

Nerm & Nerm Indicator

Operating Manual

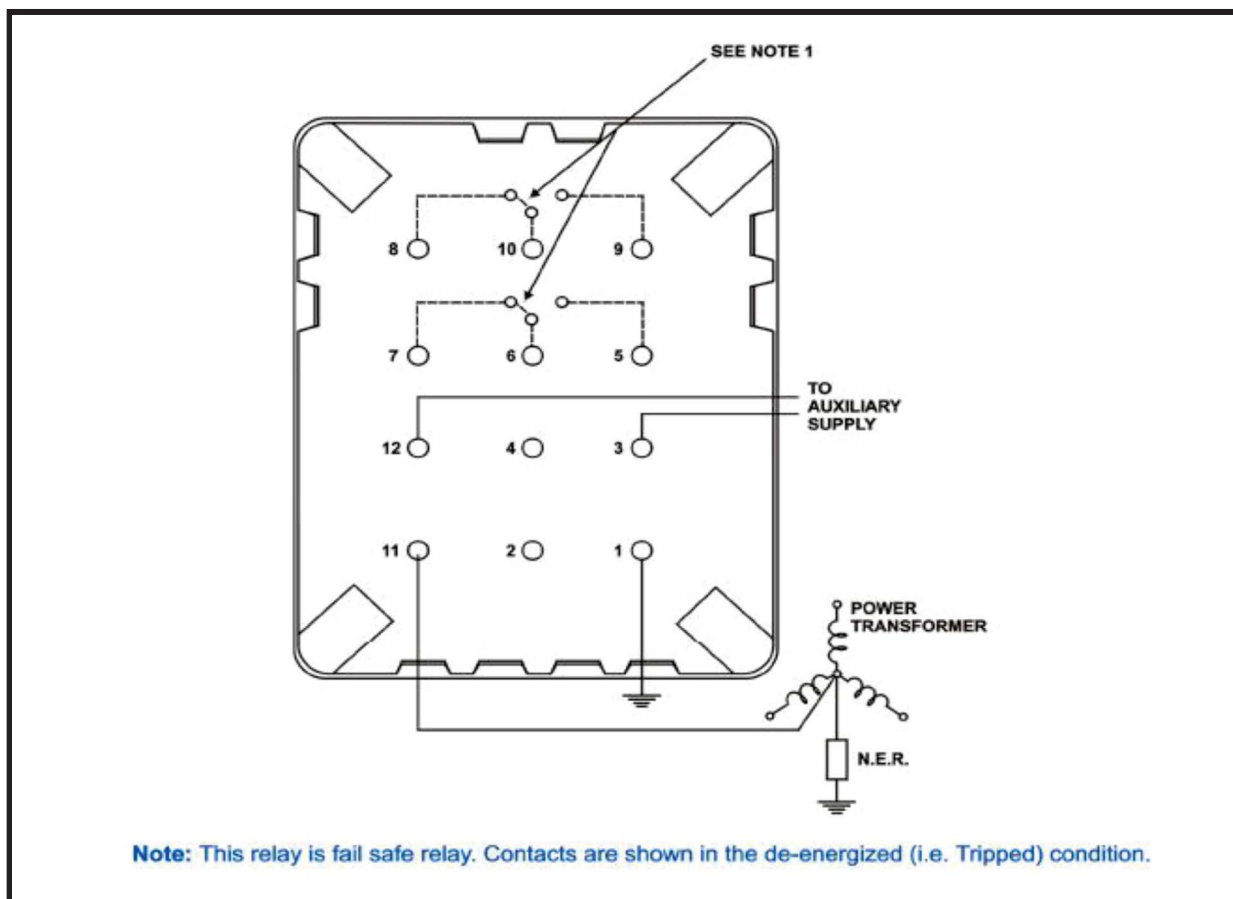


Electrical Distributors



Nerm 1000

Wiring connection diagram for the Nerm 1000 Relay



Neutral Earthing Resistors (NER) are installed on power transformers to restrict current that would flow under earth fault conditions. The integrity of this resistor is obviously of prime importance as an open circuit would render all earth leakage protection devices inoperative as well as the hazard of a floating neutral and possible high voltage relative to ground.

