Instructional Leaflet **IL0131185EN** Effective February 2022

Magnum IEC and narrow frame cassette cell switch field option kit

⚠ WARNING

(1) ONLY QUALIFIED ELECTRICAL PERSONNEL SHOULD BE PERMITTED TO WORK ON THE EQUIPMENT

(2) ALWAYS DE-ENERGIZE PRIMARY AND SECONDARY CIRCUITS IF A CIRCUIT BREAKER CANNOT BE REMOVED TO A SAFE WORK LOCATION

(3) DRAWOUT CIRCUIT BREAKERS SHOULD BE LEVERED (RACKED) OUT TO THE DISCONNECT POSITION.

(4) ALL CIRCUIT BREAKERS SHOULD BE SWITCHED TO THE OFF POSITION AND MECHANISM SPRINGS DISCHARGED.

FAILURE TO FOLLOW THESE STEPS FOR ALL PROCEDURES DESCRIBED IN THIS INSTRUCTION LEAFLET COULD RESULT IN DEATH, BODILY INJURY, OR PROPERTY DAMAGE.

⚠ WARNING

THE INSTRUCTIONS CONTAINED IN THIS IL AND ON PRODUCT LABELS MUST BE FOLLOWED. OBSERVE THE FIVE SAFETY RULES.

- **DISCONNECTING;**
- **ENSURE THAT DEVICES CANNOT BE ACCIDENTALLY RESTARTED;**
- **VERIFY ISOLATION FROM THE SUPPLY;**
- **EARTHING AND SHORT-CIRCUITING; AND;**
- **COVERING OR PROVIDING BARRIERS TO ADJACENT LIVE PARTS.**

DISCONNECT THE EQUIPMENT FROM THE SUPPLY, USE ONLY AUTHORIZED SPARE PARTS IN THE REPAIR OF EQUIPMENT. THE SPECIFIED MAINTENANCE INTERVALS AS WELL AS THE INSTRUCTIONS FOR REPAIR AND EXCHANGE MUST BE STRICTLY ADHERED TO IN ORDER TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO THE SWITCHBOARD.

Required tools

- Phillips screwdriver (#2 recommended)

Section 1: General information

The cassette cell switch is a compartment position switch for drawout circuit breakers. Each cell switch assembly consists of four form C switches operated by a common actuator. The wiring diagram in **Figure 1** illustrates the switch contacts in the normal (unactuated) position with the breaker fully withdrawn. As the breaker is levered into the cassette, the switches change state. Switch packs can be placed in one or more of the three positions shown (**D**, **T**, or **K**), and are activated progressively as the breaker reaches the insertion position shown in **Figure 1**.

Note: This kit is also used on ANSI narrow cassettes.

This product is intended for use with Magnum circuit breakers with PXR or Digitrip trip units.

Note: All images show a Magnum circuit breaker with a PXR trip unit unless stated otherwise. Some components, such as the trip unit, not shown for clarity.

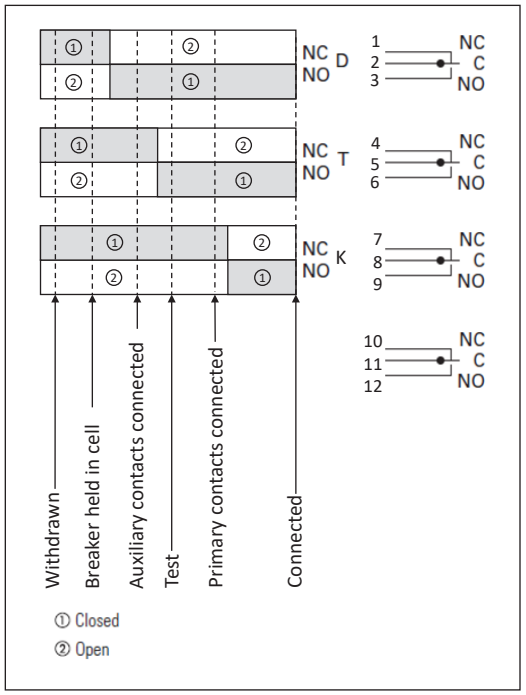

Figure 1. Cell switch wiring diagram

Powering Business Worldwide

Section 2: Installation of IEC and narrow frame cassette cell switch

To install the IEC and narrow frame cassette cell switch, proceed with the following steps:

Step 1: Three sets of 12 wire markers are included with each switch assembly, allowing it to be marked for either the **K**, **T**, or **D** position. Depending upon the number and location of the switches to be used, apply the appropriate labels near the ends of the leads. Unused labels may be discarded.

