

3PHMR1

3 Phase voltage monitoring relay



Benefits

- **Measuring Voltage Range. 440V Ac**, Very wide input working voltage range: from 183 V to 528V
- **LED indication.** Its used to indicate Phase sequence/Phase loss/Unbalance and under voltage and over voltage conditions
- **Outputs LED indication.** A yellow LED provides visual indication of the output status.
- **High Compactness.** The 3PHMR1 is a 3-Phase monitoring relay with 17.5mm width.

Description

3PHMR1 is a monitoring relay suitable for 3-phase without neutral mains. It protects loads from wrong phase sequence, phase loss, phase unbalance and under voltage, over voltage. User can adjust the ranges based on the set values in potentiometer and as soon as wired, it is ready for operation. Power supply is provided by the measured mains, and it is switch mode, making it wide range and immune to mains' disturbances, transients and harmonics problems. Additional protection, against dust and humidity, is provided by the PCB conformal coating. The output signal is a 8A changeover electromechanical relay. 4 front LED's provide visual indication of output state and fault discrimination.

Applications

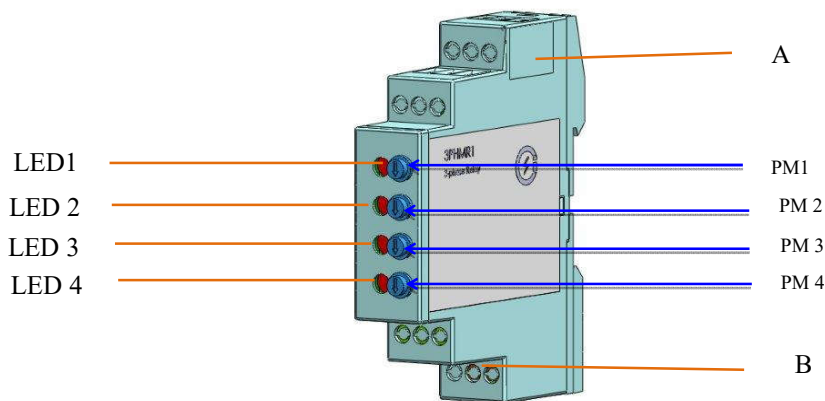
3PHMR1 is suitable for all applications where it is necessary to monitor phase presence, correct phase sequence and Under voltage, Over Voltage of three phase load mains: lifts, escalators, HVAC, material handling, conveyors, pumps and compressors.



Main function

- 3Ph monitoring
- 440 V rated input
- Phase sequence, Phase loss , Phase unbalance , Under voltage, Over voltage
- 8A SPDT relay output
- DIN rail Enclosure

