



## ***INSTALLATION GUIDE & OPERATION MANUAL***

### **MOTOR OPERATOR** *(V3.02 Controls)*

**FCS SERIES**  
**MODEL 5045 & 5025**  
**1/2 HP**  
**&**  
**FCS SERIES**  
**MODEL 7545 & 7525**  
**3/4 HP**

FCS SERIES, U.S. GEAR  
COVERED UNDER US PATENTS #6,900,602, #7,055,283 AND ADDITIONAL PATENTS PENDING

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## I. GENERAL NOTES



### WARNING

To reduce the risk of severe injury or death, read and follow all installation instructions.

- The operator must be installed by qualified door mechanics using proper tools and equipment.
- Make sure the available power supply to be connected to the operator is of the same voltage, frequency and phase as indicated on the nameplate of the control panel.
- Read and understand the manual before installing the operator.
- Read and understand the wiring diagram of the operator, control station and any other equipment to be connected to the operator.
- Always disconnect power when installing or servicing the door operator or door.
- All wiring is to comply with National Electrical Code (NEC) and local code requirements.
- Any change in mounting position may result in change of operator rotation and consequently in change of control functions. Consult factory for any changes.

## II. SPECIFICATIONS

	(1/2 HP)		(3/4 HP)	
INPUT	FCS 5045	FCS 5025	FCS 7545	FCS 7525
Voltage	120VAC	208~240VAC	120VAC	208~240VAC
Phase	1	1	1	1
Frequency	60 Hz	50/60 Hz	60 Hz	50/60 Hz
Full Load Current	5.5 amps	2.75 amps	6 amps	3 amps
Wire Gauge	14 AWG	14 AWG	14 AWG	14 AWG

	(1/2 HP)		(3/4 HP)	
MOTOR	FCS 5045	FCS 5025	FCS 7545	FCS 7525
Horsepower	1/2	1/2	3/4	3/4
Voltage	24VDC	24VDC	24VDC	24VDC
Current	13 amps	13 amps	17 amps	17 amps
RPM	1700	1700	1700	1700
Gear Ratio	43:1	43:1	43:1	43:1
Output RPM	39	39	39	39
Door Speed	6 or 9 in/sec	6 or 9 in/sec	6 or 9 in/sec	6 or 9 in/sec
Sprocket Size	6 in/sec: 18T	6 in/sec: 18T	6 in/sec: 18T	6 in/sec: 18T
	9 in/sec: 28T	9 in/sec: 28T	9 in/sec: 28T	9 in/sec: 28T
Drive Chain	#40	#40	#40	#40
Duty	10 cycles/hour	10 cycles/hour	10 cycles/hour	10 cycles/hour
Rating <sup>1</sup>	140 ft-lb./sec (1680 in-lb./sec)	140 ft-lb./sec (1680 in-lb./sec)	180 ft-lb./sec (2160 in-lb./sec)	180 ft-lb./sec (2160 in-lb./sec)
Brake	Solenoid Actuated	Solenoid Actuated	Solenoid Actuated	Solenoid Actuated
Battery	(2) 12V 17.2AH or above	(2) 12V 17.2AH or above	(2) 12V 17.2AH or above	(2) 12V 17.2AH or above
Wiring Diagram	EP 107 A V3.02	EP 107 A (230) V3.02	EP 307 A V3.02	EP 307 A (230) V3.02
<sup>1</sup> Ratings tested at the output shaft.				

### ENTRAPMENT PROTECTION

Sensing Edge	Sensing device attached to the leading edge of the door
Exit Bars	Exit hardware positioned on each side of door to allow emergency exit.

### III. INSTALLATION INSTRUCTIONS

#### 1. Installation Positions

##### Operator:

Operators are shipped as a complete unit and are fastened directly to the header using the provided lag screws.

Drill 1/4" pilot holes prior to installing the lag screws. A template that calls out the proper pilot hole locations will be provided with the operator.

Operator should be installed on the centerline of the header and butted up against the back wall of the pocket. Install (2) bolts into the pilot holes drilled at the back of the header. Leave 1/2" space between the header and the head of the lag bolt. Slide the operator onto the lag bolts making sure the operator is butted up against the back wall of the pocket. Hold the operator in place by installing (2) #10 track screws through the 1/4" holes located at the front of the motor bracket flange. Retrieve the remaining lag bolts and complete the operator installation by tightening all (4) lag bolts into the header.

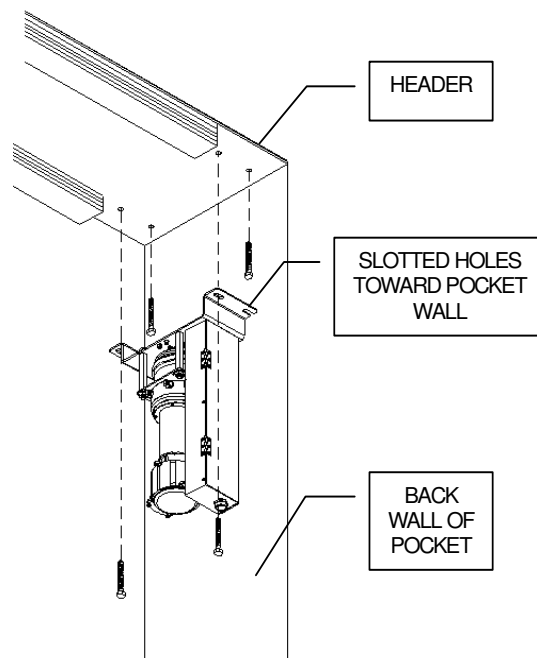


Figure 1.a. Installing Operator.

## 2. Control Installation

### A. Control Box Mounting

Locate and unpack the control box marked Box A. The Control Box should be installed on the back wall of the pocket using the appropriate fasteners based on the wall construction (not provided by Cookson). See **Figure 2.a**. The bottom of the Control Box should at least 24" from the finished floor to provide ample room for any junction boxes and wiring. Use the measurements provided in **Figure 2.a** and **Figure 2.b** to mark the required hole locations. Partially insert the top (2) fasteners, leaving approximately 1/4" between the back wall of the header and the fastener head. Position the Control Box mounts over the installed fasteners via the large area of the keyhole. Slide operator to control down so that the fasteners are positioned in the narrow, top portion of the keyhole. Tighten the fasteners. Insert fasteners in the narrow, top portion of the keyholes on the bottom (2) mounts.

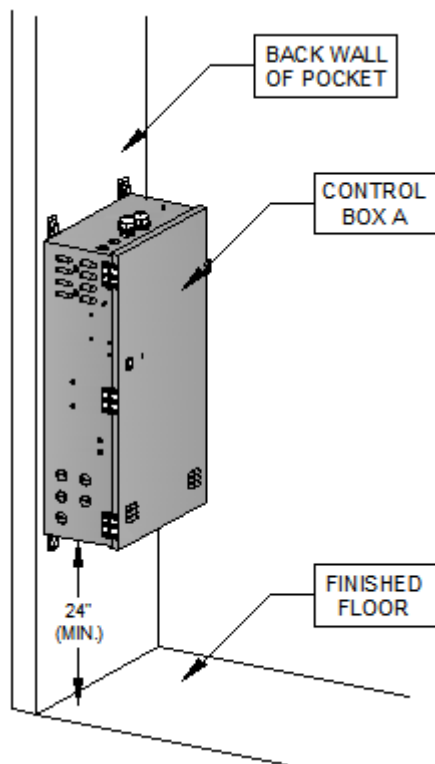


Figure 2.a. Installed Control Box.

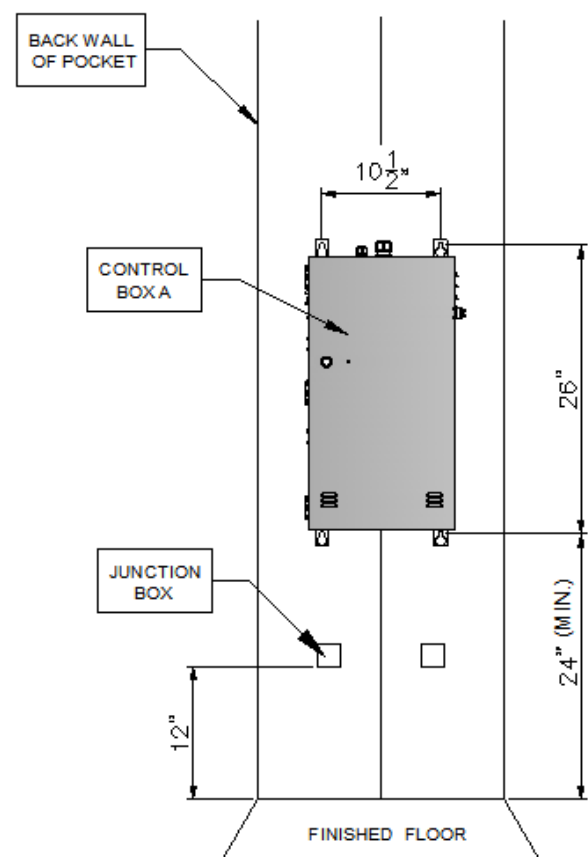


Figure 2.b. Control Box Hole Locations.

