



# INSTRUCTION MANUAL

AlarmGard<sup>®</sup> Chain Operator  
(Model FCA)

&

AlarmGard<sup>®</sup> Crank Operator  
(Model FKA)

## **WARNING**

1. CAUTION: Review all installation instructions, procedures, cautions and warnings contained within this manual prior to installing and/or servicing this product. As with all releasing device systems, maximum fire protection is provided when installed in accordance with factory specifications and used with optional fuse link systems.
2. Installation and testing to factory specifications shall be performed by factory authorized personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters Laboratories (UL), National Electrical Code (NEC), local, state, county, district and/or other applicable building and fire standards, guidelines, regulations and codes including, but not limited to, all appendices and amendments and the requirements of the local Authority Having Jurisdiction (AHJ).
3. Installation to be performed by factory authorized door system technicians only.
4. Clear fire door opening and prohibit all traffic through door opening during system testing!

## **INTRODUCTION**

The releasing device is a failsafe constantly energized solenoid mechanism. It is designed for use on rolling fire doors and counter fire doors. Inside the mechanism, contact relays receive the alarm signal from the fire alarm control panel. When the unit receives the signal, the power to the solenoid is cut, releasing the fire door mechanism and hence closing the fire door. The alarm signal can be Form C dry contact or 24VDC/VAC. A power interruption in excess of 10 seconds will release the solenoid mechanism. The release has a 10 second delay on alarm, closed door detection capabilities, Form C relay outputs for the status of release box and 24VDC power output for door close warning.

## SPECIFICATION

| Input Power:                 | Voltage  | Frequency | Standby | Alarm* |
|------------------------------|--|-----------|---------|--------|
| Not Supervised               | 115VAC   | 50 Hz     | 0.3A    | 0.4A   |
|                              |  | 60 Hz     | 0.3A    | 0.4A   |
|                              | 24VAC  | 50 Hz     | 1.5A    | 1.8A   |
|                              |  | 60 Hz     | 1.5A    | 1.8A   |
|                              | 24VDC  | -         | 0.6A    | 1.2A   |
|                              | *Note: Amp value is during alarm condition with 1A load warning connected.         |           |         |        |
| Alarm Dry Contact Rating:    | 24VDC, 0.5A, Not Supervised  |           |         |        |
| Alarm Door Close Warning:    | 24VDC @Max. 1A, Resistive, Special Application (see below), Common, Not Supervised |           |         |        |
| Brake Release (Dry Contact): | Rating: 24VAC/VDC, 2A Max., Resistive Load, Common, Not Supervised                 |           |         |        |
| Fuse:                        | F1: 3A@250V, Slo-Blo Type<br>F2: 1A@250V, Fast-Act Type                            |           |         |        |

- 24V input power can be 24VDC or 24VAC or 24VDC from an approved UL1481 regulated power supply.
- 18-gauge wire recommended.
- For “Indoor Dry” location use only.
- Close warning power is provided for less than a minute. Any UL Listed audible or visual device may be used if the 24VDC input is powered by a UL1481 regulated and power limited power supply.
- Optional: Activation/connection of UL approved fusible links.

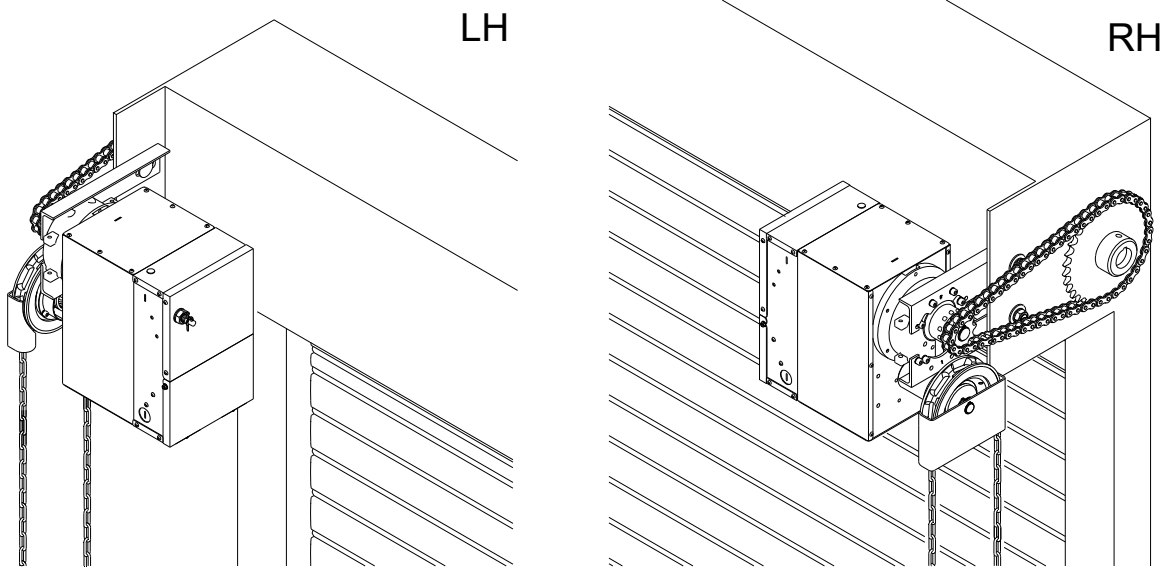
## **IMPORTANT MECHANICAL INSTALLATION PROCEDURE**

