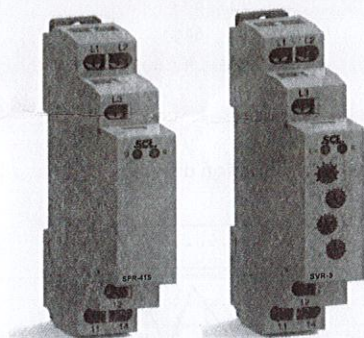


3-Phase voltage relay SVR-3 & SPR-415 Instruction Manual



General

■ Applications

- Control for connection of moving equipment(site equipment, agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

■ Function Features

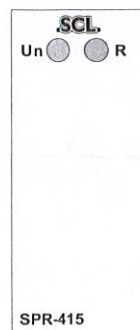
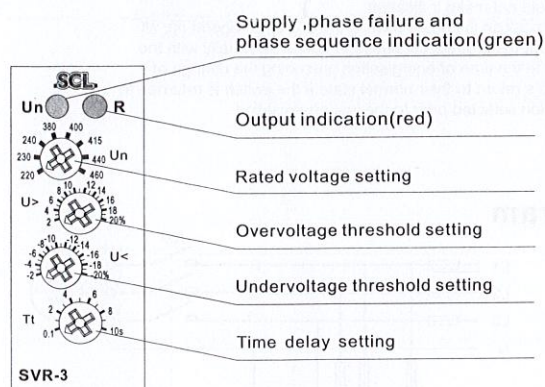
- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Table 1

| Function code | Over-voltage | Under-voltage | Asymmetry | Delay time | Phase sequence | Phase failure |
|---------------|--------------|---------------|-----------|------------|----------------|---------------|
| SPR-415 | | | | | ● | ● |
| SVR-3 | 2%...20% | -20%...2% | 8% | 0.1s...10s | ● | ● |

Note:●the function is available

Panel Diagram



Note:

$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

$$U_{avr} = \frac{U_1 + U_2 + U_3}{3}$$

$$U_{max} = \max(U_1, U_2, U_3)$$

$$U_{min} = \min(U_1, U_2, U_3)$$

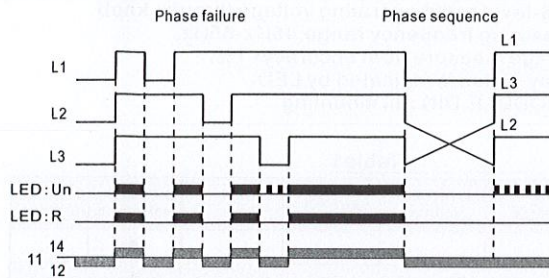
Technical parameters

| Technical parameters | |
|-----------------------------------|--|
| Function | Monitoring 3-phase voltage |
| Monitoring terminals | L1-L2-L3 |
| Supply terminals | L1-L2 |
| Voltage range | 220-230-240-380-400 -415-440-460(P-P) |
| Rated supply frequency | 45Hz-65Hz |
| Measuring range | 176V-552V/415V |
| Threshold adjustment voltage | 2%-20%of Un selected |
| Adjustment of asymmetry threshold | 5%-15% |
| Hysteresis | 2% |
| Phase failure value | 70% of Un selected Min=165V |
| Time delay | Adjustable 0.1s-10s, 10% |
| Measurement error | ≤1% |
| Run up delay at power up | 0.5s time delay |
| Konb setting accuracy | 10% of scale value |
| Supply indication | green LED |
| Output indication | red LED |
| Reset time | 1s |
| Output | 1×SPDT |
| Current rating | 10A/ AC1 |
| Switching voltage | 250VAC/24VDC |
| Min.breaking capacity DC | 500mW |
| Temperature coefficient | 0.05%/°C, at=20°C(0.05°F , at=68°F) |
| Mechanical life | 1×10 ⁷ |
| Electrical life(AC1) | 1×10 ⁵ |

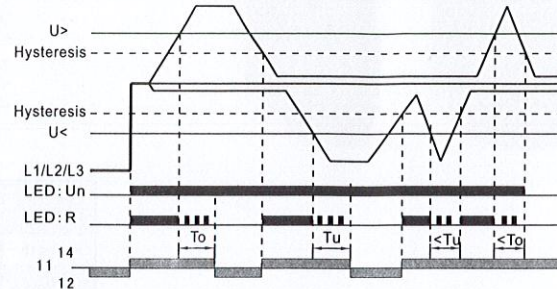
| | |
|----------------------------------|---|
| Operating temperature | -20°C to +55°C (-4°F to 131°F) |
| Storage temperature | -35°C to +75°C (-22°F to 158°F) |
| Mounting/DIN rail | Din rail EN/IEC 60715 |
| Protection degree | IP40 for front panel/IP20 terminals |
| Operating position | any |
| Overvoltage category | III. |
| Pollution degree | 2 |
| Max.cable size(mm ²) | solid wire max.1×2. 5or 2×1. 5/with sleeve max.1×2. 5(AWG 12) |
| Dimensions | 90×18×64mm |
| Weight | 64g |
| Standards | EN 60255-1,IEC60947-5-1 |

Functions Diagram

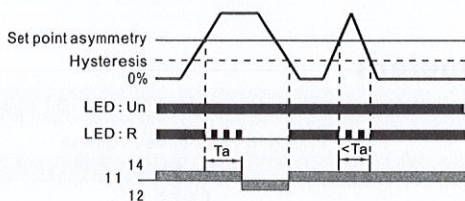
●Phase failure and phase sequence function diagram



●Overvoltage and undervoltage function diagram



●Asymmetry function diagram



To:Overvoltage threshold tripping delay.

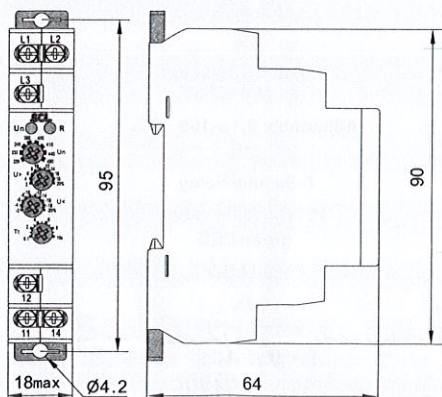
Tu:Undervoltage threshold tripping delay.

Ta:Asymmetry threshold tripping delay.

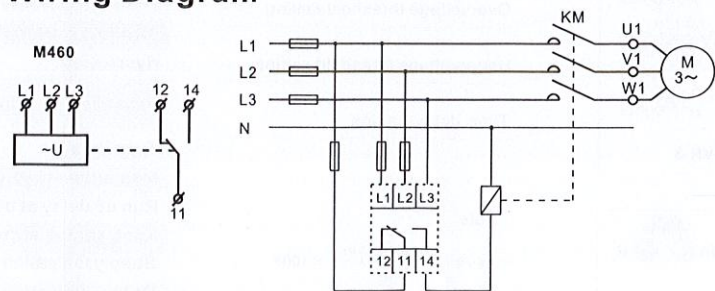
NOTE:

1. In case of phase fault at power supply terminals (L1 and L2), the function LED would not make indication.
2. If the Un switch position is changed while the device is operating, all the LEDs flash, but the product continues to operate normally with the voltage selected at the time of energisation preceding the change of position. The LED's return to their normal state if the switch is returned to the original position selected prior to the last energisation.

Dimensions(mm)



Wiring Diagram



Disposal of Electrical Waste
All electrical waste should be disposed of in compliance with current WEEE regulations.



Caution

The products must be installed by qualified electricians. All and any electrical connections of the time relay shall comply with the appropriate safety standards.