

ECI LOW-VOLTAGE CIRCUIT BREAKER AND SIGNAL LIGHT

OPERATING INSTRUCTION GUIDE

WARNING: ON SINGLE PHASE AND THREE PHASE TRANSFORMERS WITH THE SECONDARY CIRCUIT BREAKER OPEN, THERE MAY BE SUFFICIENT COUPLING TO THE WINDINGS SO THAT PERCEPTIBLE SHOCK MAY BE OBTAINED FROM THE SECONDARY TERMINALS.

A circuit breaker, when provided, is mounted inside the tank, under the liquid level. The function of this breaker is to open the low-voltage circuit and protect the transformer from faults or severe overloads. A red signal light, when provided, gives warning that the load has reached a value near the tripping point of the breaker. The signal light remains lighted until reset (turned off) by means of the breaker operating handle. Transformers should not be operated under load conditions that will cause the red light to appear frequently, since it indicates an overload on the transformers. When such a condition exists, it is recommended that a larger transformer be substituted to avoid impairing the life of the smaller unit.

The circuit breaker operating handle and position indicator are shown in Fig. 1. Transformers are shipped with the circuit breakers closed. To open the low voltage circuit manually, move the handle so that the pointer moves from "C" (closed) to "O" (open), at which point the circuit is open. Verify that the circuit breaker is latched in the "open" position.

To insure that the discharge of the static charge which is sometimes present in the low voltage winding due to capacitance, it is recommended that the low voltage be grounded after opening the circuit breaker until the high voltage is disconnected.

To close the breaker, rotate the handle to "R" (reset), which engages the latch mechanism, and then to "C". If a fault exists or an excessive load exists at the time the breaker is closed, the breaker will reopen even though the operating handle is held in the "C" (closed) position.

To reset the signal light, rotate the handle to "L" (light), and then return to "C" (closed). If the light fails to go out, the transformer is still overheated.

Provision is made for checking the signal light bulb when the transformer is in service. To do this, rotate the handle to "L" (light) and the light should come on. If it does not, the bulb should be replaced. The bulb is a standard six-volt, GE bulb No. 44, and is replaceable from outside the transformer and by removing the signal light lens. After checking, return the operating handle to "C". Faulty bulbs should be replaced, since operating the transformer with a faulty bulb or without a bulb may result in radio noise.

Some circuit breakers are equipped with emergency overload devices which can be used to restore service following a circuit breaker operation

due to overload. With the emergency lever in the normal position, the breaker will trip at its normal setting as calibrated at the factory. Moving the lever in a clockwise direction (see dotted position in Fig. 1) increases the setting so that a higher temperature is required to trip the breaker. This emergency setting provides extra load capacity and still permits manual breaker operation, and also retains short circuit protection of the transformer. It is important that the emergency setting be used only when and as long as absolutely necessary, because its use will result in a reduction of transformer life.

A meter seal is provided on the emergency lever to prevent tampering. It is recommended that a new seal be applied when it is returned to the normal position after emergency operation.

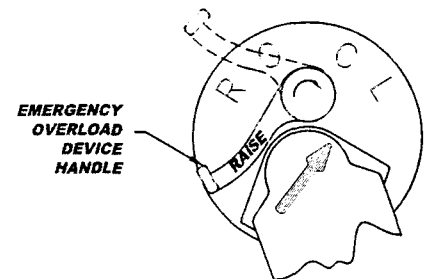


Fig. 1: Breaker Position Indicator