The purpose of the Nerm relay is to provide continuous monitoring of the integrity of the neutral earthing resistor.

The relay has been designed to operate should the resistance of the neutral earthing resistor (NER) exceed 150% of its specified value or alternatively go open circuit.



Electrical Distributors

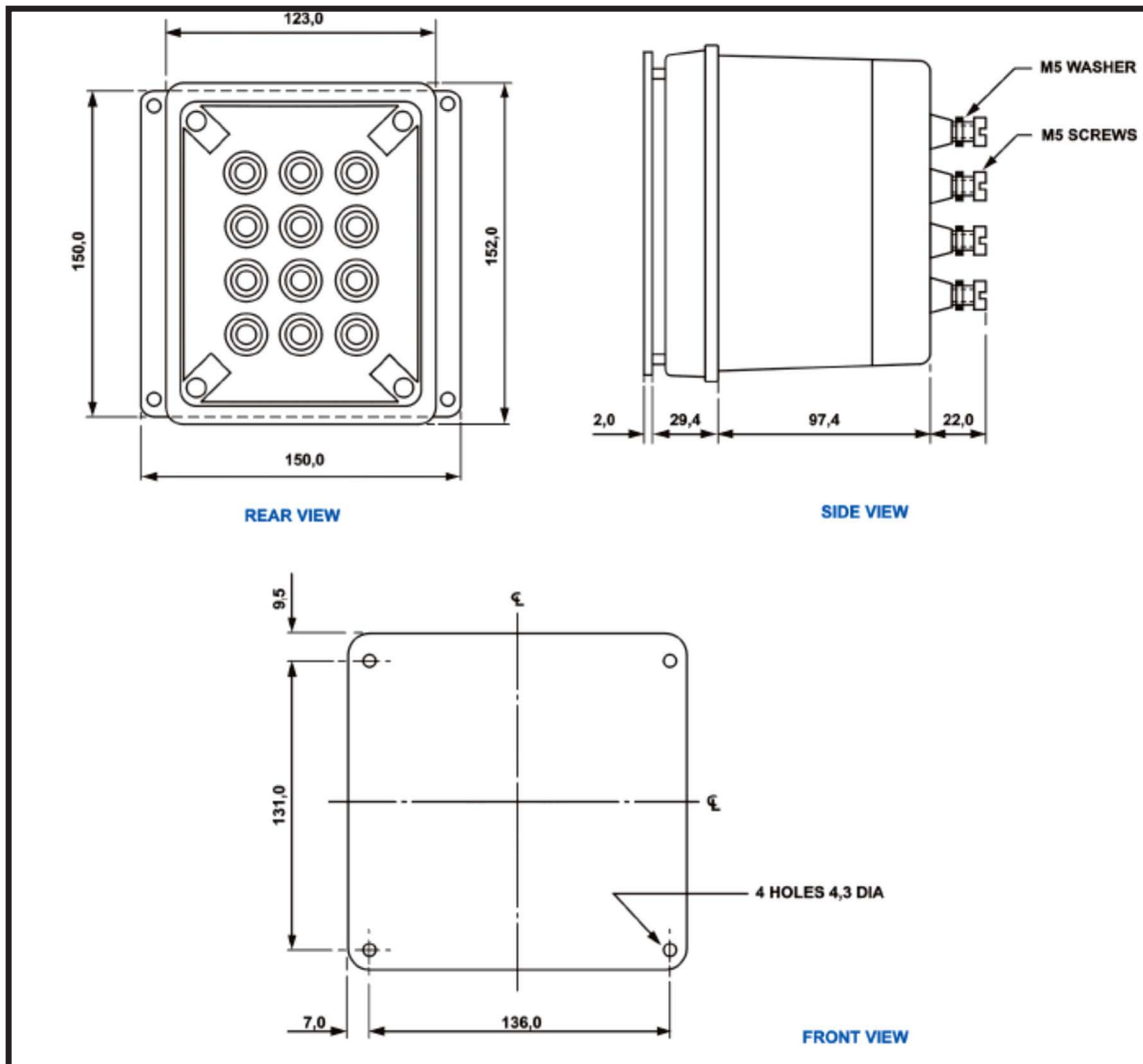
It does not wait for an earth fault to occur on the system. The relay is preset at the factory to the desired ohmic level of the NER as per customer order. When a phase-to-earth fault occurs the Nerm can withstand the full phase to earth voltage across it for much longer than it takes the earth leakage relay to trip, so the Nerm will not be damaged.