### **WARNING - To reduce the risk of severe injury or death:**

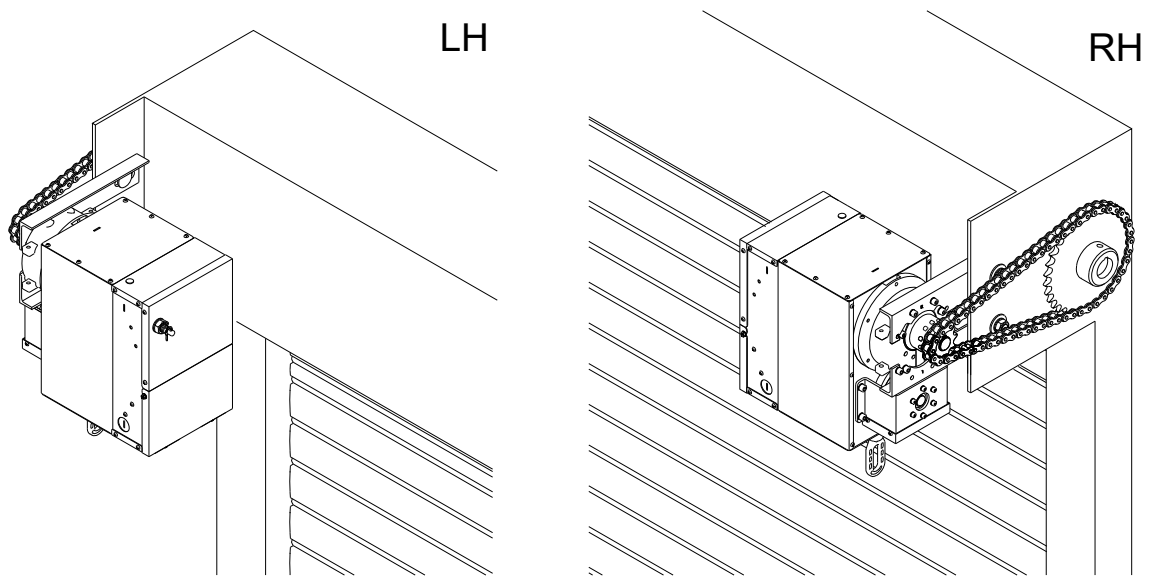
1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.
2. Spring tension must be adjusted to allow the fire door to self close during a drop test, alarm activation and/or power failure. A door that is operating improperly could cause severe injury. Have qualified door system technicians make repairs to spring assemblies and other hardware before installing the operator.
3. Cover any exposed, moving operator parts that are less than 8 feet above the floor.
4. Do not connect the door operator to the source of power until instructed to do so.
5. When utilized, locate the “close” control station: (a) within sight of the door, (b) at a minimum height of 5 feet above floors, landings, steps, or any other adjacent walking surface and (c) away from all moving parts of the door.
6. Instruct the end user on operation of the operator / release device.
7. The door is under extreme spring tension. Have qualified door system technicians make all necessary adjustments and repairs to the door.
8. Make sure the available alarm power supply to be connected to the operator is of the same voltage, frequency, phase and wattage as indicated on the nameplate of the alarm box.
9. Read and understand the wiring diagram of the alarm box (if applicable), and any other equipment to be connected to the operator.
10. Always disconnect power whenever installing or servicing the door or operator.

# INSTALLATION INSTRUCTIONS

## INSTALLATION POSITIONS FOR FCA & FKA



(Installation Illustration for FCA)

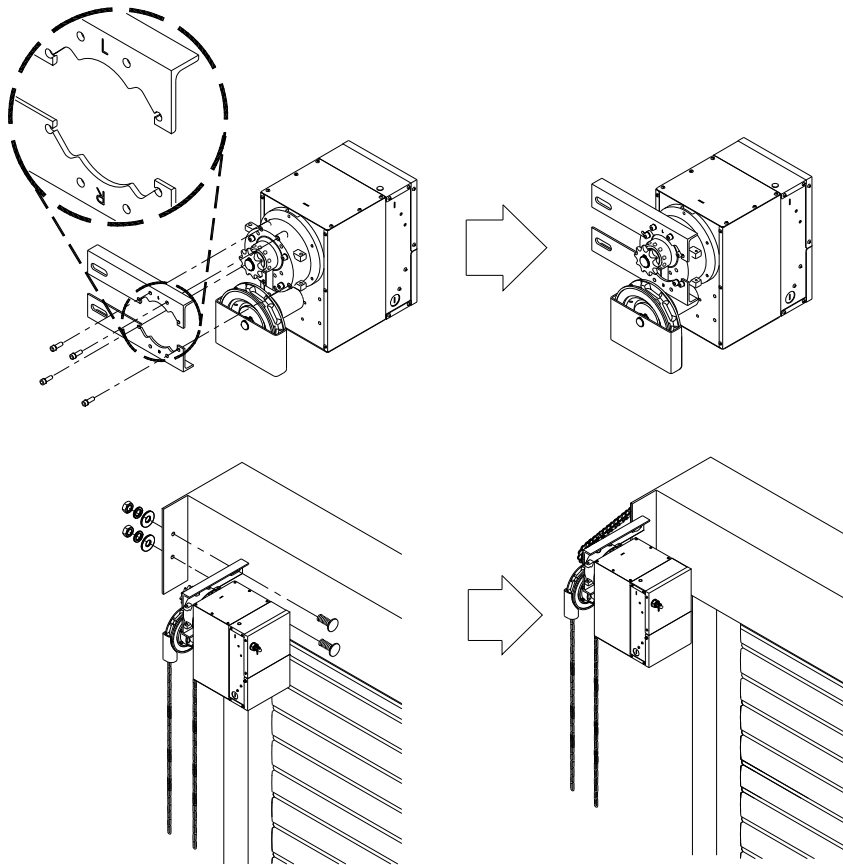


(Installation Illustration for FKA)