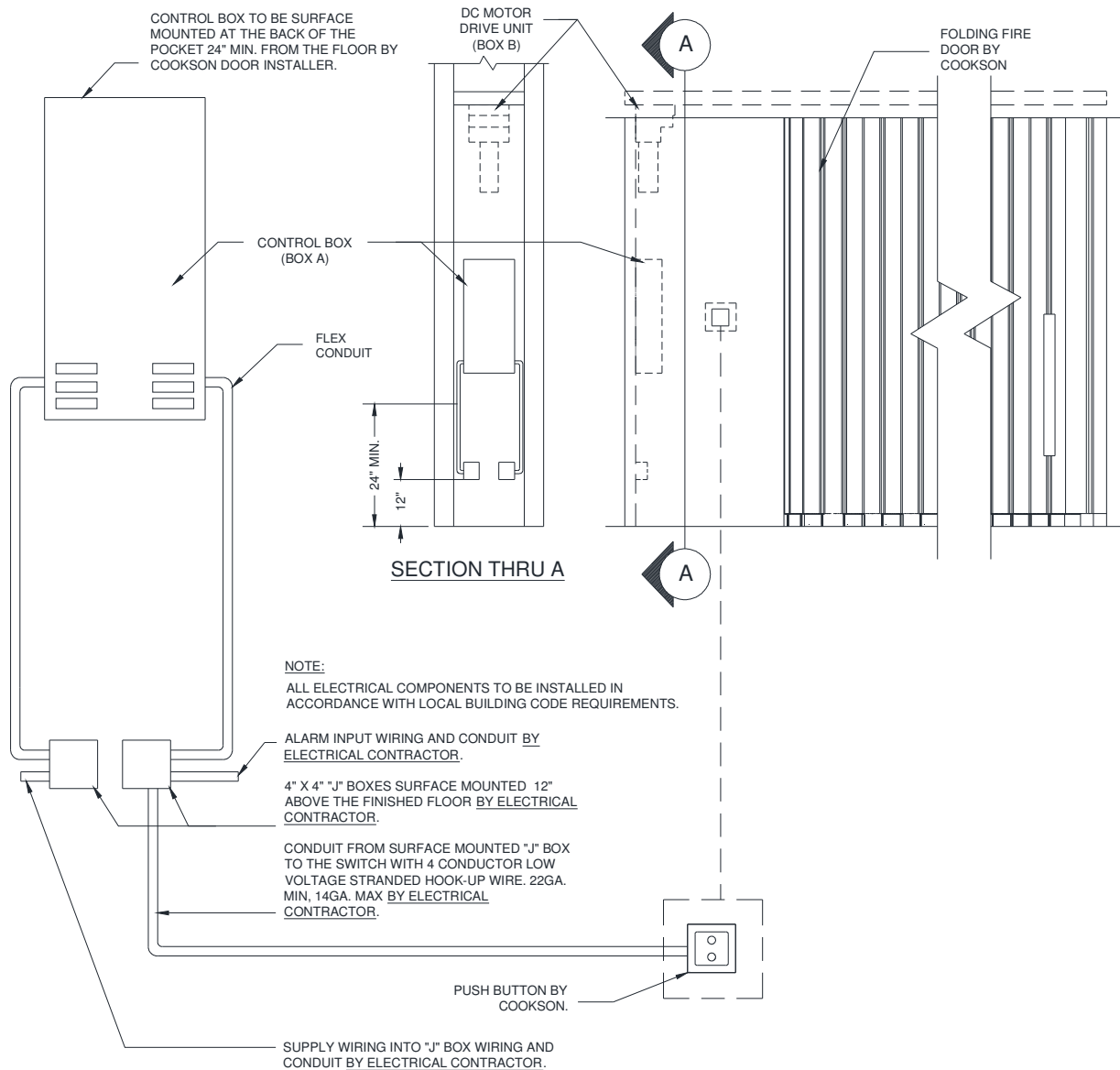


Figure 2.c. Installed Operator and Control Box

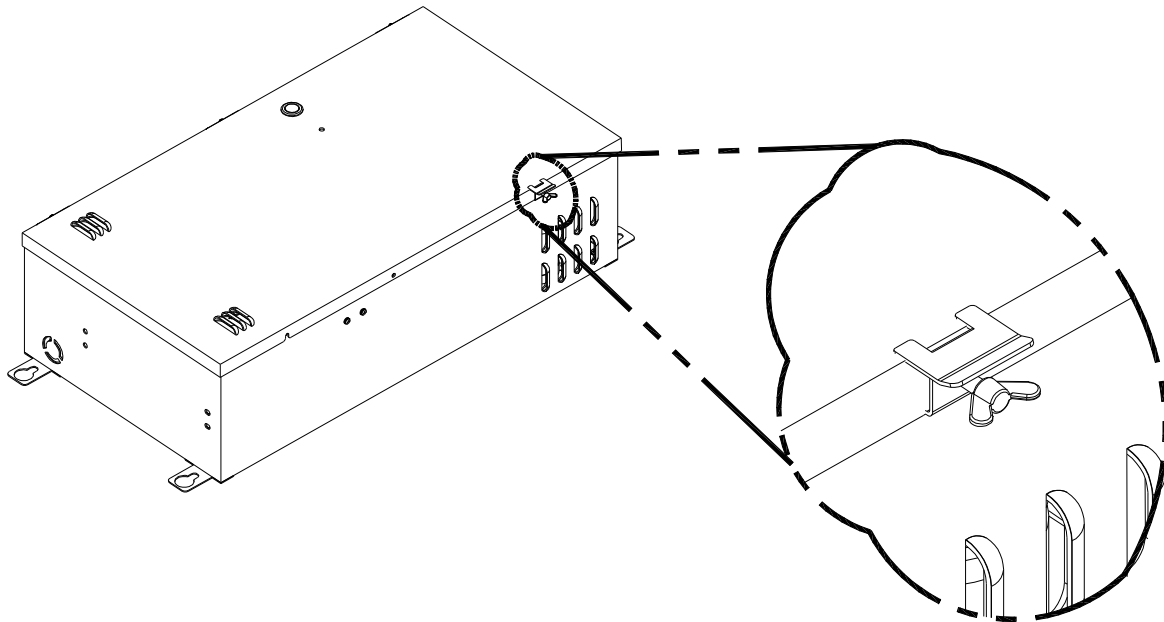


Figure 2.d. Control Panel Door Latch

#### *NEC Compliance Upgrades*

To comply with the requirements for electrical installations per the National electric code, Kontrol Fire operator control panels are provided with a plunger switch that turns off power to the motor operator, and the 24VDC system at exposed terminals, as soon as the control panel door is opened beyond its latched position. The input power wire terminals are covered and labeled to “disconnect power before removing cover.” The DC battery terminals are also covered to limit contact with the 24 volt terminals and a fuse cover is provided for added protection. This setup is designed to prevent access to live wires within the control panel when the control box door is open.

#### *B. Wiring Procedure for Operator and Control Panel*

1. *For BOX (A) Main Control Panel connections to Motor Operator BOX(B)*
  - A separate circuit is recommended for the operator.
  - The flexible cable provided with the Main Control Panel contains all the wires that must be connected to the Motor Operator. Connections are already made in the Main Control Panel.
  - Attach flexible cable to Box (B).
  - Field connections required at the Motor Operator are clearly marked on the terminal block end of all wires.

