



Record Plus™ Molded Case Circuit Breaker (FE250)

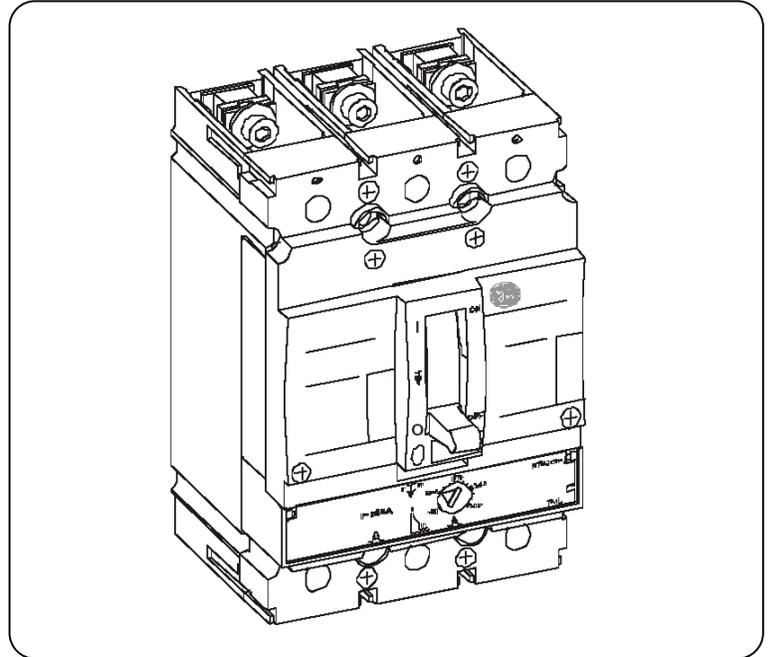
Congratulations and thank you for choosing the **Record Plus™** family of current limiting circuit breakers.

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.

Record Plus™ - circuit breakers meet the GE high - performance, reliability and quality standards.



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 nedeoit pas etre employe dans un equipement non specialement adapte a cet effet. Contactez le constructeur concernant les possibles modifications a apporter a l'equipemen.



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. Lira NEMA publication AB4.

Step 1, Unpack and inspect

Unpack the breaker and inspect it for any shipping damage. Ensure the breaker has the proper ampere, voltage and interrupting ratings for the application. Next, using the instructions supplied with the rating plug, install the plug into the main breaker body. Available rating plugs along with catalog numbers are listed in Table 2 and shown in Figure 1, (see color-coding). 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.

Step 2, Installation

Using Figure 2, drill and tap all mounting holes and make any necessary front panel escutcheon cut outs. Using the breaker hardware kit, FEMSK1 - which includes four #10-32 x 2-7/8in screws and lock washers or FEMSK3 - which includes four #8-32 x 2-7/8in screws and lock washers, mount the breaker.

Torque #8-32 screws to 20 lb-in (2.25Nm) and the #10- 32 screws to 32 lb-in (3.6Nm).

Table 1 - Dimensions for figure 2

			E	35 mm	1.38 in
B	87 mm	3.43 in	F	64 mm	2.52 in
C*	34 mm	1.34 in	G*	96.2 mm	3.78 in
D	27 mm	1.06 in	H	125.5 mm	4.94 in

* With security cover, without C = 31.8mm(1.25in) and G = 92.13mm(3.627in)

Step 3, Wire Terminal Connections

Check to make sure all terminals are torqued to the proper value. Reinstall the terminal (IP20) covers insuring that they are firmly seated, see figure 5.

150A-Lug Kit FCAL15 (AI)

Cu/Al wire, strip length-9/16 – 11/16 inch (14 – 18mm)

#14 - 12AWG Torque to 35 lb-in (3.95 Nm)

10 - 6AWG Torque to 70 lb-in (7.90 Nm)

#4-3/0AWG Torque to 150 lb-in (16.95Nm)

250A - Lug kit FCAL16 (AI)

Cu/Al wire, strip length- 3/4 – 7/8 inch (19 – 23mm)

#8 - 1AWG Torque to 175 lb-in (19.8Nm)

#1/0 – 350Kcmil Torque to 275 lb-in (31Nm)

250Kcm max with Cu wire



Warning: Danger! It is important that the terminal covers be installed correctly to ensure proper circuit breaker operation, see figure 5.