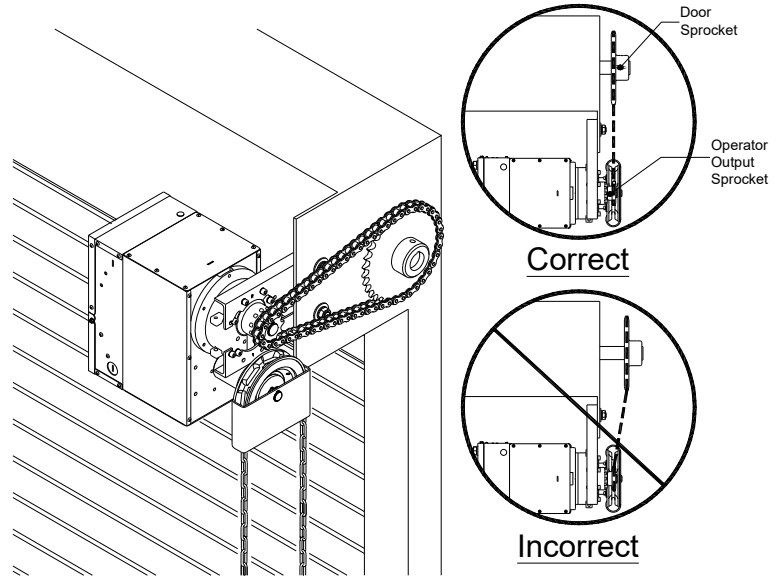
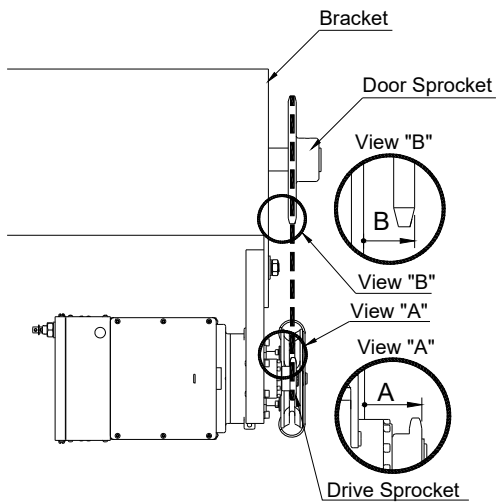
***Consult factory for changes in installation positions.***

## **OPERATOR MOUNTING**

1. Before the operator is installed, verify that the door is properly operating and balanced.
2. Make sure the mounting plates are correctly positioned for RH or LH mounting.
3. Attach and tighten the mounting hardware to the mounting plate.
4. Tighten the operator mounting plate to the door.



5. When the operator is mounted on the bracket, be sure the door sprocket is properly aligned / in the same plane with the operator drive sprocket before securing to the shaft.
6. The shelf or bracket must provide adequate support for the operator. Prevent play between operator and door shaft. Permit operator to be fastened securely and with the drive shaft parallel to the door shaft.

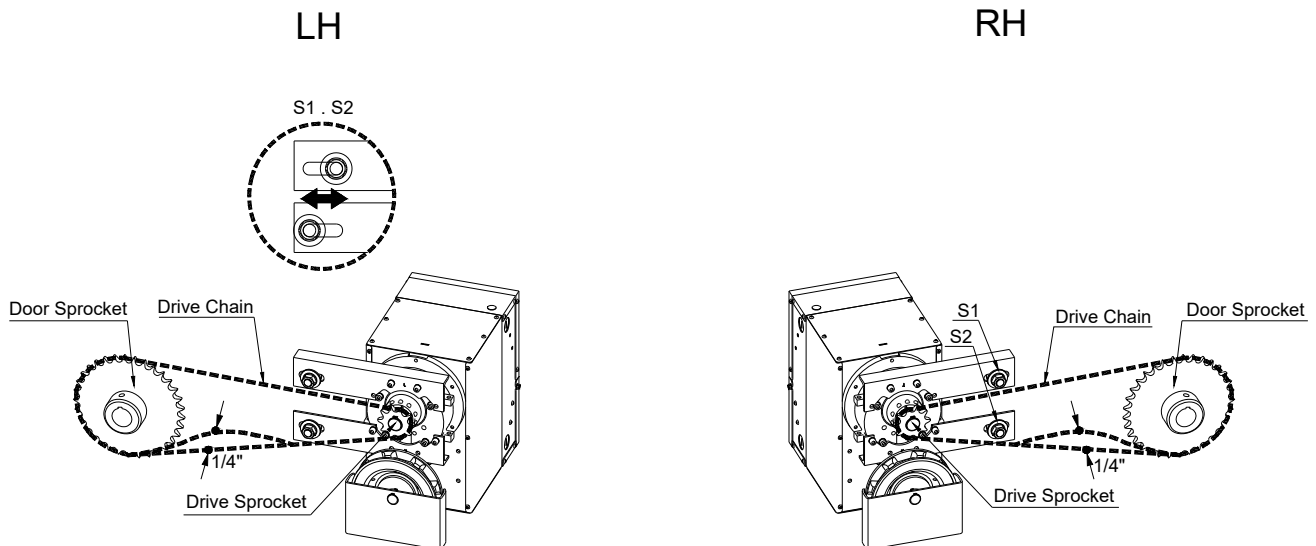


\* Chain hoist shown. Hand crank similar.