## FCS-5045, FCS-7545 BATTERY SPECIFICATION (12VDC 17.2AH\*2)

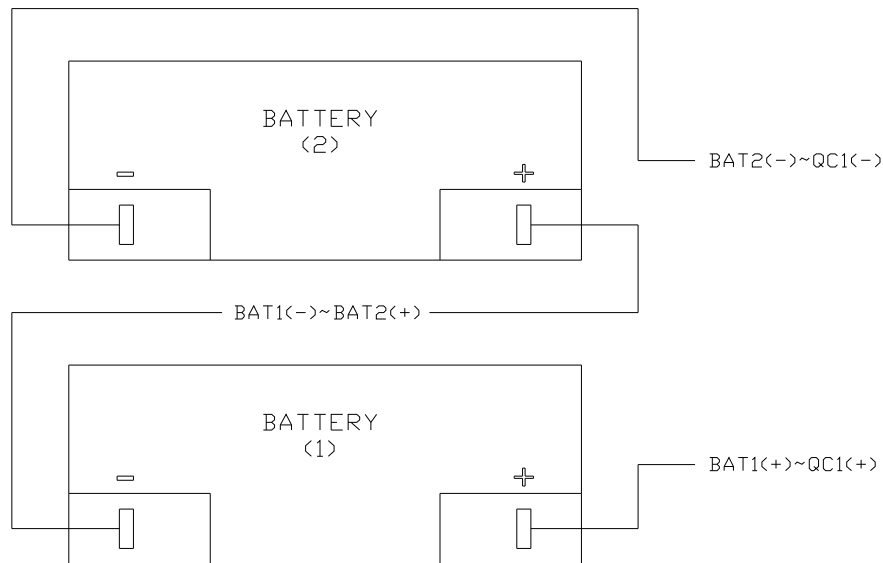


Figure 2.e. Battery Diagram

### 2. For BOX (A) Battery Enclosure

1	BAT1(-)	→	BAT2(+)	(QC= red quick connect plug)
2	BAT1(+)	→	QC1(+)	
3	BAT2(-)	→	QC1(-)	

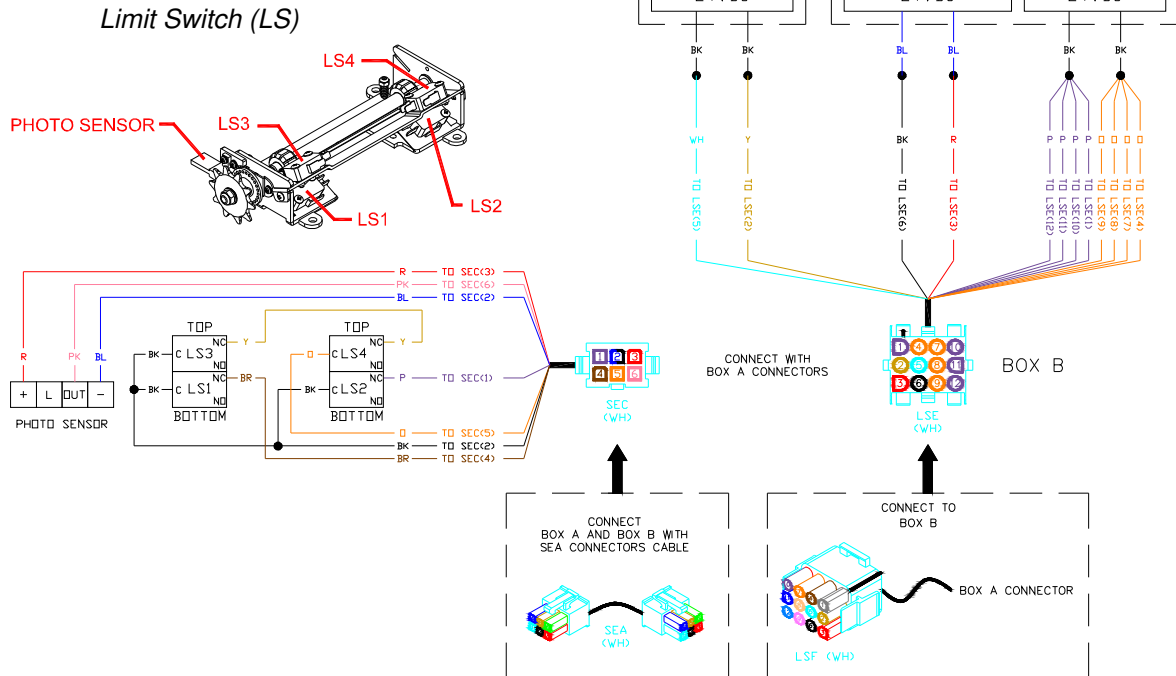
### 3. Connections required at Motor Operator BOX (B):

See Figure 2.f. DC Motor Connections located on page 9 and 10.



Figure 2.f. DC Motor Connections

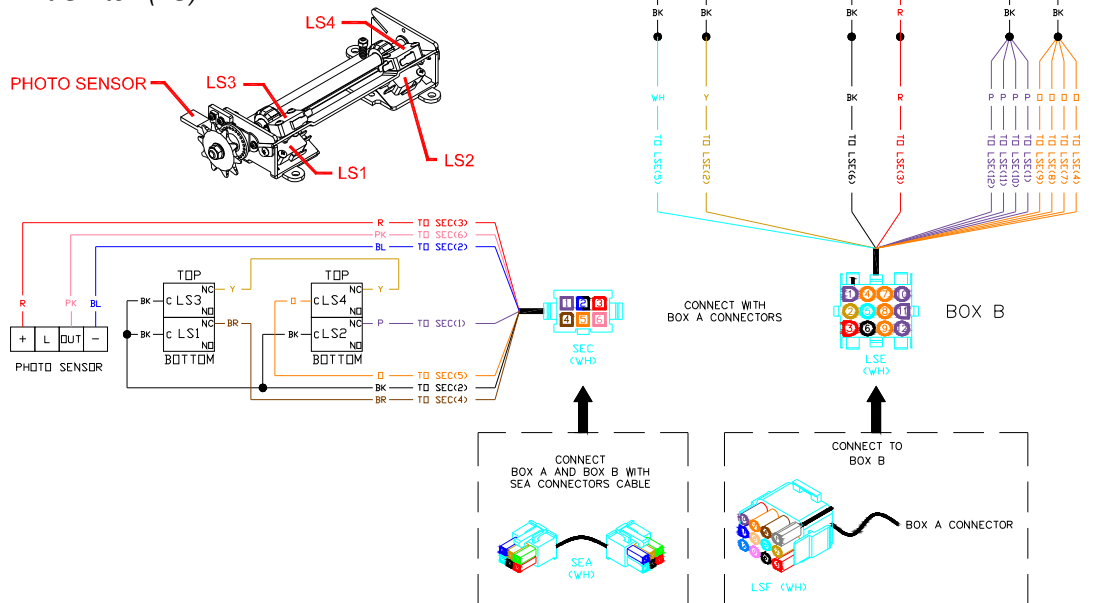
FCS - 5045  
(CONTROL BOX B)



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FCS - 7545  
(CONTROL BOX B)

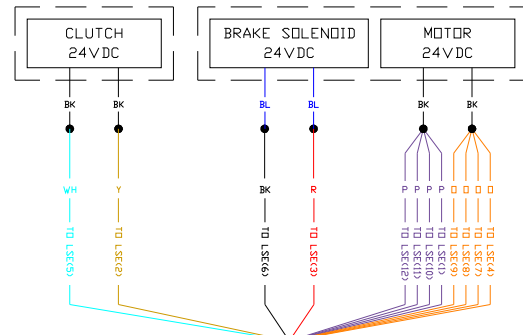
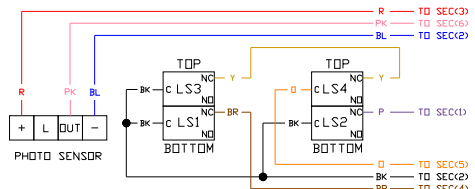
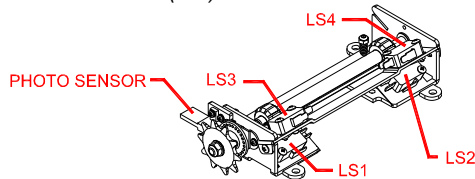
Limit Switch (LS)



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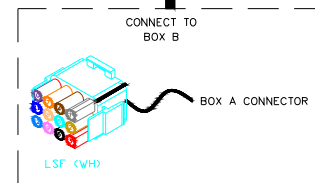
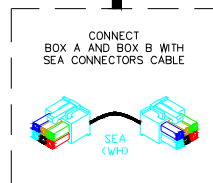
## FCS - 5025 (CONTROL BOX B)

### Limit Switch (LS)



CONNECT WITH  
BOX A CONNECTORS

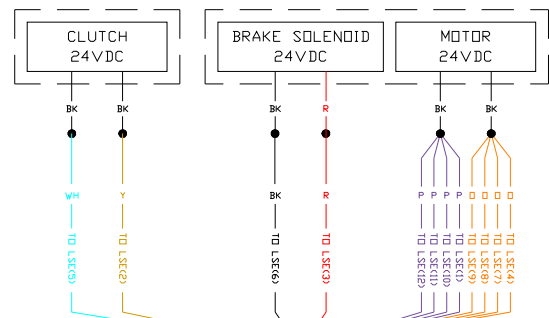
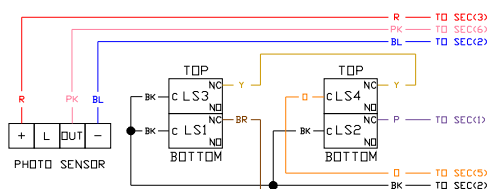
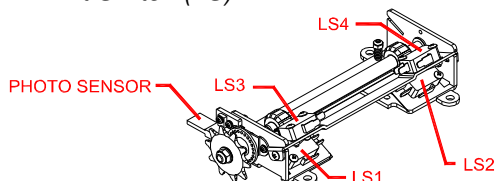
BOX B



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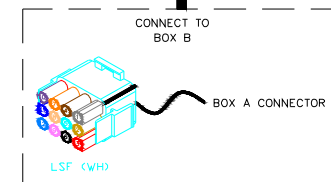
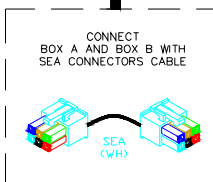
## FCS - 7525 (CONTROL BOX B)

### Limit Switch (LS)



CONNECT WITH  
BOX A CONNECTORS

BOX B



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### C. Wiring Push Button or Key Switch

Push button supplied as standard by Cookson. Key Switch option is available.

1. If possible, position the push button or key switch such that the door is visible while operating
2. See **Figure 2.g.** for wiring information. (Continuous Mode shown.)

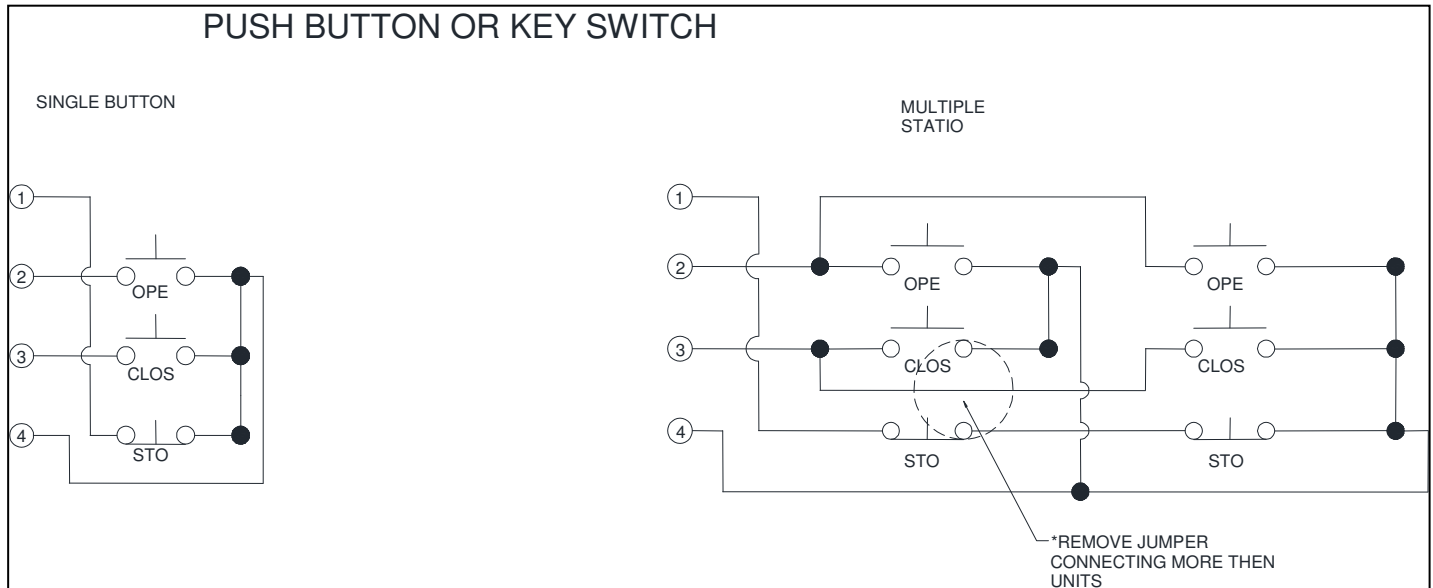


Figure 2.g. Control Station Wiring Diagram

### 3. Limit Switch Adjustment



#### WARNING

To avoid serious injury or death, disconnect power before manually moving limit switch cams.

