



DIN 52.5mm

Features :

- 3Ø - 3 Wire Input
- Monitors Overload Current, Phase Asymmetry, Phase Failure & Phase Sequence, Under Current
- LED Indication : Power ON, Trip Relay
- Test and Reset Function via Front / Remote
- DIN Rail Mount
- DPDT Relay Output
- User Selectable Trip Time Curve and Motor Current Rating

Display Specifications

Type	Analog
No. of LED	3
No. of Knob	2
No. of Push Button	2

Recovery Setting

Automode : When healthy condition occurs device reset automatically after 15min. (Short terminal 17 & 18)
 Remote / Manual : When healthy condition occur device reset by connecting 16 & 17 terminal or application of reset key.

LED Indication Chart

Conditions	Power ON	SP	OL
Nominal Condition	ON	OFF	OFF
Overload Current	ON	OFF	ON
Phase Reverse	ON	ON	OFF
Phase Asymmetry	ON	ON	OFF
Phase Failure	ON	ON	OFF
Under Current	ON	OFF	Blink

Output Specifications

Relay Contact	2 C/O (DPDT)
Relay Rating	NC / 5A@240V AC N0 / 5A@240V AC

Auxiliary Supply Specification

Supply Voltage	230 / 415V AC ±15%
Frequency	45 / 65Hz
Power Consumption	3VA max

Input Specifications

Functions	
Measurements	Overload Current, Phase Asymmetry, Phase Failure & Phase Sequence, Under Current
Alarm Indications	Trip
Reset	Auto / Manual / Remote
Electrical Connection	3Ø - 3 wire
Trip Setting	
Phase Sequence	Yes
Phase Failure	Yes
Phase Asymmetry (Fixed)	50% of Motor Current ± Fixed
Under Current	50% of Motor Current
Trip Time Settings	
Power On Delay (Fixed)	<500ms
Trip Time Delay (Fixed)	5.5s ±1.5s
Overload Trip Delay	As per IDMTL graph
Recovery Delay Time	<250ms
For Overload	As per IDMT curve
Under Current Trip	5sec
Accuracy	
Trip Setting Accuracy	±5% of set value
Time Setting Accuracy	±5% of setting ±100ms
CT Setting	
CT Ranges	10A ,40A,80A

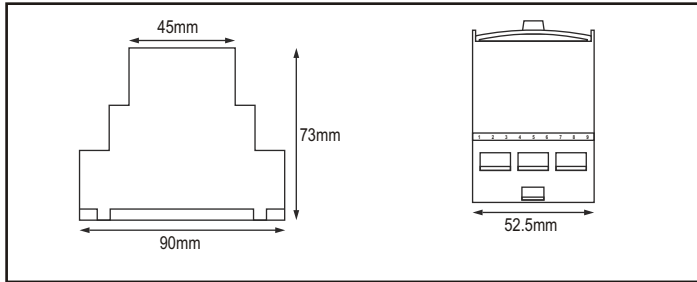
Environmental Specifications

Temperature	Operating Temperature : 0° to 50°C Storage Temperature : -20° to 75°C
Humidity (non-condensing)	Upto 95% RH

