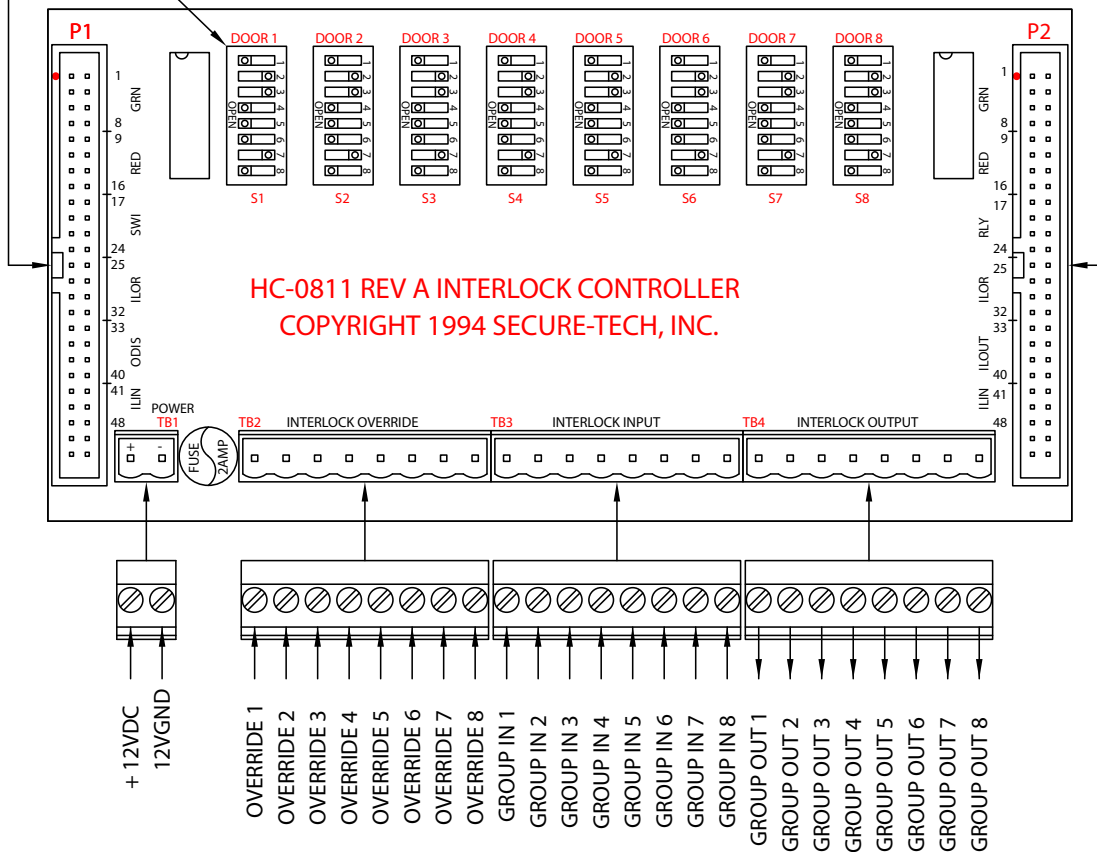
# MODEL

## HC-0811 8 DOOR INTERLOCK CONTROLLER

### HOOK-UP DIAGRAM



SET TO SELECT OTHER DOORS ON THIS CONTROLLER TO INTERLOCK WITH



NOTE: INTERLOCK GROUP OUTPUTS ON P1 & P2 ARE EFFECTED BY OVERRIDES. THOSE ON TB4 ARE NOT EFFECTED BY OVERRIDES.



