



Record Plus™ Molded Case Circuit Breaker Accessories

Integral Handle Operator, Type TDR

Congratulations and thank you for choosing the Record Plus™ family of current-limiting circuit breakers. The integral handle operator is listed under UL 489 and is suitable for use with the FC100 circuit breaker series.

Record Plus™ circuit breakers are designed with a full line of integrated accessories. All units use the latest in integrated modular circuit breaker technology for flexibility in application and maximizing the product's utilization and capabilities.

All **Record Plus™** circuit breakers are listed by Underwriters Laboratories to the UL489 standard and the CSA Standard C22.2, No. 5. These circuit breakers are certified to IEC60947-2.

These accessories are also for use with our MAG-BREAK® instantaneous trip-only circuit breakers, which meet the same standards and are UL-recognized components for use in motor applications. They can also be used with our molded case switches, which are listed per Underwriters Laboratories to the UL489 standard.

Record Plus™ circuit breakers and their accessories are designed and manufactured to exceed our global customers' high standards for reliability and quality.

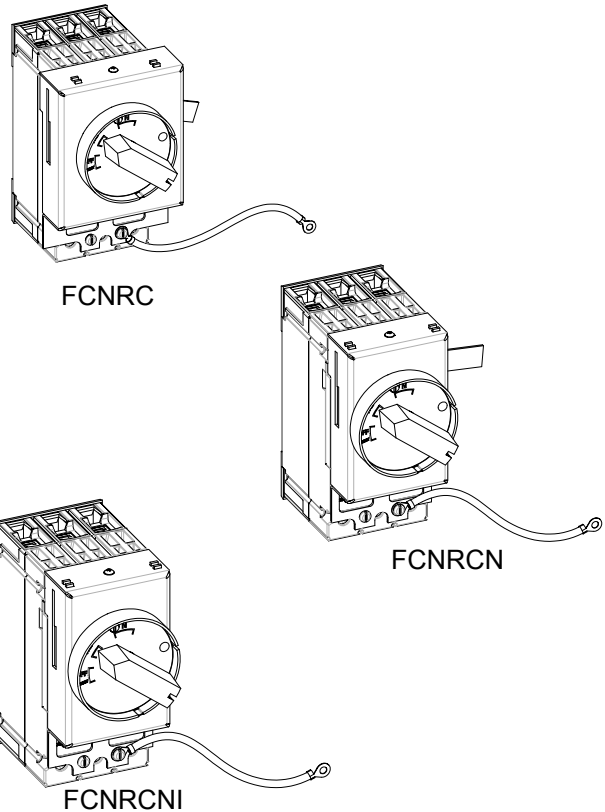


Figure 1. TDR integral handle operator installed on a Record Plus™ FC100 circuit breaker (vertical orientation shown).



WARNING: DANGER of electrical shock or injury. Ensure that ALL electrical power supplies are OFF before installing or removing any devices. The breaker, trip unit, or accessories **MUST ONLY** be installed and serviced by **QUALIFIED** personnel. See NEMA publication AB4.

AVERTISSEMENT: Danger contre les risques d'électrocutions. S'assurer avant **TOUTES** manipulations du disjoncteur que les différentes sources d'alimentation sont en position OFF. Les disjoncteurs, unités de protection, ou accessoires doivent être installés par des personnes qualifiées et habilitées. Lire NEMA publication AB4.



CAUTION: This product is **NOT** suitable for use in equipment not specifically design to accept it. Contact the equipment manufacturer for possible equipment modifications.

ATTENTION: Cet appareil nedeoit pas etre employe dans un equipement non specialement adapte a cet effet. Contactez le constructeur concernant les possibles modifications

Product Description

These instructions describe the installation procedure for the integral handle operator accessory, type TDR, on **Record Plus™** FC100 circuit breakers, as illustrated in Figure 1. The type TDR handle is designed for direct mounting to the breaker in either vertical (cat. no. FCNRC, FCNRCN and FCNRCNI) or horizontal orientation (cat. no. FCNRD and FCNRDN). A door ring on the handle operator projects through a hole in the front of the enclosure door. These handles are suitable for use with NEMA 1, NEMA 12, or NEMA 12K enclosures.

