



A Group CBS Company

USERS MANUAL

RSK-AK14

Chicken Switch® RSK-AK14 Remote Operator for AK Breakers



Distance *is* Safety®

WHAT STANDS
BETWEEN YOU
AND ARC-FLASH
DANGER?

WE
DO.

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User's Manual for the RSK-AK14 Remote Operator for Type "AK" Circuit Breakers

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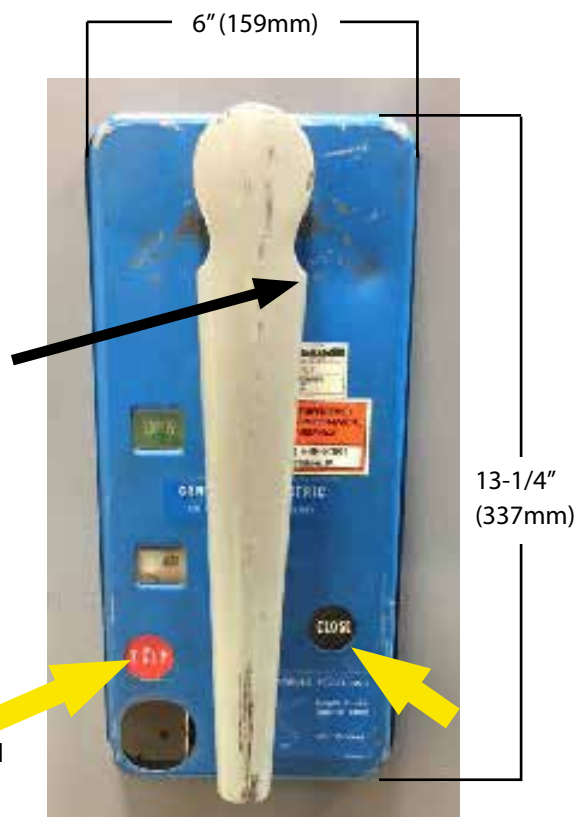
1.0 Introduction

The RSK-AK14 is designed to remotely operate the Trip and Close buttons on certain General Electric Type "AK" Breakers. It is not designed for other types of breakers or for AK breakers not described in this manual.

Over the years, General Electric released several versions and configurations of their AK breakers. Physical differences in these breakers prevents one remote actuator design from operating all versions of these breakers. The RSK-AK14 will operate AK breakers shown and described in the picture.

The AK14 will work on breakers with or without the charging handle (breaker with charging handle is shown in this picture)

The AK14 will remotely push remotely push remotely push indicated by the yellow arrows.



The RSK-AK14 is offered with a 30-foot cable as standard. A 50-foot cable is available as an option.

The following items should be included in with your RSK-AK14:

MODEL RSK-AK14
RSK-AK14 Actuator
Hand-held controller
30-foot cable (50-foot optional)
8 – AA Batteries
Instruction manual
Pelican carrying case

2.0 General Safety Information

2.1 Arc-blast Hazards

The hazards associated with electrical arc-blasts are

DANGER
<p>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH</p> <ul style="list-style-type: none">• This equipment must only be installed by qualified personnel.• Only use this equipment after reading and understanding all of the instructions contained in this manual.• Follow electrical safe work practices. See NFPA 70E or CSA Z462 <p>FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN DEATH OR SERIOUS INJURY</p>

well documented. Studies conducted by numerous industries and professional organizations have sought to quantify the intensity of arc blast, the risks to personnel, and various methodologies for mitigating the risks.

Without a doubt, increasing the distance between the arc and a human is the single greatest favorable factor in reducing injuries. Remote operation of electrical equipment is not a cure-all, but rather one more tool

available for protecting workers while they are performing electrical switching.

Using the RSK-AK14 remote operating device may not negate the need for additional personal protective measures. The user is ultimately responsible for performing a risk assessment for each situation to determine if additional protective measures are needed.

2.2 Battery Hazards

WARNING
<p>THIS EQUIPMENT USES ALKALINE BATTERIES</p> <ul style="list-style-type: none">• All Federal and State regulations must be followed for disposal, transport, and shipment of the batteries and equipment.• Do NOT attempt to recharge the batteries.

The holding magnets are very strong. Keep magnetically-sensitive objects such as watches or computer disks away from the bottom of the actuator.

2.3 Magnet Hazards

The magnets that are used on the RSK-AK14 to hold it on

DANGER
<p>THIS EQUIPMENT UTILIZES A POWERFUL MAGNETS TO HOLD IT ON THE BREAKER DOOR</p> <p>Care must be taken to prevent injury when handling the equipment</p>

the breaker door produce a strong magnetic field. Care must be taken when handling the RSK-AK14. The following steps should be followed to assure safe handling:

- The magnets need to be kept at a safe distance from all magnetic storage devices, electronics, credit cards, etc.
- The RSK-AK14 should be stored with the magnets in the "OFF" position. If left in the "ON" position and brought close to ferromagnetic materials, there will be a sudden and powerful attraction that could present a pinch hazard or equipment damage.

