# Constant Current Regulator Circuit Breaker Replacement Kit

## Service Bulletin

**ALN174, Rev. B, 2025/06/19**

ADB SAFEGATE

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# 1.0 Circuit Breaker Kit

Description: Provides users with the steps necessary to replace the CCR fuses holders with a circuit breaker on the effected regulators or step necessary to replace the power pack circuit breaker.

## 1.1 Kit Introduction

### 1.1.1 Parts Supplied

Kit includes 1 circuit breaker and lugs.

Table 1 is for the stand alone CCR models and Table 2 is for the power pack SGRS models.

**Table 1: Circuit Breakers for Stand Alone CCRs**

| Regulator Size (kW) | Input Volts | Kit Number 94A0713/XXX | Circuit Breaker |
|---|---|---|---|
| 25 - 30 | 480 | N/A | EZ00017-100-01 |
| 25 - 30 | 347 | N/A | EZ00017-125-01 |
| 30 | 240 | N/A | EZ00008-225-01 |
| 30 | 220 | N/A | EZ00008-225-01 |
| 30 | 208 | N/A | EZ00008-250-01 |
| 20 | 480 | N/A | EZ00017-070-01 |
| 20 | 347 | N/A | EZ00017-100-01 |
| 20 | 240 | N/A | EZ00017-125-01 |
| 20 | 220 | N/A | EZ00017-125-01 |
| 20 | 208 | N/A | EZ00008-175-01 |
| 15 | 480 | N/A | EZ00017-060-01 |
| 15 | 347 | N/A | EZ00017-080-01 |
| 15 | 240 | N/A | EZ00017-100-01 |
| 15 | 220 | N/A | EZ00017-125-01 |
| 15 | 208 | N/A | EZ00017-125-01 |
| 10 | 480 | N/A | EZ00017-040-01 |
| 10 | 347 | N/A | EZ00017-050-01 |
| 10 | 240 | N/A | EZ00017-080-01 |
| 10 | 220 | N/A | EZ00017-080-01 |
| 10 | 208 | N/A | EZ00017-100-01 |
| 7.5 | 480 | N/A | EZ00017-030-01 |
| 7.5 | 347 | N/A | EZ00017-040-01 |
| 7.5 | 240 | N/A | EZ00017-060-01 |
| 7.5 | 220 | N/A | EZ00017-060-01 |
| 7.5 | 208 | N/A | EZ00017-070-01 |
| 2.5 - 4 | 480 | N/A | EZ00017-020-01 |
| 2.5 - 4 | 347 | N/A | EZ00017-020-01 |
| 2.5 - 4 | 240 | N/A | EZ00017-030-01 |
| 2.5 - 4 | 220 | N/A | EZ00017-030-01 |

**Table 2: Circuit Breakers for SGRS Power Pack CCRs**

| Regulator Size (kW) | Input Volts | Kit Number 94A0712/XXX | Circuit Breaker |
|---|---|---|---|
| 30 | 600 | AK00071-080-01 | EZ00017-080-01 |
| 30 | 480 | AK00071-100-01 | EZ00017-100-01 |
| 30 | 380 | AK00071-125-01 | EZ00017-125-01 |
| 25 | 600 | AK00071-070-01 | EZ00017-070-01 |
| 25 | 480 | AK00071-080-01 | EZ00017-080-01 |
| 25 | 380 | AK00071-100-01 | EZ00017-100-01 |
| 20 | 600 | AK00071-060-01 | EZ00017-060-01 |
| 20 | 480 | AK00071-070-01 | EZ00017-070-01 |
| 20 | 380 | AK00071-080-01 | EZ00017-080-01 |
| 15 | 600 | AK00071-040-01 | EZ00017-040-01 |
| 15 | 480 | AK00071-060-01 | EZ00017-060-01 |
| 15 | 380 | AK00071-060-01 | EZ00017-060-01 |
| 10 | 600 | AK00071-030-01 | EZ00017-030-01 |
| 10 | 480 | AK00071-040-01 | EZ00017-040-01 |
| 10 | 380 | AK00071-040-01 | EZ00017-040-01 |
| 7.5 | 600 | AK00071-020-01 | EZ00017-020-01 |
| 7.5 | 480 | AK00071-030-01 | EZ00017-030-01 |
| 7.5 | 380 | AK00071-030-01 | EZ00017-030-01 |
| 2.5 - 5 | 600 | AK00071-020-01 | EZ00017-020-01 |
| 2.5 - 5 | 480 | AK00071-020-01 | EZ00017-020-01 |
| 2.5 - 5 | 380 | AK00071-020-01 | EZ00017-020-01 |

## 1.1.2 Tools Required

#2 flat head screw driver

1/2” socket and socket wrench

Marker or, pen and paper

Drill bit #36

Tap 6-32

## 1.1.3 Replacement Instructions for Stand Alone CCRs 2.5-30kW

The purpose of the following is to provide instructions to replace the existing fuses with a circuit breaker.