Make sure the open and close limit cams are positioned between the limit switch actuators before proceeding with adjustments. Refer to **Figure 3.a.**

1. The operator is factory set so that the limit switch is bypassed in order to prevent possible damage when threading the chain. Before setting the limits, remove the screw shown in **Figure 3.b** in order to engage the limit switch assembly.
2. Make sure main power supply is turned off and batteries are unplugged. The clutch will not be engaged. You will be able to manually move the lead post trolley by pushing it.

3. Move the lead post toward the striker (Closing direction). Note the movement of the white limit cams. They will be moving toward the close limit switches.

#### 4. Single Slide Doors:

Position the lead member trolley so the front of the trolley is 3 1/2 inches from the back of the striker. Refer to **Figure 3.c.**

#### Bi-Parting Doors:

Position the lead member trolleys so the front of each trolley is 2 1/2 inches from the marked center point of the header. Refer to **Figure 3.d.**

5. Set the close limit by depressing the spring-loaded locking bar (G). Rotate the white limit cam closest to the close limit until it trips the bottom switch on the close limit side. Release the locking bar (G) and make sure the upturned lip is engaged in a slot on each limit cam. This insures that your setting is maintained.
6. Manually move the lead post trolley into the pocket. The white limit cam will be moving toward the open limits.
7. Position the lead post trolley in the pocket area so the front of the trolley is 6 inches behind the front of the pocket (or front of the pocket door). *Refer to Figure 3.e.*
8. Repeat **Step 5** of the **Initial Limit Switch Adjustment** to set the open limit.
9. This completes the initial limit switch setting. Final adjustments be required after installation of door is complete. Note that each notch on the limit switch cam will change the door position by approximately 3/8 inch.
10. Test control and operator before installing curtain.
11. Once initial limits are set, refer back to **Section 6. Door Section Install** of the Door Installation Guide once the initial limits are set.

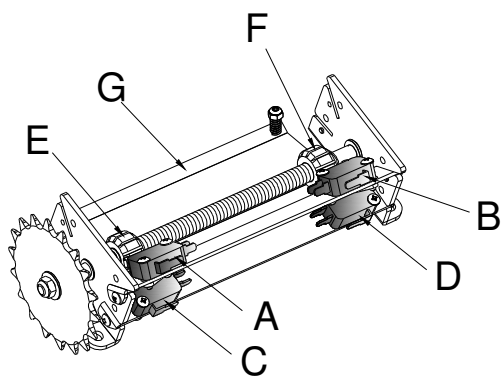


Figure 3.a. Limit Switch Adjustment

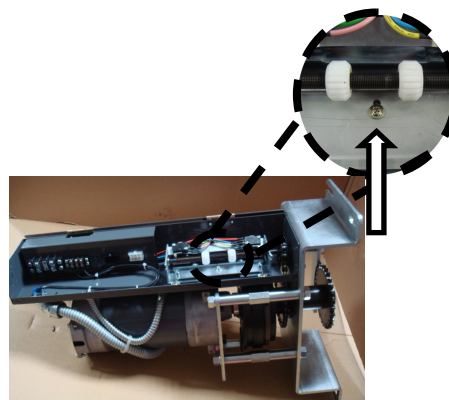


Figure 3.b. Limit Switch Bypass Screw

**NOTE:** (A/C) is normally the OPEN limit switch and (B/D) is normally the CLOSE limit switch.

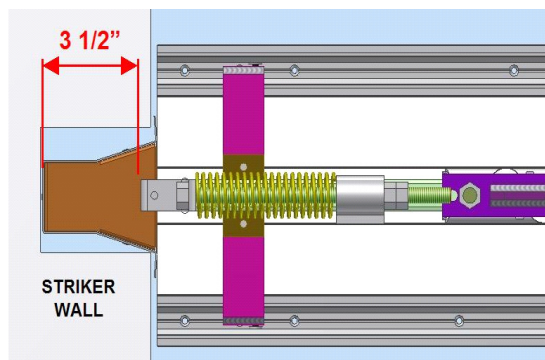


Figure 3.c. Single-Slide Closed Limit (Bottom View)

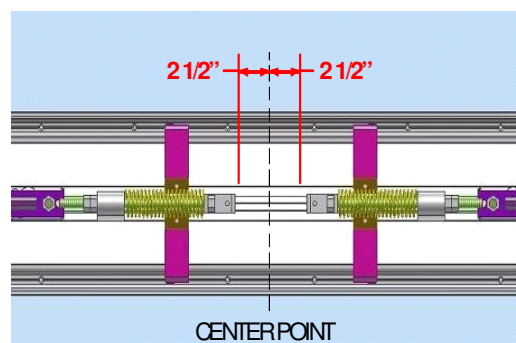


Figure 3.d. Bi-Part Closed Limit (Bottom View)

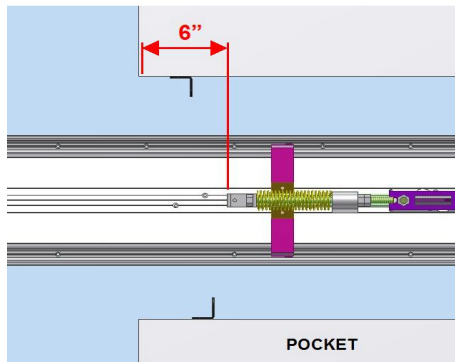


Figure 3e. Open Limit Position (Bottom View)

#### 4. Lead Post Wiring Instructions



#### WARNING

Disconnect power at the fuse box and the operator before proceeding with any wiring.

##### A. Precautions

1. Do not install any wiring or attempt to run this operator without checking the wiring diagram located on the inside of the control box cover.
2. Do not turn on power until you have finished making all power and control wiring connections.
3. Any wire connecting to the control panel must be protected by conduit or other means to ensure the safety and permanency of the wiring.
4. Use copper wire inside the control panel.
5. The operator must be properly grounded. The ground screw, plated green, is located inside the control panel.



#### WARNING

Failure to properly ground the operator could result in electric shock and serious injury or death.

##### B. Procedure

1. Do not run control wiring in the same conduit as power wiring.
2. After installation, be sure that the operator, controls, and sensing edge or other entrapment protection devices have been tested and function properly.
3. Refer to
  - Single-Slide doors: **Figure 4a.**
  - Bi-Part Single Operator: **Figure 4b.**
  - Bi-Part Dual Operator: **Figure 4c.**

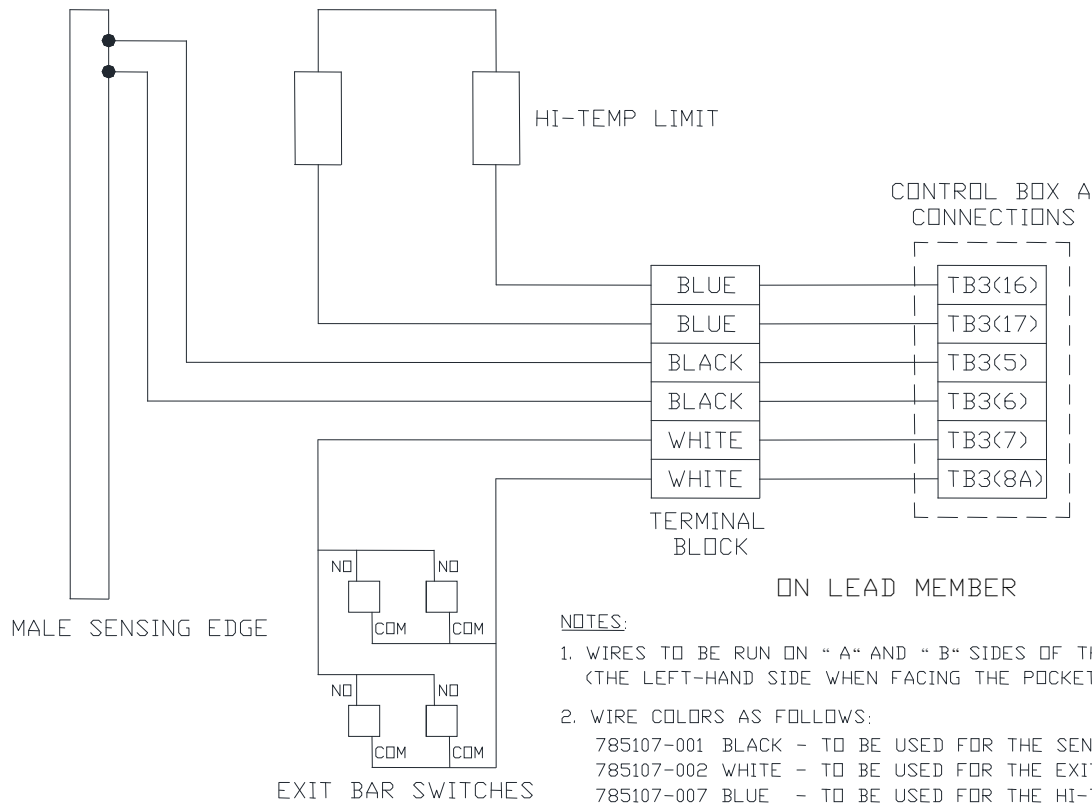


Figure 4a. Lead Post Wiring Diagram (Single-Slide Doors)

