



## Record Plus™

### FC100 Molded Case Circuit Breaker

**Congratulations** and thank you for choosing the **Record Plus™** family of current limiting circuit breakers.

**Record Plus™** circuit breakers are designed to provide overload and short circuit protection to electrical distribution and utilization equipment.

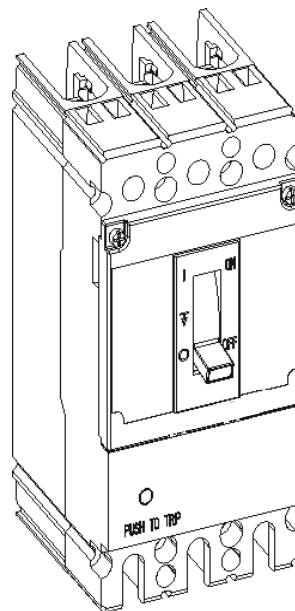
All units use the latest in integrated modular circuit breaker technology to allow flexibility in application and precise control of abnormal circuit conditions.

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

Mag-Break® instantaneous trip only circuit breakers meet the same standards and are UL Recognized Components for use in motor applications.

Molded Cases Switches are also listed by Underwriters Laboratories to UL489 standard.

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



**Warning:** DANGER of Electrical shock or injury. Ensure 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 equipment manufacturer for possible equipment modifications.

**Important:** 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.

## Step 1, Unpack and inspect

Unpack the breaker or switch and inspect it for any shipping damage. Insure the breaker has the proper ampere, voltage and interrupting ratings for the application. Also check breaker operation, see Step 5. Now install the accessories (Step 9) and terminal lugs (Step 3) using supplied installation instructions. Check all accessories for proper voltage ratings, installation, wiring routing and operation. Attach appropriate labels to side of the breaker if internal accessories have been installed, see Figure 6.

## Step 2, Installation

Using figure 1, drill and tap all mounting holes and make any necessary front panel escutcheon cut outs. Using the breaker hardware kit, which includes four screws and lockwashers, mount the breaker. Mounting kits: FCMSK1 #8-32 x 2-7/8in (73mm)  
Torque mounting screw to 20 lb-in (2.25Nm),  
For breaker orientation see Figure 2.

A	126.6mm	4.98 in	E	25.4 mm	1.00 in
B	87.0 mm	3.43 in	F	68.0 mm	2.68 in
C	34.0 mm	1.34 in	G	69.8 mm	2.75 in
D	25.4 mm	1.00 in			

### Applications 480V and above.

Applications 480V and above will require insulation plastics, supplied with breaker. See Figure 3.  
For plug-in application uninstall the insulation plastics.

## Step 3, Wire Terminal Connections

**Note:** When using aluminum wire, use a joint compound recommended by the wire manufacturer.

**Important:** Dans les cas d'emploi de cable aluminim, utilisez le lubrifiant recommande by par le fabricant.

Check to make sure all terminals are torqued to the proper value. (8.84 lb-in = 1Nm)

### 15 - 20A Saddle clamp kit FCALK12

Cu/Al wire, strip length- 0.40 - 0.45 in (10 - 11mm)

#14-10 AWG Torque to 35 lb-in (4Nm)

### 30 - 60A Lug kit FCALK13 (FCOLK13 CU lug body)

Cu/Al wire, strip length- 0.40 - 0.45 in (10 - 11mm)

#10AWG Torque to 35 lb-in (4Nm)

#8 AWG Torque to 40lb-in (4.5Nm)

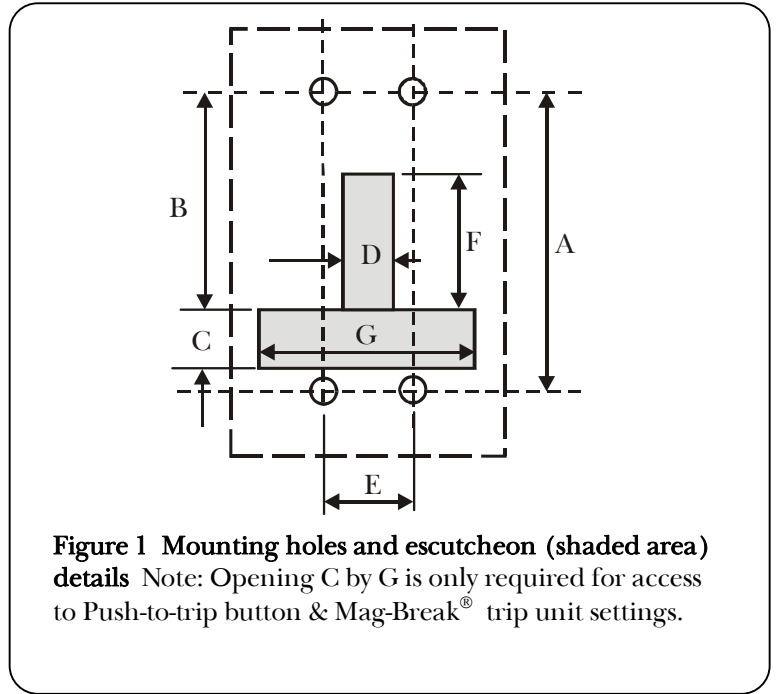
#6, & 4 AWG Torque to 45lb-in (5Nm)

