Congratulations and thank you for choosing the Record Plus™ family of current-limiting circuit breakers. This UL-listed shunt trip or under voltage release is suitable for use with the FC100, FE150, and FE250 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 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.

**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 n’doit pas être employé dans un équipement non spécialement adapté à cet effet. Contactez le constructeur concernant les possibles modifications à apporter à l’équipement.

**Product Description**

The shunt trip and under voltage release (UVR) covered by these instructions are illustrated in Figure 1. Catalog numbers for the available configurations are listed in Table 1, with voltage and current ratings.
<table>
<thead>
<tr>
<th>Voltage</th>
<th>Shunt Trip</th>
<th>UVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vac</td>
<td>Vdc</td>
<td>Cat. No.</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>FASHTB</td>
</tr>
<tr>
<td>24</td>
<td>24</td>
<td>FASHTD</td>
</tr>
<tr>
<td>48</td>
<td>48</td>
<td>FASHTF</td>
</tr>
<tr>
<td>110–130</td>
<td>110–125</td>
<td>FASHTJ</td>
</tr>
<tr>
<td>120</td>
<td>—</td>
<td>FASHTK</td>
</tr>
<tr>
<td>220–240</td>
<td>250</td>
<td>FASHTN</td>
</tr>
<tr>
<td>277</td>
<td>—</td>
<td>FASHT7</td>
</tr>
<tr>
<td>400–480</td>
<td>—</td>
<td>FASHTU</td>
</tr>
</tbody>
</table>

① 50 or 60 Hz.
② Shunt trip suitable for use with ground-fault sensing and relaying equipment; 55% trip.

Table 1. Catalog numbers and ratings for Record Plus™ shunt trip and undervoltage release accessories.

**Step 1 – Unpack and Inspect**

Unpack the shunt trip or under voltage release kit and inspect it for shipping damage. Read the circuit breaker installation instructions carefully. Insure that the circuit breaker and the accessory have the proper ratings for current, voltage, interruption, and contact duty; wire routing; installation; and operation for the application. Accessories with the catalog number suffix W are factory equipped with #18 AWG wire leads, 36 inches long. Shunt trip leads are black and under voltage release leads are blue.

**Step 2 – Breaker Status**

Either trip the circuit breaker by activating the red trip button on the front of the breaker or move the breaker handle to the OFF position, both shown in Figure 2.

**Step 3 – Installation**

1. Loosen, but do not remove, the captive screws holding the accessory cover on the circuit breaker, as shown in Figure 3 for an FC100 breaker and in Figure 4 for an FE150 or FE250 breaker. Remove the cover.

2. The shunt trip or undervoltage release snaps into place in its designated pocket in the circuit breaker, as illustrated in Figure 3 and Figure 4. It can be easily removed by gently prying from underneath with a small screw driver.

---

Figure 2: (a) Tripping the breaker or (b) turning it OFF.

Figure 3: Installation in an FC100 circuit breaker.

Figure 4: Installation in an FE150 or FE250 circuit breaker.
3. If the accessory was not factory wired, connect the leads to the lugs on the accessory, as shown in Figure 5. For screw-type terminals, the recommended wire size is #24–16 AWG (0.4–2.5 mm²), with 600 V insulation, and a maximum diameter of 0.100 in. (2.54 mm). Tighten the terminals to 11 lb-in (1.2 Nm).

**Step 4 – Wire Routing, Cover Knockouts, and Port Wiring**

Determine the wire routing, as shown in Figure 6, as follows:

- For an FC breaker, use ports B, E, D, and H.
- For an FE breaker, use a sharp knife or wire cutter to remove the knockouts in the breaker accessory cover.

Route the accessory wiring out of the breaker through the exit ports, being careful to dress the wiring from the accessory without pinching the insulation.

Table 2 lists the maximum number of wires allowed per port. The maximum number of wires per port is based on an insulation outside diameter of 0.100 in. (2.54 mm). Scale the given number of wires up or down for wires with a different diameter.

<table>
<thead>
<tr>
<th>Port</th>
<th>FC Breaker</th>
<th>FE Breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, E</td>
<td>N/A</td>
<td>8</td>
</tr>
<tr>
<td>B, F</td>
<td>B: 5; F: 9</td>
<td>5</td>
</tr>
<tr>
<td>C, G</td>
<td>N/A</td>
<td>3</td>
</tr>
<tr>
<td>D/ H</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

---

Table 2: Maximum number of accessory wires allowed per port.

**Step 5 – Attach the Label and Replace the Breaker Cover**

Attach the accessory label to the side of the breaker as shown in Figure 6. Replace the breaker cover, as illustrated in Figure 3 and Figure 4. Tighten the mounting screws to 11 lb-in (1.2 Nm).
Step 6 – Check Breaker Functions

Perform operational checks to insure proper functioning of the new accessory.

- For a shunt trip, apply the rated voltage and verify that the breaker trips.
- For an under voltage release, apply the rated voltage to allow the breaker to close, then remove the voltage and verify that the breaker trips.

See NEMA publication AB4 for further details.

WARNING: It is important that the cover is installed correctly to ensure proper circuit breaker operation.

AVERTISSEMENT: Il est important de vérifier que tout cuvercle ou cache de protection est correctement installé afin d’assurer le bon fonctionnement de l’appareil.

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