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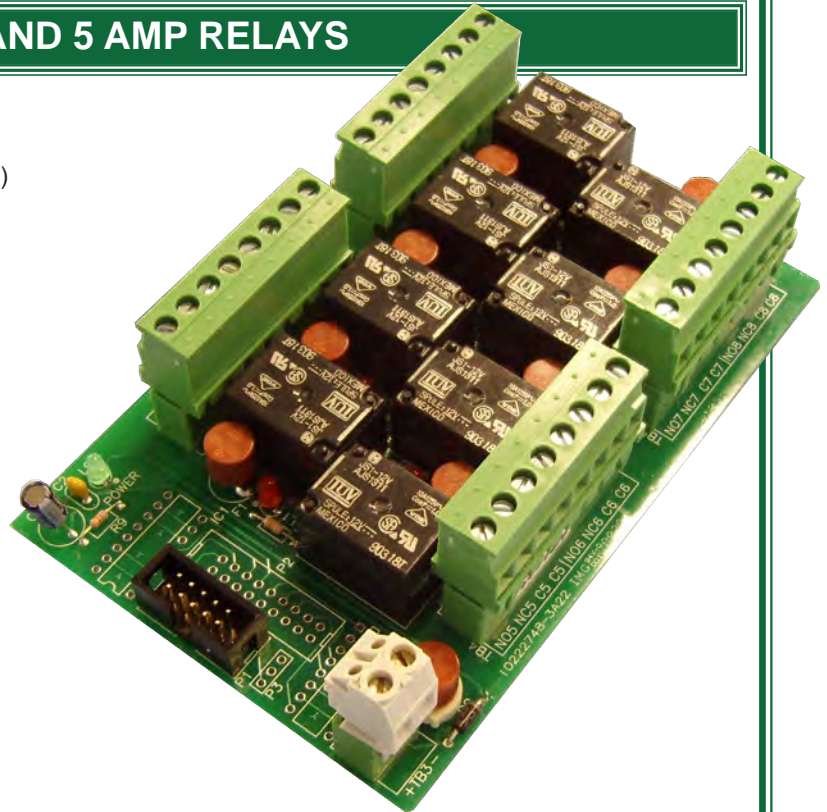
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**MODEL  
HC-0803  
HC-0803-5**

## 8 FUSED 10 AND 5 AMP RELAYS

### FEATURES:

- INTERPOSING DEVICE (DRY CONTACT RELAYS)
- 8 FUSED FORM C RELAY OUTPUTS
- 8 RED STATUS LEDs
- FUSED POWER CIRCUIT
- GREEN POWER STATUS LED
- ALL PLUG CONNECTION
- 3.25" SNAP TRACK MOUNT
- 10 AMP RELAYS
- 2 YEAR WARRANTY



### FUNCTIONAL DESCRIPTION:

The HC-0803 interfaces between control panels and door locks, lighting circuits, HVAC, etc. A red status LED is provided for each relay.

### INPUTS / OUTPUTS:

Eight control switch inputs are provided. Eight form C relay outputs are provided with the contact points plug-in fuse protected.

The relay contacts are rated as follows:

FORM CUL CLASS B		CSA
250 VAC	6 AMPS	6 AMPS
120 VAC	10 AMPS	10 AMPS
30 VDC	5 AMPS	5 AMPS

Standard plug-in fuses are 250 volt, 10 amp or 5 AMP, time lag, UL 198G. Other fuse sizes are available.

The FIELD OUTPUTS are connected to Phoenix type compression screw terminal plugs, sized for 22 to 14 AWG stranded conductors. The CONTROL INPUTS are connected via a 10-pin male header. The mating female ribbon plug is provided.