## **ADJUSTING THE DRIVE CHAIN**

**NOTE:** Use correct type, size and proper length of roller chain.

1. Adjust the drive chain by moving the mounting screws so that there is about 1/4" of slack when the chain is depressed.
2. Once the drive chain has been tightened, then tighten the operator mounting screws.

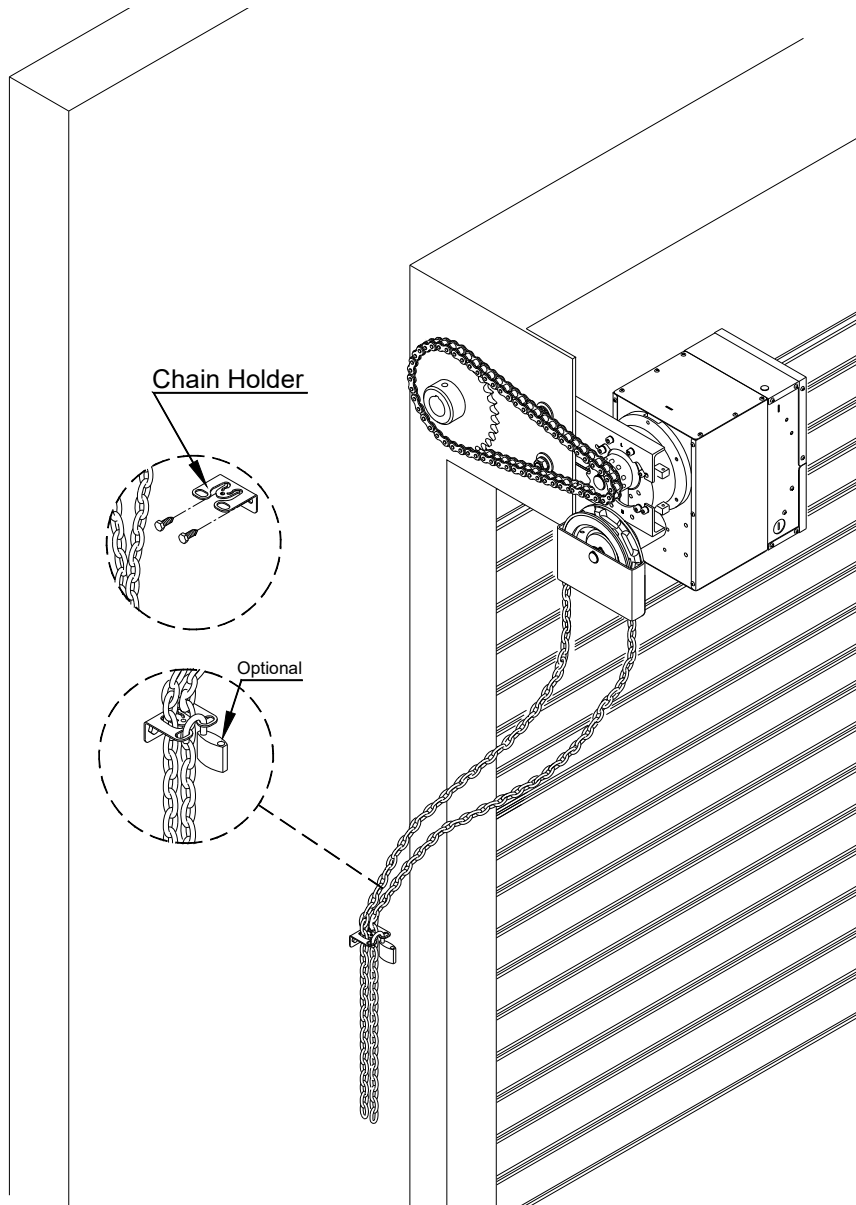


## **ADJUSTING OPERATING CHAIN LENGTH (FCA units only)**

Operating chain is provided in a standard length. Depending on door height, the chain may need to be shortened or lengthened. A DIFFERENT COLOR connecting link can be found in the hand chain. Use this link for breaking the chain to make adjustments to the hand chain length so that the bottom of the hanging chain is 2' to 3' above the floor.

## **CHAIN HOLDER**

Install at a convenient location.





## **FIRE ALARM CONNECTION INSTRUCTION**

- For “Indoor Dry” location use only. All wiring must satisfy the most current version of NFPA72 – National Fire Alarm Code and the National Electric Code.
- 18-gauge wire is recommended.