An interlock kit (cat. no. FCFRDRCK) for adapting the enclosure door and the door ring gasket (cat. no. SEFRGSK) are available separately.

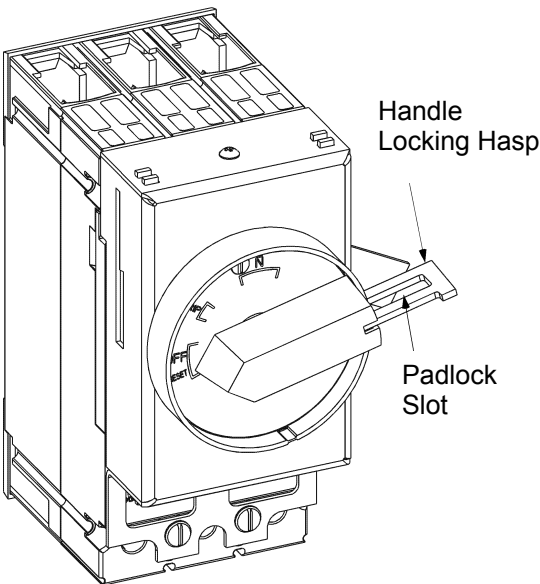


Figure 2. Locking the circuit breaker OFF.

Step 1 – Unpack and Inspect

Unpack the integral handle operator kit and inspect the parts for any shipping damage. Verify that all parts are supplied, as listed in Table 1.

Note that the numbers in brackets in the following figures and installation instructions refer to the item numbers in Table 1.

Item	Description	Qty.
1	Operator assembly	1
2	Screw, #8-32 x 2.81"	4
3	L bracket	1
4	Lock washer	4
5	Screw, #8-32 x 5/16"	4
6	Grounding cable	1
7	SEMS screw	1

Table 1. Parts supplied in the type TDR integral handle operator kit.

Step 2 – Installation

Use the following procedure to install the handle operator kit to the circuit breaker. Outline drawings showing the dimensions of the installed operator are found in fig 8, fig 9 and fig 10.

1. Push the trip button to place the breaker operating handle in the TRIP position, as illustrated in Figure 3.
2. Mount the breaker to the enclosure with the four #8-32 x 2.81" screws [2], as shown in Figure 3. Tighten the screws to 16 - 20 in-lb.
3. Attach the L bracket [3] to the breaker with two #8-32 x 5/16" screws [5] and lock washers [4], as shown in Figure . Tighten the screws to 16 - 20 in-lb.
4. Turn the rotary handle in the handle operator assembly [1] to the TRIP position. Mount the operator assembly to the breaker with a grounding cable [6], two #8-32 x 5/16" screws [5] and lock washers [4], as shown in fig5. The top of the assembly must rest on the L bracket [3]. Tighten the screws to 9-11 in-lb.
5. Secure the handle operator assembly [1] to the L bracket [3] with the SEMS screw [7], as shown in Figure 6.

Use the identical procedure to install the horizontal-mount rotary handle, as shown in Figure 7.

Step 3-Handle Operation

The mechanism operates with a rotary motion from the OFF/RESET position to ON.

In FCNRC/D, FCNRCN /DN, when the breaker is ON, the interlock arm prevents the enclosure door from opening. If it is necessary to open the door with the breaker ON, turn the interlock defeat screw clockwise to disengage the interlock arm.

To lock the handle in the RESET position, pull the hasp out of the end of the handle and through the slot in the door ring, as shown in Figure 2. Attach a padlock through the slot in the hasp to prevent the handle from rotating. The locking hasp accepts up to three padlocks with 1/4-inch shanks.

