

Application Examples

- Providing automatic control for the charging cycle of battery chargers.
- Monitoring voltage on Tachogenerators for over-speed conditions.
- Monitoring the discrimination voltage between neutral and earth to ensure that the neutral does not 'float'.
- Monitoring voltage supplies from voltage transformers in control panels.
- Monitoring the battery voltage on underground locomotives for recharging purposes.
- Monitoring the system trip circuits on high voltage switchgear.
- Monitoring the conditions of fuses which are not accessible or easy to inspect.

Features

- Failsafe feature.
- Programmable input voltage range 0V to 600V AC(RMS) or DC.
- Adjustable response delay from 0,1 to 10 seconds on SP-101.
- Voltage threshold adjustable on calibrated scale, 10-100%.
- Adjustable hysteresis 5-30%.
- Programmable for over-voltage or under-voltage detection.
- Latching on over-voltage or under-voltage.
- 10A SPDT relay output.



ORDERING CODE

TYPE	SUPPLY VOLTAGE	AC/DC	RELAY CONTACTS
SP 200	230 V	AC	SPDT

Description of Operation

The SP-200 and SP-201 are precision voltage comparators for both AC and DC applications. They can be programmed for either over-voltage detection or under-voltage detection. The input voltage range is selectable from 0V to 600V in six overlapping ranges. The unit is calibrated for both AC(RMS) and DC.

AC Monitoring: The voltage monitor is connected directly across the voltage to be monitored and trips on the RMS value (assuming no AC waveform distortion).

DC: The voltage monitor is polarity sensitive and will not respond to a voltage input with reversed polarity.

Over-voltage Sensing: When programmed for over-voltage sensing, the relay will de-energise if the voltage exceeds the set limit. The relay will switch on again if the voltage drops by a certain percentage below the set over-voltage threshold. This percentage hysteresis is adjustable.

Under-voltage Sensing: When programmed for under-voltage sensing, the relay will de-energise if the voltage drops below the set limit. The relay will switch on again if the voltage rises by a certain

percentage above the set under-voltage threshold. This percentage hysteresis is adjustable.

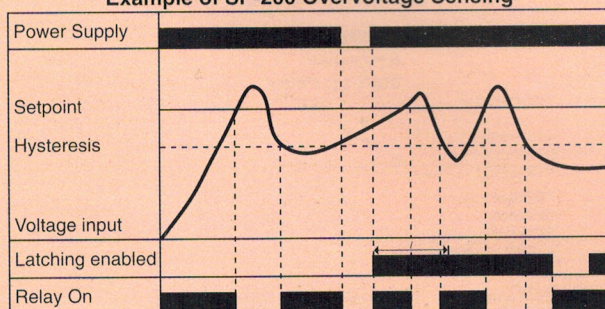
Hysteresis: Hysteresis represents the difference between the tripping point and the recovery point of the unit. The hysteresis can be adjusted as a percentage of set point to prevent relay chatter or hunting when the monitored voltage fluctuates around the set limit.

Latching: When latching is armed, the relay will not recover from a tripped condition, but will remain de-energised until reset. The unit can be reset by either breaking and re-applying power supply to the unit or by momentarily disabling the latching circuit (eg. push-to-open button). On power-up of the module, the latching is inactive for approximately 10 seconds.

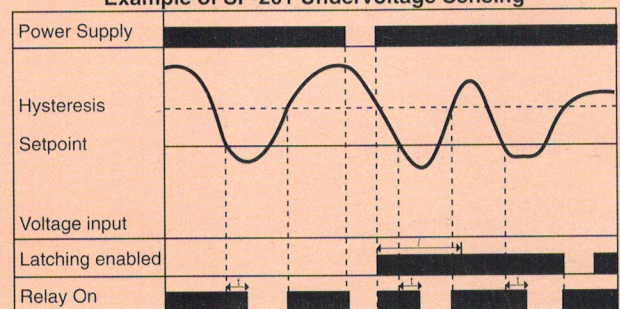
Adjustable Response (SP-201): Response delay can be adjusted from 0,1 to 10 seconds. When a trip condition is detected the relay will only de-energise after the set response time (a delayed recovery is also available on special order).

Operational Diagrams

Example of SP-200 Overvoltage Sensing



Example of SP-201 Undervoltage Sensing



l = Latching disabled for approximately 10 seconds at power up.

t = response delay