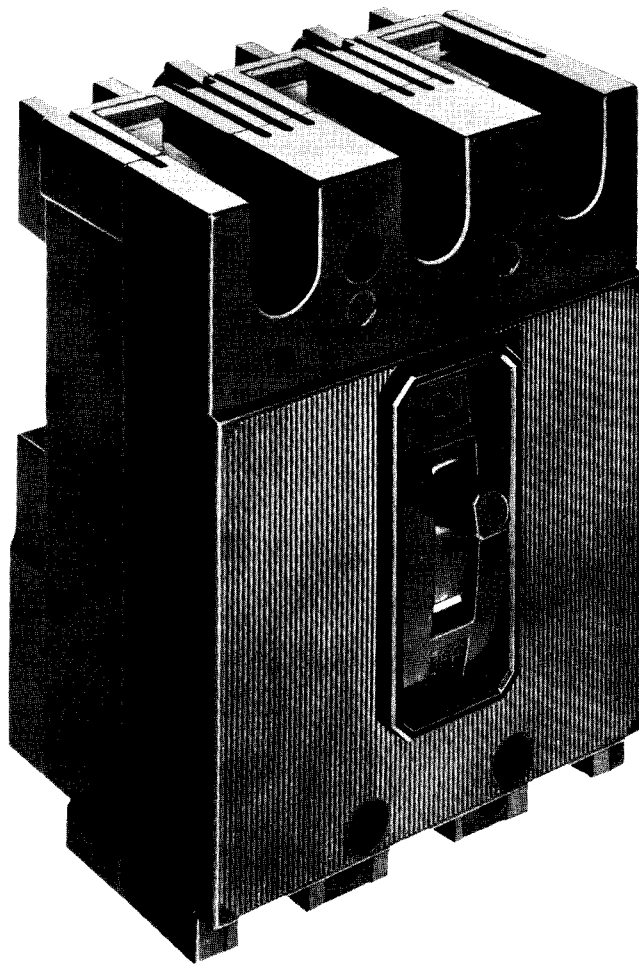


**MOLDED-CASE CIRCUIT BREAKERS**

---

**INSTRUCTIONS**

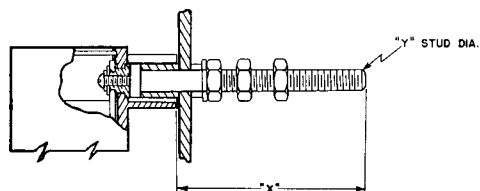
100-AMPERE  
ET<sup>®</sup> E-FRAME CIRCUIT BREAKERS  
1, 2, & 3 POLE, 15-100 AMPERES



***IFE Imperial Corporation***



REAR CONNECTED TERMINAL

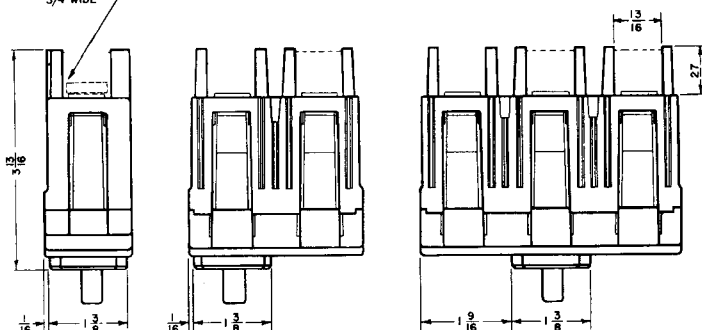


FRONT CONNECTED TERMINALS:

- 1- LOW AMPERE (15 TO 25 AMPS.) 1/4-20 SCREW AND CUPWASHER FOR BOTH LINE AND LOAD CONNECTIONS.
- 2- HIGH AMPERE (30 TO 100 AMPS.) PRESSURE WIRE CONNECTORS FOR BOTH LINE AND LOAD CONNECTIONS.
- 3- FOR BOTH OF THE ARRANGEMENTS ABOVE, LOAD SIDE CONNECTION ARRANGEMENTS ARE ASSEMBLED TO THE BREAKER TERMINALS AND LINE SIDE CONNECTION ARRANGEMENTS, WHEN REQUESTED, ARE SHIPPED LOOSE.
- 4- PRESSURE WIRE CONNECTOR COPPER WIRE RANGE #14 TO 1/0 INCLUSIVE, AND ALUMINUM WIRE RANGE #12 TO 1/0 INCLUSIVE.
- 5- 1/4-20 SCREW AND CUPWASHER WIRE RANGE #14 TO #10 COPPER AND #12 TO #10 ALUMINUM.

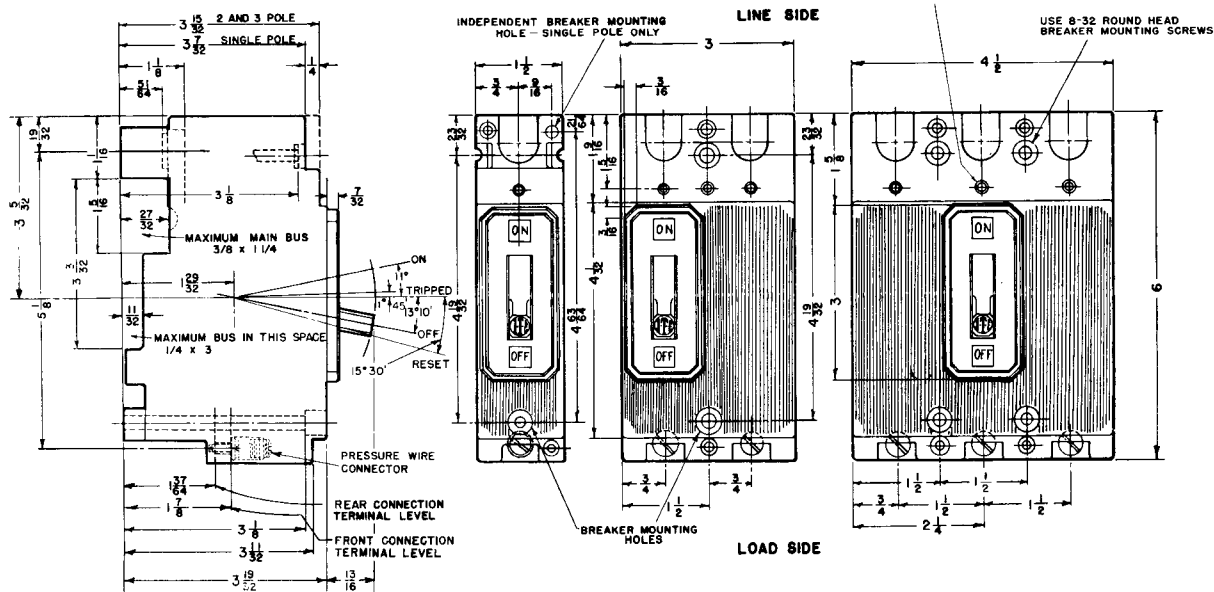
BREAKER	CAPACITY AMPS	CATALOG NUMBER		X	Y
		LINE SIDE	LOAD SIDE		
1 POLE	15 TO 50	RS-1501	RS-1503	3	1/4-20
1 POLE	15 TO 100	RS-1502	RS-1504	3 1/4	3/8-16
2 & 3 POLE	15 TO 50	RS-1501	RS-1505	3	1/4-20
2 & 3 POLE	15 TO 100	RS-1502	RS-1506	3 1/4	3/8-16

MAXIMUM BUS JUMPER  
3/4 WIDE



1/4 DEEP HOLES FOR #6-32 SELF  
TAPPING SCREWS (BUS COVERS)

USE #6-32 ROUND HEAD  
BREAKER MOUNTING SCREWS



100-Ampere E-Frame Circuit Breakers  
Dimensional Drawings



# **INSTRUCTIONS FOR 100-AMPERE E-FRAME CIRCUIT BREAKERS SINGLE POLE, 120 VOLTS AC, 125 VOLTS DC 2 & 3 POLE, 125/250 VOLTS DC, 240 VOLTS AC 15-100 AMPERES**

## **GENERAL**

E-frame circuit breakers, as shown on page 2, are for use in panelboards, switchboards, load centers, and all types of individual enclosures where the voltage does not exceed 240 volts ac or 125/250 volts dc.