### WARNING

Read installation instructions in their entirety before starting installation.

- • Become familiar with the general safety instructions in this section of the manual before installing, operating, maintaining or repairing this equipment.
- • Read and carefully follow the instructions throughout this manual for performing specific tasks and working with specific equipment.
- • Follow all applicable safety procedures required by your company, industry standards and government or other regulatory agencies.
- • Protect components from damage, wear, and harsh environment conditions.
- • Protect equipment with safety devices as specified by applicable safety regulations.
- • If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning prior to returning power to the circuit.

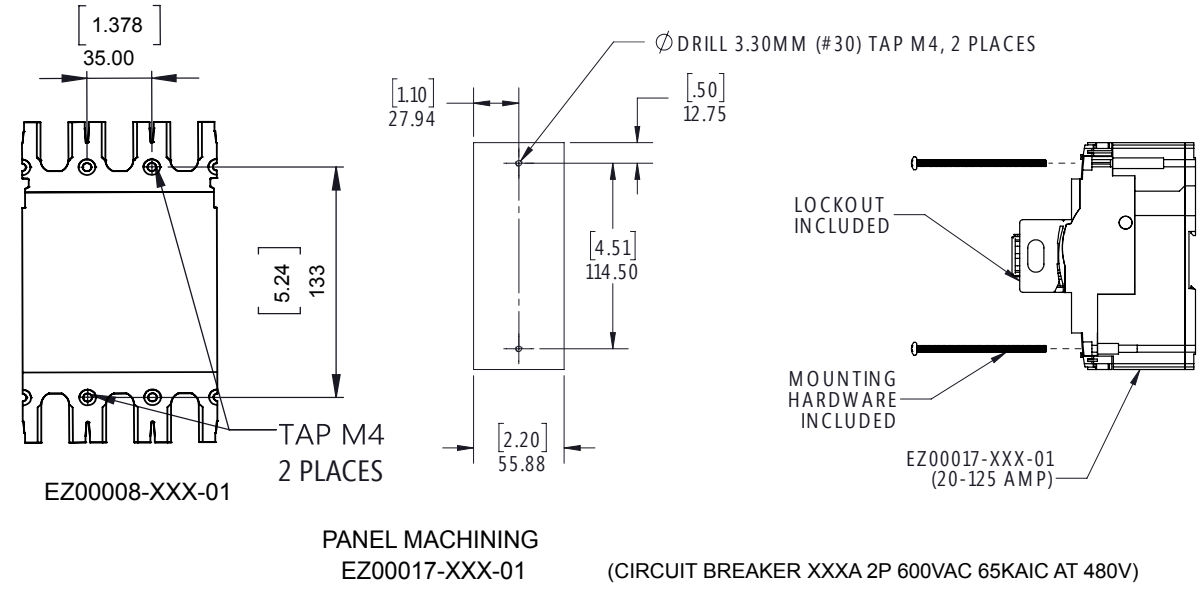
**Failure to follow these warnings may result in serious injury or equipment damage.**

1. Follow all local lock out and tag out precautions prior to attempting the installation of the retro fit power pack circuit breaker.
2. Turn off power to the regulator and follow lock-out tag-out procedures.
3. Remove the two input fuses marked F1 and F2.
4. Take note of the wiring connections for F1 and F2. Disconnect the wires from the input fuse holders. Remove the fuse holders.
5. Mark the panel for drilling the two holes as shown in Figure 1.

### Note

Make certain there is nothing behind the area to be drilled.

**Figure 1:** Circuit Breaker Mounting for EZ00008-XXX-01 and EZ00017-XXX-01




PANEL MACHINING
EZ00017-XXX-01 (CIRCUIT BREAKER XXXA 2P 600VAC 65KAIC AT 480V)

6. Drill the two circuit breaker holes in the panel. Tap holes: M4 for EZ00008-XXX-01 and M4 for EZ00017-XXX-01.
7. Attach the circuit breaker. Connect the LINE and LOAD side wires.
8. Clean the work area and panel of debris.
9. At this point the regulator is ready to be returned to service.

