



FEATURES

- Single Phase, Phase unbalance, Phase sequence, Overload trip current and Dry run
- User selectable trip time curve and
- motor current rating
- Din rail mounting
- DPDT relay output
- Auto, Manual and Remote reset function

SPECIFICATIONS

DISPLAY

3 LED Indication

AUXILIARY SUPPLY

230V AC, ±15% (MPR-3M-2-230V)(Factory set)
415V AC, ±15% (MPR-3M-2-415V)(Factory set)

FREQUENCY

45-65Hz

ELECTRICAL CONNECTION

3 Ø 3 wire

POWER RATING :- 5VA max

TRIP SETTING

Phase unbalance : 50% of motor current(fixed)
Dry run: 50% of rated current(fixed)

T(sec.) setting : To select 2 sec, 4 sec, 6 sec, 8 sec, 10 sec trip time curve in overload trip curve graph (Refer graph 1)

x I_{max} : To select motor current rating
Motor current rating=(x I_{max}) x (CT max rating)
(For Motor rated current selection refer table 1, 2, 3 for 10A, 40A, 80A CT respectively.)

TRIP TIME

- Single phase trip : 5sec.
- Phase unbalance : 5sec.
- Phase sequence : 5sec.
- Dry run trip : 5sec
- Overload trip : As per graph 1

RECOVERY SETTING

Auto mode : When healthy condition occurs device reset automatically after 15 min.
(Short terminal 17 & 18)

Remote/manual reset : When healthy condition occurs device reset by connecting 16 and 17 terminal or by application of reset key.

ACCURACY

Time : ±5% of full scale ±100msec
Current : ±5% of full scale

OUTPUT SPECIFICATION

Output contact : 2 C/O (DPDT)
Output rating : NC : 5A @ 240V AC
NO : 5A @ 240V AC

LED INDICATION

- ON (Green LED) : Power ON
- SP (Red LED) : Single phase, Phase unbalance, Phase sequence
- OL (Red LED) : Overload current, Dry run

MECHANICAL SPECIFICATIONS

Dimension : 52.5x90x73mm
Mounting : 52.5mm DIN Rail mount
Screw tightening torque : 0.5N.m

ENVIRONMENTAL SPECIFICATIONS

- Indoor use
- Altitude of up to 2000 meters
- Pollution degree 2
- Temperature : Operating: 0° to 50°C
Storage : -20° to 70°C

Humidity : Up to 95% RH, non-condensing

Weight

180gms

SAFETY PRECAUTIONS

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If there is physical damage to the unit then do not use it.

Read complete instructions prior to installation and operation of the unit.

WIRING GUIDELINES

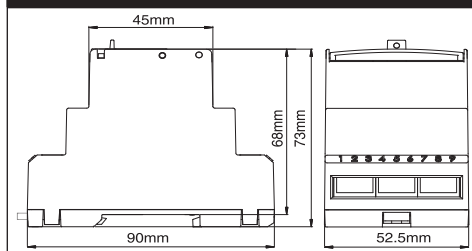
WARNING

1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
2. Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

CAUTION

To ensure the safe operation of unit, check the wiring and connections.

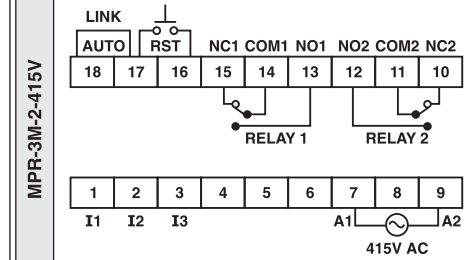
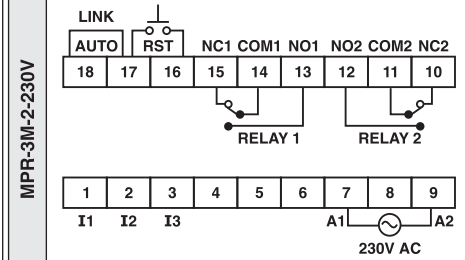
DIMENSIONS (All dimensions in mm)