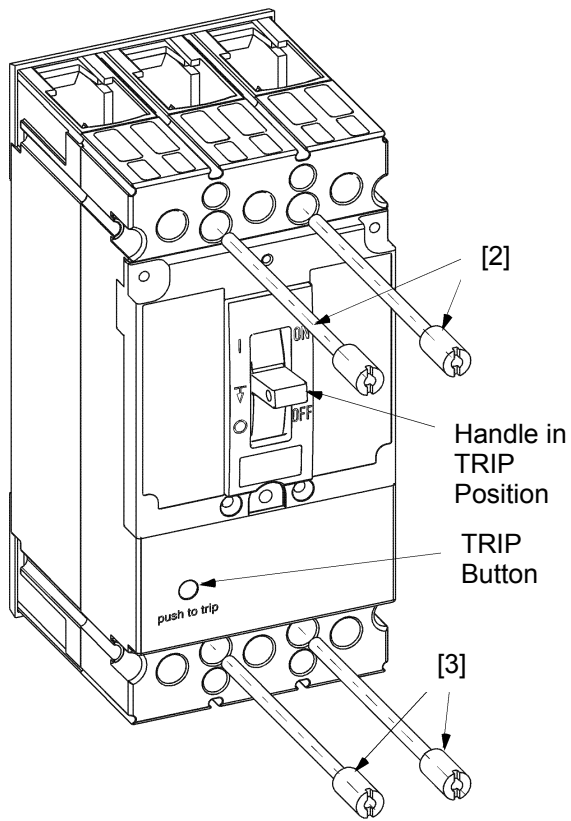


Figure 3. Mounting the circuit breaker to the enclosure.

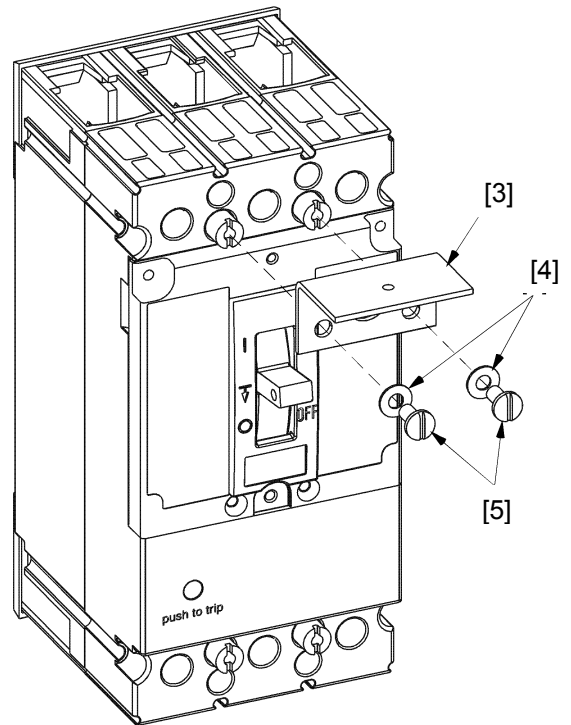


Figure 4. Attaching the L bracket to the circuit breaker.