Since the Neutral Earthing Resistor (NER) should be continuously rated, it should also not be damaged by earth faults occurring.

The relay is fail safe in that it will move to the trip position should any component or auxiliary supply fail.

Two sets of changeover contacts are incorporated which can be connected to disconnect the output of the power transformer, and to indicate condition of the Nerm.

Outline & Fixing Dimensions



| | |
|----------------|--|
| Power Supply | : 220 or 110V A.C.-other voltages available on request |
| Power Drain | : 50mA max @ 110V A.C. 30mA max @ 220V A.C. |
| Accuracy | : ±20 ohms over the operating temperature range of -5 to 40°C. |
| Contact Rating | : 100V.A. with max of 220V & 2Amps A.C. D.C. rating 2A @ 30V D.C. |
| Voltage Rating | : Withstands voltage $\frac{1000}{\sqrt{3}}$ volts continuously on Star- |

Point to earth connections (Terminals 1 & 11).
Nerm rated for 3 300 volt systems also available.



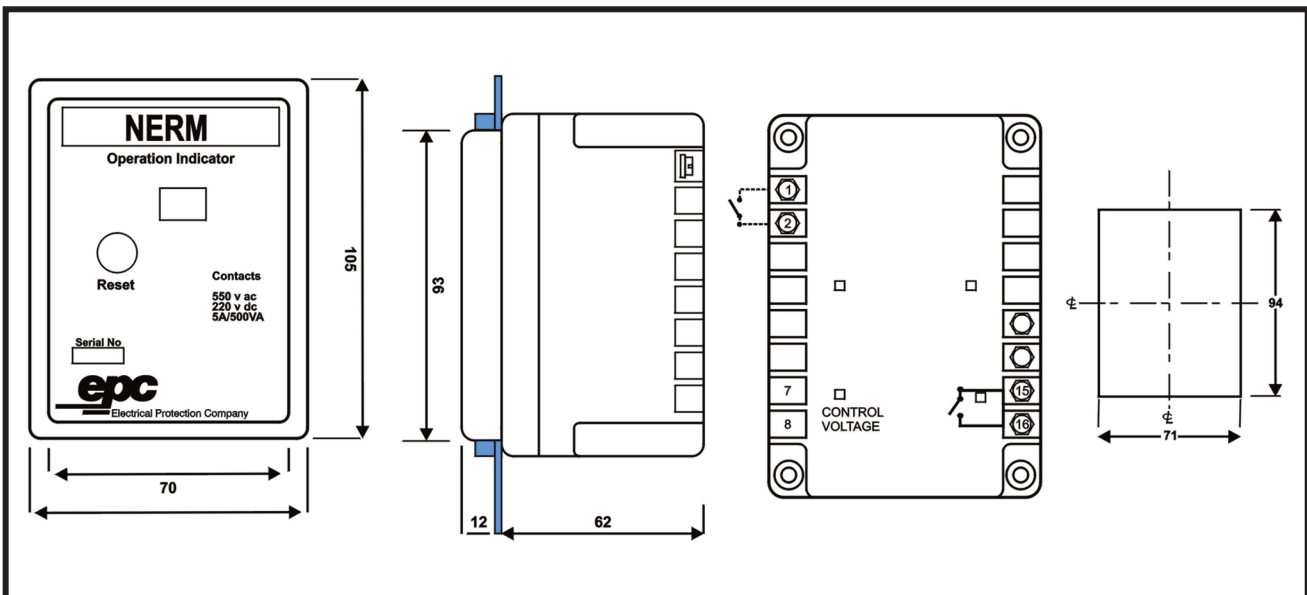
Electrical Distributors

Remote Nerm Indicator

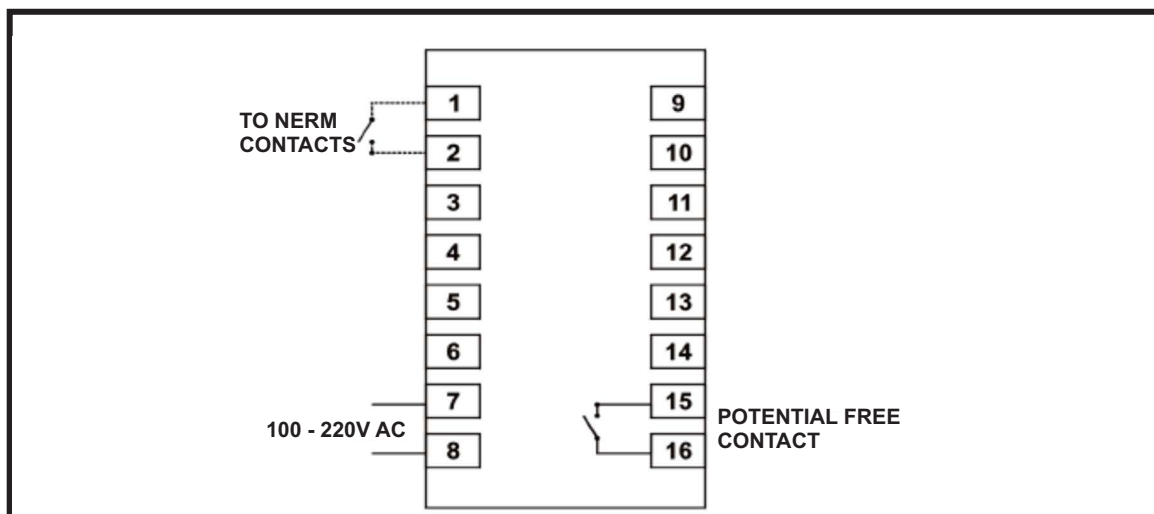
Features

A must where Neutral Earthing Monitors are in use

| | |
|-------------------|---|
| Flag | : Trip indication by means of spring operated flag. |
| Versatile | : Panel base mounted. |
| Robust | : Enclosure high impact strength A.B.S. relay case. |
| Mounting | : Snap action door mounting by means of our innovative clip frame and sealed with neoprene rubber gasket. Will accommodate panel thickness up to 4mm. Base mounting bracket also available. |
| Terminal | : Screw or slide on rear connections. |
| Control Voltage | : Unit will operate in the range of 100V to 230V. A.C. on one set of connections. |
| Auxiliary Contact | : Available in normally open or closed contacts rating at 5A – 500V A.C. “SOLID-STATE” |
| Reset | : Reset electro mechanical relay with plastic reset button. |

