

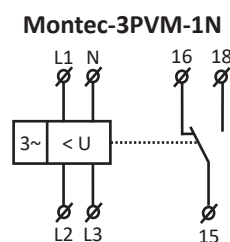
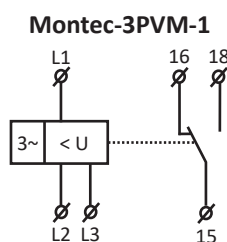
## Montec-3PVM-1/1N

### 3 Phase Voltage Monitoring Relay with Phase Sequence and Phase Failure Detection



These relays monitor overvoltage, undervoltage, phase sequence and phase failure in 3 Phase AC systems. The Montec-3PVM-1 draws its supply from 3 live phases, which means that the relay remains functional even if one phase is lost. The Montec-3PVM-1N draws its supply from L1, L2, L3 and N, so the relay also monitors loss of the neutral.

- It is possible to set the upper and lower levels of monitored voltage independently
- Adjustable time delay allows short voltage transients to be ignored
- The relay draws its supply from the source being monitored
- A faulty state is shown by a red LED and opening of the output relay contact
- Output contact: 1 x changeover / SPDT 8A / 250V AC1
- If the supply voltage falls below 60%  $U_{OFF}$  (lower level) the relay opens immediately ignoring the set time delay
- 1-module, DIN-Rail mounting



#### Montec-3PVM-1/1N Technical Specification

|  | Montec-3PVM-1                               | Montec-3PVM-1N             |
|--|---|----------------------------|
| Supply Terminals                           | L1, L2, L3                                  | L1, L2, L3, N              |
| Supply / Measured Voltage $U_n$            | 3x 400V (50 - 60Hz)                         | 3x 400V / 230V (50 - 60Hz) |
| Power Input                                | AC max. 2VA / 1W                            |                            |
| Max. Dissipated Power ( $U_n$ + Terminals) | 1W  |                            |
| Adjustable $U_{max}$                       | 105 - 125% $U_n$                            |                            |
| Adjustable $U_{min}$                       | 75 - 95% $U_n$                              |                            |
| Hysteresis                                 | 2%  |                            |
| Max. Permanent Voltage Overload            | AC 3x 460V                                  | AC 3x 265V                 |
| Peak Voltage Overload < 1ms                | AC 3x 500V                                  | AC 3x 288V                 |
| Time Delay T1                              | 500ms max.                                  |                            |
| Time Delay T2                              | Adjustable, 0.1 - 10s                       |                            |
| Changeover Contacts                        | 1 x Changeover / SPDT (AgNi / Silver Alloy) |                            |
| Rated Current                              | 8A / AC1                                    |                            |
| Breaking Capacity                          | 2000VA / AC1, 240W / DC                     |                            |

#### Montec-3PVM-1/1N Ordering Scheme



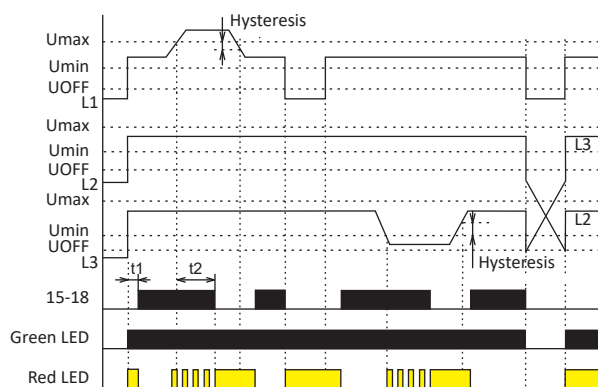
Supply Terminals:  
**1** = L1, L2, L3  
**1N** = L1, L2, L3, N

# Techna MONITORING RELAYS

## Montec-3PVM-1/1N Technical Specification

|                                    | Montec-3PVM-1   | Montec-3PVM-1N |
|------------------------------------|---|----------------|
| Inrush Current                     | 10A   |                |
| Switching Voltage                  | 250Vac / 24Vdc  |                |
| Output Indication                  | Red LED   |                |
| Mechanical Life                    | 5,000,000 Cycles  |                |
| Electrical Life (AC1)              | 50,000 Cycles   |                |
| Operating Temperature              | -20°C to 55°C   |                |
| Storage Temperature                | -30°C to 70°C   |                |
| Electrical Strength                | 4kV (Supply Output)   |                |
| Operating Position                 | Any   |                |
| Mounting                           | DIN-Rail EN 60715   |                |
| Protection Degree                  | IP40 from Front Panel / IP10 Terminals  |                |
| Overvoltage Category               | III   |                |
| Pollution Degree                   | 2   |                |
| Max. Cable Size (mm <sup>2</sup> ) | Solid Wire max. 2x 2.5 or 1x 4 /<br>Stranded Wire with Ferrule max. 1x 2.5 or 2x 1.5 (AWG 12) |                |
| Dimensions                         | 90 x 17.6 x 64mm  |                |
| Weight                             | 62g   | 63g            |
| Standards                          | EN 60255-6, EN 61010-1  |                |

## Montec-3PVM-1/1N Function



The relay monitors 3 phase ac supplies. It is possible to set two independent voltage levels in order to monitor undervoltage and overvoltage independently. In the normal state when voltage is within set levels, the output relay is closed and the green LED illuminates. If the voltage exceeds or falls below the set levels, the output relay opens and the red LED illuminates (red LED indicates a faulty state and also flashes during time delay T<sub>2</sub>). If the supply voltage falls below 60% U<sub>n</sub> (U<sub>OFF</sub> lower level) the relay opens immediately without waiting for time delay T<sub>2</sub>.