

NEW ELEC

MOTOR PROTECTION & CONTROL TECHNOLOGY

EC Earth Insulation Lock-Out Relay

INSTALLATION AND SETTING UP PROCEDURE

1. Protection Features

Checking the insulation integrity of the motor windings and feeder cable cores to earth prior to starting the motor.

Possible applications:

- Checking insulation integrity of motor insulation and feeder cables on motors used seasonally.
- Checking insulation integrity of motor insulation and feeder cables in high humidity applications.
- Checking insulation integrity of motor insulation and feeder cables at installations where motors are hosed down.

2. Description of Operation

The NewElec fail safe chassis-mounted EC relay plugs into a convenient 11-pin base and is used in conjunction with a NewElec 3 phase choke.

In order to isolate the measuring circuit completely from the main supply to the motor while it is running, terminal 5 of the EC relay must be connected to a N.C contact on the main contactor which would open the measuring circuit across the NewElec 3 phase choke as soon as the motor is started.

The EC insulation lock out relay will, under normal operation, detect any insulation failure or degradation of insulation from phase to earth on motor windings or feeder cable cores and prevent the main contactor from closing onto a circuit in which the insulation to earth is below a preset value. This insulation level is defined by the EC model used (EC 2K); (EC 5K) or (EC 10K). This is achieved by connecting the usual start button in series with terminals 8 and 11 OR 4 and 1 of the EC relay which will be in the N.C condition when power is applied to terminals 2 and 10 of the EC relay. Upon detection of a fault condition both change-over contacts will energise and stay latched for as long as the fault is present. At the same time the RED "locked out" LED mounted on the front of the control panel will illuminate while the GREEN "healthy" LED will extinguish.

3. Information required for Initial Settings

No special information is required.

4. Setting up Procedure

Ensure that the 220-660 Volt a.c choke is connected across the 3 phases as indicated and that the connections to the EC relay are in accordance with the schematic diagram provided. Terminal 7 of the EC relay should be properly grounded.

Now apply the auxiliary supply. The relay is ready for operation.

5. Adding or Removing Features on Site

No additional features can be set OR disabled on site.

6. Specifications

MEASUREMENT ACCURACY

Motor windings : D.O.L. $\pm 5\%$
Motor windings Star/Delta
or feeder cable : -5% to $+10\%$

INSULATION

Separate circuits : IEC 255-5C
Impulse : IEC 255-4E III
N/O contacts : 1 kV 60 seconds

REPEATABILITY

Measurement accuracy : $\pm 5\%$

DISTURBANCE IMMUNITY

High frequency : IEC 255-8 E III

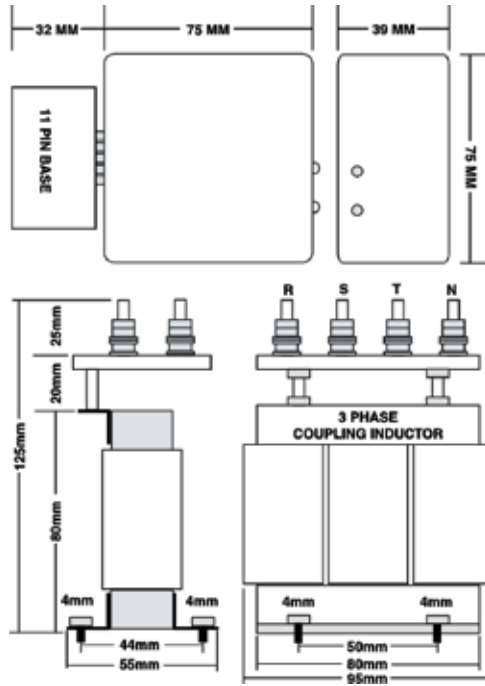
OPERATING RANGE

Auxiliary supply : $\pm 10\%$

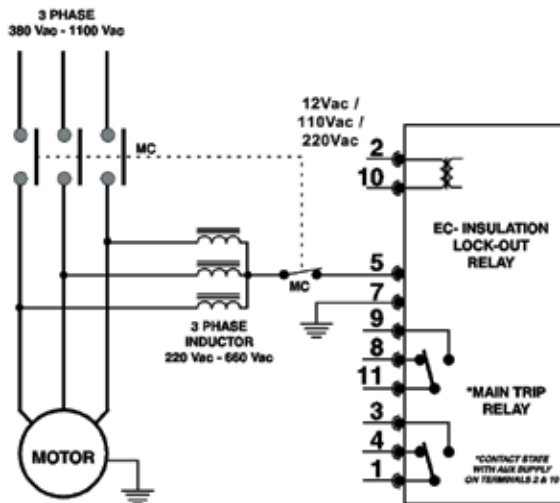
OUTPUT RELAY

Rating : 5 amp
240 Vac.

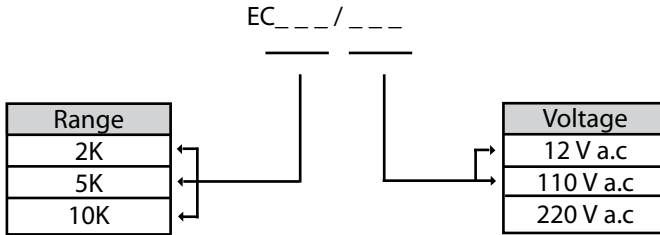
7. Dimensional Diagram



8. Electrical Connection Diagram



9. Ordering Information



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