### 70 -100A Lug Kit FCALK14 (FCOLK14 CU lug body )

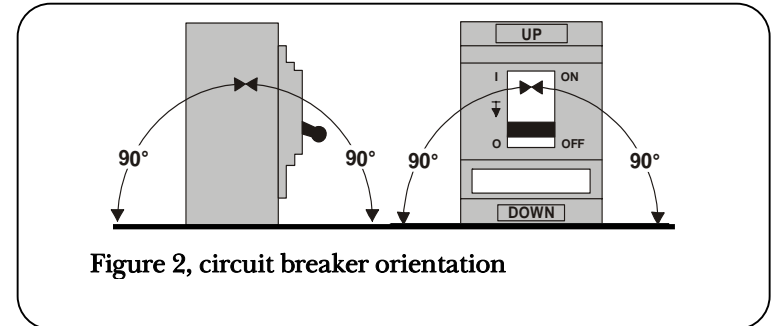
Cu/Al wire, strip length- 0.40 - 0.45 in (10 - 11mm)

#4 AWG Torque to 45lb-in (5NM)

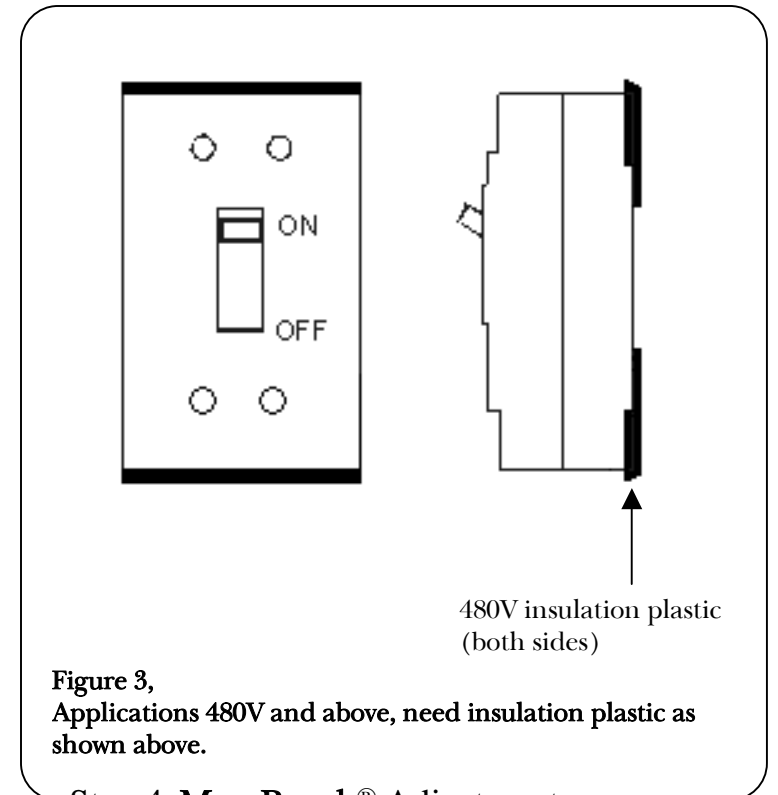
# 3 - #1/0AWG Torque to 50 lb-in (5.7Nm)



**Figure 1 Mounting holes and escutcheon (shaded area) details** Note: Opening C by G is only required for access to Push-to-trip button & Mag-Break® trip unit settings.



**Figure 2, circuit breaker orientation**




**Figure 3, Applications 480V and above, need insulation plastic as shown above.**

## Step 4, Mag-Break® Adjustment

**Mag-Break**® motor circuit protector trip unit instantaneous adjust switch dial is marked with current setting. Settings are available in two adjustment setting ranges 3x to 15x and 7x to 20x, see breaker switch markings for actual current settings.