Note: All switches don't need to be connected but can be left hanging in a wire loop. If more than four total SPDT switches are used, an additional terminal block may have to be supplied by the customer.

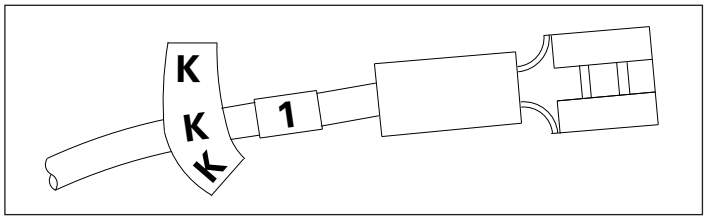

Figure 2. Step 1

Step 2: Bend the gasket 90 degrees at the crease line. Fasten it in place between the outside wall of the cassette and the gasket bracket with four M6 x 10 mm thread-forming screws. A right-side mounting is shown. Bend the gasket the opposite way for a left-side mounting.

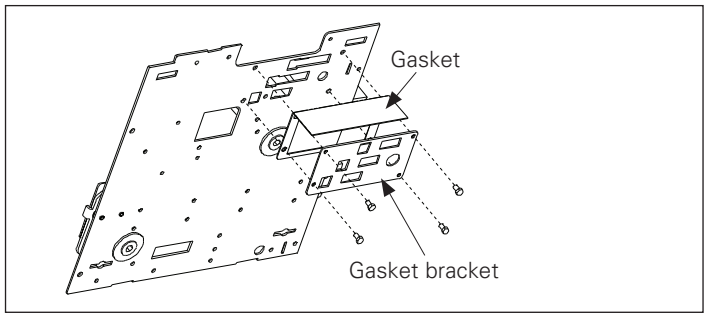

Figure 3. Step 2

Step 3: Insert cell switch into desired position by first sliding the lock to the unlocked (up) position. Install the hook feet down through openings, then slide switch forward so hook feet engage the cassette's side wall. Slide the lock down into the locked position.

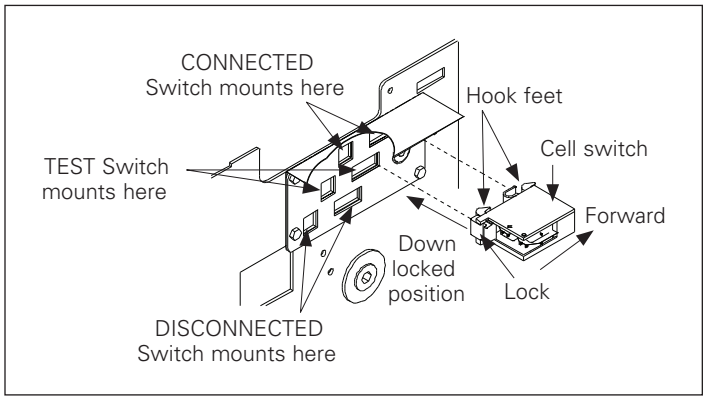

Figure 4. Step 3

Step 4: If the secondary terminal bracket has empty slots, terminal blocks should be located at the end of each row, and should have the appropriate labels (K, D, or T, and 1 through 6, and 7 through 12) on them. If there are no empty slots in the secondary terminal bracket, an external terminal block extension bracket kit can be ordered, MEXTBKIT, or a customer may supply their own.

Wire the switch to these terminal block locations per the markings on the switch wires. Switch leads are terminated with quick disconnect connectors that will plug into the rear of the terminal blocks as shown.

