



DIN 70mm

**Features :**

- 3Ø - 3 Wire Input
- Monitors Over Load (As per NEMA Curve), Over Current, Dry Run/Under Current, Locked Current, Current Asymmetry
- Phase Sequence, Phase Failure, Over Voltage, Under Voltage, Voltage Asymmetry
- LED Indication : Power ON, Trip Relay
- 4 Knob for Variable Setting
- Test & Reset Function Via Key & Terminal
- Manual, Auto Reset

**Display specifications**

|             |  |
|-------------|--|
| No of LED   | 4<br>1 -Green LED for Power on Indication<br>1 <sup>st</sup> -Red LED for Current Indication<br>2 <sup>nd</sup> -Red LED for Voltage Indication<br>3 <sup>rd</sup> -Red LED for Phase Indication   |
| No of Knobs | 4<br>NEMA -Overload tripping on the basis of the NEMA class selected<br>ΔT - Trip time when fault condition is detected<br>OC - Over Current Trip setting in % of I <sub>r</sub><br>DR - Under Current Trip setting in % of I <sub>r</sub> |
| Keys        | 2 Key's<br>1 Test<br>2 Reset (Press 3 sec to set rated current)  |

**Input Specifications**

|  |  |
|--|--|
| <b>Time Setting</b>                            |  |
| Power ON Delay                                 | 1sec (Fixed)                                       |
| Trip Time Delay (Current & Voltage parameters) | 0, 2, 4, 6, 8 & 10 sec                             |
| Auto Reset (Current & Voltage parameters)      | 15min  |
| Phase Loss                                     | Instantaneous (<240ms)                             |
| Phase Reversal                                 | Instantaneous (<240ms)                             |
| Restart Attempt Time Frame                     | 60min (Fixed) for current & voltage parameters     |
| Auto Restart Attempts                          | 3 (fixed)  |
| <b>Hysteresis</b>                              |  |
| Voltage  | Fixed (6V) (Not applicable for current parameters) |
| <b>Accuracy</b>                                |  |
| Current Accuracy                               | ±5% of rated current                               |
| Voltage Accuracy                               | ±1% of 500V  |
| Time Accuracy                                  | ±5% ±100msec                                       |
| <b>Functional Specification</b>                |  |
| Over Load                                      | NEMA class Curve 5, 10, 15, 20, 30                 |
| Over Current Ranges                            | 10% - 70% of I <sub>r</sub> (Rated Current)        |
| Under Current                                  | 20% - 80% of I <sub>r</sub> (Rated Current)        |
| Current Asymmetry                              | Fixed : 50% of I <sub>r</sub> (Rated Current)      |
| Locked Current / Stall Current                 | Fixed : 300% of I <sub>r</sub> (Rated Current)     |
| Over Voltage                                   | Fixed (480V)                                       |
| Under Voltage                                  | Fixed (350V)                                       |

**LED Indication Chart**

| Conditions        | Power ON (Green) | Current (1 <sup>st</sup> Red LED) | Voltage (2 <sup>nd</sup> Red LED) | Phase (3 <sup>rd</sup> Red LED) |
|-------------------|------------------|-----------------------------------|-----------------------------------|---------------------------------|
| Healthy           | ON               | OFF                               | OFF                               | OFF                             |
| Over Voltage      | ON               | OFF                               | Blinking                          | OFF                             |
| Under Voltage     | ON               | OFF                               | ON                                | OFF                             |
| Voltage Asymmetry | ON               | OFF                               | ON                                | Blinking                        |
| Voltage Loss      | ON               | OFF                               | ON                                | ON                              |
| Over Current      | ON               | Blinking                          | OFF                               | OFF                             |
| Under Current     | ON               | ON                                | OFF                               | OFF                             |
| Current Asymmetry | ON               | ON                                | OFF                               | Blinking                        |
| Overload          | ON               | ON                                | ON                                | ON                              |
| Locked Current    | ON               | Blinking                          | OFF                               | ON                              |
| Current Loss      | ON               | ON                                | OFF                               | ON                              |
| Phase Reversal    | ON               | OFF                               | OFF                               | ON                              |

**Output Specifications**

|                |  |
|----------------|--|
| Control Output | 1 C/O (SPDT)                                   |
| Relay Rating   | NO 5A@250V AC / 28VDC<br>NC 3A@250V AC / 28VDC |

**Input Specifications**

|  |                            |
|--|----------------------------|
| <b>Measuring Range</b>                             |                            |
| A) Motor Rated Current Measuring 3A to 80A         |                            |
| - External CT (MPCT) for R, Y, B phase measurement |                            |
| - (3A - 10A) for 10A CT                            |                            |
| - (11A - 40A) for 40A CT                           |                            |
| - (24A - 80A) for 80A CT                           |                            |
| B) Voltage Measuring Range                         | 280V AC to 500V AC (L - L) |

**Auxiliary Supply Specifications**

|                         |                       |
|-------------------------|-----------------------|
| Operating Voltage Range | 280 - 500V AC (L - L) |
| Power Consumption       | 40VA                  |
| Frequency               | 50 - 60Hz             |