Important: Danger! Il es import de verifier que tout couvercle ou cache de protection est correctement installe afin d'assurer le bon fonctionnement de l'appareil.

Table 2

Rating Plug Type	FERP3...				
Breaker Sensor Amps	25	60	125	150	250
Color Code	Light Grey	White	Brown	Yellow	Orange
Rating Plug Amps					
3					
7					
10					
15					
20	B0020				
25	B0025	D0025			
30		D0030			
35					
40		D0040			
45					
50		D0050	G0050		
55					
60		D0060	G0060		
70			G0070	H0070	
80			G0080	H0080	
90			G0090	H0090	
100			G0100	H0100	K0100
110			G0110	H0110	K0110
125			G0125	H0125	K0125
150				H0150	K0150
175					K0175
225					K0225
250					K0250

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

Important: Dans les cas d'emploi de cable aluminum, utilisez le lubricant recommande by par le fabricant.

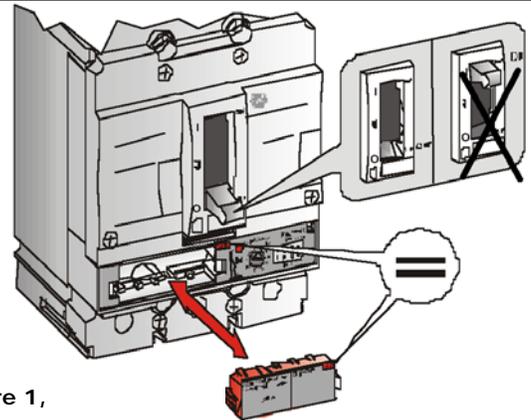


Figure 1,

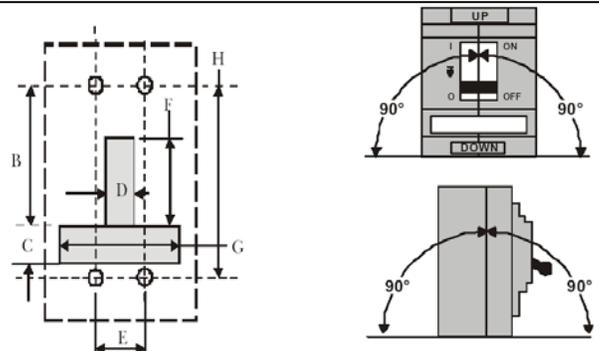
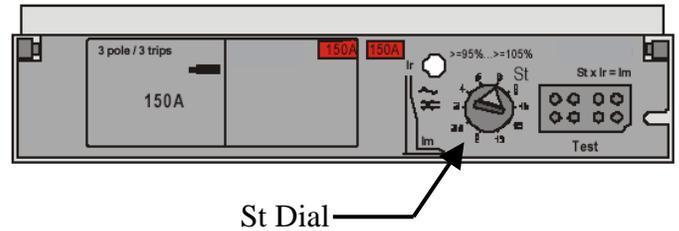


Figure 2, Breaker mounting, Escutcheon and orientation

Step 4, Adjustments

SMR1 digital RMS trip unit: Features a fixed instantaneous trip function and an adjustable trip function I_m , which can shorten the trip time to approximately 100ms, for over current above 2x to 13x. To set the I_m value, using switch dial, select a specific value of St . See figure 3. The St set point value is a multiple of the installed rating plug - rated current (I_r), $I_m = St \times I_r$.

Figure 3, SMR1 trip unit St (2x –13x), $I_m = St \times I_r$



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 moves 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 6.

A Push-To-Trip button is provided for convenience of testing the mechanical trip operation of the breaker.