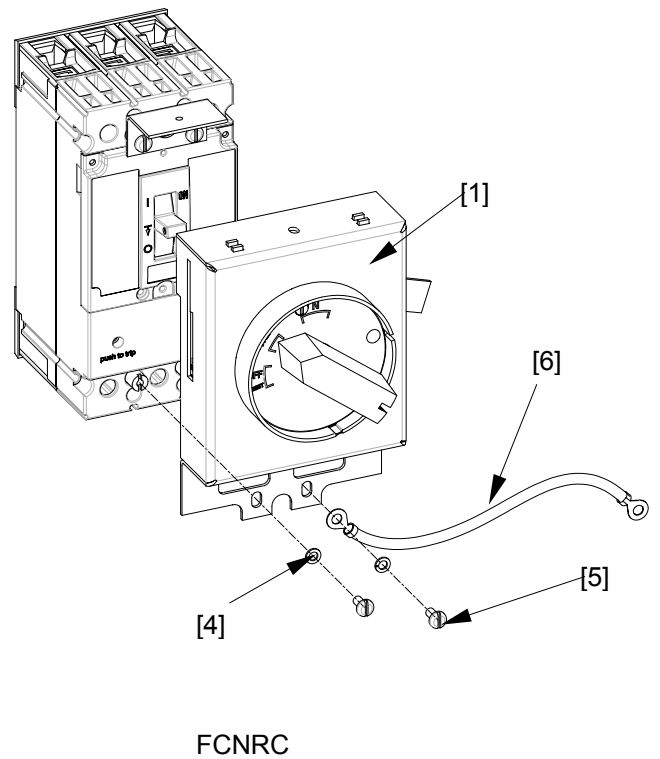
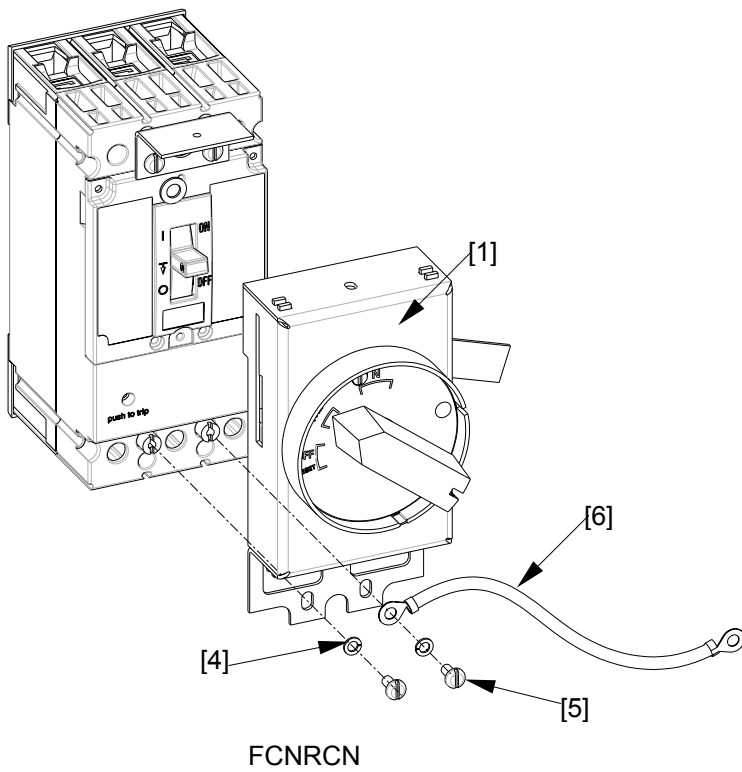
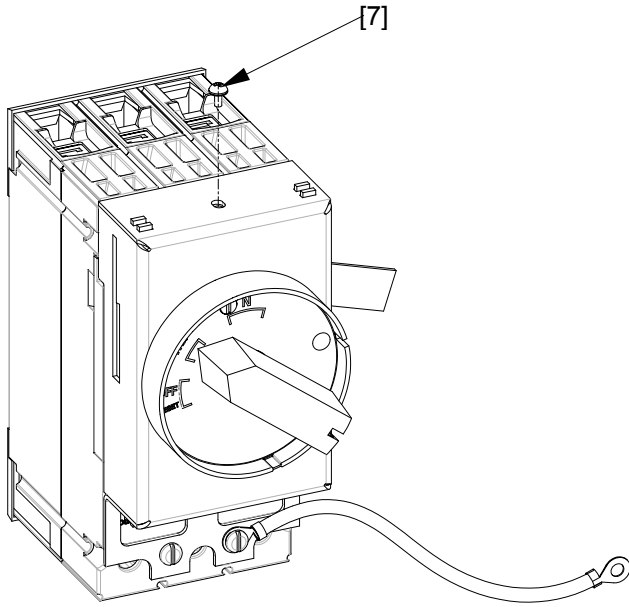
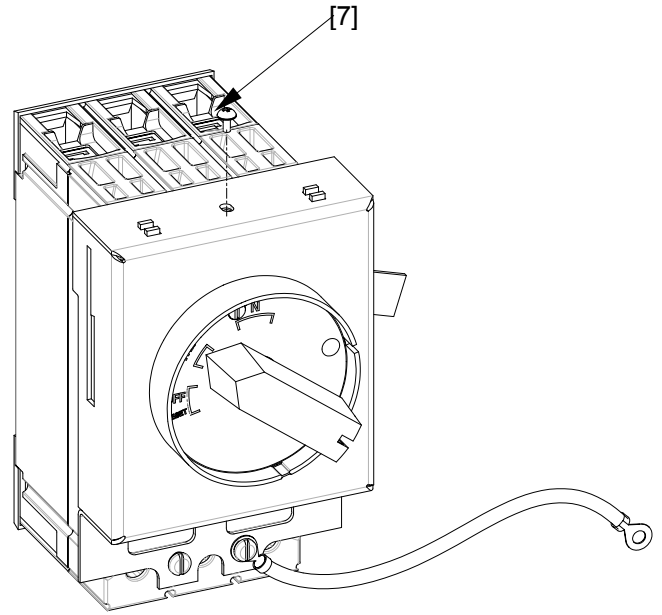


Figure 5. Mounting the handle operator on the breaker.

