

Instruction Manual for Wireless CS Model Remote Actuators used on Pistol Grip Switches



Models:
RSK-CS01W
RSK-CS03W
RSK-CS04W

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ATTACHMENTS

Milwaukee Operator's Manual M12/M18 Multi Voltage Chargers
Milwaukee Instructions for Lithium-Ion Battery Packs

Use and Operation Instructions

CSxxW Remote Actuator for Pistol Grip Switches

1.0 Introduction

The CS models are designed to remotely operate pistol grip switches similar to the Electroschwitch Series 24. There are several CS models available depending on the switch manufacturer and model number. The primary difference between the CS models is in the dimensions of the mounting frame. The CS model actuators utilize the pistol grip escutcheon plate to limit the movement of the CS actuator while it is turning the pistol grip handle. So, dimensionally, the frame must properly engage the escutcheon plate. The

CS01W is the most common model as it fits an estimated 90% of the pistol grip switches found on switchgear. But other models are available to fit most of the remaining switches. Models are identified by the third and fourth digits of the part number. For example, CS01W, CS03W, CS04W are various models offered. Although each model is slightly different in the frame size, the operation and use of each is the same. This user manual can be used for all CS models. Any reference to CSxxW means the actual control switch actuator. References to RSK-CSxxW means the "Remote Switching Kit" which includes the following items necessary to operate the actuator.

Model: RSK-CSxxW

CSxxW Actuator
RTL-2 Hand-held transmitter
Milwaukee M18-CP2.0 battery
Milwaukee M18 battery charger
Instruction Manual
Pelican Carrying case

2.0 General Safety Information:

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- 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

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN DEATH OR SERIOUS INJURY

2.1 Arc-blast Hazards

The hazards associated with electrical arc-blasts are 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 CSxxW remote operating device for motor control centers may not negate the need for additional personal protective measures. The user is ultimately responsible for evaluating each situation to determine if additional protective measures are needed.

2.2 Battery Hazards

WARNING

THIS EQUIPMENT CONTAINS LITHIUM-ION and ALKALINE CONTAINING BATTERIES

- **All Federal and State regulations must be followed for disposal, transport, and shipment of the batteries and equipment.**
- **Rechargeable batteries should only be charged using chargers approved for the battery type and manufacturer.**

The CSxxW is battery powered from a Milwaukee Tool M18 battery provided. The voltage output on the battery is 18VDC. Although this is below the recognized threshold for a shock hazard, there can be significant energy stored in the battery pack. See Section 3.0 for more information on the M18 battery.

The M18 Milwaukee battery contains Lithium-Ion cells. Care must be taken when handling the battery and federal regulations must be followed when shipping the battery.

2.3 Magnet Hazards

DANGER

THIS EQUIPMENT UTILIZES POWERFUL MAGNETS TO HOLD IT ON THE SWITCHGEAR

Care must be taken to prevent injury when handling this equipment

The magnets that are used on the CxxW to hold it on the switchgear produce strong magnetic fields, so care must be taken when handling it. 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.
- Do not use the CSxxW if the magnets have been damaged.
- Always keep the bottom of the magnet free of debris and rust. If needed, dirt can be removed using the sticky side of a piece of masking tape.

2.4 Pinch Point Hazards

DANGER

THIS EQUIPMENT HAS MOVING PARTS THAT PRESENT PINCH POINT HAZARDS

Care must be taken to prevent injury when handling the equipment.

The CSxxW is a motorized device with moving parts that will produce the opportunity for pinch point hazards. In order to prevent a pinch point injury, the following procedures should be followed:

- Install the CSxxW actuator on the switchgear door prior to turning it on.
- Once the CSxxW is turned ON, do not touch or bring body parts near the actuator.
- Turn OFF the CSxxW actuator prior to removing it from the switchgear door.
- Do NOT attempt to turn the CSxxW actuator ON unless it is installed and ready to use.

Additionally, the magnets used to hold the CSxxW actuator on the switchgear door could present a pinch hazard. To prevent an injury the follow procedures should be followed:

- Keep all fingers away from the magnet areas when installing.
- Follow the installation procedure in Section 4.0 when installing the CSxxW on the switchgear door.

2.5 Radio Frequency

The wireless version of the CSxxW uses a radio transmitter and receiver to communicate. The transmitter and receiver operate in the 2.4GHz frequency band and is low power at 6.3mW. These are commercially available radios that have agency certification through the manufacturer. They are certified with the following agency approvals:

United States – FCC

FCC ID: MQC-XBEE3

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: *(i.)* this device may not cause harmful interference and *(ii.)* this device must accept any interference received, including interference that may cause undesired operation.