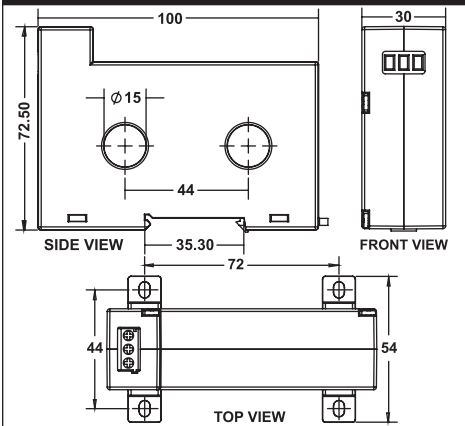
LED INDICATION CHART

| Various Conditions | 'ON' LED | 'SP' LED | 'OL' LED | Relay |
|--------------------|----------|----------|----------|--------------|
| Healthy Condition | ON | OFF | OFF | De-energized |
| Single phase | ON | ON | OFF | Energized |
| Phase Unbalance | ON | ON | OFF | Energized |
| Phase Sequence | ON | ON | OFF | Energized |
| Overload | ON | OFF | ON | Energized |
| Dry run | ON | OFF | Blink | Energized |

TERMINAL CONNECTIONS



CT DIMENSIONS

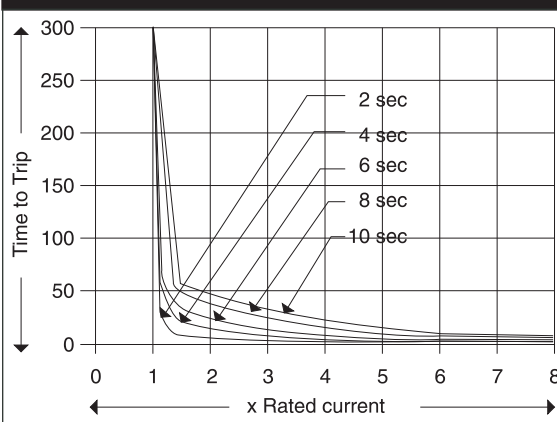


MOTOR RATED CURRENT SELECTION

| TABLE 1 | | TABLE 2 | | TABLE 3 | |
|---------------|----------------------|---------------|----------------------|---------------|----------------------|
| Knob Position | Motor Current Rating | Knob Position | Motor Current Rating | Knob Position | Motor Current Rating |
| 0.3 | 3A | 0.3 | 12A | 0.3 | 24A |
| 0.4 | 4A | 0.4 | 16A | 0.4 | 32A |
| 0.5 | 5A | 0.5 | 20A | 0.5 | 40A |
| 0.6 | 6A | 0.6 | 24A | 0.6 | 48A |
| 0.7 | 7A | 0.7 | 28A | 0.7 | 56A |
| 0.8 | 8A | 0.8 | 32A | 0.8 | 64A |
| 0.9 | 9A | 0.9 | 36A | 0.9 | 72A |
| 1.0 | 10A | 1.0 | 40A | 1.0 | 80A |

GRAPH 1

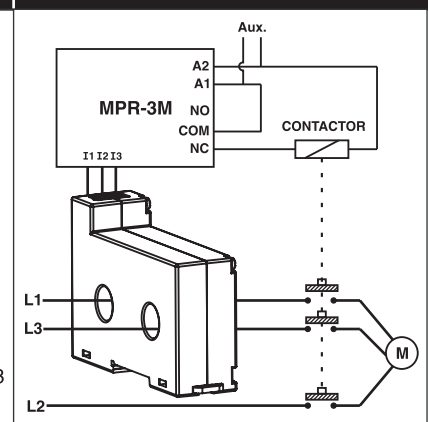
Thermal Overload Curve



Note-1)When zero current is detected in all 3 phases, it will not be considered as Phase loss or Under current.

2)Test condition to be verified at no load condition .

WIRING DIAGRAM



NOTE : Use of contactor recommended

ORDER CODE INFORMATION

| PRODUCT | SUPPLY | CERTIFICATION | |
|---------------|---------------|---------------|----|
| | | CE | UL |
| MPR-3M-2-230V | 230V AC, ±15% | — | — |
| MPR-3M-2-415V | 415V AC, ±15% | — | — |

(Specifications are subject to change, since development is a continuous process.)

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