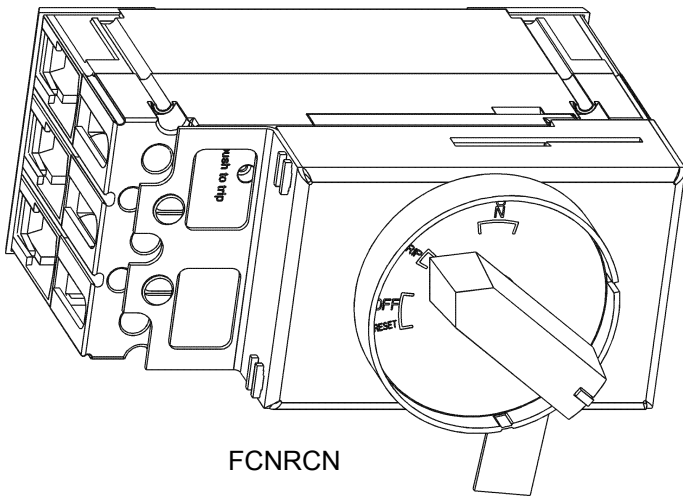


FCNRCN

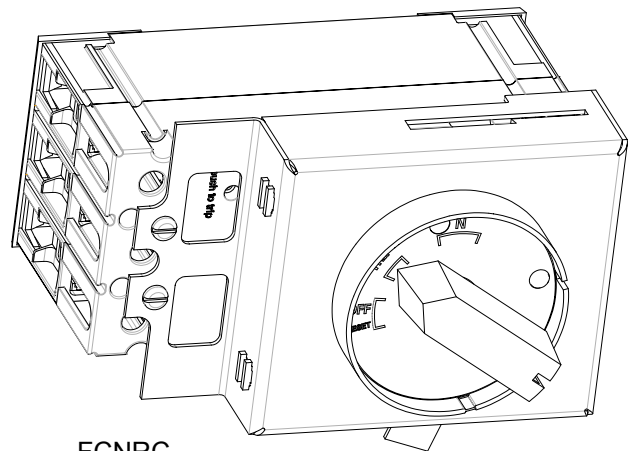


FCNRC

Figure 6. Securing the handle operator assembly to the bracket.



FCNRCN



FCNRC

Figure 7. Handle operator installed on horizontally mounted breaker.