Single pole E-frame circuit breakers are available in 15 and 20 ampere ratings for fluorescent lighting applications at 277 volts ac, with an interrupting rating of 10,000 amperes at rated voltage.

INTERRUPTING RATINGS FOR 1, 2 & 3 POLE CIRCUIT BREAKERS			
Volts	Amperes		
	Under- writers'	Based on NEMA Test Procedures	
		Asymmetrical	Symmetrical
1 Pole 120 ac	5,000	7,500	7,500
2 & 3 Pole 240 ac	10,000	10,000	10,000
1 Pole 125 dc 2 & 3 Pole 125/250 dc	5,000	5,000	

The E-frame circuit breaker provides coordinated tripping action by combining the time limit of a thermal trip and a fixed instantaneous magnetic trip for protection on overloads or short circuits. Both types of action are trip free of the operating handle, and therefore, the circuit breakers cannot be held closed by means of the handle, should a tripping condition exist. The handle will also assume a central position after automatic operation, and the horizontal line, in the handle, cannot be seen, thus giving a clear indication of tripping.

These circuit breakers are carefully calibrated at the factory at controlled temperatures for a 40C ambient and sealed to prevent tampering (ETM circuit breakers, calibrated for a 50C ambient, are also covered by these instructions).

The circuit breakers operate on a common trip principle so that an overcurrent on any pole will simulta-

neously open all poles. The thermal overcurrent trip element is adjusted to suit the cable size for which the tripping device is intended, and will operate within the limits specified by the Underwriters' Laboratories, Inc. Any alteration of the calibration of these elements should not be attempted. The circuit breaker cover is sealed, and removal of this cover will void the Underwriters' Laboratories, Inc. approval for that particular circuit breaker.

Pressure wire connectors for either copper or aluminum conductors are furnished for load terminal connections on all E-frame circuit breakers rated from 30 to 100 amperes inclusive. The same style connectors will be furnished for line terminal connections when requested. Circuit breakers rated below 30 amperes are furnished with wire binding screws and cupwashers for load terminal connections and, when requested, line terminal connections. Binding screws and cupwashers are also for use with either copper or aluminum conductors.

E-frame circuit breakers can be furnished with rear connection studs for switchboard applications. They can also be furnished with "plug-in" connector assemblies. This arrangement permits the removal of the circuit breaker from its leads without physically coming in contact with either the line or load terminals.

Special features such as shunt trip, auxiliary switch, alarm switch, and undervoltage trip can be obtained and are mounted internally at the factory. Information concerning these special features is available upon request.

## **CIRCUIT BREAKER OPERATION**

With the mechanism latched and the contacts open, the operating handle will be in the "OFF" position. Moving the handle to the "ON" position closes the contacts and establishes a circuit through the breaker. Under overload or short circuit conditions sufficient to trip or open the breaker automatically, the operating handle moves to a position between "ON" and "OFF" as previously described. To relatch the circuit breaker after automatic operation, move the operating handle to the extreme "OFF" position. The circuit breaker is now ready for reclosing.



### WARNING FOR CIRCUIT BREAKER REMOVAL

THE CIRCUIT BREAKER SHOULD BE IN THE "OFF" POSITION AND, IF PRACTICABLE, THE SWITCHBOARD DE-ENERGIZED BEFORE INSPECTING, INSTALLING, OR REMOVING THE CIRCUIT BREAKER. IF THE BUS CANNOT BE DE-ENERGIZED, USE INSULATED HANDLE TOOLS, RUBBER GLOVES AND A RUBBER FLOORMAT.