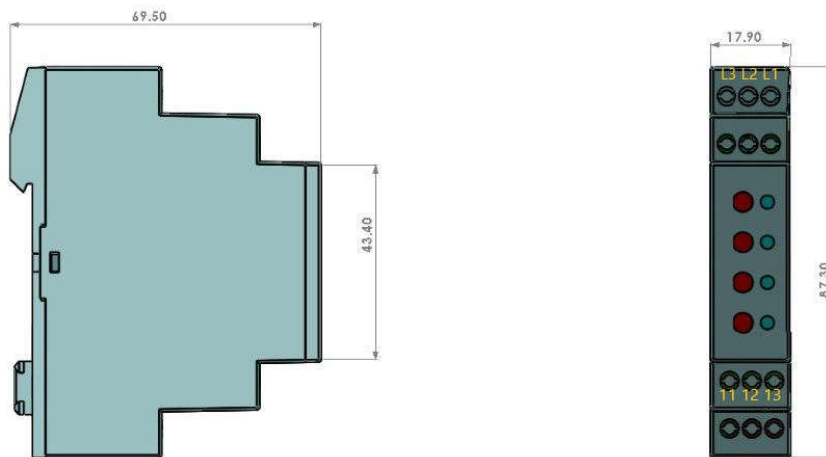
Structure



	Component	Function
A	Power supply	L1, L2 and L3 supply and measuring terminals
B	Output terminals	Output Relay contacts terminals: COM, NO and NC
LED 1	Output Led Amber	Blinks for ON delay period and Cont.ON state when relay is Energized
LED 2	Alarm LED	Cont.ON state for Over voltage Blinks for Phase fail
LED 3	Alarm LED	Cont.ON state for Under Voltage Blinks for phase Unbalance
LED 2 & LED 3	Alarm LED	Both LED 2 & 3 Blinks for Phase sequence error .
LED 4	Alarm LED	Cont.ON Supply Power
PM 1	Potentiometer	On delay Range (0.2 Sec - 180 Sec)
PM 2	Potentiometer	Over Voltage Range (400 V - 480 V)
PM 3	Potentiometer	Under Voltage Setting Range (300V -380 V)
PM 4	Potentiometer	Phase Asymmetry Range (20 V -100 V)



Features



General data

Material	PC/ABS blend
Protection grade	IP20
Housing colour	Gray
Weight	approx. 100g
Dimensions	87.8H x 54.2D x 17.5W
Terminals wire size	AWG18 to AWG14, stranded or solid
Terminals tightening torque	max. 0.5Nm



3PHMR1

Power supply

Power supply	Voltage working range: (183V to 528V) Supplied from L2, L3 measured phases Frequency range: 50Hz to 60 sinusoidal waveform
Consumption	< 2 VA

Operating description

- **Suitability**

3PHMR1 can be used for power supply and mains' quality monitoring of all types of three phase loads with rated supply voltage from 440 VAC. Monitoring function is performed between Line to Line.

- **Device configuration**

3PHMR1 requires setting value as mentioned range. It automatically adapts to the grid to which is connected.

- **Alarm**

The relay operates when all the phases are present and the phase sequence is correct. Alarm goes off when one phase-phase voltage drops below 85% that of the other phase-phase voltages or when the phase sequence is wrong or the mains voltage is out of range. The alarm state de-energizes the output relay. As soon as the alarm cause is no longer present the normal operation is automatically restored.

- **Visual information**

The 3PHMR1 is equipped with 4 LED's which provide the status information

LED1 (Output Led- Amber)Blinks O/P ON delay and steady On when the output is energized

LED2 (Alarm Led) is Steady ON state for Over voltage and can be blinking or
Phase **fail**

LED3 (Alarm Led) Steady ON state for Under **voltage** ,Blinks for **Phase unbalance**

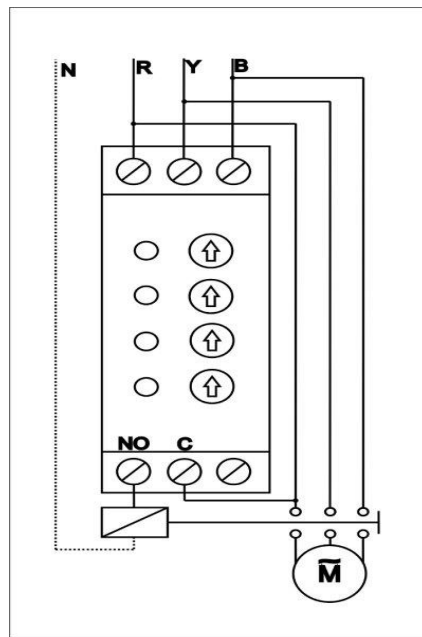
LED2 & 3 Both blinks for Phase sequence error

LED4 (Alarm Led) for Power ON

3PHMR1

CONNECTION DIAGRAM:

Connect the monitoring relay inside the enclosure and wire up according to the following diagram.



If all the phases are available and also in these correct sequence, then the amber LED will turn ON indicating that the load is now connected to the source.



www.caliberinterconnect.com



sales@caliberinterconnect.com



(+91) 8049792244