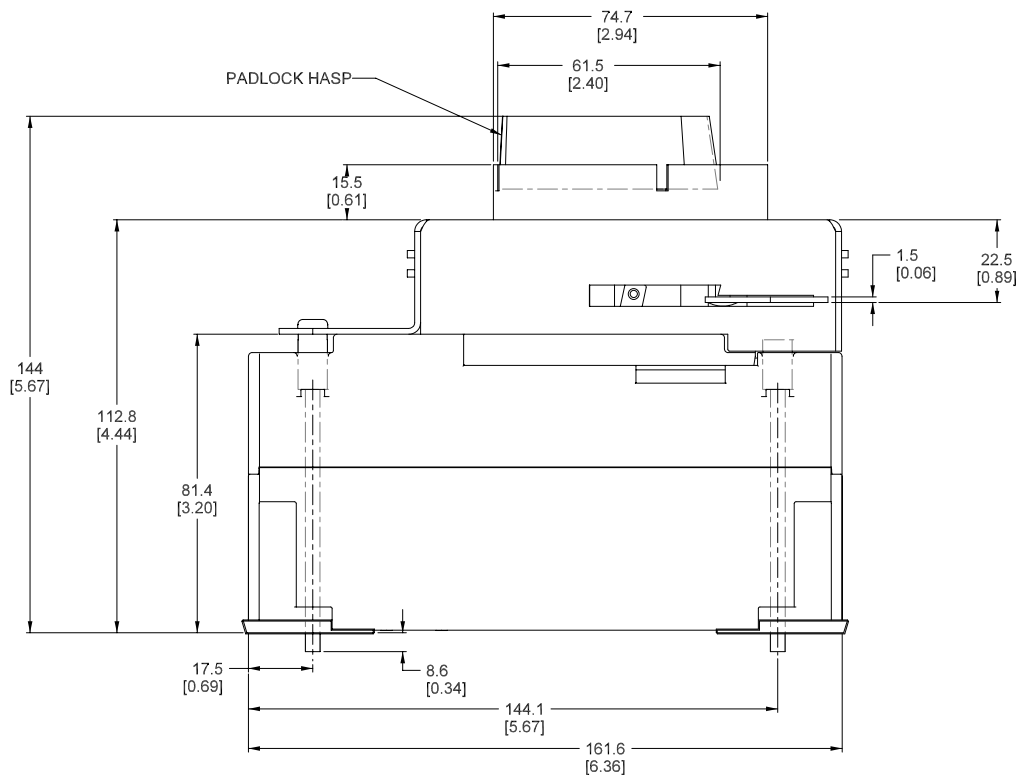
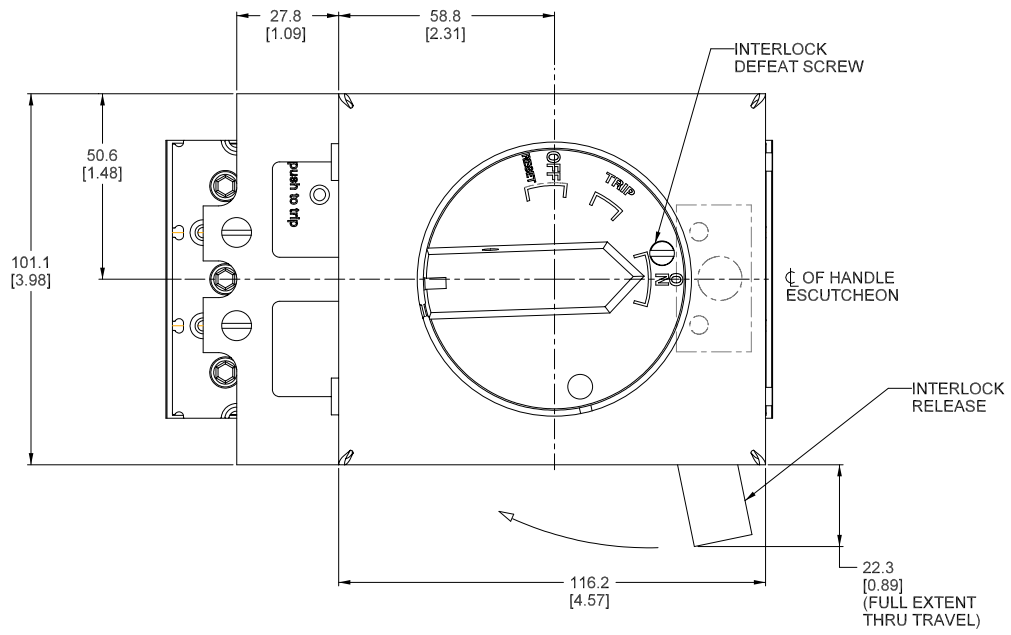


Figure 9. Outline drawing for FCNRC.

