



# Voltage Monitoring Series SM 175



| Cat. No.  |   | MAG03D0424  | MAG03D0425                          | MAG03D0426                          | MAG03D0427         |  |
|---|---|---|-------------------------------------|-------------------------------------|--------------------|--|
| <b>Parameters</b>   |   |   |                                     |                                     |                    |  |
| Supply Voltage (φ)  |   | 208 to 480 VAC (3P,3W)<br>120 to 277 VAC (3P,4W)  | 415 VAC(3P,3W) / 240 VAC(3P,4W)     |                                     | 208-480 VAC(3P,3W) |  |
| Supply Variation  |   | +/- 23% (of φ)  |                                     |                                     |                    |  |
| Frequency   |   | 50/60 Hz  |                                     |                                     |                    |  |
| Reference Voltage   |   | Settable  | Fixed                               | Fixed                               | Fixed              |  |
| Trip Settings   | Phase Loss  | Yes   | Yes                                 | Yes                                 | Yes                |  |
|   | Phase Reverse   | Yes   | Settable through DIP S/W            | Settable through DIP S/W            | NA                 |  |
|   | Phase Asymmetry   | 10% Fixed   | 10% Fixed                           | 10% Fixed / 5% to 25% Settable      | 30% Fixed          |  |
|   | Under Voltage   | 2% to 22% (of φ)  | 5% to 25% (of φ) / 60% (of φ) Fixed | 5% to 25% (of φ) / 80% (of φ) Fixed | NA                 |  |
|   | Over Voltage  | 2% to 22% (of φ)  | 110%(of φ) Fixed / 5% to 25%(of φ)  | 110%(of φ) Fixed                    | NA                 |  |
|   | Hysteresis (Phase Asy.)   | 2.7% Fixed  |                                     |                                     | NA                 |  |
| Hysteresis (UV/OV)  |   | 2% Fixed  | 2% to 12% Settable                  | 2.7% Fixed                          | NA                 |  |
| Power Consumption (Max.)  |   | 16 VA @ 415 VAC   |                                     |                                     |                    |  |
| Time Delay  | ON Delay  | (0 to 15 Sec) settable / 5 sec (selectable DIP switch)  |                                     | (0.5 to 15) settable sec / min      | <=750 msec         |  |
|   | Trip Time (OFF Delay)   | 5 sec / (0 to 15 Sec) settable (selectable DIP switch)  |                                     | (0.5 to 15) settable sec / min      | <=500 msec         |  |
|   |   | 100ms max for Phase loss & Phase Sequence   |                                     |                                     |                    |  |
| Output  | Relay Output  | 1 C/O   |                                     |                                     |                    |  |
|   | Contact Rating  | 5A @ 250 VAC / 30 VDC (Resistive)   |                                     |                                     |                    |  |
|   | Electrical Life   | 5X10 <sup>4</sup>   |                                     |                                     |                    |  |
|   | Mechanical Life   | 1X10 <sup>7</sup>   |                                     |                                     |                    |  |
| Utilization Category  | AC - 15   | Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A  |                                     |                                     |                    |  |
|   | DC - 13   | Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A  |                                     |                                     |                    |  |
| LED Indications on front plate  | Respective fault condition will be indicated by LED immediately & Relay will be tripped after specified trip time only. |   |                                     |                                     |                    |  |
|   |   | Power LED/RV (Green)  | UV (Red LED)                        | OV (Red LED)                        | ASY/PR (Red LED)   | R LED ON indicates healthy supply & OFF indicates Phase loss |
|   | Power ON  | ON  | OFF                                 | OFF                                 | OFF                |  |
|   | Phase reverse   | ON  | OFF                                 | OFF                                 | ON                 |  |
|   | Asymmetry   | ON  | OFF                                 | OFF                                 | Slow BLINK         |  |
|   | UV  | ON  | ON                                  | OFF                                 | OFF                |  |
|   | OV  | ON  | OFF                                 | ON                                  | OFF                |  |
|   | B Phase Loss  | Slow BLINK  | OFF                                 | OFF                                 | OFF                |  |
| Voltage Int.  | OFF   | OFF   | OFF                                 | OFF                                 |                    |  |
| * 1. Multiple LEDs can operate indicating multiple faults at a time e.g. in case of phase loss, UV and phase asymmetry faults may also occur.<br>2. For cat id MAG03D0428, R LED ON indicates healthy supply & OFF indicates Phase loss.<br>3. For Outer Mode fault in MAG03D0425 product, UV and OV LED blinks@200 msec. |   |   |                                     |                                     |                    |  |
| Operating Temperature   |   | - 20°C to +60°C   |                                     |                                     |                    |  |
| Storage Temperature   |   | - 25°C to +70°C   |                                     |                                     |                    |  |
| Humidity (Non Condensing)   |   | 95% (Rh)  |                                     |                                     |                    |  |
| Enclosure   |   | Flame Retardant UL 94-V0  |                                     |                                     |                    |  |
| Dimension (W x H x D) (in mm)   |   | 18 X 90 X 66.5  |                                     |                                     |                    |  |
| Weight (unpacked)   |   | 72 g  |                                     |                                     |                    |  |
| Mounting  |   | Base / DIN rail   |                                     |                                     |                    |  |
| Degree of Protection  |   | IP 20 for Terminals, IP 30 for Enclosure  |                                     |                                     |                    |  |
| Certification   |   |   |                                     |                                     |                    |  |

## EMI / EMC

|                                   |                |
|-----------------------------------|----------------|
| Harmonic Current Emissions        | IEC 61000-3-2  |
| ESD                               | IEC 61000-4-2  |
| Radiated Susceptibility           | IEC 61000-4-3  |
| Electrical Fast Transients Surges | IEC 61000-4-4  |
| Conducted Susceptibility          | IEC 61000-4-5  |
| Voltage Dips & Interruptions (AC) | IEC 61000-4-6  |
| Conducted Emission                | IEC 61000-4-11 |
| Radiated Emission                 | CISPR 11       |