- Do not use the RSK-AK14 if the magnet has been damaged.
- Do not attempt to service the magnets. There are no user serviceable parts inside the device.
- The magnet contains PTFE lubricant. Contact CBSArcSafe for MSDS information
- Always keep the bottom of the magnet free of debris and rust. If needed, wipe with WD40 or light oil.

3.0 Battery Information

WARNING

THIS EQUIPMENT USES 'AA' ALKALINE BATTERIES.

DO NOT attempt to utilize batteries other than the type AA.

The RSK-AK14 uses common alkaline AA batteries. Rechargeable AA batteries will also work as will Energizer Lithium AA batteries. Do not attempt to use batteries other than AA.

When the hand-held controller is turned on, the microprocessor checks the battery voltage. If the battery voltage is low, the yellow LED on the hand-held controller will flash rapidly. The batteries must be replaced.

3.1 Removing and Replacing the Batteries

Remove the thumbscrew on the bottom of the hand-held controller and remove the battery cover to access the batteries. Install 8 – AA batteries.

Replace the battery cover and thumbscrew.

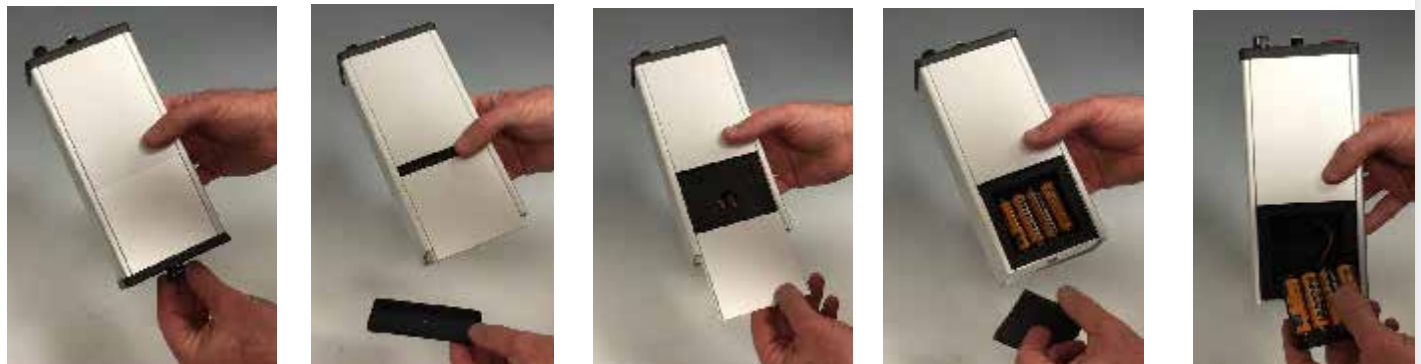
4.0 Use and Operation of the RSK-AK14

4.1 Preparing the breaker

- Prior to installing the RSK-AK14 actuator, the breaker door must be firmly latched or the actuator will pull the door open. Verify that the door is firmly latched before proceeding with installing the RSK-AK14.
- The breaker door must be free of obstructions that could interfere with mounting of the RSK-AK14. The most common obstruction to look for are lamacoid nameplates. Any lamacoid nameplates that will be in the footprint of the RSK-AK14 will need to be relocated. An RSK-AK14 Footprint drawing can be found in Section 5.0.
- If the breaker is not already charged, it must be charged prior to installing the RSK-AK14.



FIG 3



FIGs 2a – 2e

4.2 Installing the RSK-AK14 on the breaker door

Step 1: Prior to installing the RSK-AK14 actuator, verify that the magnets are in the OFF position.



FIG 4

Step 2: Connect the control cable to the RSK-AK14 and the hand-held controller.



FIG 5a



FIG 5b

Step 3: Verify that the linear actuators on the RSK-AK14 are fully retracted. If they are not retracted, turn the hand-held controller ON and they should automatically retract. DO NOT attempt to install the RSK-AK14 if both linear actuators are not retracted.

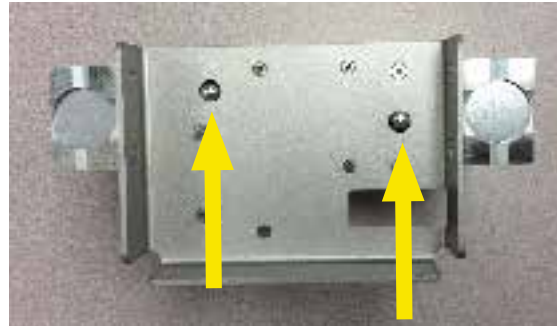


FIG 6a - Linear actuators fully retracted



FIG 6b - Linear actuator not retracted

Step 4: Center the RSK-AK14 below the breaker and slide it under the handle and upward until the lower flange on the RSK-AK14 frame is up against the lower edge of the breaker. DO NOT attempt to install the RSK-AK14 if both linear actuators are not retracted.



