NEW ELEC
MOTOR PROTECTION & CONTROL TECHNOLOGY

330 M Series Crane Motor Protection Relay

Installation and Setting Up Procedure

About product

The NewElec EC series of electronic motor protection relays will monitor the insulation integrity ofprotected motor windings and feeder cable cores to earth while the motor is standing. The main contactor is prevented from closing a circuit in which the insulation level to earth is below the permissible level.

The selected Lock-out relay model determines the minimum value of insulation level. The relay is typically used in areas where use of plant and equipment is of a seasonal nature, where motors are subjected to hosing down (i.e. Abattoirs), where high condensation occurs in standby equipment, and often in coastal areas.

Protection Features Include

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.

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.

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Information required for Initial Settings

No special information is required.

Setting up Procedure

The following must be checked before switching on the control supply to the relay:

- 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.

Adding or Removing Features on Site

No additional features can be set OR disabled on site.

Specifications

Measurement Accuracy

Motor windings	: D.O.L. ± 5%
Motor windings Star Delta or feeder cables	: -5% to +10%

Repeatability

Measurement accuracy	: ± 5%

Operating Range

Auxillary supply	: ± 10%

Output Relay

Rating	: 5Amp 220V A.C.

Insulation

Seperate circuits	: IEC 255-5C
Impulse	: IEC 255-4E III
N/O Contacts	: 1kV 60 sec

Disturbance Immunity

High Frequency	: IEC 255-8 E III

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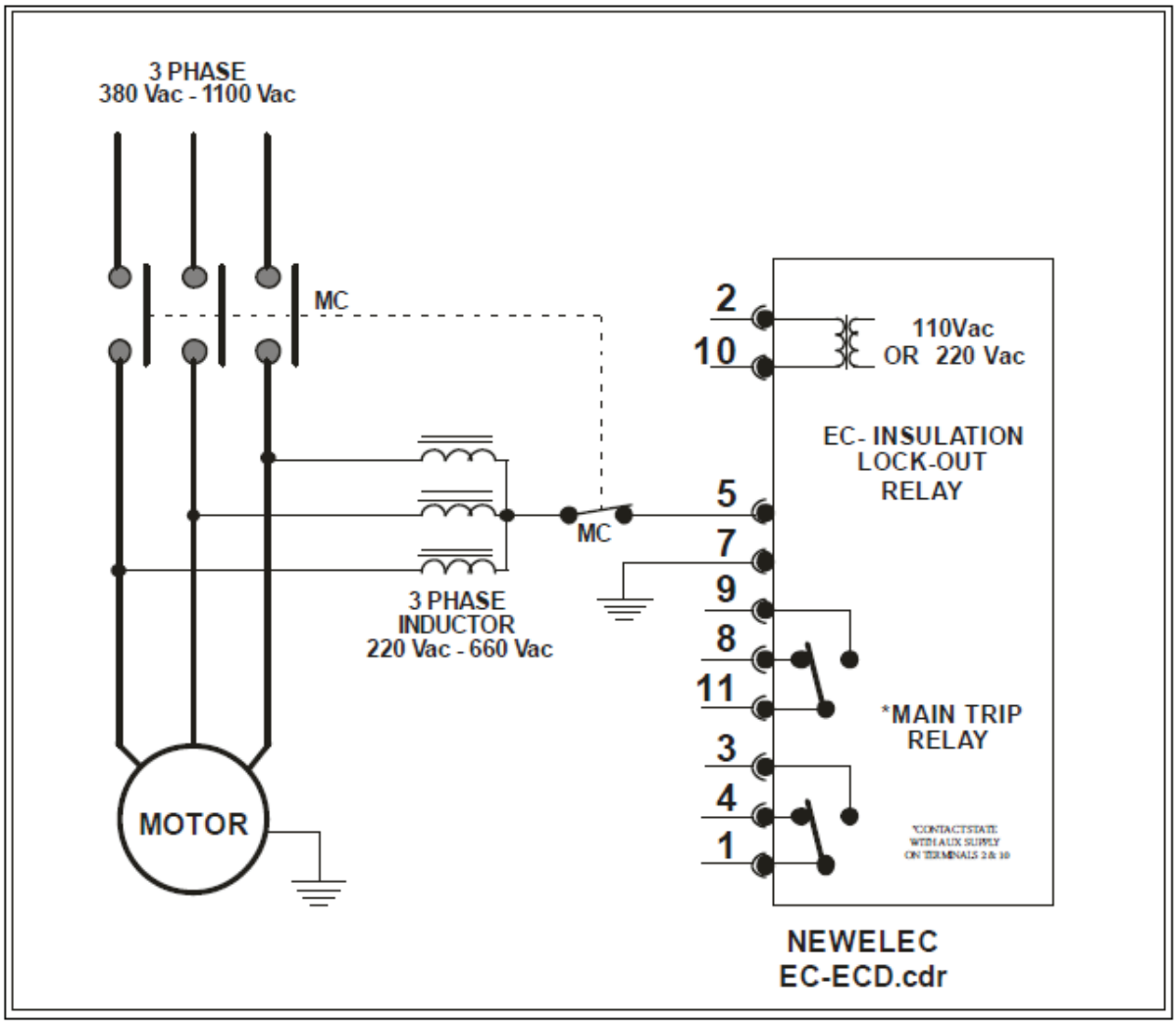
Wiring Diagram