### SIZE:

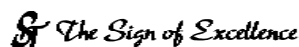
3.25" W x 5.00" L x 0.90" D  
82.6mm W x 127mm L x 22.6mm D

### POWER:

12 - 14 VDC, 370ma, 2 amp plug-in fuse, green LED indicator

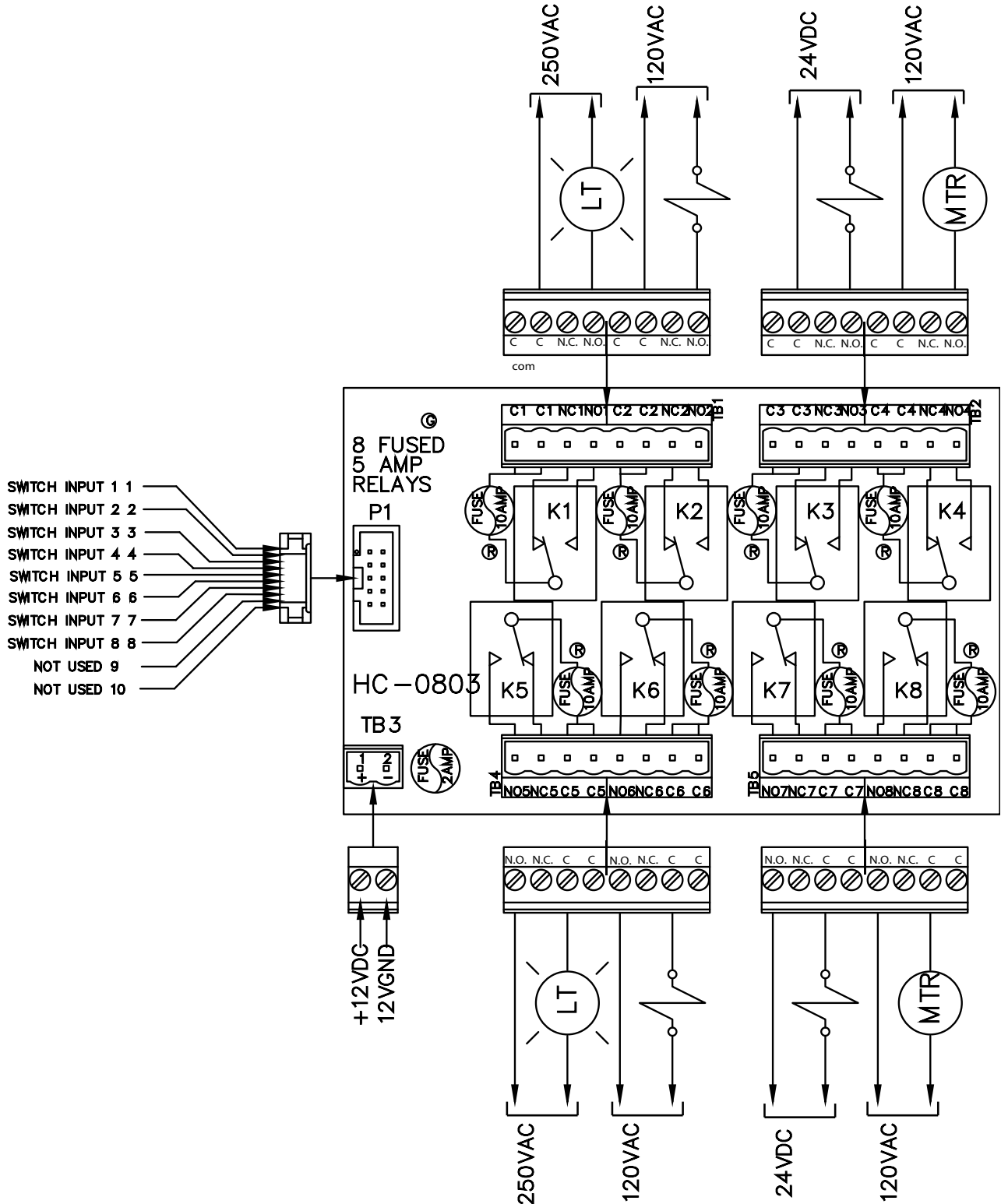
**MODEL: HC-0803      10 AMP Relays**  
**HC-0803-5      5 AMP Relays**

**\*Please note: Do not exceed a cumulative total of 10 amps when using relay common terminals for bussing.**



# MODEL

## HC-0803ver.c 8 FUSED 5 AMP RELAYS HOOK-UP DIAGRAM



\*Please note: Do not exceed a cumulative total of 10 amps when using relay common terminals for bussing.