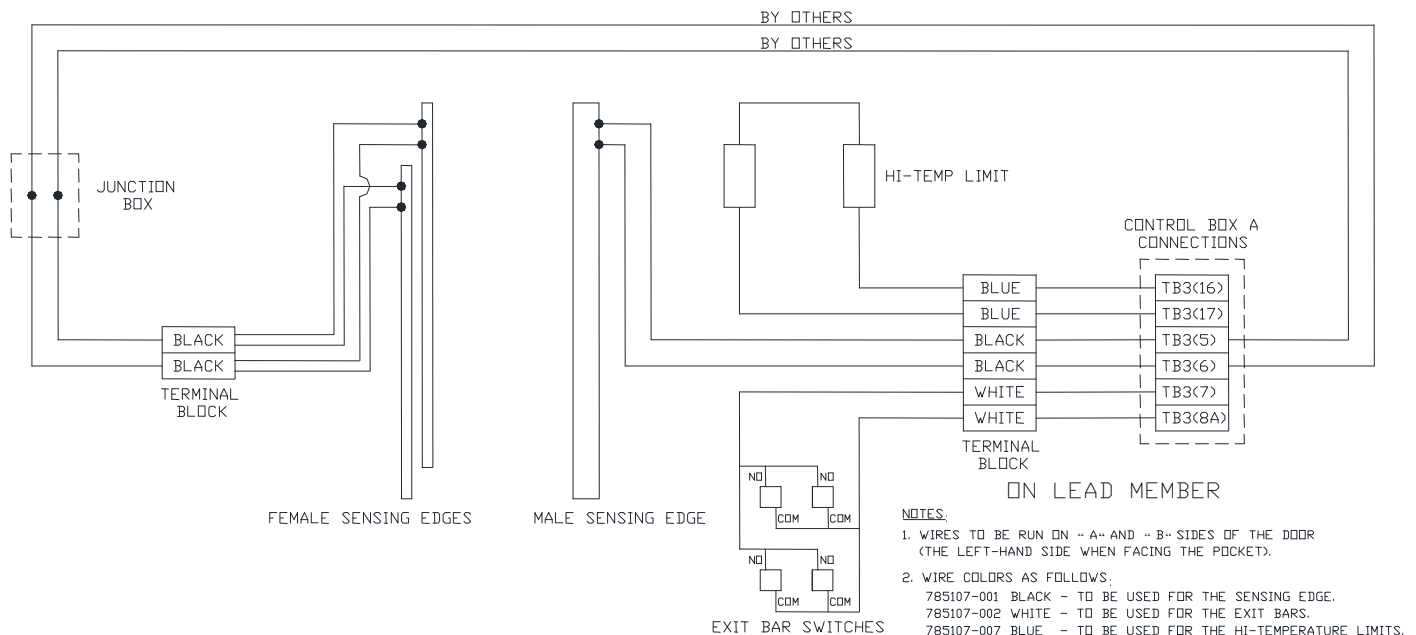


Figure 4b. Lead Post Wiring Diagram (Single Operator Bi-Parting Doors)

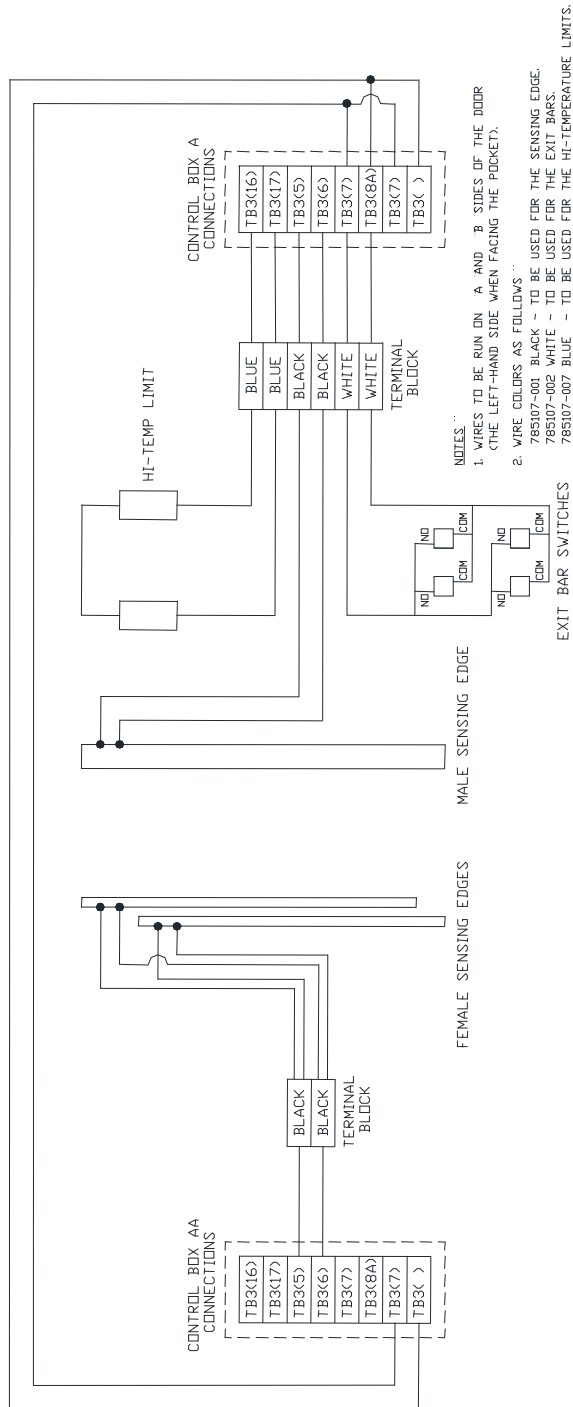


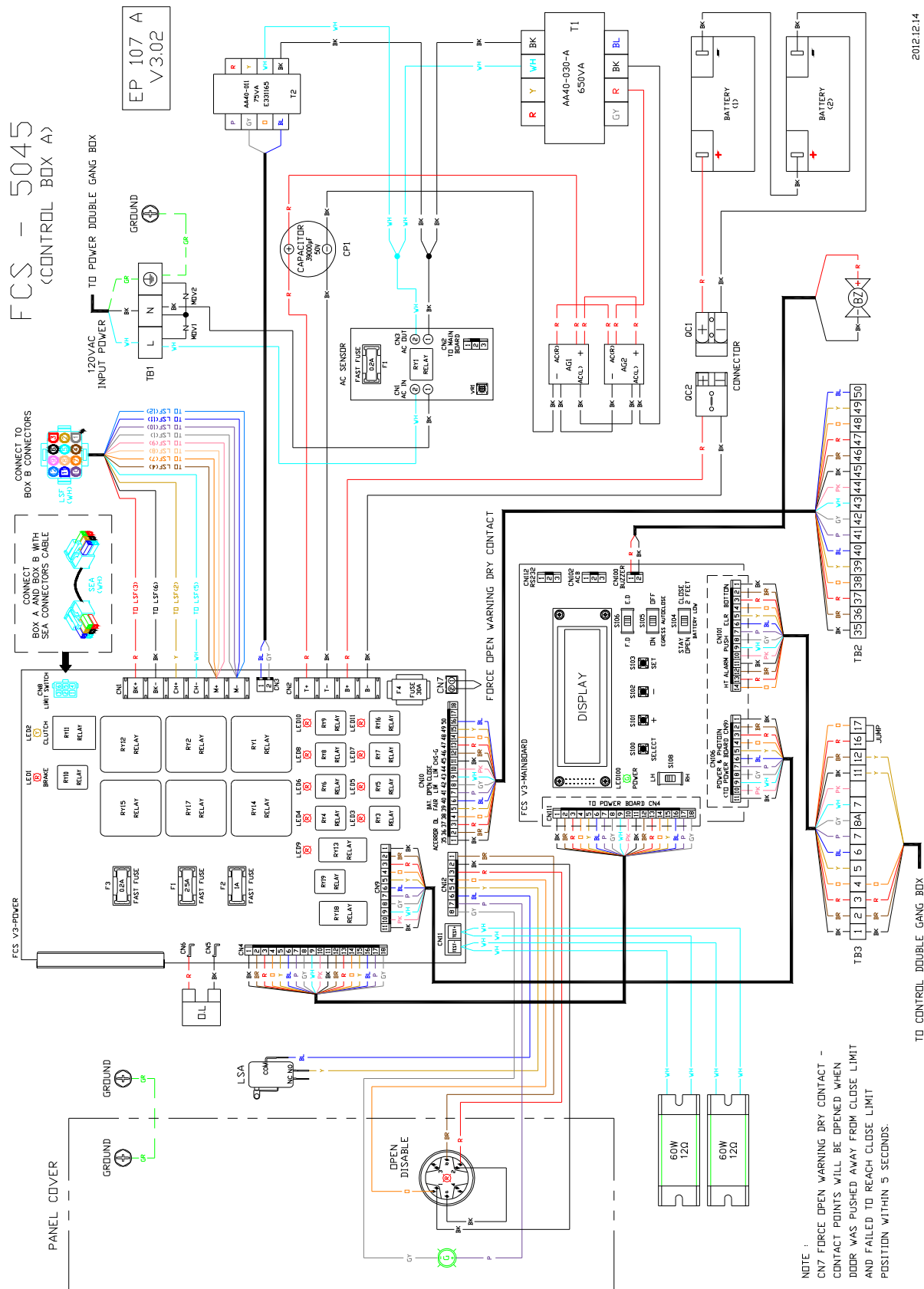
Figure 4c. Lead Post Wiring Diagram (Dual Operator Bi-Parting Doors)

## **5. Check List**

- ☐ Make sure all wires are connected, supply power is **OFF**, disconnect the battery wires.
- ☐ Make sure Alarm Wires are connected.
  - TB3 termination 11 & 12 normally closed for dry contact.
  - Set Open and Close limits and position the door at the close limit before connecting alarm wires.
- ☐ Jump High Limit connection, TB3 (16 & 17).
- ☐ Adjust Emergency Opening Distance (if required)
  - Standard door speed is 9 inches per second.
  - Timer setup to increases opening travel. Adds 9" of egress opening for each second on the timer.
  - Factory Default: Approximately 54".
  - Refer to Section 13. Function and timer set-up (5) Egress Exit Open timer on page 27.
- ☐ Check that Battery wires are connected and correct.
- ☐ Connect 120VAC main power.