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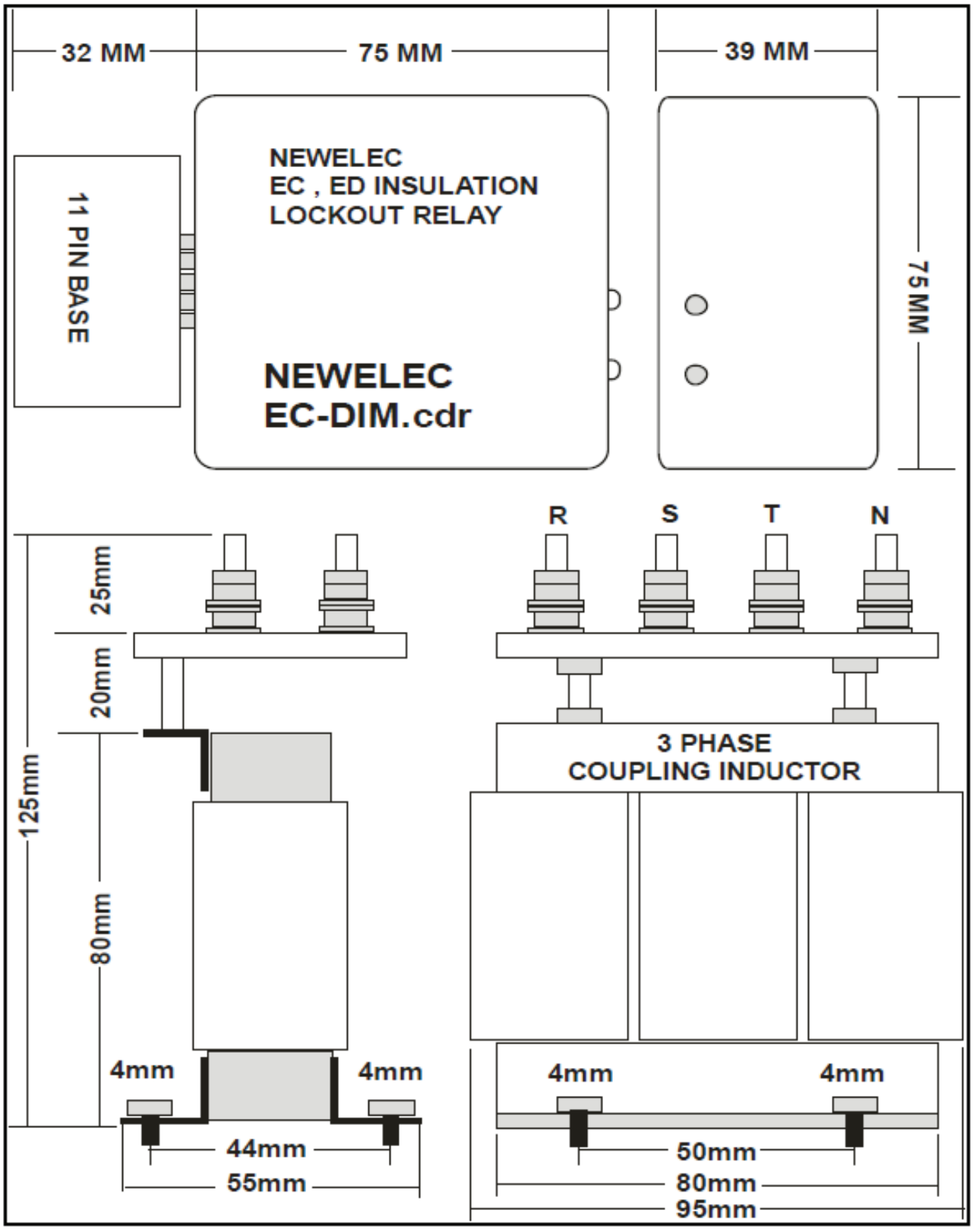
Dimensional Diagram



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Ordering Information

EC_ _ _ / _ _ _

Range
2K
5K
10K

Voltage
12 V a.c
110 V a.c

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Tel: +27 12 327 1729
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