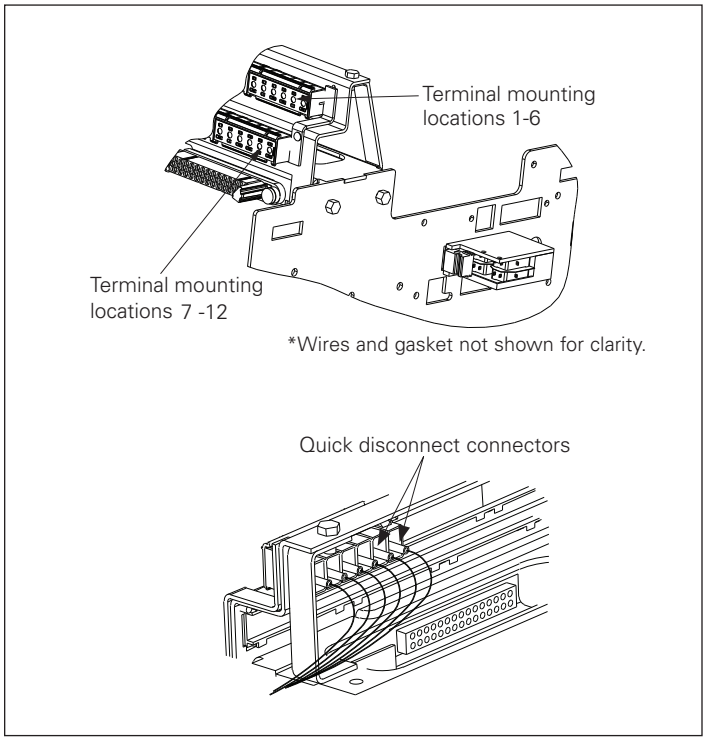

Figure 5. Step 4

Step 5: If applicable, each additional switch (maximum of three) requires two terminal blocks or can be wired to an external source.

Note: Only one switch can be connected to the breaker's terminal block. If two additional switches need to be installed, the customer must supply an external terminal block.

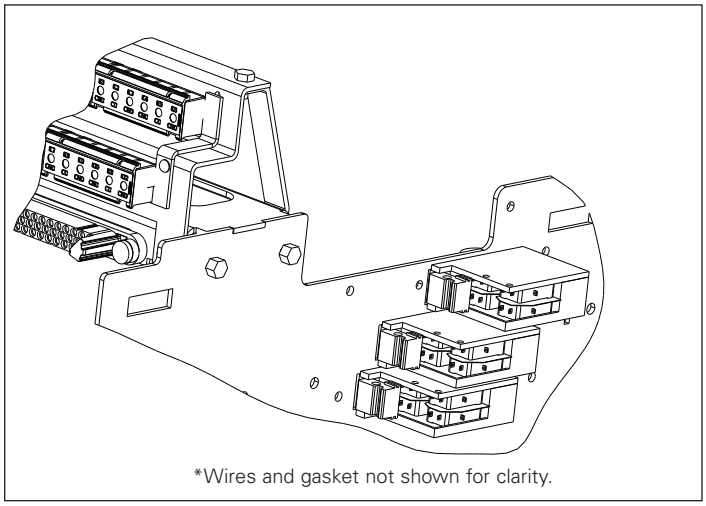

Figure 6. Step 5

Step 6: Verify that the cell switches operate as described in Figure 1. Beginning in the WITHDRAWN position with the levering mechanism indicating DISCONNECT, switch contacts D operate after the drawout breaker levering mechanism begins advancing a few turns toward TEST and has engaged the cassette to retain the breaker in the cell. Switch T contacts operate after the secondary connectors mate, as the breaker approaches the TEST position. Switch contacts K operate before the breaker reaches the CONNECT position.

Disclaimer of warranties and limitation of liability

The information, recommendations, descriptions, and safety notations in this document are based on Eaton Corporation's ("Eaton") experience and judgment, and may not cover all contingencies. If further information is required, an Eaton sales office should be consulted.

Sale of the product shown in this literature is subject to the terms and conditions outlined in appropriate Eaton selling policies or other contractual agreement between Eaton and the purchaser.

THERE ARE NO UNDERSTANDINGS, AGREEMENTS, WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, OTHER THAN THOSE SPECIFICALLY SET
OUT IN ANY EXISTING CONTRACT BETWEEN THE PARTIES. ANY SUCH CONTRACT STATES THE ENTIRE OBLIGATION OF EATON. THE CONTENTS OF THIS DOCUMENT SHALL NOT BECOME PART OF OR MODIFY ANY CONTRACT BETWEEN THE PARTIES.

In no event will Eaton be responsible to the purchaser or user in contract, in tort (including negligence), strict liability, or otherwise for any special, indirect, incidental, or consequential damage or loss whatsoever, including but not limited to damage or loss of use of equipment, plant or power system, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information, recommendations, and descriptions contained herein.

The information contained in this manual is subject to change without notice.

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Printed in USA
Publication No.IL0131185ENH01/TBG 001575
February 2022

Powering Business Worldwide