## 6. Wiring Diagram



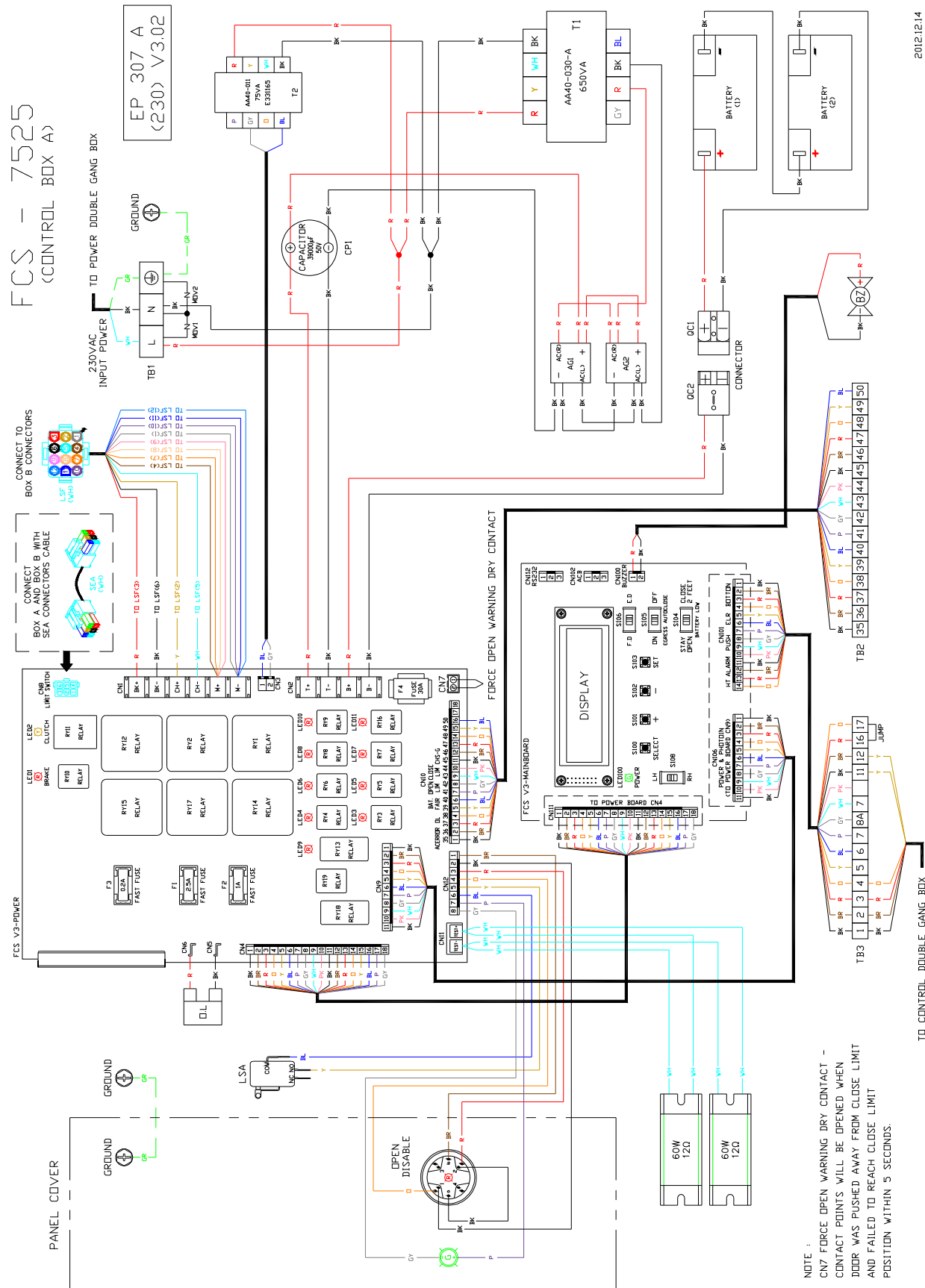
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NOTE :  
CN7 FORCE OPEN WARNING DRY CONTACT -  
CONTACT POINTS WILL BE OPENED WHEN  
DOOR WAS PUSHED AWAY FROM CLOSE LIMIT  
AND FAILED TO REACH CLOSE LIMIT  
POSITION WITHIN 5 SECONDS.



NOTE :  
CN7 FORCE OPEN WARNING DRY CONTACT -  
CONTACT POINTS WILL BE OPENED WHEN  
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AND FAILED TO REACH CLOSE LIMIT  
POSITION WITHIN 5 SECONDS.





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Figure 6.a. Model FCS Wiring Diagram

## 7. Field Wiring Terminal Strip Connections

TB2										
35	36	37	38	39	40	41	42	43	44	45
AC power warning dry contact, 24VAC/DC, 0.5A Max. Contact open when abnormal	Overload warning dry contact, 24VAC/DC, 0.5A Max. Contact open when abnormal.			Battery voltage warning dry contact, 24VAC/DC, 0.5A Max. Contact open when abnormal.		LH-Open limit RH-Close limit dry contact, 24VAC/DC, 0.5A Max. Contact open when door reaches limit.	LH-Open limit RH-Close limit dry contact, 24VAC/DC, 0.5A Max. Contact open when door reaches limit.	Charge warning dry contact, 24VAC/DC, 0.5A Max. Contact open when abnormal.	High Temp or Alarm or Overload dry contact, 24VAC/DC, 0.5A Max. Contact open when abnormal.	
										50
										-
										+
										Power Output 24VDC/1A Max. Power output when Alarm condition.

TB3										
1	2	3	4	5	6	7	8A	7	12	17
Control Station Key Switch or 3-button control station				Sensing edge connection N/O. (End of line resistor)		Egress bar connections.		Dry contact Alarm connection.	High limit (Jump when not connected to high limit).	
Stop	Open	Close	Com							
<b>Note:</b> 1. When using Key Switch without a stop button, terminals 1 & 4 should be jumped and <u>ONLY</u> select constant pressure close and open. 2. CN7 Force Open Warning Dry Contact – contact points will be opened when door was pushed away from close limit and failed to reach close limit position within 5 seconds.										

## 8. Functions Table

Item	Function	Normal Condition	Alarm Condition
1	Control Station TB3 (1,2,3,4)	Constant Pressure <b>OPEN</b> and <b>CLOSE</b>	Door will <b>CLOSE</b> . Constant pressure OPEN but auto closing.
2	Sensing Edge TB3 (5 & 6) (See section 13, (13) and (14))	<ul style="list-style-type: none"> <li>3 Sec. reverse and then stop</li> <li>Sensing Edge can be inactive during the initial closing. This inactive distance can be adjusted.</li> <li>Sensing Edge is inactive during last few inches of door closing. This inactive distance can be adjusted.</li> <li>When Sensing Edge is engaged, Exit Hardware and push button station will be active.</li> </ul>	<ul style="list-style-type: none"> <li>Sensing edge will reverse door travel for 3 seconds and then door will close again. If the obstruction is not removed, the door will stop on the obstruction on the 3<sup>rd</sup> closing</li> </ul>
3	Exit Direction [(Exit Bar Connection TB3 (7, 8A or (blank)) (Only label 7 & 8 A, and a blank)	All exit bars are functional.	<ul style="list-style-type: none"> <li>Exit direction will dictate which exit bar will be functional.</li> <li>7 &amp; 8A-active during both normal and alarm condition.</li> <li>7 &amp; (blank) -active only during normal condition, <b>not</b> alarm condition.</li> </ul>
4	High Temperature Limit TB3 (16 & 17)	No effect of the door operation.	All three conditions have to be met to disable the opening function of the door: alarm condition, door close condition, and high limit break.
5	Clutch Always Engage at Opening setting (Logic setting) (See Section 13, (11))	Select ( <b>NO</b> ) to disengage clutch when door is in the open position. This can prolong battery life during power failure.	
6	Fire door selection (S106) (F.D. & E.D. Switch) (E.D. Selected) FD – Fire Door without Exit Bar ED – Fire Door with Exit Bar	No effect on regular operation of the door.	<ul style="list-style-type: none"> <li>If selected (<b>F.D.</b>), no exit bar will be functional. When door reaches close limit, all control function will cease per NFPA 80 2007. Control function is back to normal only after alarm condition has been cleared.</li> <li>If E. D. selected.), exit bar will be functional.</li> </ul>
7	Battery Warning Closing (S104) (Stay Open & Close 2 Feet Switch)	<ul style="list-style-type: none"> <li>If selected (<b>Close 2 Feet</b>), when door is in the open limit position, it will automatically <b>CLOSE</b> 24 inches during battery low. This is to notify the user that the battery needs to be checked. This is in addition to normal sound and signal outputs. The clutch will be disengaged when the door is in the closed 2' position due to the low battery.</li> <li>If selected (<b>Stay Open</b>), normal sound and signal outputs will apply. Battery Needs to be checked</li> </ul>	Battery Low sound and signal outputs continue to happen after the door has closed during alarm. Clutch will be engaged during alarm condition.