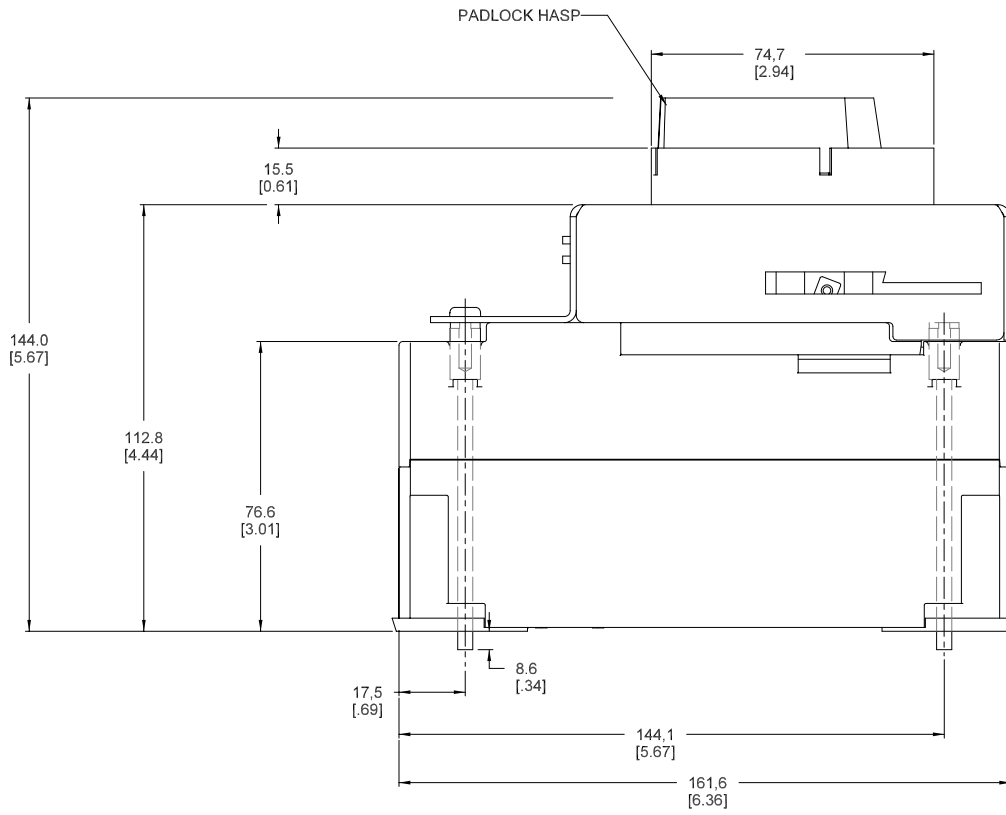
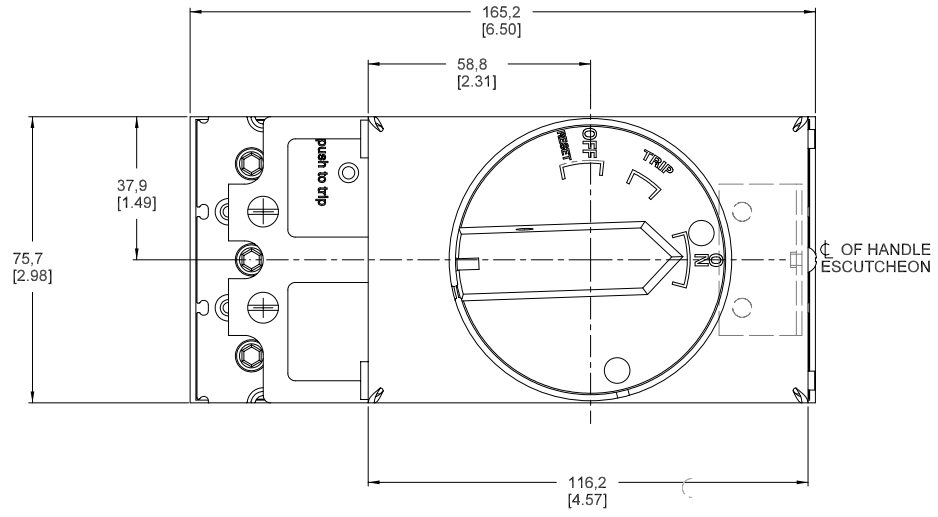


Figure 10. Outline drawing for FCNRCNI.

Step 4 – Check Operation

1. To check the RESET operation, rotate the mechanism handle counterclockwise toward the RESET position until the breaker resets.
2. To check the ON–OFF operation of the breaker, depress the interlock release and rotate the handle between the ON and OFF positions.
3. With the rotary handle and the circuit breaker in the ON position, press the trip button to verify that the rotary handle indicates TRIP.
4. Complete the installation of the circuit breaker according to installation instructions DEH40463.

These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise that are not covered sufficiently for the purchaser's purposes, the matter should be referred to the GE Company. The circuit breaker is a sealed unit that contains no user-serviceable parts. Tampering with the seal will void the warranty.



GE Industrial Systems

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