## 1.1.4 Replacement Instructions for SGRS Power Pack CCRs

The purpose of the following is to provide instructions to replace the existing circuit breaker with a new circuit breaker and lugs.

### WARNING

Read installation instructions in their entirety before starting installation.

- • Become familiar with the general safety instructions in this section of the manual before installing, operating, maintaining or repairing this equipment.
- • Read and carefully follow the instructions throughout this manual for performing specific tasks and working with specific equipment.
- • Follow all applicable safety procedures required by your company, industry standards and government or other regulatory agencies.
- • Protect equipment with safety devices as specified by applicable safety regulations.
- • If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning prior to returning power to the circuit.

**Failure to follow these warnings may result in serious injury or equipment damage.**

1. Follow all local lock out and tag out precautions prior to attempting the installation of the retro fit power pack circuit breaker.
2. Place the power pack regulator into the “maintenance” position by pulling the side rail locking pin, pull the power pack out a short distance to the maintenance position, then reinstall the locking pin. Refer to the manual 96A0303 for further details.
3. Before removing the old circuit breaker, measure and record DIMENSION 1 as shown in Figure 2 and/or mark the bolt locations on the slotted circuit breaker mounting bracket. The new circuit breaker housing will need to be set to this position.
4. Measure and record the offset of the front of the interlock switch bracket to the front of the slotted circuit breaker mounting bracket. This is DIMENSION 2 as shown in Figure 2.

### Note

Mark the placement of the interlock switch bracket location on the new circuit breaker housing. Failure to do this will require adjustments to get the interlock to work properly.

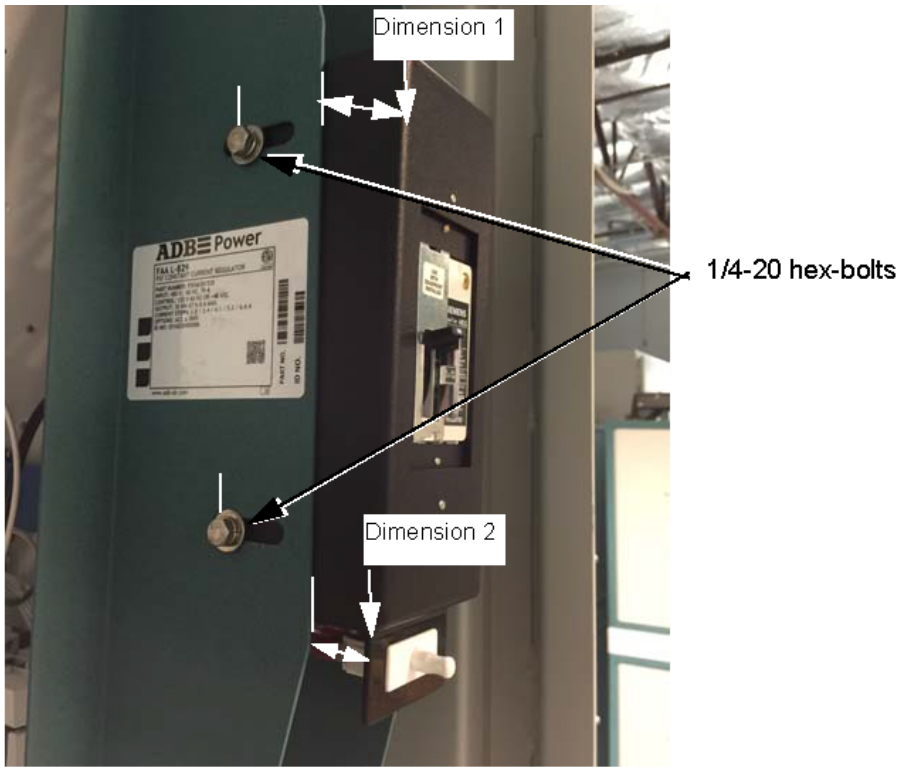
5. Remove the interlock switch assembly leaving the switch attached to the bracket along with the wires attached to the switch.

### Note

Retain the 8-32 hardware to install the interlock switch and bracket onto the new circuit breaker housing.