### TO REMOVE A REAR-CONNECTED CIRCUIT BREAKER FROM ITS MOUNTING

See WARNING FOR CIRCUIT BREAKER REMOVAL.

Remove the circuit breaker terminal to stud screws, lockwashers and flatwashers, then pull the circuit breaker forward.

### TO REMOVE A FRONT-CONNECTED CIRCUIT BREAKER FROM ITS MOUNTING

See WARNING FOR CIRCUIT BREAKER REMOVAL.

Loosen the cable anchor screws, then bend cables clear of the terminals. Remove the circuit breaker mounting screws, then pull the circuit breaker forward.

### TO REMOVE A CIRCUIT BREAKER EQUIPPED WITH PLUG-IN CONNECTOR ASSEMBLIES FROM ITS MOUNTING

See WARNING FOR CIRCUIT BREAKER REMOVAL.

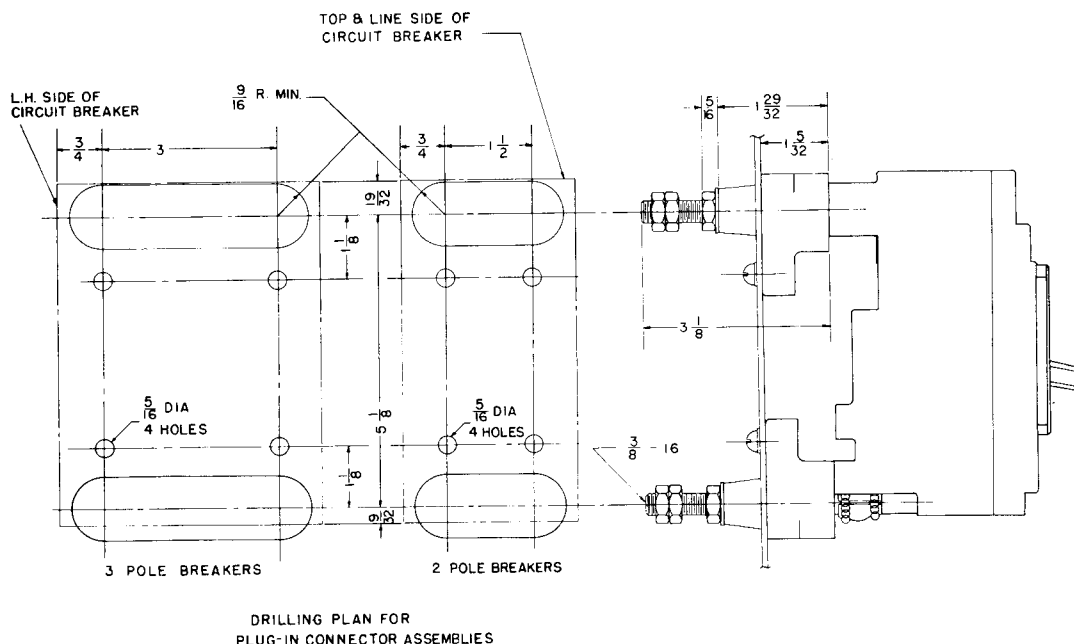
Remove the circuit breaker to mounting block mounting screws. Then, pull the circuit breaker forward.

### INSPECTION AND MAINTENANCE

See WARNING FOR CIRCUIT BREAKER REMOVAL.

Should the circuit breaker appear to be overheating, inspect for any loose or otherwise defective terminal connections.

When a circuit breaker is not operated for long periods of time, a high resistance film may form on the contact surfaces which will also result in overheating. This high resistance film may be minimized, and in most cases removed, by opening and closing the circuit breaker several times under load.



Plug-In Connector Assemblies & Drilling Plans  
Dimensional Drawings



**ITE Imperial Corporation**