### Step 5, Circuit breaker performance and operation

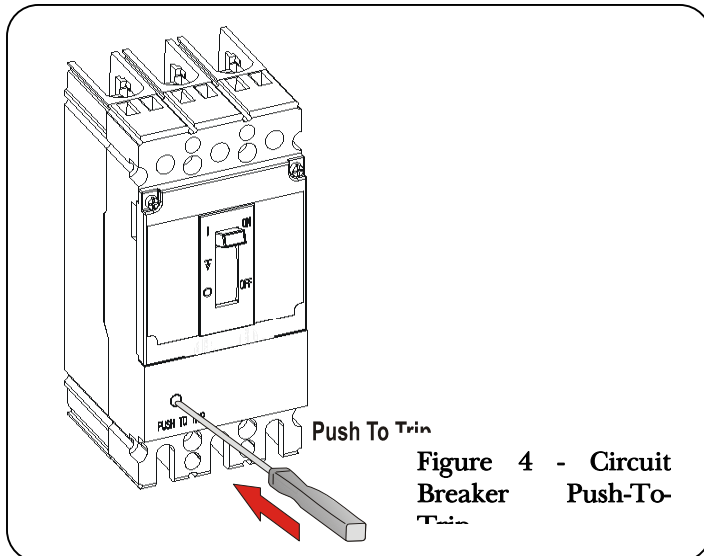
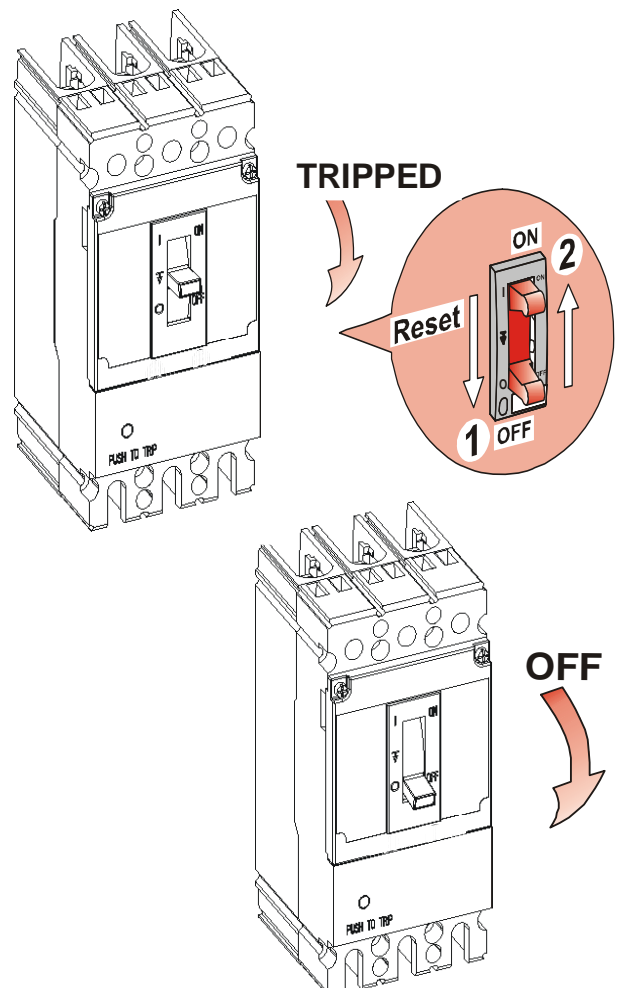
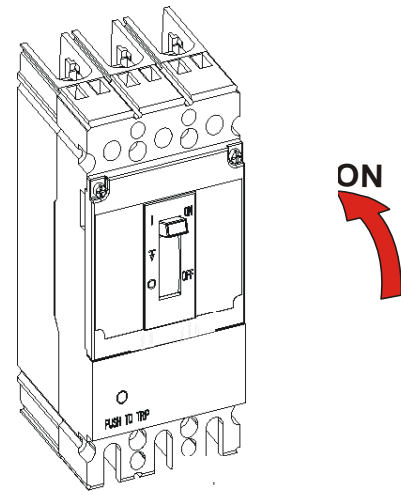
The breaker contact status is indicated by the handle position, and the positions are marked on either side of the handle escutcheon, clearly showing the status of the breaker contacts. ON and/or I indicate breaker is ON and OFF and/or O indicate breaker is OFF.

The breaker tripped position is indicated by the symbol .