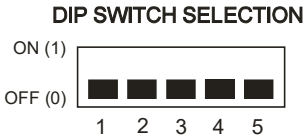
## Environmental

|           |               |
|-----------|---------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat  | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |

# Voltage Monitoring Series SM 175



Selection of Function: Operating Mode & timing can be selected by using DIP switches



Cat. No.: MAG03D0424

|              |                          |                                 |                     |
|--------------|--------------------------|---------------------------------|---------------------|
| 1            | <input type="checkbox"/> | 480                             | 277                 |
| 1            | <input type="checkbox"/> | 440                             | 256                 |
| 1            | <input type="checkbox"/> | 415                             | 240                 |
| 1            | <input type="checkbox"/> | 400                             | 230                 |
| 1            | <input type="checkbox"/> | 380                             | 220                 |
| 1            | <input type="checkbox"/> | 240                             | 139                 |
| 1            | <input type="checkbox"/> | 220                             | 127                 |
| 1            | <input type="checkbox"/> | 208                             | 120                 |
| <b>1 2 3</b> |                          | <b>Ph - Ph (VAC)</b>            | <b>Ph - N (VAC)</b> |
| 1            | <input type="checkbox"/> | Settable OFF Delay Fix ON Delay |                     |
| 1            | <input type="checkbox"/> | Settable ON Delay Fix OFF Delay |                     |
| <b>4</b>     |                          | <b>Delay</b>                    |                     |
| 1            | <input type="checkbox"/> | Ph - Ph                         |                     |
| 1            | <input type="checkbox"/> | Ph - N                          |                     |
| <b>5</b>     |                          | <b>Supply Type</b>              |                     |

Cat. No.: MAG03D0425

|            |                          |                                 |
|------------|--------------------------|---------------------------------|
| 1          | <input type="checkbox"/> | Settable UV with fix OV *       |
| 1          | <input type="checkbox"/> | Settable OV with fix UV *       |
| 1          | <input type="checkbox"/> | Inner Mode                      |
| 1          | <input type="checkbox"/> | Outer Mode                      |
| <b>1 2</b> |                          | <b>Function</b>                 |
| 1          | <input type="checkbox"/> | Phase Seq. Disable              |
| 1          | <input type="checkbox"/> | Phase Seq. Enable               |
| <b>3</b>   |                          | <b>Function</b>                 |
| 1          | <input type="checkbox"/> | Settable OFF Delay Fix ON Delay |
| 1          | <input type="checkbox"/> | Settable ON Delay Fix OFF Delay |
| <b>4</b>   |                          | <b>Delay</b>                    |
| 1          | <input type="checkbox"/> | Ph - Ph                         |
| 1          | <input type="checkbox"/> | Ph - N                          |
| <b>5</b>   |                          | <b>Supply Type</b>              |

\* Note : When POT - P1 is set as UV or OV through DIP S/W setting, then POT-P2 is used to set hysteresis ranging from 2% to 12%.

Cat. No.: MAG03D0426

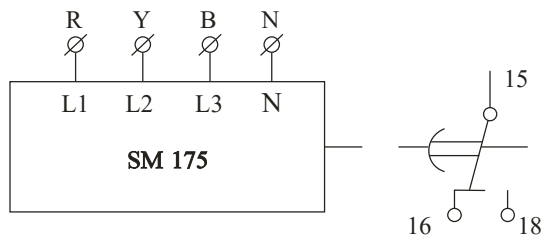
|          |                          |  |
|----------|--------------------------|--|
| 1        | <input type="checkbox"/> | Phase Seq. Disable                     |
| 1        | <input type="checkbox"/> | Phase Seq. Enable                      |
| <b>1</b> |                          | <b>Function</b>                        |
| 1        | <input type="checkbox"/> | Settable UV(POT-P1) with fix assymetry |
| 1        | <input type="checkbox"/> | Settable ASY (POT-P1) with fix UV      |
| <b>2</b> |                          | <b>Function</b>                        |
| 1        | <input type="checkbox"/> | Settable (POT-P2) ON Delay in sec      |
| 1        | <input type="checkbox"/> | Settable (POT-P2) ON Delay in min      |
| <b>3</b> |                          | <b>Delay</b>                           |
| 1        | <input type="checkbox"/> | Settable (POT-P3) OFF Delay in sec     |
| 1        | <input type="checkbox"/> | Settable (POT-P3) OFF Delay in min     |
| <b>4</b> |                          | <b>Delay</b>                           |
| 1        | <input type="checkbox"/> | Ph - Ph                                |
| 1        | <input type="checkbox"/> | Ph - N                                 |
| <b>5</b> |                          | <b>Supply Type</b>                     |

Cat. No.: MAG03D0425

**Inner Mode:** If user requires both UV and OV protection along with the healthy status of relay between UV and OV range then the user can set Inner mode configuration by selecting DIP switch 1 - high & 2 as low. For this setting P1 potentiometer will work as UV threshold and P2 potentiometer will work as OV threshold with fixed recovery hysteresis of 2% for both.

**Outer Mode:** If user requires both UV and OV protection along with the unhealthy status of relay between UV and OV range then the user can set outer configuration by selecting both DIP switches high. For this setting P1 potentiometer will work as UV threshold and P2 potentiometer will work as OV threshold with fixed recovery hysteresis of 2% for both.

## CONNECTION DIAGRAM



MAG03D0424, MAG03D0425, MAG03D0426, MAG03D0427, MAG03D0428