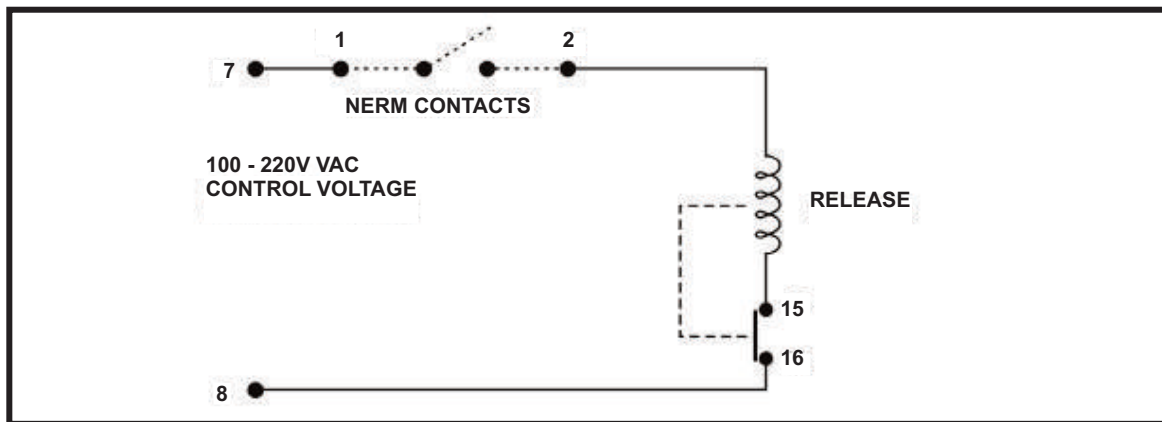


Nerm Operation Indicator



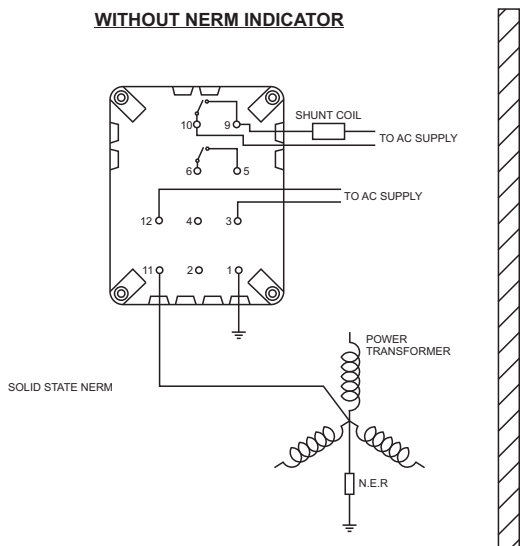
| | |
|---------------|--|
| Nerm 500 | Normally open solid-state relay outputs 9-10 or 5-6 |
| Nerm 1000 | Normally open contacts 8-10 or 6-7 |
| Voltage Input | From 100v to 230v ac voltage compensated internal |
| Operation | In the event of the Nerm tripping it completes the circuit for the Nerm Indicator to operate. This operation is electro mechanical and contacts 15-16 open to protect the release from continuous voltage. |

Schematic

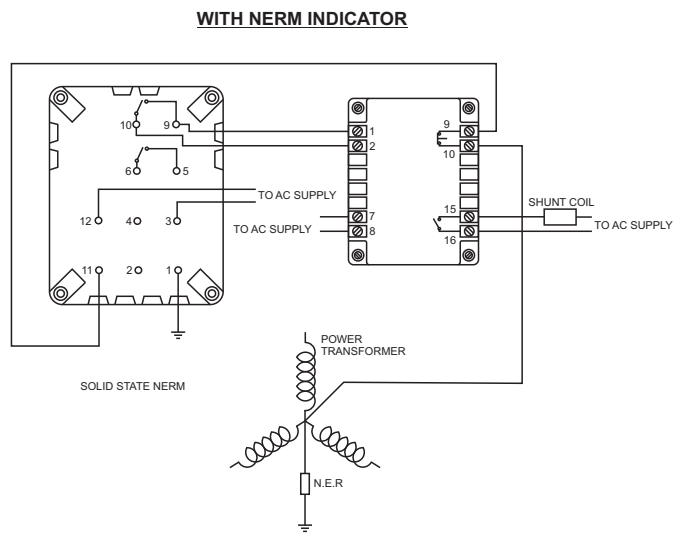


NERM 500 SOLID STATE CONNECTION DIAGRAM

WITHOUT NERM INDICATOR



WITH NERM INDICATOR



NOTE:
 1. TERMINALS 5 AND 6 ARE NORMALLY OPEN SOLID STATE SWITCH.
 2. TERMINALS 9 AND 10 ARE NORMALLY OPEN SOLD STATE SWITCH.
 3. THIS RELAY IS A NON FAIL SAFE. CONTACTS ARE SHOWN IN THE DE-ENERGISED (i.e TRIPPED) SAME CONDITION FOR RESISTOR SOUND.