To close the breaker from the OFF position move the handle to the ON position. To close the breaker from the trip position, first move the handle fully to the OFF (reset) position then to the ON position. See Figure 5. A **Push-To-Trip** button is provided for convenience of testing the mechanical trip operation of the breaker, see Figure 4. The **Push-To-Trip** should be tested annually.

**Caution:** Automatic tripping of the circuit breaker, **Mag-Break**® motor circuit protector or molded case switch may indicate a system problem. Identify and correct any problem before turning the device on again.

**Important:** Le déclenchement automatique de disjoncteur, **Mag-Break**® ou interrupteur peut indiquer un problème de circuit. Identifiez et corrigez le problème avant de refermer l'appareil.



**Figure 4 - Circuit Breaker Push-To-Trip**

**Figure 5 Mechanical Operation of the Circuit Breaker**

Step 6, Troubleshooting:

Ensure that breaker is installed correctly and all terminal connections are torqued per instructions.

If the breaker fails to close check :

1. For overload and short circuit on the system.
2. Handle position - TRIPPED - reset by moving handle fully to OFF position and then to the ON position, see Figure 5.
3. Undervoltage trip is supplied with rated voltage.
4. Shunt trip is de-energized and no trip signal exists
5. Breaker trip unit settings are properly adjusted.

If technical assistance is required contact your local GE Industrial Systems sales office. In the US call GE Post Sales Customer Service, 1-888-437-3765.

### Step 7, Maintenance:

Generally no maintenance is required but it is recommended that the breaker be cleaned and inspected on an annual basis.

**Warning:** Danger of electrical shock or injury. Turn off power supplies ahead of equipment before attempting to service or accessories.

**Important::** Danger d'electrocution. Couper l'alimentation avant d'effectuer toute action d'entretien.

Operate the breaker push to test button and toggle the handle several times, testing the mechanical operation of the device. If there are any signs of damage or if the mechanism is sluggish or sticky, replace the breaker. For abnormal or heavy duty conditions refer to NEMA publication AB4 and for recommended maintenance practices NFPA70B.

### Step 8, Storage:

Store in a dry, dust free, environment protected from corrosion. Long term storage should be in the original shipping carton. Temperature range -40°C to +80°C.

### Step 9, Accessories:

For full details of the accessories and their application, contact you local GE Industrial Systems representatives. When installing accessories read the accompanying accessory installation instruction and follow carefully all cautions and warnings.

Optional inter-phase Barriers

Installation instruction references:  
DEH40324 – Auxiliary switch & bell alarms.  
DEH40363 – Undervoltage release & shunt trip modules  
DEH 40530 – Terminal lugs.

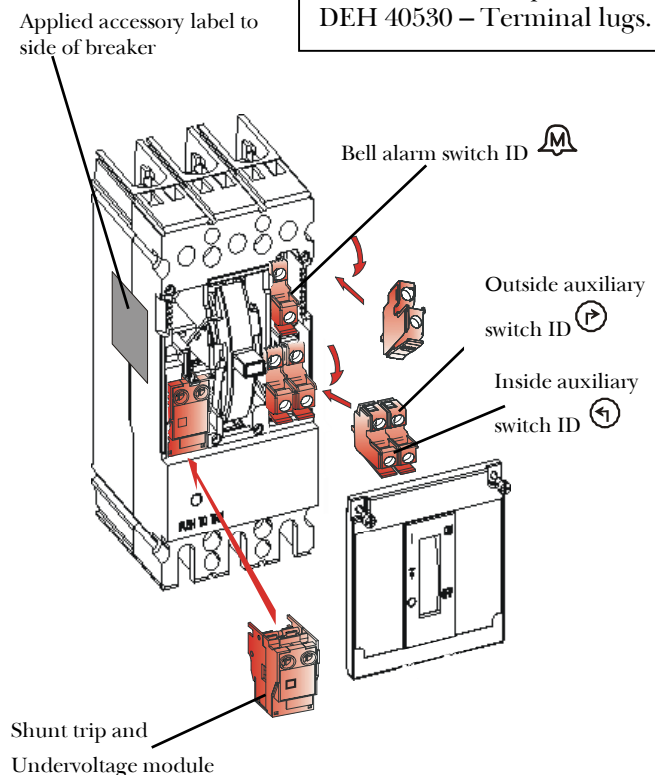


Figure 6, typical accessories see Buylog® for details

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 breaker is a sealed unit, which contains no user serviceable parts, tampering with seal will void warranty.



GE Industrial Systems

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