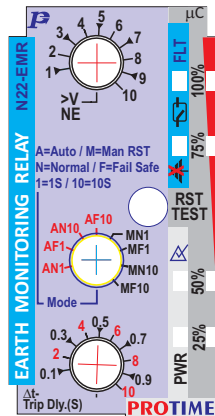


# N22-EMR

(Earth Monitoring Relay)



**N22-EMR-1C/I**



## Special features

- only of its kind Earth Monitoring based on N-E Potential Measurement
- ONLY Programmable Earth Monitoring Relays with Dynamic BAR Graph Indicator
- User Selectable Dual Time Delay Range of 0.1-1S & 1-10S
- Designed using latest Micro controllers
- True RMS Measurement
- Only EMR with user selectable Normal/Fail safe Operation
- User Selectable Auto & Manual REST Facility & TEST Function
- Earthing not Connected & Earthing weak protections in Single Unit
- 0-5V Analog output-(Optional)

## Technical Specifications

### INPUTS

Aux Supply Voltage	90-270V AC/DC (STD) (System Voltage = 180-250V AC)
Burden	5VA
Signal Input	Self (Neutral & Earth)

### Output

Relay contacts	1 C/O
Switching Duty	6A @ 230V AC or 24V DC
Electrical Life	10 <sup>5</sup> Operation @ design switching capacity
Relay Status	De-Energised in Normal condition
Mode of Reset	Auto / Manual

### Range

Tripping Range	1-10V AC (setting -10 Steps)
Time Delay Range	0.1-1.0 Sec / 1-10 Secs
Measurement Accuracy	Class III

### Mechanical

Dimensions	22.5mm(W) X 73.5mm(H) X 110mm(D)
Mounting	DIN Channel Mounting
Approximate Weight	180 gms
Type of Enclosure	N22-ABS

Conductor cross section - Flexible	2.5 Sq.mm
Conductor cross section - Solid	4.0 Sq.mm
Screw Tightning Torque	0.6 Nm

### Environmental

Operating Temperature & RH	-10°C, +55°C up to 80%
Storage Temperature & RH	-25°C, + 70°C up to 95%

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(Earth Monitoring Relay)

## Operation:

A common feature of all computers & other electronic equipment is the sensitivity to supply Voltage fluctuations like Spikes etc. These may damage the hardware or corrupt the data on software. To ensure clean supply, computers are frequently installed on dedicated clean circuits. They also have inbuilt suppression & filtering circuitry. These Filters leak the unwanted components of electric supply to earth.

In a facility/installation, Where computers & similar Equipments are an appreciable part of electrical load, the earthing is required to carry a significant amount of continuous leakage current. Any break in earth connection will mean that the isolated section will rise to potentially lethal voltage. This will also render the filter circuits ineffective making the computers prone to failures due to voltage spikes.

Therefore as recommended in IS 3043(Section 39.2.4.2), It is necessary to provide a protective device to monitor the continuity of the protective earth connection & provide means of automatic disconnection in case of failure or at least give an audio alarm to user.

The PROTIME's Earth Monitoring Relay senses the rise in voltage between earth & Neutral Conductor to detect the integrity of the earthing connection. It is advisable to install such relays at the UPS supply points & couple of user points. PROTIME's *latest* N22-EMR-1C/I Earth Monitoring Relay senses Potential between earth & neutral terminal on load side, If Earth gets disconnected OR Resistance of earth increases, The Potential difference between Neutral & Earth may increase. The relay will give output for tripping or audio alarm when such voltage rises above the limit set on the dial. The time delay for relay output is optional feature. The relay also protects Critical Equipment for Earthing NOT CONNECTED.

