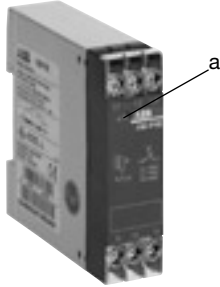


# Phase Monitor For Over and Under Voltage CM-PVE 3 Phase or 1 Phase Supply N/O Relay Output



- a R: yellow LED - relay status
- Monitoring of three-phase and single-phase supply voltage for overvoltage, undervoltage and phase loss
  - Optionally with neutral monitoring
  - No phase sequence monitoring
  - Voltage monitoring range:  
L1-L2-L3: 3 x 320...460 V AC  
L-N: 185...265 V AC
  - 1 n/o contact
  - Startup and trip delays
  - LED for status indication

Approvals: c us

### Accessories

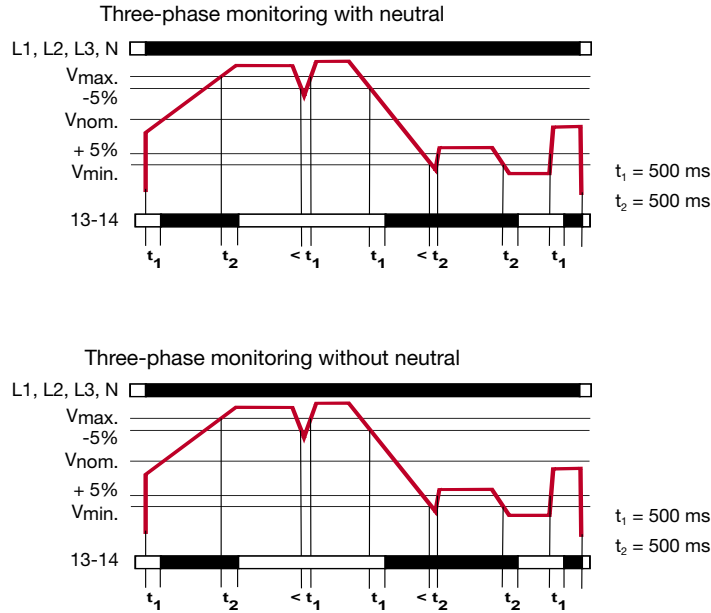


See accessory pages for specifications.

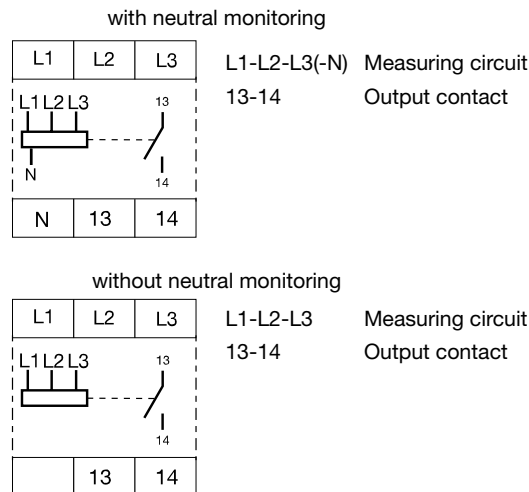
### Description

The CM-PVE phase monitor is used to monitor supply voltages for undervoltage, overvoltage and phase loss ( $V_{meas} < 60\% \times V_{nom}$ ). If all three phases are present with correct voltage, the output relay energizes. If a fault occurs, i.e. if the voltage [L-L (L-N)] exceeds the voltage value  $V_{max}$  (460 V / 265 V) or falls below the voltage value  $V_{min}$  (320 V / 185 V), the output relay de-energizes and the yellow LED turns off. The relay re-energizes automatically as soon as the voltage returns to the normal range, plus a fixed hysteresis of 5%. The product with neutral monitoring can also be used in single-phase supplies by jumpering the three phase terminals (L1, L2, L3) and connecting only one phase.

### Function



### Connection



### Ordering Table

|                            | Part Number         |
|----------------------------|---------------------|
| with neutral monitoring    | 1SVR 550 870 R 9400 |
| without neutral monitoring | 1SVR 550 871 R 9500 |