### Functions Table (Continued)

Item	Function	Normal Condition	Alarm Condition
8	Exit Bar Setting (S105) (Switch: ON Setting) (Logic setting) (See Section 13, (6))	<ul style="list-style-type: none"> <li>If selected (<b>ON</b>), door will OPEN to preset distance, pause and then <b>CLOSE</b>. Pause time can be adjusted between 3 - 99 seconds via Logic Setting.</li> <li>If <b>not</b> selected (<b>OFF</b>), door will <b>OPEN</b> to preset time/distance and stop.</li> </ul>	Door will <b>OPEN</b> to preset distance, pause and then <b>CLOSE</b> . Pause time is the same as normal condition.
9	Exit Bar Opening (6-99 seconds). (Logic Setting) (See Section 13, (5))	Can increase the opening time/distance of Exit Bar. Minimum time is 6 seconds, which will provide approximately 54 inches of opening. Maximum distance is to open limit. Factory default is 6 seconds.	
10	Security Door Option (Switch: E.D. Mode) Security Mode : select Yes (Logic setting) (See Section 13, (3))	Exit Bar will not be functional. Door can only be opened or closed via push-button control station or key switch.	Exit Bar will be functional.
11	Security Door Power Loss of AC Power (Switch: E.D. Mode) Auto Close : select Yes In Security Mode (See Section 13, (4))	<ul style="list-style-type: none"> <li>If both Security Door Option and Security Door Power are selected (<b>YES</b>), door will automatically <b>CLOSE</b> during power failure and Exit Bar will be functional.</li> <li>If selected (<b>NO</b>), then only Security Door Option is active. Door will not <b>CLOSE</b> during power failure.</li> </ul>	Door will auto <b>CLOSE</b> due to alarm and Exit Bar will be active.
12	Alarm Delay Time (Logic setting) (See Section 13, (7))	No effect on normal operation.	<ul style="list-style-type: none"> <li>Select 0~10 second delay, but alarm warning power/signal is present as soon as alarm condition happens. This allows pre-warning before door starts closing.</li> </ul>
13	Clock (Logic setting) (See Section 13, (8))	No effect in operation.	
14	Battery load test time and setting (Logic setting) (See Section 13, (9))	Not necessary to specify. If a specific time is needed, need to set clock.	
15	Alarm Restore Auto Open (Logic setting) (See Section 13, (12))	No affect in operation.	<ul style="list-style-type: none"> <li>When alarm clears door will auto open.</li> </ul>

## 9. Output Warnings













Item	Terminals	Description	Contact Type
1	35 & 36	AC Power Warning	Dry Contact
2	37 & 38	Overload Warning	Dry Contact
3	39 & 40	Battery Voltage Warning	Dry Contact
4	41 & 42	LH-Open Limit RH-Close Limit	Dry Contact
5	43 & 44	LH-Close Limit RH-Open Limit	Dry Contact
6	45 & 46	Charge Warning	Dry Contact
7	47 & 48	High Temp or Alarm or Overload	Dry Contact
8	49 & 50	Power Output	24VDC
9	CN7	Warning Output	Dry Contact

## 10. Sound Warnings





Item	Description	Sound
A	AC power loss warning signal	B_____ B.B. B_____ B.B. B_____ B.B. ....
B	Overload warning signal	B_____ B. B_____ B. B_____ B. ....
C	Battery failure warning signal	B_____ B.B.B. B_____ B.B.B. B_____ B.B.B. ....
D	Alarm warning signal or high temperature	B_____ B_____ B_____ B_____ .....
E	T1,4 not connected or control panel cover opened	B.B.B.B. B.B.B.B. B.B.B.B. ....



## 11. Light Indication

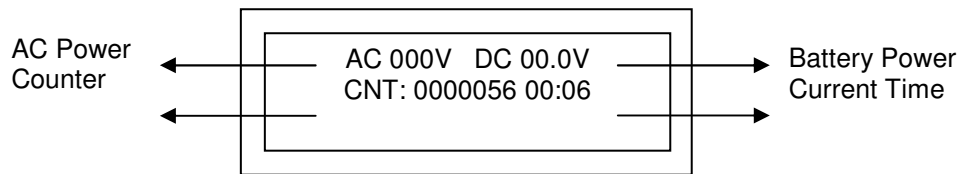
Light	Function	Color	ON	OFF
 LED1	Brake	Red	Activated	Not Activated
 LED2	Clutch	Yellow	Activated	Not Activated
 LED3	AC Failure	Red	Normal	Abnormal
 LED4	Overload	Red	Normal	Abnormal
 LED5	Battery Failure	Red	Normal	Abnormal
 LED6	Aux. Open Limit Contact	Red	Not at open limit	Door reached open (T41&42 output)
 LED7	Aux. Close Limit Contact	Red	Not at close limit	Door reached close (T43&44 output)
 LED8	Charge Voltage Failure	Red	Normal	Abnormal
 LED9	MCU Failure	Red	Normal	Abnormal
 LED10	Alarm Power Output	Red	Abnormal	Normal
 LED11	High Limit or Alarm or OL	Red	Normal	Abnormal
 LED100	Input Power	Green	Normal	Abnormal

## 12. Switch Indication

S106	F.D.  E.D.	Fire door or Egress door selection	"F.D": Fire door. "E.D": Egress door.
S105	ON  OFF	Egress Bar setting	"ON": Auto close. "OFF": Non- auto close.
S104	Stay Open  Close 2 Feet	Battery Low door status	Stay open. Close 2 Feet.
S108	LH  RH	R side or L side selection	"RH": R side. "LH": L side.

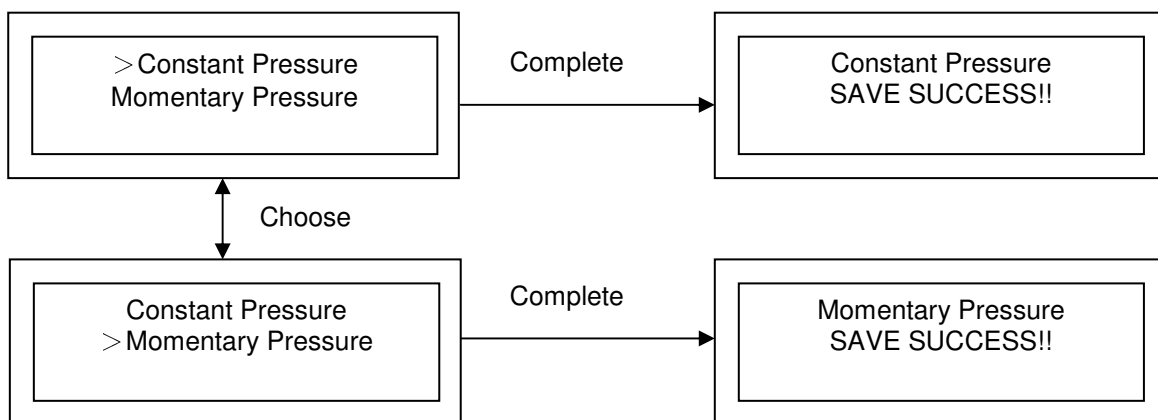
### 13. Function and Timer Set-Up Instructions

(1) Standby Mode :



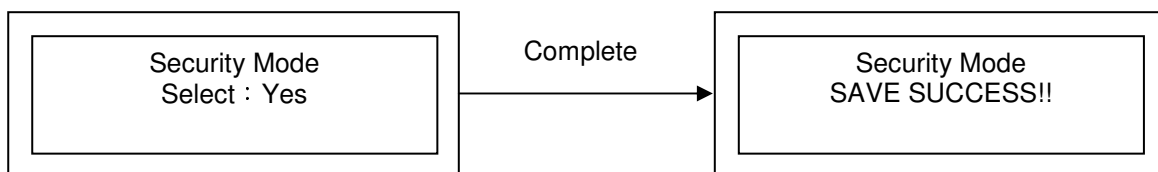
(2) Constant/Momentary pressure setting of OPEN/CLOSE Button

- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Constant Pressure". Use "+" and "-" to Constant Pressure or Momentary Pressure. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



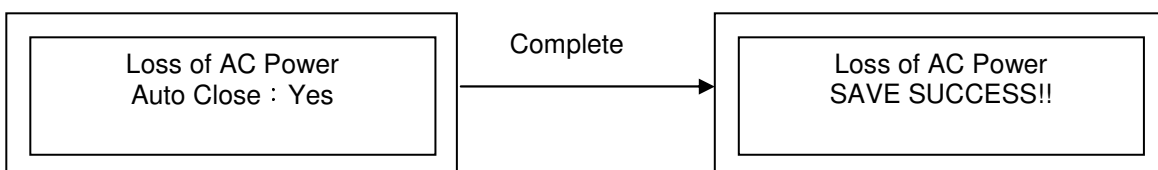
(3) Security Mode setting in Exit Door Mode

- Switch to E.D. Mode, Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Security Mode". Use "+" and "-" to Yes or No. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.
- Attention: "F.D." mode is not for security mode setting.



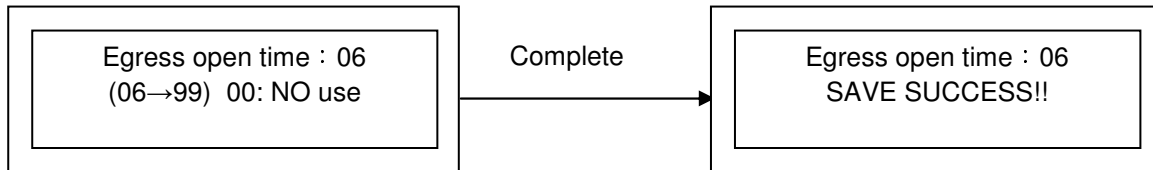
(4) Door Close setting in AC Power loss

- Switch to E.D. Mode, Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Loss of AC Power Auto close". Use "+" and "-" to Yes or No. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.
- Attention: "F.D." mode is not for door close setting in AC Power loss.