**The N22 series is most easy to set the threshold (Trip) level & Time delay. Its one of the most user friendly & flexible EMR having Easy Setting of Auto or Manual RESET & better time delay setting resolution due to dual range on same dial.**

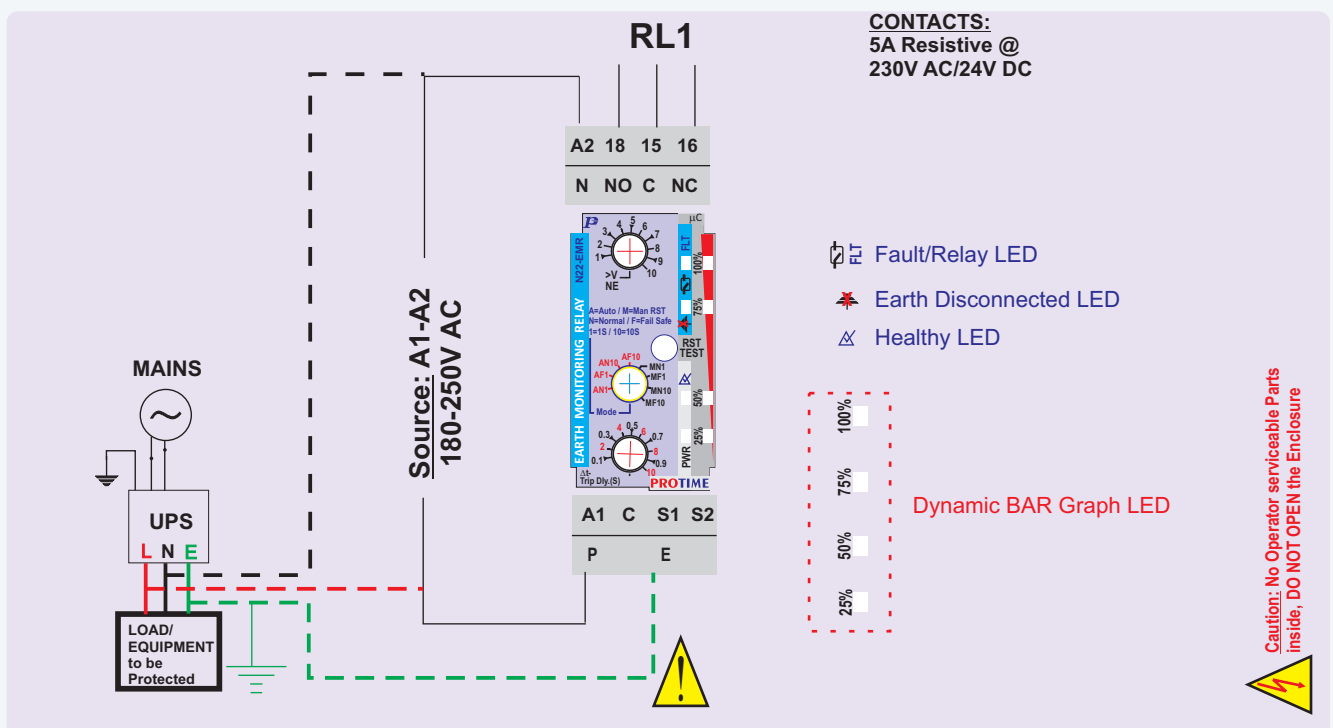
The TEST / RESET button provides facility to stimulate the fault condition & thus checks the system tripping.

The same button provides manually resetting the relay. When Manual Reset Mode is selected.

**A dynamic BAR Graph indicator is provided to show fault level status in % of set Threshold level.**

## Connection Details:

Recommended Integration Details:



## How to Order:

Series	Type of Relay	Variant	Range	Aux Supply	System Supply	Time Delay	Optionals
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N22	EMR	1C/i	A: 1-10VAC		A:180-260V AC	10S	-COM
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3: 90-270V AC/DC

For Example : **N22-EMR-1C/i-A-3-A-10S** is N22 Series Earth Monitoring Relay with 1 C/O output having Aux supply of 90-270V AC/DC & System Supply of 180-260V AC

\* COM= with RS-485 output

Note:- Design & specifications may change due to our continuous developmental efforts.

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