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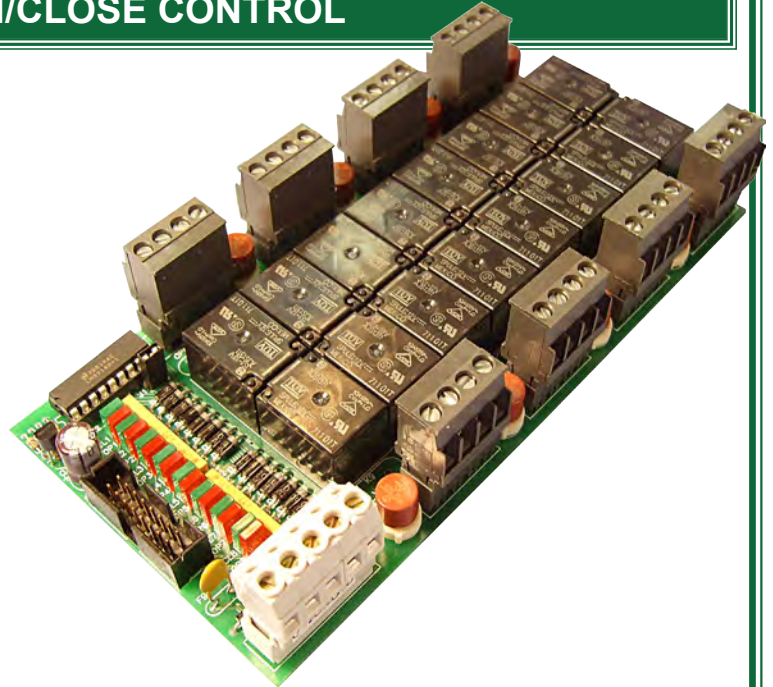
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**MODEL  
HC-0848**

## 8 DOOR OPEN/CLOSE CONTROL

### FEATURES:

- INTERPOSING DEVICE (DRY CONTACT RELAYS)
- 8 FUSED 10 AMP OPEN/CLOSE OUTPUTS
- SEQUENCING OF OPEN OUTPUTS
- 8 RED STATUS LEDES
- 8 GREEN STATUS LEDES
- RED GROUP OPEN STATUS LED
- FUSED POWER CIRCUIT
- GREEN POWER STATUS LED
- ALL PLUG CONNECTION
- 3.25" SNAP TRACK MOUNT
- 2 YEAR WARRANTY



### FUNCTIONAL DESCRIPTION:

The HC-0848 interfaces between control panels and sliding or motor door locks. A red status LED is provided for each open relay and the group open input. A green status LED is provided for each close relay and the power indicator.

### INPUTS / OUTPUTS:

Eight close, eight open and a group open inputs are provided. Eight close and eight open outputs are provided with the common points fuse protected.

The relay contacts are rated as follows:

	UL class B	CSA
125 VAC	10 AMPS	10 AMPS
30 VDC	5 AMPS	5 AMPS

Standard plug-in fuses are 250 volt, 10 amp time lag, UL 198G. Other fuse sizes are available.

Eight MOVs are optional.

The outputs are connected to Phoenix type compression screw terminal plugs sized for 22 to 12 AWG stranded conductors. The inputs are connected via a 16-pin male header. The mating female ribbon plug is provided.

### SIZE:

3.25" W x 6.50" L x 0.90" D  
82.6mm W x 165mm L x 22.6mm D

### POWER:

12 - 14 VDC, 370ma, 2 amp plug-in fuse, green LED indicated



# MODEL

## HC-0848 16 (8 PAIR) FUSED 5 AMP RELAYS HOOK-UP DIAGRAM