# Phase Monitor For Over and Under Voltage

## CM-PVE 3 Phase or 1 Phase Supply

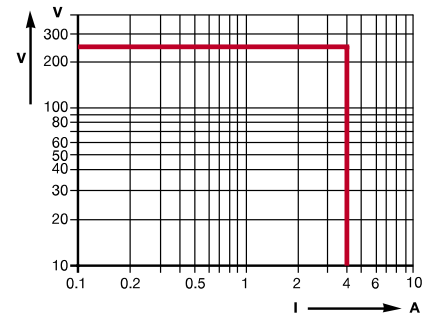
### N/O Relay Output

#### Technical Data

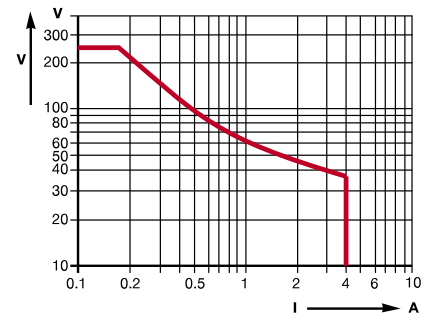
|   |                    |  |
|---|--------------------|--|
| <b>Input</b>  |                    | L1 - L2- L3 (-N)                                 |
| Supply voltage  | L - N              | 185...265 V                                      |
|   | L - L              | 320...460 V                                      |
| Tolerance   |                    | -15%... +10%                                     |
| Frequency   |                    | 50...60 Hz                                       |
| Frequency tolerance                                   |                    | ± 10 %   |
| <b>Measuring Circuit</b>                              |                    |  |
| Trip point for overvoltage                            | L - N              | 265 V  |
|   | L - L              | 460 V  |
| Switch-on value for overvoltage                       | L - N              | 252 V  |
|   | L - L              | 437 V  |
| Trip point for undervoltage                           | L - N              | 185 V  |
|   | L - L              | 320 V  |
| Switch-on value for undervoltage                      | L - N              | 194 V  |
|   | L - L              | 336 V  |
| Frequency   |                    | 50...60 Hz                                       |
| Frequency tolerance                                   |                    | ± 10 %   |
| Response time   |                    | ≤80 ms   |
| <b>Time Delay</b>                                     |                    |  |
| Delay on operate                                      |                    | 500 ms   |
| Trip delay on over / under voltage                    |                    | 500 ms   |
| Tolerance of delay on operate                         |                    | ± 20%  |
| <b>Display of Operational Status</b>                  |                    |  |
| Output relay energized                                |                    | LED yellow                                       |
| <b>Output</b>   |                    |  |
| Rated voltage   | VDE 0110, IEC947-1 | Relay, 1 n/o contact                             |
| Rated switching voltage max.                          |                    | 250 V  |
| Rated switching current                               | AC 12 (resistive)  | 250 V AC   |
|   | AC 15 (inductive)  | 4 A (at 230 V)                                   |
|   | DC 12 (resistive)  | 3 A (at 230 V)                                   |
|   | DC 13 (inductive)  | 4 A (at 24 V)                                    |
|   |                    | 2 A (at 24 V)                                    |
| Maximum mechanical life                               |                    | 3 x 10 <sup>6</sup> operations                   |
| Maximum electrical life (acc. to AC 12 / 230 V / 4 A) |                    | 1 x 10 <sup>5</sup> operations                   |
| Short-circuit proof, max. fuse rating                 |                    | 10 A / fast acting                               |
| <b>General Data</b>                                   |                    |  |
| Rated impulse withstand voltage V <sub>imp</sub>      |                    | 4 kV (overvoltage category III)                  |
| Isolation voltage                                     | Input - output     | 400 V  |
| Operating temperature                                 |                    | -20°C ... +60°C                                  |
| Storage temperature                                   |                    | -40°C ... +85°C                                  |
| Mounting  |                    | Snap-on mounting/Screw mounting using an adapter |
| Cable size stranded with wire end ferrule             |                    | 2 x 16 AWG (2 x 1.5 mm <sup>2</sup> )            |
| Weight  |                    | Approx. 0.17 lb (75 g)                           |

#### Load Limit Curves

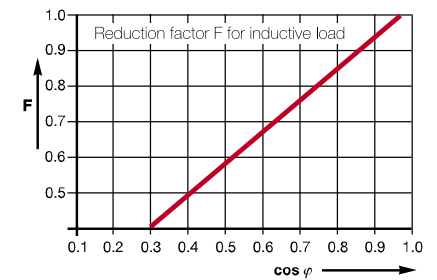
AC Load (Resistive)



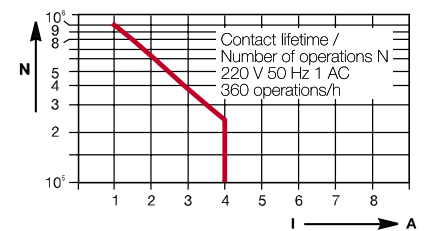
DC Load (Resistive)



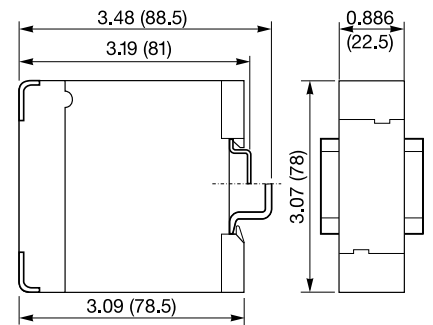
Reduction Factor for Inductive AC Load



Contact Lifetime



#### Mechanical View



Inches (Millimeters)

7.41