The Push-To-Trip should be tested annually.

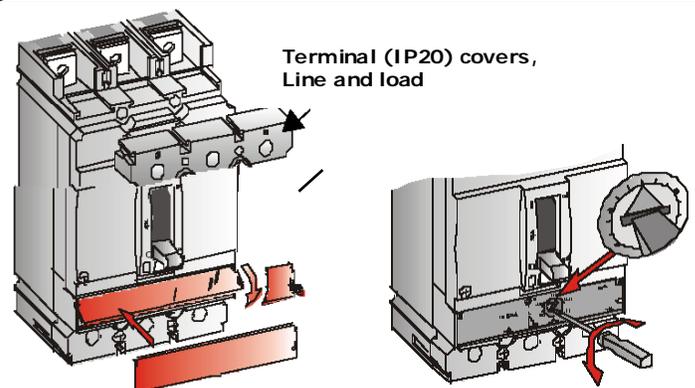


Figure 5, Setting adjustment, tamper resistant cover and terminal (IP20) cover



Caution: Automatic tripping of the circuit breaker may indicate a system problem. Identify and correct any problem before turning the device on again.

Important: Le déclenchement automatique de disjoncteur, peut indiquer un problème de circuit. Identifiez et corrigez le problème avant de refermer l'appareil.

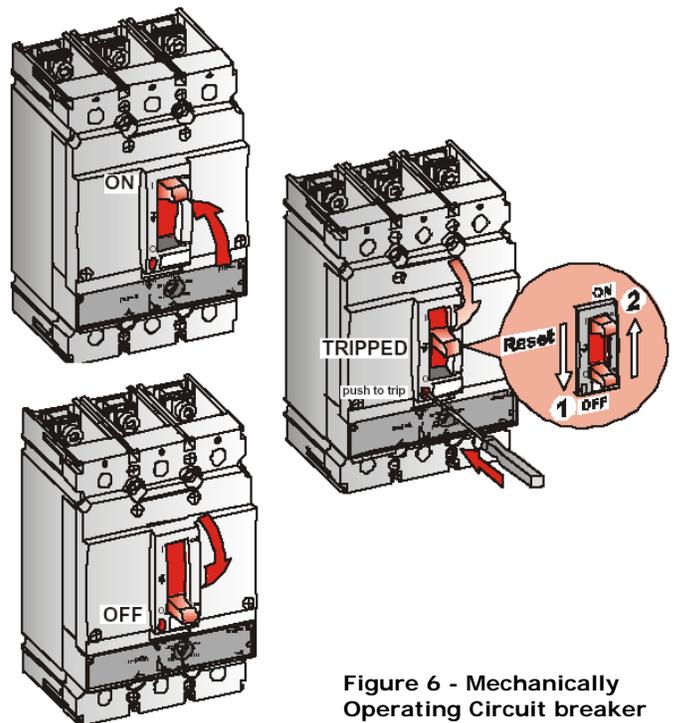


Figure 6 - Mechanically Operating Circuit breaker

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 overloads 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 6.
3. Under voltage 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 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'électrocution. 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 recommended practices of 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 +40°C.

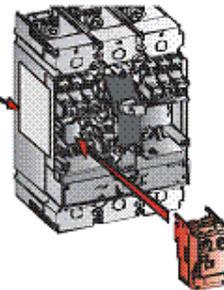
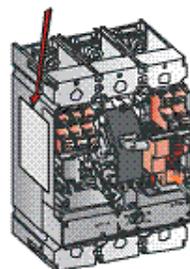
Step 9, Accessories:

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



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, which contains no user serviceable parts. Tampering with seal will void warrant.

Apply Accessory Label to side of breaker



Shunt trip/Under Voltage Module

Outer 2 positions
Right pocket auxiliary
Switch ID



Outer 2 positions
Left pocket auxiliary
Switch ID



Inner Position Left pocket
shunt-trip/under voltage
Trip Bell-alarm ID



Figure 7, Typical accessories.
See buylog® for details