FIG 7a



FIG 7b

Step 5: With the lower flange of the RSK-AK14 held tightly against the bottom edge of the breaker, engage both magnets by turning their handles to the ON position.



FIG 8

Step 6: The RSK-AK14 is shown installed and ready to operate.



FIG 9

4.3 Operating the RSK-AK14

Step 1: While standing at a safe distance, turn the hand-held controller ON using the switch on top of the controller. The Yellow LED should come steady indicating that unit is ready.

Step 2: When ready to operate the breaker, press and hold the ENABLE button on the hand-held controller, then

press the appropriate button for the action desired – either OPEN or CLOSE. Both the ENABLE button and the OPEN or CLOSE button must be held simultaneously until the actuator extends far enough to operate the breaker. This could take 2-5 seconds. Then the buttons can be released and the linear actuators will return to their retracted position.



FIG 10

Step 3: When completed with operating the RSK-AK14, power the actuator OFF by using the switch at the top of the hand-held controller. The Yellow LED will be OFF when the controller is off.

4.4 Removing the RSK-AK14

Step 1: Verify that the actuator is powered OFF.

Step 2: While firmly holding the RSK-AK14 in one hand, disengage the magnets by using your other hand to turn the magnet lever counter-clockwise. Lower the actuator off the breaker.



Step 3: Disconnect cable and return components to carrying case.

5.0 RSK-AK14 Actuator Mounting Footprint

The RSK-AK14 is held in place with magnets, so no modifications are required to mount the actuator. However, the RSK-AK14 requires a small amount of clean and clear space on the breaker door for the actuator frame and magnets to attach. The BROWN areas shown on the figure below indicate where the RSK-AK14 Actuator will touch the door when it is installed. It is very important that this area is free from obstructions. The most common possible obstruction is a lamacoid nameplate. Should a nameplate be within the areas indicated in BROWN, they will need to be relocated. The magnets will not hold sufficiently if placed on top a lamacoid nameplate.

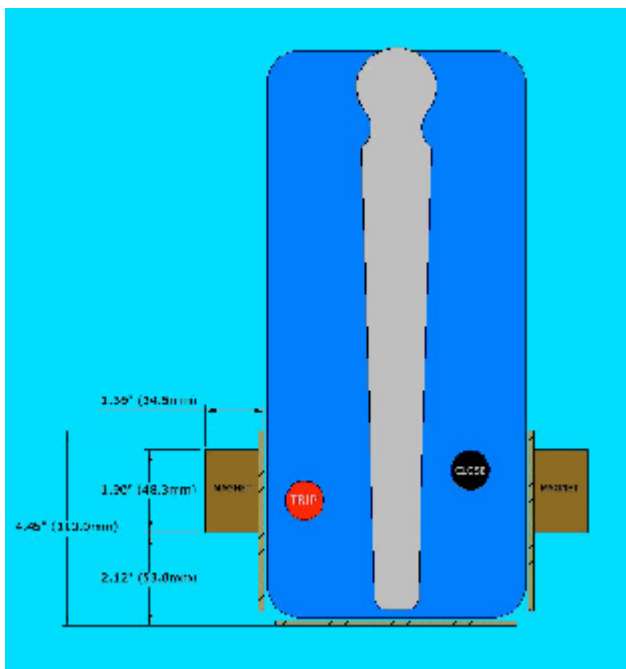


FIG 12

6.0 Storage

The RSK-AK14 is provided with a heavy duty carrying case that can be used to conveniently store the actuator and its necessary components. The carrying case and complete unit should be stored in a clean and cool environment.

7.0 Troubleshooting

SYMPTOM	SOLUTION
The LED on the Hand-held Controller flashes when I turn it on.	The batteries in the RSK-AK14 are low and must be replaced
The RSK-AK14 pushes free from the door when the actuator is actuated.	The magnets are not making sufficient contact with breaker door. Make sure there are no obstructions preventing the magnet faces to touch the door directly.

8.0 Specifications

Magnets	Two magnets rated 150lbs (68kg) maximum breakaway each
Projected Life	20,000+ operations
Linear actuator stroke	1.97 inches (50 mm)
Voltage	12 VDC
Fuse	3 amp
Power Supply	8 – AA disposable batteries. When used properly, one set of batteries will yield hundreds of operations.
Projected Life	20,000+ operations
Carrying case	Manufactured by Pelican with the following features: Two Press & Pull Latches Double-layered, Soft-grip Handle Two Padlockable Hasps Vortex® Valve Flush Powerful Hinges Lightweight Strong HPX® Resin Watertight Meets airline regulations for carry-on luggage Exterior Dimensions 16.20" x 12.70" x 6.60" (41.1 x 32.2 x 16.8cm)
Weight	RSK-AK14 Actuator – 3.1lbs / 1.40kg Complete Kit with carrying case – 12lbs / 5.44kg

9.0 Contacting the Manufacturer

For any questions, repairs, or parts replacement please contact the manufacturer using any of the methods below.



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