

Single Phase Over / Under Voltage Monitor

Description

Single phase monitoring plug-in relay for separate upper and lower voltage control. Often used where the generated electrical power is unstable in order to secure the equipment.



FEATURES

- Monitoring relay and measuring relay for upper / lower phase to neutral voltage control
- Measures if phase to neutral voltage are within set limits, present and in sequence
- Measures on own power supply
- Upper and lower limits separately adjustable
- LED indication for over / under volts
- Latch facility incorporated
- 10 second start-up delay
- 180 second response delay
- Output 10A SPDT

Input Specifications

Input	L & N
Pin 2,10	
Measuring Ranges (VAC)	
Range	230V
Upper Limit	184 - 276V
Lower Limit	241.5 - 276V
Scale	± 5 - 20%
Voltage Interruption	< 40ms
Dielectric Voltage	None (supply/electronics)
Rated Impulse Withstand	4kV (1.2/50 µs line/line)

Supply Specifications

Power Supply AC Type	1110, 230, 400V ± 10%
(Galvanic)	50 Hz ± 5Hz
Isolation	4kV
Consumption	± 3VA ± 6VA 525VA

Output Specifications

Output Specifications	SPDT
Rated Isolation Voltage	6000 VAC (contact / electric) 1000 VAC (contact / contact)
Nominal Rate in AC1 (Ag-Ni)	1500 VA
Rated Current	10A
Rated Voltage	250V
Mechanical Life	10x10 ⁶ cycles
Electrical Life	110x10 ³ cycles (at max load)
Operation Frequency	≤ 1800 cycles/h

General Specifications

Power ON Delay	≤ 300 ms
Power OFF Delay	≤ 200 ms
Indication for	
Power Supply ON	LED red
Over Voltage	LED yellow
Under Voltage	LED yellow
Environment	
Degree Of Protection	IP 20
Operating Temperature	-10 to + 50°C
Storage Temperature	-50 to + 85°C
Weight	200g

Single Phase Over / Under Voltage Monitor

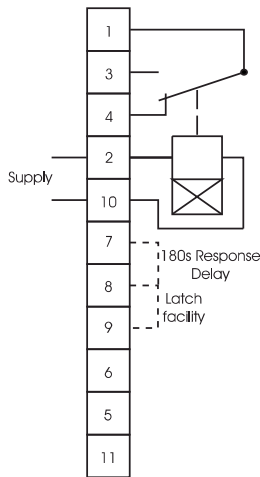
Mode of Operations

Voltage Monitoring

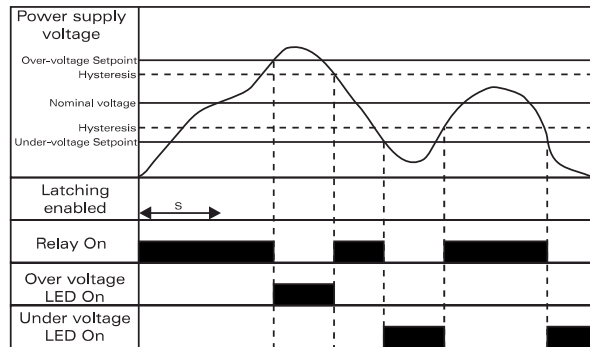
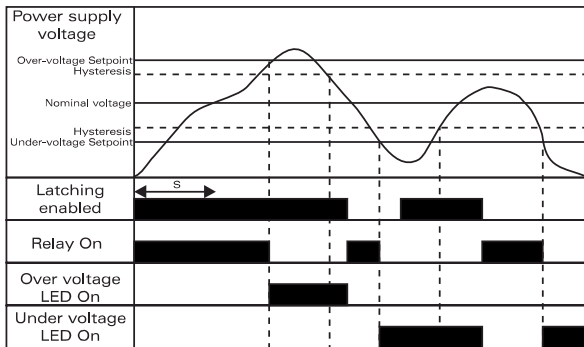
Connected to a supply, the V1E measures sinusoidal voltage. The relay operates as long as the phase - neutral voltage is within the set upper and lower limits. The two limits can be adjusted separately. If the voltage rises above the upper limit or drops below the lower limit the relay releases immediately. The relay operates again when the voltage is within set limits. Hysteresis on operate is 5% (e.g. If the unit has tripped at 260VAC it will recover at 247 VAC).

Example Protecting sensitive equipment to over/under voltage fluctuations.

Wiring Diagram



Operations Diagram



3 Phase Over / Under Voltage Monitor (Incorporating Phase Reversal Detection)

Description

3 - Phase monitoring plug-in relay for separate upper and lower voltage control as well as phase failure / sequence. Often used where the generated electrical power is unstable (or incorrect) in order to secure the equipment.



FEATURES

- Monitoring relay and 3 - phased measuring relay for upper / lower phase to neutral voltage control
- Measures if all 3 phase to phase voltages are within set limits, present and in sequence
- Measures on own power supply
- Upper and lower limits separately adjustable
- LED indication for over / under volts
- Latch facility incorporated
- 10 second start-up delay
- 180 second response delay
- Output 10A SPDT

Input Specifications

Pin 5	Phase L1
Pin 6	Phase L2
Pin 7	Phase L3
Power Supply	400V
Range	320 - 400V
Upper Limit	420 - 480V
Lower Limit	320 - 380V
Scale	± 5 - 20%
Voltage Interruption	< 40ms
Dielectric Voltage	None (supply/electronics)
Rated Impulse Withstand	4kV (1.2/50 μs line/line)

Supply Specifications

Power Supply AC Type	110, 230, 400V, 525V ± 10%
(Galvanic)	50 Hz ± 5Hz
Isolation	4kV
Consumption	± 3VA ± 6VA 525VA

Output Specifications

Output Specifications	SPDT
Rated Isolation Voltage	6000 VAC (contact / electric) 1000 VAC (contact / contact)
Nominal Rate in AC1 (Ag-Ni)	1500 VA
Rated Current	10A
Rated Voltage	250V
Mechanical Life	10x10 ⁶ cycles
Electrical Life	110x10 ³ cycles (at max load)
Operation Frequency	≤ 1800 cycles/h

General Specifications

Power ON Delay	≤ 300 ms
Power OFF Delay	≤ 200 ms
Indication for	
Power Supply ON	LED red
Over Voltage	LED yellow
Under Voltage	LED yellow
Environment	
Degree Of Protection	IP 20
Operating Temperature	-10 to + 50°C
Storage Temperature	-50 to + 85°C
Weight	200g

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