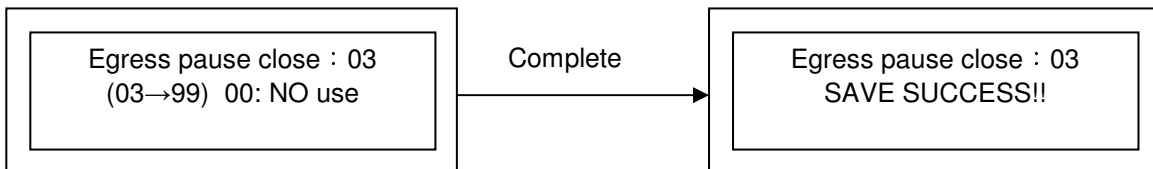
(5) Egress Exit Open timer

- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Egress open time". Use "+" and "-" to set time: 06~99, 06 being the minimum time for 54 inches of opening. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



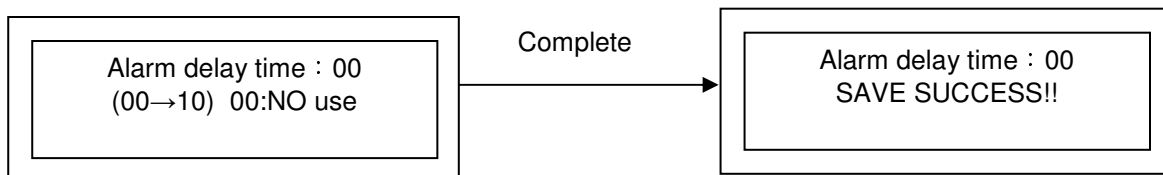
(6) Egress Pause Timer:

- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Egress pause close". Use "+" and "-" to set time: 03~99, 03 being the minimum time for egress pause close. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



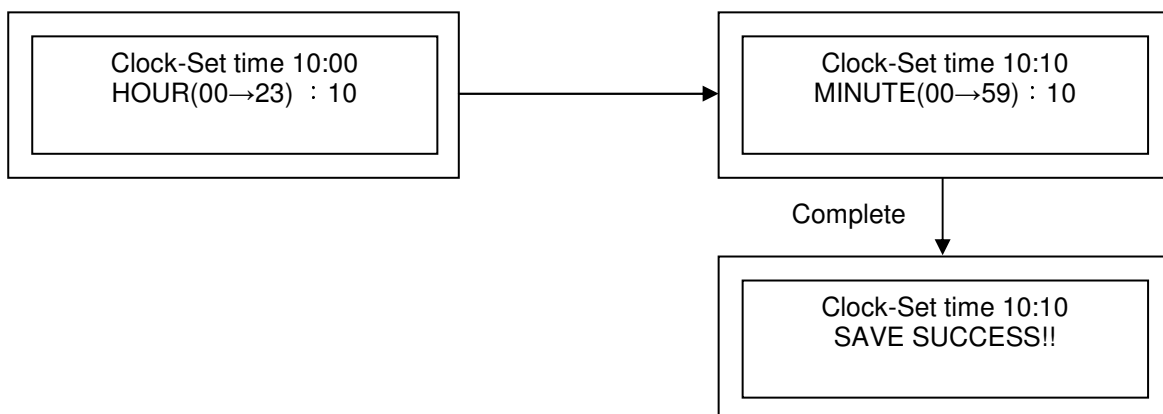
(7) Alarm Delay Time

- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Alarm delay time". Use "+" and "-" to set time: 00~10, 00 being disabled. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.

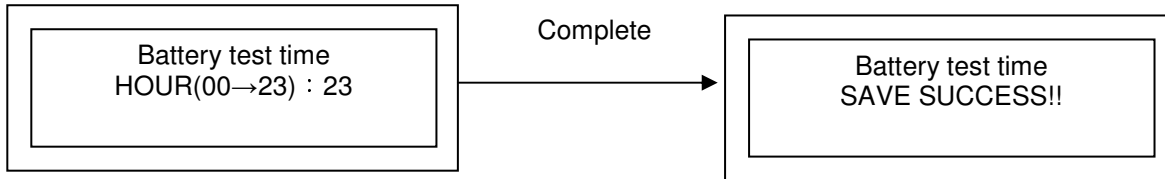


(8) Clock

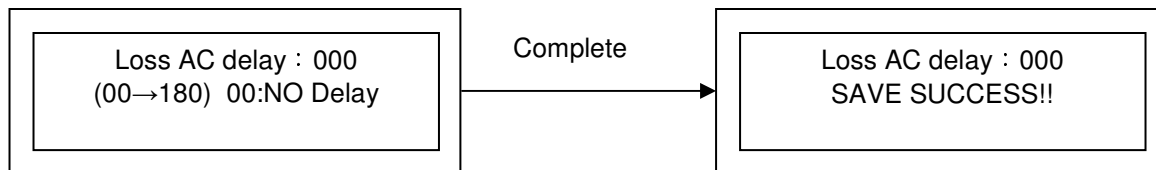
- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Clock-Set time". Use "+" and "-" to set hour. (00~24 hour)
- Press "SELECT" again to set minute. Use "+" and "-" to set minute. (00~59 minutes)
- Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



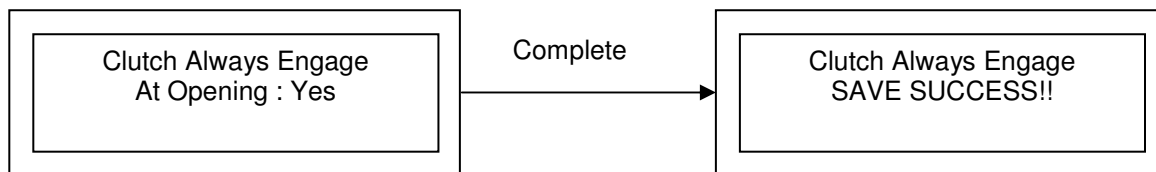
- (9) Battery load test time and setting: (Every 24 hours and 10 second of load test.)
- Press "SET" for three seconds to enter setting. Use "SELECT" to choose "Battery test time". Use "+" and "-" to set hour. (00~23 Hours)
  - Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



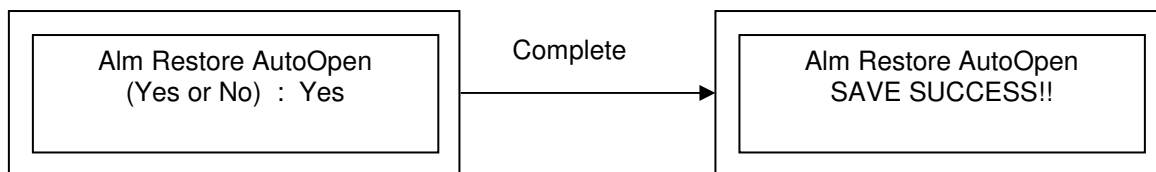
- (10) Loss AC Warning
- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Loss AC delay". Use "+" and "-" to set time: 00~180 minutes, 00 being disabled. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



- (11) Clutch Always Engage At Opening setting
- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Clutch Always Engage At Opening". Use "+" and "-" to set time: YES or NO. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



- (12) Alarm Restore Auto Open
- Press "SET" for three seconds to enter setting mode. Use "SELECT" to choose "Alm Restore AutoOpen". Use "+" and "-" to set Yes or No. Press "SET" again to save setting. "SAVE SUCCESS" will appear if setting is complete.



(13) SE OFF Delay – Sensing edge disable delay when LS4 engaged

- Press “SET” for three seconds to enter setting mode. Use “SELECT” to choose “SE OFF Delay”. Use “+” and “-” to set time: 0~5 seconds for SE OFF Delay from LS4 engaged. Press “SET” again to save setting. “SAVE SUCCESS” will appear if setting is complete.



(14) SE ON Delay – Sensing edge enable delay when LS3 disengaged

- Press “SET” for three seconds to enter setting mode. Use “SELECT” to choose “SE ON Delay”. Use “+” and “-” to set time: 0~5 seconds for SE ON Delay from LS3 disengaged. Press “SET” again to save setting. “SAVE SUCCESS” will appear if setting is complete.



(15) Alarm Warning Sound

- Press “SET” for three seconds to enter setting mode. Use “SELECT” to choose “Alarm Warning Sound”. Use “+” and “-” to set Yes or No. Press “SET” again to save setting. “SAVE SUCCESS” will appear if setting is complete.



(16) High TEMP Sound

- Press “SET” for three seconds to enter setting mode. Use “SELECT” to choose “High TEMP Sound”. Use “+” and “-” to set Yes or No. Press “SET” again to save setting. “SAVE SUCCESS” will appear if setting is complete.



## IV. OPERATING INSTRUCTIONS

### Three Button Control Station

Action	Response
Press <b>OPEN</b>	Door should open
Press <b>CLOSE</b>	Door should close
Press <b>STOP</b> while holding either <b>OPEN</b> or <b>CLOSE</b>	Door should stop
Removing pressure from <b>CLOSE</b> during motion	Door should stop

### Key Switch Control Station

Action	Response
Turn key to <b>OPEN</b>	Door should open
Turn key to <b>CLOSE</b>	Door should close
Press <b>STOP</b> while holding key on <b>OPEN</b> or <b>CLOSE</b>	Door should stop
Removing key from <b>CLOSE</b> position during motion	Door should stop

Note:

All power AC & DC needs to be turned off to the operator before manually operating the door.

## V. MAINTENANCE INSTRUCTIONS

### **WARNING**

- ✎ Disconnect power supply to the operator before servicing.
- ✎ Do not place hands or tools in or near the operator when the power is connected or when testing control or safety devices. Always disconnect power before adjusting the operator.

- The brake is a self-adjusting brake. It is maintenance free. The brake assembly requires no additional adjustments for its lifetime.
- Do not lubricate motor. Lubrication could cause damage.
- Inspect and service whenever a malfunction of either door or operator is observed or suspected.
- Before servicing, always disconnect power supply to the operator.
- Replace fuses only with those of the same type and rating.
- All replacement parts must be compatible with those originally provided.