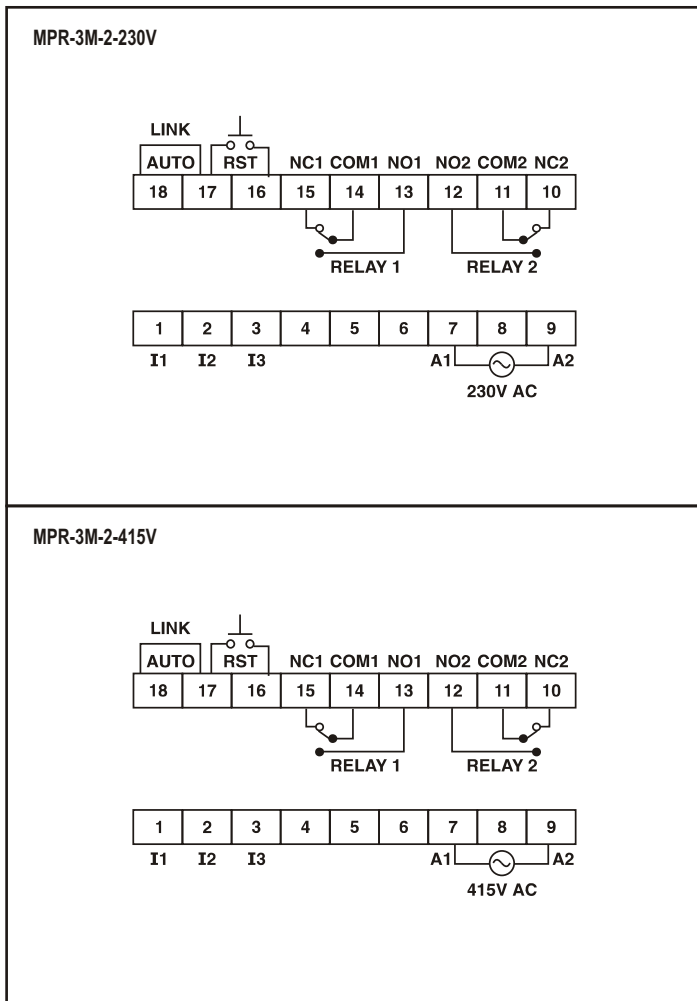
Mechanical Specifications

Mounting	DIN Rail
Weight	180gms
Screw Tightening Torque	0.5 NM

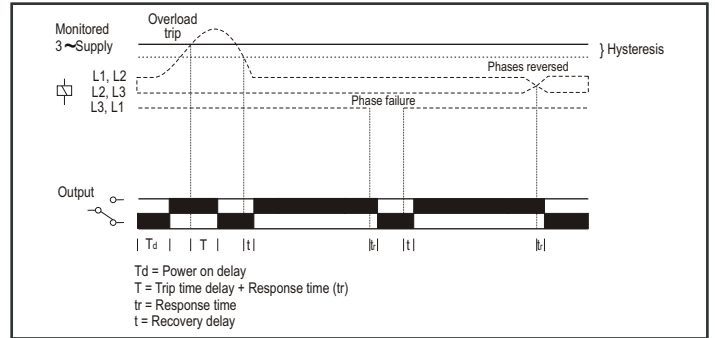
Dimensions



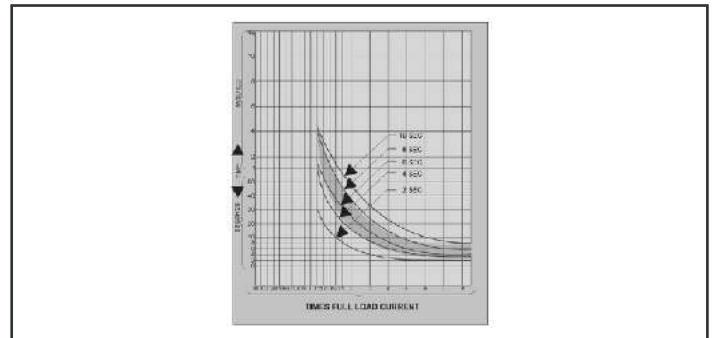
Terminal Connections



Timing Diagram



Inverse Time Characteristics (IDMTL) Graph



Ordering Information

Product Code	Supply Voltage	Certification
MPR-3M-2-230V	230V AC \pm 15%	---
MPR-3M-2-415V	415V AC \pm 15%	---

Product Code	INPUT CURRENT	Certification
MPCT D15 10 A	10 A	---
MPCT D15 40 A	40 A	---
MPCT D15 80 A	80 A	---



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 Imax : To select motor current rating
Motor current rating=(x Imax) 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

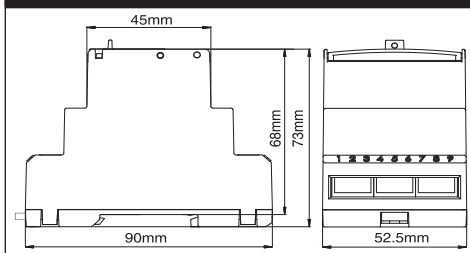
WARNING

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.