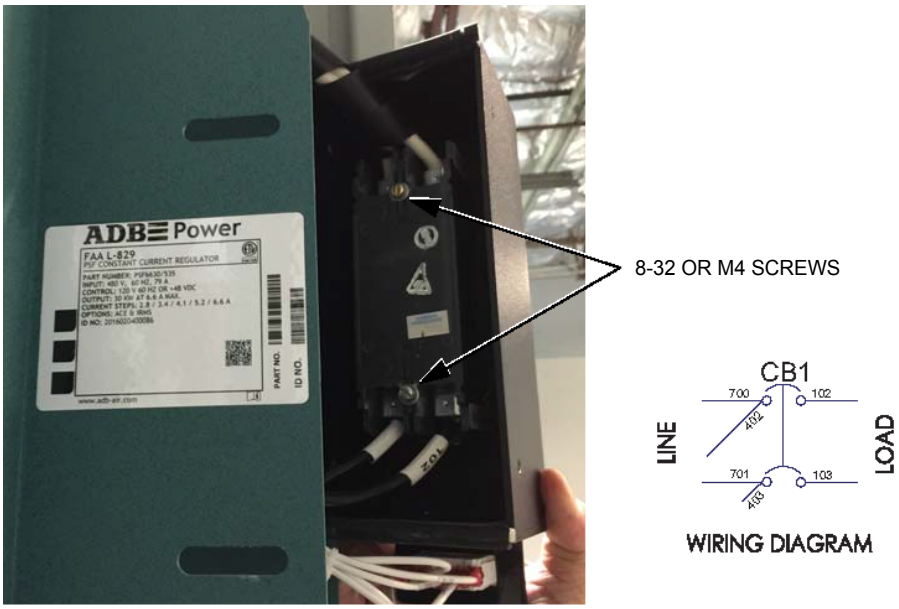
6. Remove the 1/4-20 (4) hex-bolts that mount the circuit breaker housing to the slotted circuit breaker mounting bracket. See Figure 2.

**Figure 2:** Circuit Breaker Housing and Slotted Circuit Breaker Mounting Bracket Assembly




7. Remove the circuit breaker from the enclosure by removing the 8-32 screws shown on Figure 3.

**Figure 3:** Rear of Circuit Breaker Housing with the Circuit Breaker Installed




**Note**

This will allow the Line and Load connections and the varistor connections to be removed from the circuit breaker.

8. Disconnect the Line and Load connections making note of positions for easy reconnecting later.
9. Remove the new circuit breaker from the new enclosure. Retain the screws for later.

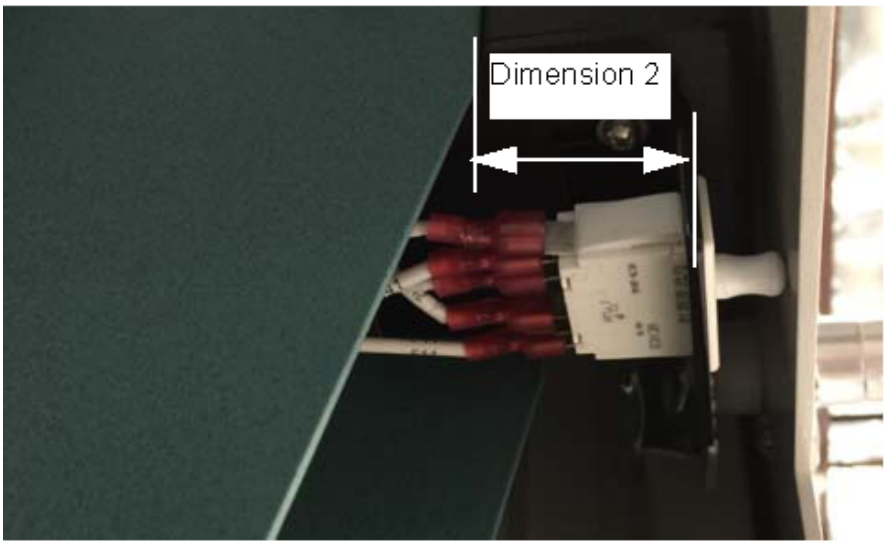
10. Connect the wires as shown in Figure 3 as earlier noted.
11. Connect the circuit breaker to the housing using screws from earlier, shown on Figure 3.
12. Mount the circuit breaker housing assembly to the slotted circuit breaker mounting bracket using the 1/4-20 (4) hex-bolts. See Figure 2. Adjust the position using DIMENSION 1 and/or the marked bolt locations on the slotted circuit breaker mounting bracket.

> **Note**
> It is possible newer circuit breakers will cause a tighter fit to older doors. ADB Safegate prefers in this situation to adjust the position of the housing assembly approximately 0.1" further into the cabinet to avoid interference between the circuit breaker and the door.