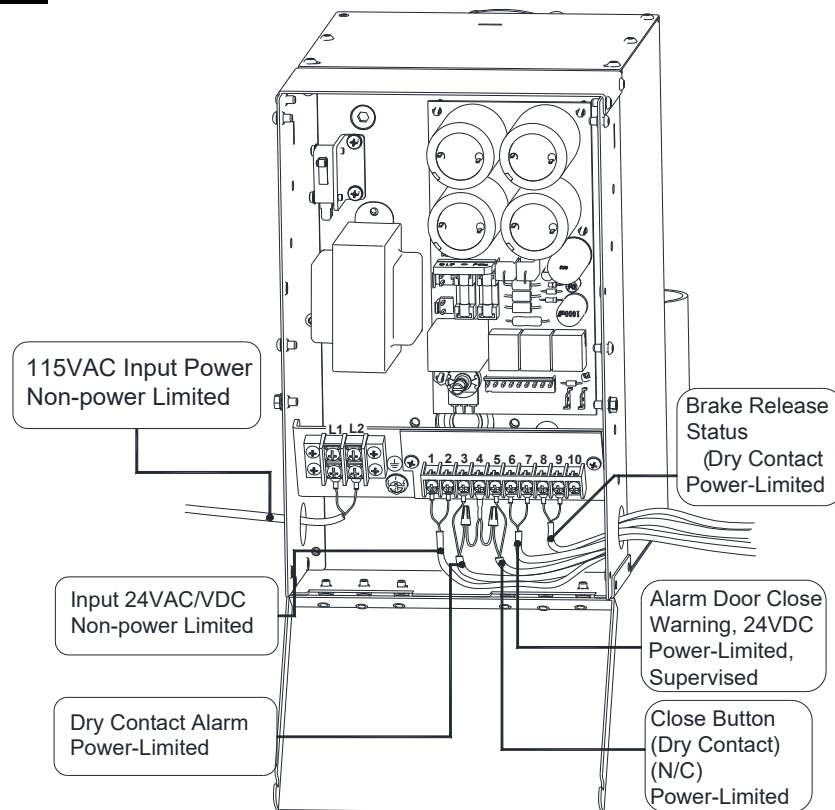
**WARNING** Disconnect power supply before servicing.

### 1. ELECTRICAL CONNECTIONS

Installation of all wiring and connections shall be performed in accordance with, but not limited to, the latest NFPA, U.L. and N.E.C. standards. In addition, all installations subject to Canadian standards shall be performed in accordance with the Canadian Electrical Code, Part I, with respect to wiring material, wiring gauge related to power capacity requirements and circuit length and wiring methods.

2. Verify voltage rating of release device to power source being utilized.
3. Connect power and alarm connection to the unit.

## **WIRE ROUTING**



## TERMINAL CONNECTIONS



Disconnect power supply before servicing.

### **WARNING**

TB1

|                                     |    |
|-------------------------------------|----|
| L1                                  | L2 |
| Input power 115VAC*, Not Supervised |    |

See **Note. 4**

TB2

| 1 (+)  | 2 (-)  | 3 | 4*                                | 5 | 6   | 7 | 8  | 9 |
|--|--|---|-----------------------------------|---|---|---|--|---|
| Input 24VDC/VAC<br>Use Power Limited source<br>only<br>Not Supervised<br><b>*Note. 4</b> | Alarm Dry Contact (N/C)<br>Not Supervised <b>*Note 1</b> |   |                                   |   | Alarm door close warning<br>24VDC, total 1A<br>Common, Not Supervised<br><b>*Note 2</b> |   | Brake release status<br>(Dry contact)<br>24VAC/VDC, 2A Max.<br>Resistive load, Common,<br>Not Supervised<br><b>*Note 3</b> |   |
|  |  |   | Close button<br>Dry contact (N/C) |   |   |   |  |   |

**\*Note:**

1. Terminal 3&4

Building fire alarm panel (FACP) needs to provide dry contact (N/C) connection with minimum capacity of 24VDC and 0.5 amp.

Terminal 4

When connecting more than one wire/connector to the terminal, must use enclosed Part # CDA-FH600-WHF02. See page 13 for illustration.

2. Terminal 6&7

This connection provides 24VDC, 1A power with 18AWG wire for maximum of 20 ft. Upon alarm signal, this connection can be used to provide power for warning devices. The warning power is provided for less than a minute. The wiring connections are enclosed within conduit or equivalently protected against mechanical injury.

3. Terminal 8&9

These terminal connections will provide the status of this release device. When release device is in the standby mode, connection is open (N/O). When release device have been activated or released, connection would be in closed (N/C) state.

4. See connection chart for power inputs. A regulated, power limited UL1481 Power Supply must be used for this terminal.

### Connection Chart

| Terminals<br>Connection Type | Line In<br>High Voltage<br>L1 & L2 | Low Voltage<br>1 & 2<br>(24VDC or 24VAC)  | Alarm Connection<br>3 & 4          |
|------------------------------|------------------------------------|---|------------------------------------|
| Power Input                  | Connect<br>115VAC                  | Connect<br>24VDC or 24VAC<br>(Voltage supplied by FACP<br>or an UL listed power supply) | Connect FACP*<br>Alarm Dry Contact |
| High Voltage Alarm Signal    | Connect Alarm Signal<br>115VAC     | Do Not Connect  | Jump<br>(Wire size min 18AWG)      |
| Low Voltage Alarm Signal     | Do Not Connect                     | Connect Alarm Signal<br>24VDC or 24VAC<br>(Voltage supplied by FACP)                    | Jump<br>(Wire size min 18AWG)      |

\*Note: FACP – Fire Alarm Control Panel.

## **OPTIONAL FUSIBLE LINK CONFIGURATION/REFERENCE**

1. Actual configuration may differ. Must pull cable straight a minimum of 18 inches before changing direction. See door manufacturer recommendations and NFPA 80 for recommended fuselink configurations.
2. To be performed by qualified door system technicians only.