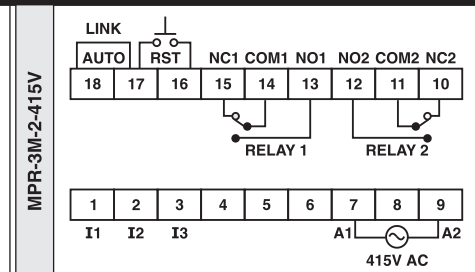
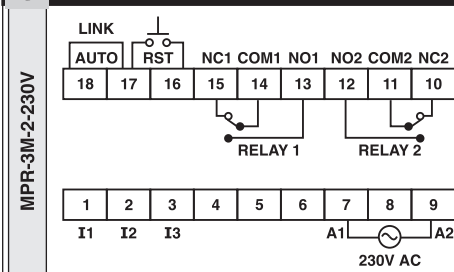
DIMENSIONS (All dimensions in mm)



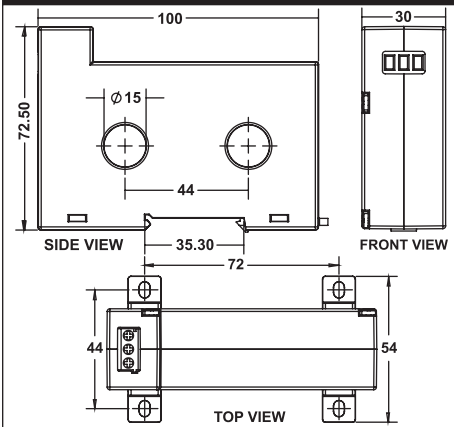
LED INDICATION CHART

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

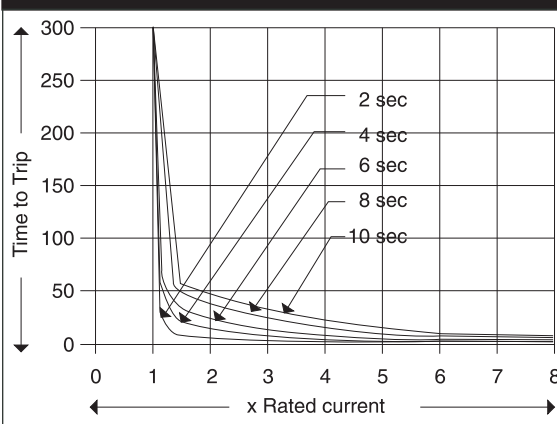


MOTOR RATED CURRENT SELECTION

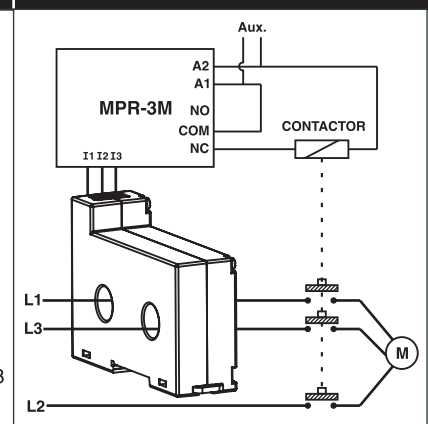
TABLE 1		TABLE 2		TABLE 3	
Knob Position	Motor Current Rating	Knob Position	Motor Current Rating	Knob Position	Motor Current Rating
0.3	3A	0.3	12A	0.3	24A
0.4	4A	0.4	16A	0.4	32A
0.5	5A	0.5	20A	0.5	40A
0.6	6A	0.6	24A	0.6	48A
0.7	7A	0.7	28A	0.7	56A
0.8	8A	0.8	32A	0.8	64A
0.9	9A	0.9	36A	0.9	72A
1.0	10A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

GRAPH 1

Thermal Overload Curve



WIRING DIAGRAM



NOTE : Use of contactor recommended

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 .

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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