Canada – IC

IC: 1846AXBEE3

CAUTION! To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance are not recommended. The antenna used for this transmitter must not be co-located in conjunction with any other antenna or transmitter.

3.0 Battery and Charger Information

WARNING

THIS EQUIPMENT USES A LITHIUM ION BATTERY PACK.

DO NOT attempt to modify the battery pack or to install a battery pack not approved for use in the CSxxW. Doing so could cause equipment damage, fire, or personal injury.

CSxxW Actuator Battery



The CSxxW is powered from a Milwaukee Tool M18 battery. M18 batteries are available in a variety of sizes and capacities. The kit ships with the M18-CP2.0 battery along with a charger, but the user may use any M18 Milwaukee battery. **DO NOT ATTEMPT TO USE BATTERIES OTHER THAN THE M18 MANUFACTURED BY MILWAUKEE TOOL. DOING SO WILL VOID THE WARRANTY.**

For more detailed user information for the M18 battery, see the Milwaukee Tool Safety Instructions for Lithium-Ion Battery Packs, which is included with this manual. Additionally, SDS sheets are available for the battery through the Milwaukee Tool website.

See Section 3.3 for information on charging the M18 battery.

Shipping of Lithium-Ion Batteries

The M18 battery cannot be shipped via air. In cases where shipping of the CSxxW by air is required, the kit can be shipped without the battery. The M18 battery included in the kit will then be shipped separately via ground. In the meantime, any Milwaukee M18 battery may be used. The M18 battery is very common and you may already have one on hand. Or, you may purchase an M18 battery at a local Milwaukee Tool supplier.

RTL-2 Remote Transmitter

The RTL-2 is a remote transmitter used with the wireless version of the CSxxW. It is powered by a 9VDC battery. Replace this battery as needed with a commercially available 9VDC battery. An alkaline or non-rechargeable lithium type is recommended.

3.1 Installing and Removing the Battery on the CSxxW Actuator

Installing and removing the battery on the CSxxW is easily performed by sliding the Milwaukee M18 battery into or out of the adapter on the side of the CSxxW. The battery locks into place when properly installed

and can be removed by simultaneously squeezing the red colored release buttons on both sides of the battery.

3.2 Replacing the Battery in Wireless Remote Transmitter

The RTL-2 remote transmitter uses a standard 9V battery.

To replace the battery, complete the following steps:

- Remove the battery cover on the back of the transmitter.
- Replace the battery.
- Re-install the battery cover.

3.3 Charging the M18 Battery

The M18 battery must only be charged using a charger approved by Milwaukee Tool. Included with the CSxxW is an approved Milwaukee Tool charger. The standard part number provided is 48-59-1812, however, some kits may ship with a different charger depending on the input voltage required. For more detailed user information for the M18 chargers, see the Milwaukee Tool Operator's Manual for Multi-Voltage Chargers, which is included with this manual.

4.0 Use and Operation of the CSxxW

The CSxxW is installed over a pistol grip switch typically found on electrical switchgear. Care must be taken when installing the CSxxW that the pistol grip switch is not inadvertently operated.

The CSxxW should be installed by tilting it downward over the switch. Attempting to install it from a "straight on" angle will allow the magnets to pull it onto the door and likely not be aligned as it should be.

The switchgear door must be clean and free of obstacles such as labels that may prevent the magnets from fully engaging the switchgear door. IF BOTH MAGNETS DO NOT FULLY CONTACT THE METAL OF THE DOOR, THE ACTUATOR MAY FALL OFF DURING OPERATION.

STEP #1 - Holding the CSxxW at an angle as shown, rest the top of the frame angle against the top of the escutcheon plate. Then slowly rotate the actuator downward until the magnets fully engage the switchgear door.



STEP #2 – Install the battery.



STEP #3 – Press the WAKE button to power up the unit. The WAKE button should light indicate that power is on. Also, the pairing LED should be lit YELLOW indicating that the radio is powered but is not yet paired to the hand-held controller. (Pairing will not be established until the ENABLE button is pressed on the hand-held controller).



STEP #4 –For models that have selectable rotation for the actuator (identified by a ROTATION selection switch on the hand-held controller), select the amount of rotation that is necessary for your pistol grip switch. In most cases, MIN rotation will be enough. If you find that it is not enough, select MAX rotation.