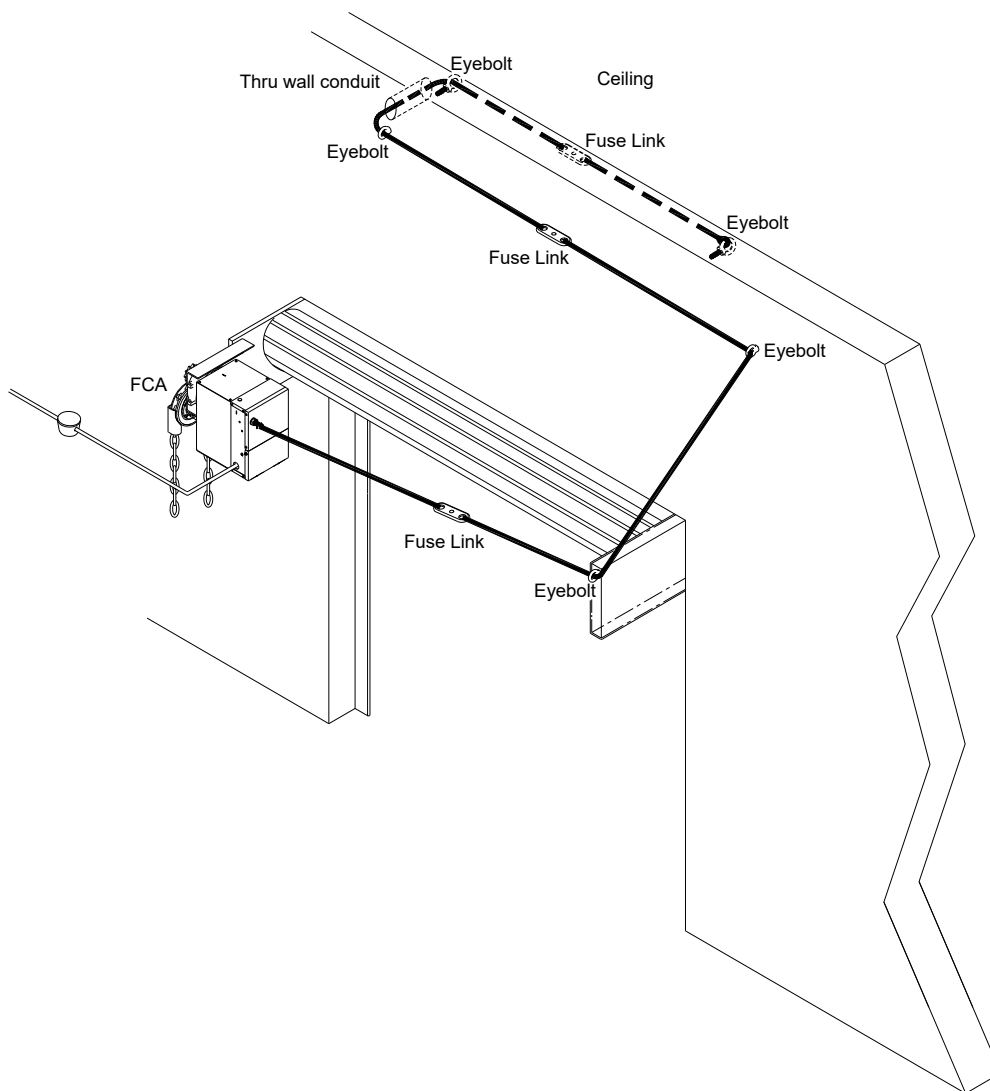
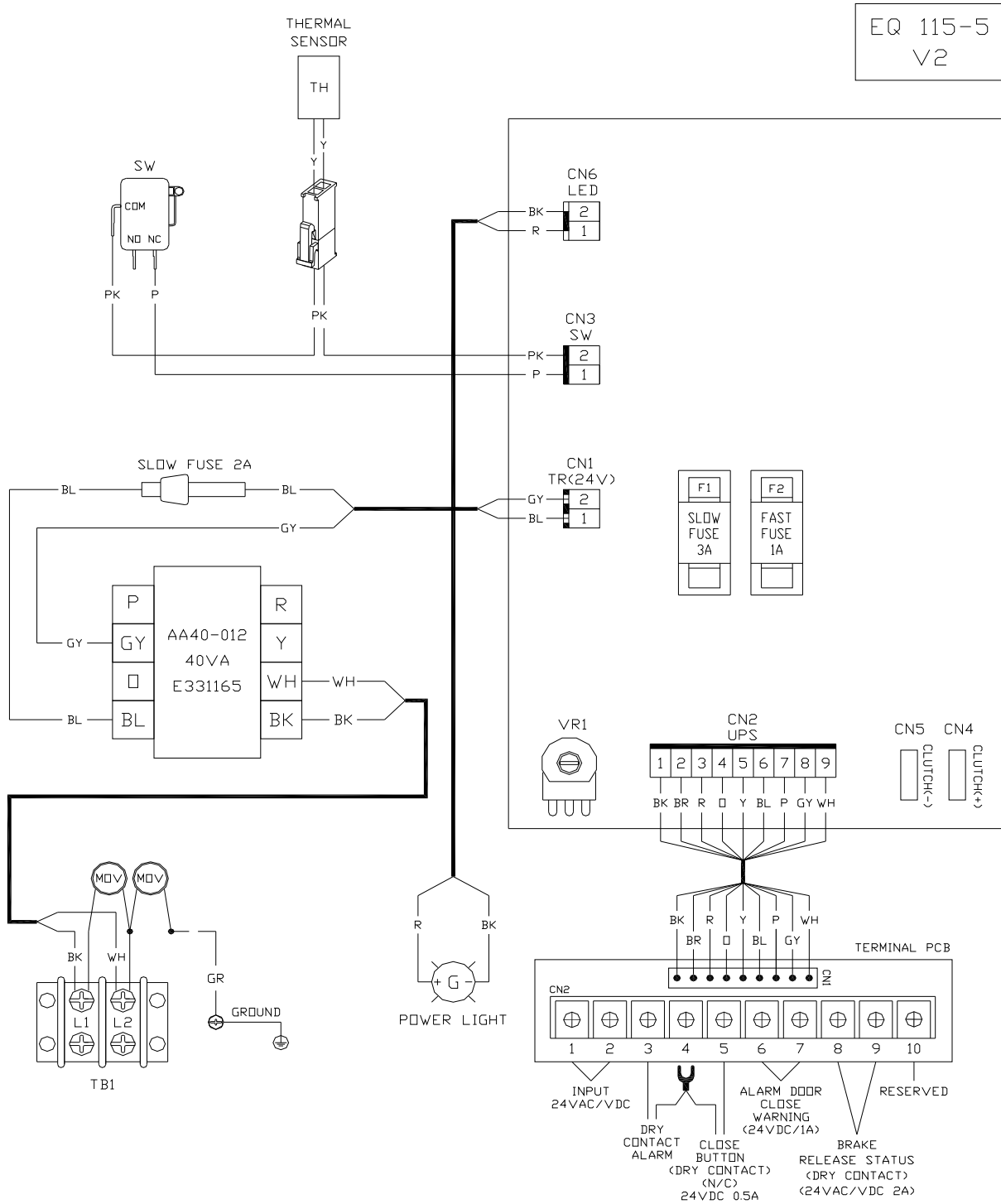