13. Connect the interlock switch bracket. Adjust the position using DIMENSION 2.

> **Note**
> Adjust the door front and interlock if necessary. See Figure 4.

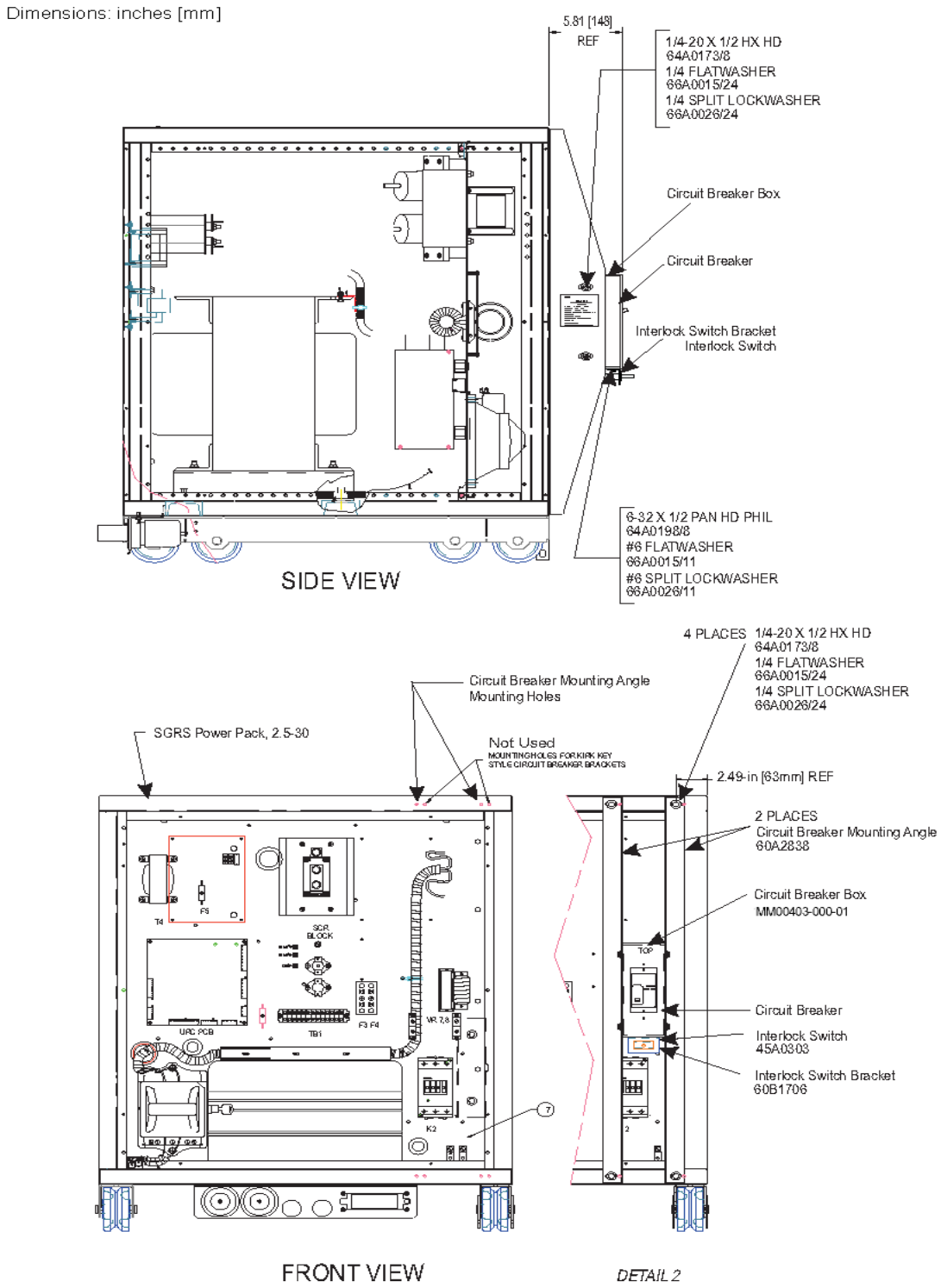
**Figure 4:** Interlock Switch Assembly




14. Pull the side rail locking pin, push the power pack in to the seated position, then reinstall the locking pin.
15. Close the door. When the door is closed there should be an audible CLICK if the interlock switch is positioned correctly.

16. At this point the regulator is ready to be returned to service.

**Figure 5:** SGRS 2.5-30kW Power Pack CCR Assembly



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