When ready to operate your pistol grip switch, press the ENABLE button on the hand-held controller. The pairing LED should immediately turn YELLOW for a moment and then turn GREEN when it pairs to the actuator. A GREEN LED indicates that the two radios are talking to each other and ready to operate.

While holding the ENABLE button, press either TRIP or CLOSE to operate your switch. You must hold both the ENABLE and CLOSE or TRIP buttons until the pistol grip switch is fully moved. Letting go of either of these buttons will cause the CSxxW actuator to immediately return to center.



STEP #5 – Once switching is completed, remove the actuator in the reverse order of installation. Be sure to tilt the actuator UP to disengage magnets from door. **ATTEMPTING TO PULL THE ACTUATOR STRAIGHT OFF THE DOOR IS DIFFICULT AND COULD CAUSE INJURY OR ACCIDENTAL OPERATION OF THE PISTOL GRIP SWITCH.**




5.0 Storage

The CSxxW 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.

6.0 Troubleshooting

SYMPTOM	SOLUTION
The LED on the Wake button flashes and then the unit shuts down.	If the CSxxW actuator is not operated within 2-3 minutes after powering on, it will automatically shutdown. Press the WAKE button to turn it back on
The RTL-2 wireless transmitter won't activate the CSxxW or the actuator operates sporadically.	<p>The pairing lights on the actuator and hand-held controller confirm they are continuously communicating by turning GREEN. If the pairing LEDs are flickering between YELLOW and GREEN, one of the following could be the problem:</p> <ol style="list-style-type: none">1) the transmitter is outside the 100-foot range or if there are obstructions limiting the ability to reach 100-feet.2) the battery voltage could be low in the RTL-2. Try replacing the battery.

7.0 Specifications

Actuator and Hand-held Controller Voltage	CSxxW – 18 VDC RTL2 – 9VDC
M18 Battery and Charger by Milwaukee Tool	<p>M18 CP2.0 (Milwaukee part number 48-11-1820) recommended Other M18 batteries are also compatible. DO NOT USE BATTERIES NOT MANUFACTURED BY MILWAUKEE TOOLS. DOING SO WILL VOID THE WARRANTY.</p> 
M18 Battery Charger By Milwaukee Tool	Most kits ship with Milwaukee Tools part number 48-59-1812, which is rated for 120VAC input. Other similar chargers may be included based on customer needs.
Magnets	Two magnets, each rated 55.1lbs/25kg force, 12,600 Gauss.
Wireless Transmitter	<p>Operating frequency 2.4Ghz, 6.3mW output. 100-ft range indoors, 200-ft line of sight.</p> <p>Transmitter and actuator are paired so that the transmitter can only operate the actuator that has been paired with it. Pairing is factory programmed and is not user programmable.</p>
Projected Life	20,000+ operations
Carrying case	<p>Manufactured by Pelican with the following features:</p> <ul style="list-style-type: none"> 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	<p>CSxxW Actuator (with M18-CP2.0 battery) – 4.5lbs / 2.0kg</p> <p>Complete Kit with carrying case – 12lbs / 5.5kg</p>

8.0 Warranty

CBS ArcSafe® guarantees all products manufactured by CBS ArcSafe® only against defects in materials and/or workmanship for a period of twelve (12) months commencing on the date the product is received by the customer. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. CBS ArcSafe® will, at its option and its cost (excluding shipping expenses) repair, replace or refund the purchase price of any product manufactured by CBS ArcSafe® which has a covered defect in materials and/or workmanship. THIS IS CUSTOMER'S EXCLUSIVE REMEDY FOR BREACH OF WARRANTY. IN NO EVENT WILL CBS ARCSAFE'S® LIABILITY FOR DAMAGES (WHETHER ARISING FROM BREACH OF CONTRACT OR WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE) EXCEED THE PURCHASE PRICE OF THE PRODUCT CONCERNED NOR WILL CBS ARCSAFE® BE LIABLE FOR PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS) EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. This warranty does not cover damage caused by accident, improper care, negligence, normal wear and tear, natural causes, unlicensed repairs, and incompetent supervision. This warranty also does not cover repairs or replacements made by unauthorized individuals except when agreed to in writing. CBS ArcSafe® reserves the right to disallow warranty repairs if the unit has been disassembled or misused, as determined by CBS ArcSafe® in good faith. Please contact us at (877) 472-3389.

9.0 Contacting the Manufacturer

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



2616 Sirius Road

Denton, TX 76208

(940) 382-4411

(877) 472-3389

WWW.CBSArcSafe.com