Figure 1

3. Optional fuselink arrangement hardware [sash chain or cable, eyebolts, fuselinks, turnbuckles] shall be installed as per door manufacturer's recommendations (figure 1 represents a typical installation configuration). Note that the initial direction of pull is horizontal coming off the door operator. An eyebolt installed at a distance of 18 to 24 inches from the operator should adequately redirect sash chain.

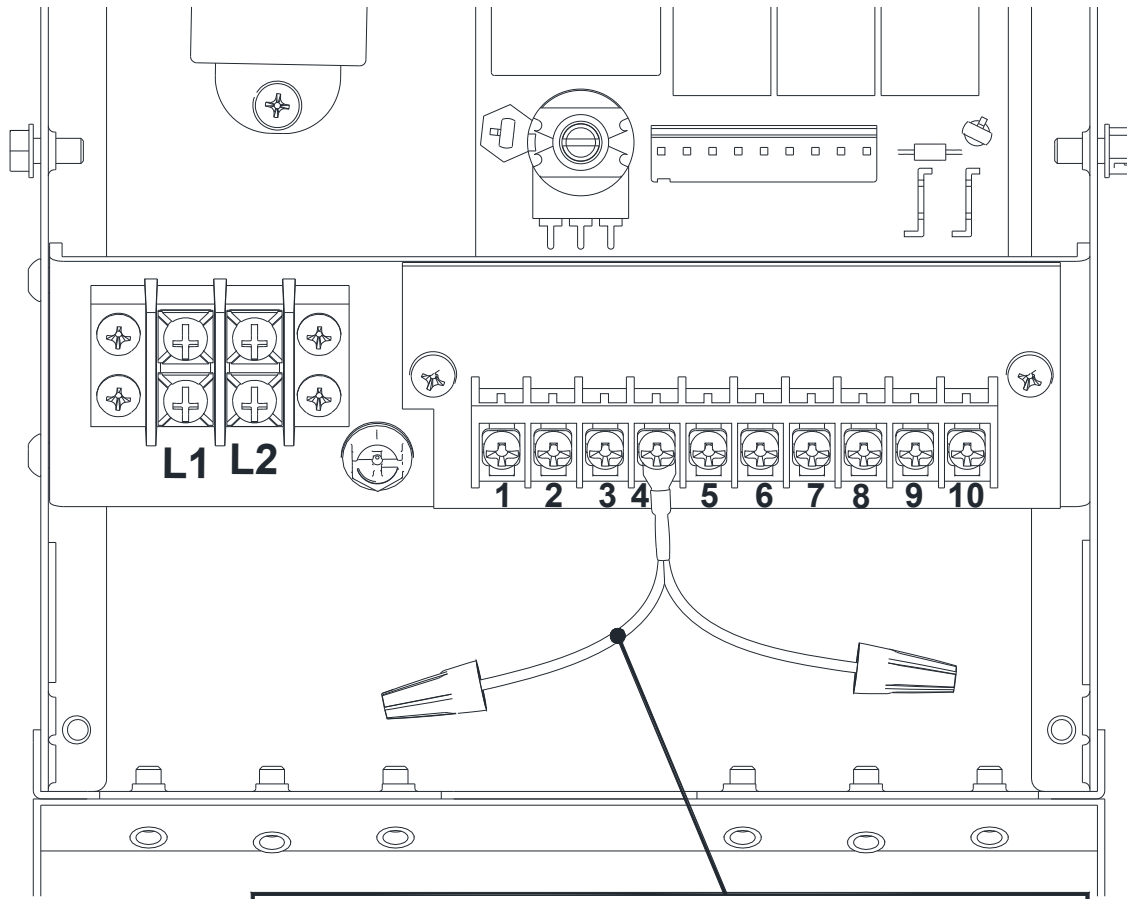
# WIRING DIAGRAM ILLUSTRATION

RELEASE BOX FCA & FKA (115V 1Ø or 24VAC/VDC)