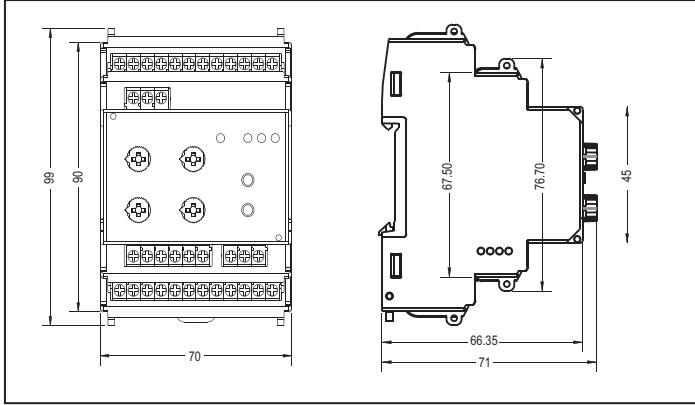
**Environmental Specifications**

|                           |   |
|---------------------------|---|
| Temperature               | Operating Temperature : 0°C to 55°C<br>Storage Temperature : -20°C to +70°C |
| Humidity (non Condensing) | Up to 95% RH  |

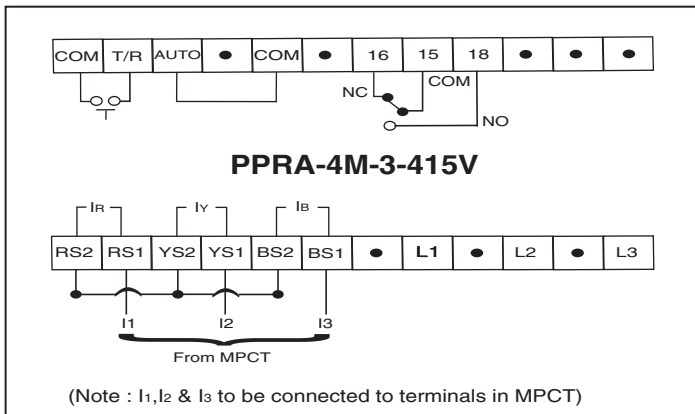
**Mechanical Specifications**

|                         |                            |
|-------------------------|----------------------------|
| Mounting                | DIN Rail Mount             |
| Wire Size (max)         | 4 sq.mm                    |
| Size                    | 71.2 x 70 x 90 (H x W x L) |
| Screw tightening torque | 0.5 N-M                    |
| Weight                  | 220gms approx              |

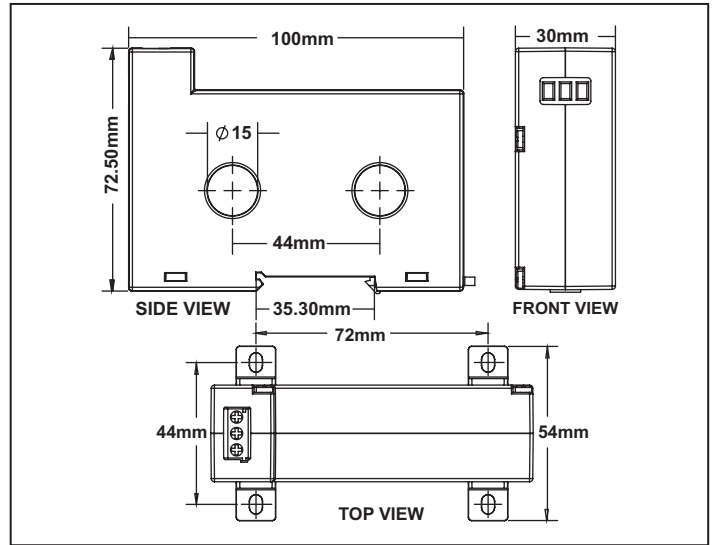
**Dimensions (All are in mm)**



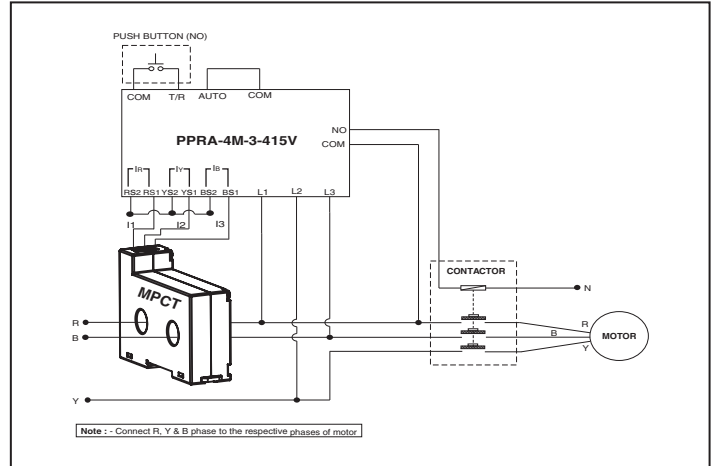
**Terminal Connections**



**CT Dimensions**



**Connection Diagram**



**Ordering Information**

| Product Code   | Supply Voltage | Certification |
|----------------|----------------|---------------|
| PPRA-4M-3-415V | 415V           | ---           |

**Accessories**

| Product Code  | Input Current | Certification |
|---------------|---------------|---------------|
| MPCT D15 10 A | 10 A          | ---           |
| MPCT D15 40 A | 40 A          | ---           |
| MPCT D15 80 A | 80 A          | ---           |