RHOMBERG ELECTRONICS

Single Phase Supply Monitoring Relay - Voltage Window Comparator AC / DC

SP 221

WIRING EXAMPLE
(requires optional S3-B base)

+ AC or DC Power Supply −

Latching

SLIMLINE
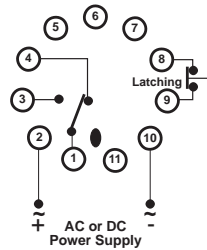
■ Application Examples

- Monitoring of the line supply in rural areas for over- and under-voltage protection.
- Monitoring of supply voltage from standby generator sets.
- System supervision for voltage regulators in AC and DC systems.
- Supervision of voltage levels on solar panels.
- Monitoring the voltage output of UPS systems.

ORDERING CODE

TYPE		SUPPLY VOLTAGE	AC/DC		RELAY CONTACTS
SP221	/	240	AC	-	S

Note: SP221 supersedes SP220

■ Technical Specification

Power Supply:
AC: 12, 24, 110, 220, 230, 240, 400, 415, 525V ±20%
DC: 12, 24, 48, 60, 110V ± 20% (no galvanic isolation)

Response:
Time delay on trip: adjustable from 0,1 to 10 seconds.
Latching disabled during power-up: approx. 10 seconds.
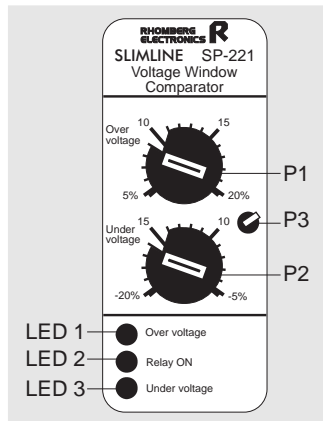
Voltage Sensing:

The unit is calibrated to trip on the RMS value of the supply voltage (assuming no AC waveform distortion)

Repetitive accuracy: 1%

Hysteresis: 2% fixed (relative to its supply voltage)

■ Description of Controls

P1: **The Over-voltage Threshold** is adjusted on P1.

P2: **The Under-voltage Threshold** is adjusted on P2.

Note: The scales for over-voltage and under-voltage threshold settings are calibrated in percentage deviation from nominal (ideal) supply voltage.

P3: **Adjustable Time Delay on Trip** is set on P3 from 0,1 to 10 seconds.

LED1: The red LED marked **"Over voltage"** will illuminate whenever the supply voltage exceeds the set over-voltage threshold.

LED 2: The green LED marked **"Relay ON"** will illuminate when the relay is energised, ie. under normal supply conditions, and switches off if the unit registers a fault condition, or if the power supply to the unit is interrupted.

LED 3: The red LED marked **"Under voltage"** will illuminate whenever the supply voltage drops below the set under-voltage threshold.
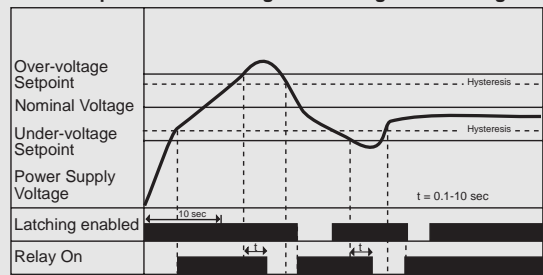
■ Operational Diagrams

Example of SP221 Voltage Monitoring without latching
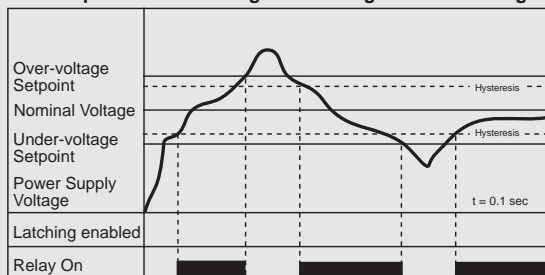
t = adjustable time delay on trip

Example of SP221 Voltage Monitoring with latching

Latching disabled at power-up for 10 sec   t = adjustable time delay on trip