EQ 115-5  
V2

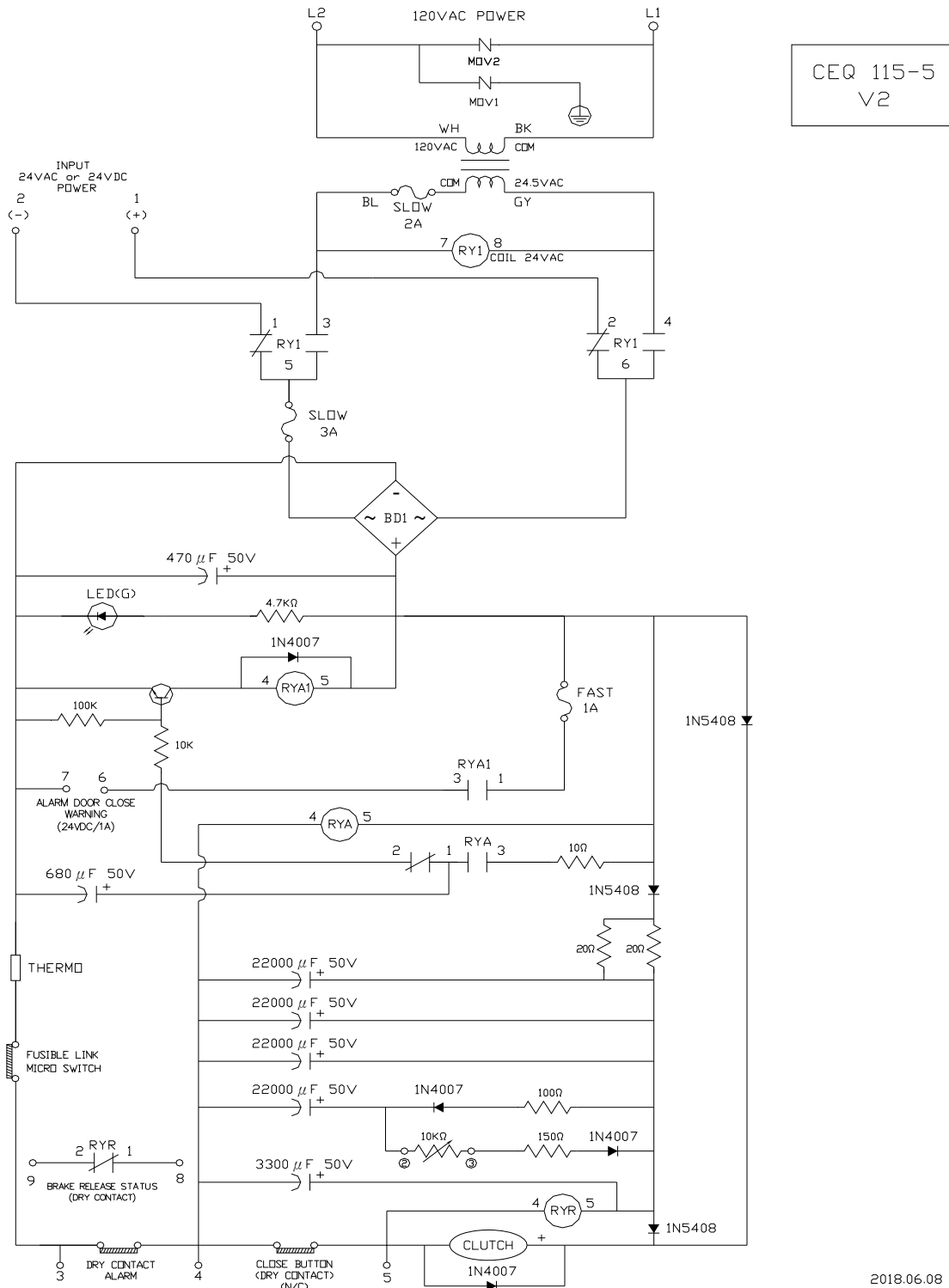
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Must use when having two connections.  
(P/N:CDA-FH600-WHF02 )

# SCHEMATIC ILLUSTRATION

RELEASE BOX FCA & FKA (115V 1Ø or 24VAC/VDC)



## **TESTING**

1. Simulate an alarm condition and see if the solenoid disengages and releases the fire door.
2. Simulate a power failure and see if the solenoid disengages and releases the fire door.

## **RESETTING**

1. Make sure power and alarm connection is normal.
2. Operate chain or crank to open the door to the fully open position.

Note: If the power or the alarm is not normal, chain or crank operation will slip and not open the door.

## **MAINTENANCE INSTRUCTIONS**



### **WARNING**

**Disconnect power supply before servicing.**

Check the following items at the intervals listed:

| CHECK LIST | DESCRIPTION   | EVERY<br>3 MONTHS | EVERY<br>6 MONTHS | EVERY<br>12 MONTHS |
|------------|---|-------------------|-------------------|--------------------|
| Fasteners  | Check & tighten as required   |                   | ●                 |                    |
| Drop-test  | Inspect door, drop-test for proper operation and full closure per NFPA-80 |                   |                   | ●                  |

- ❖ Inspect and service whenever a malfunction to either the door or release device is observed or suspected.
- ❖ Before servicing, always disconnect power supply to the release device.
- ❖ Replace fuses only with those of the same type and rating.
- ❖ All replacement parts must be obtained from the door manufacturer per NFPA 80.

Testing of the FCA and FKA are independent of, and shall in no way be interpreted as an alternative method of testing the fire alarm system, and/or any other system component employed on the fire door or counter fire door installation. TESTING SHALL BE PERFORMED AND WITNESSED FOR PROPER OPERATION.