



# Voltage Protection Relay

## VPR-22U

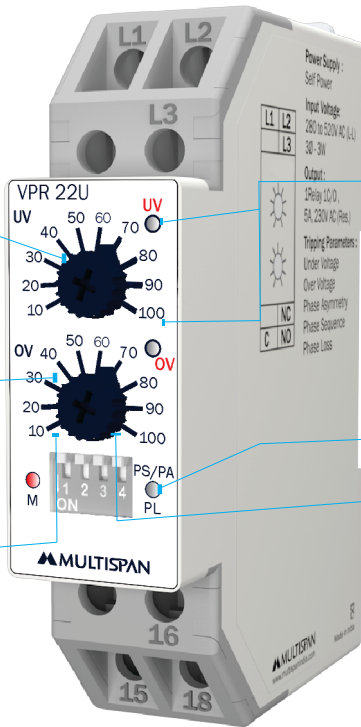


**UNDER VOLTAGE KNOB**

**OVER VOLTAGE KNOB**

**MAIN LED**

for visualisation of power supply status



### FAULT INDICATION LED

for under voltage, over voltage, phase sequence, phase asymmetry & phase loss

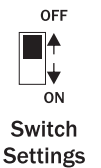
- RED: phase loss
- Blinking Red: phase asymmetry
- Yellow: phase sequence
- OFF: Healthy

### DIP SWITCH

for time range selection & Power ON & Trip Delay Time selection



Switch-1 & 2 for Power ON Delay time selection



SW 1	SW 2	Range	SW 3	SW 4	Range
ON	ON	15 Sec	ON	ON	15 Sec
ON	OFF	10 Sec	ON	OFF	10 Sec
OFF	ON	5 Sec	OFF	ON	5 Sec
OFF	OFF	2 Sec	OFF	OFF	2 Sec

Switch-3 & 4 for Trip Delay time selection



**Power Supply :** No Power Supply to be given separately



**Input Voltage :** 280 to 520V AC ( L- L ) 3Ø -3W

**Rated Voltage :** 415V AC ( L- L )



**Output:** 1 Relay 1C/O ,5A 230V AC Resistive load



**Tripping Parameters :** Under voltage  
Over voltage  
Phase asymmetry  
Phase sequence  
Phase loss

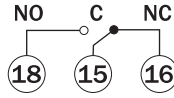
# Terminal Connection



**Power Supply :**

Self Powered  
**Input Voltage:**  
 280 to 520V AC (L-L)  
 3Ø - 3W

**Output :**  
 1 Relay 1C/O ,  
 5A, 230V AC (Res.)



**Function :**

Phase Loss < 280V AC (L - L)  
 Phase Asymmetry > 40V Fix  
 Hysteresis : 6V Fix  
 Rated Voltage: 415V AC (L-L)

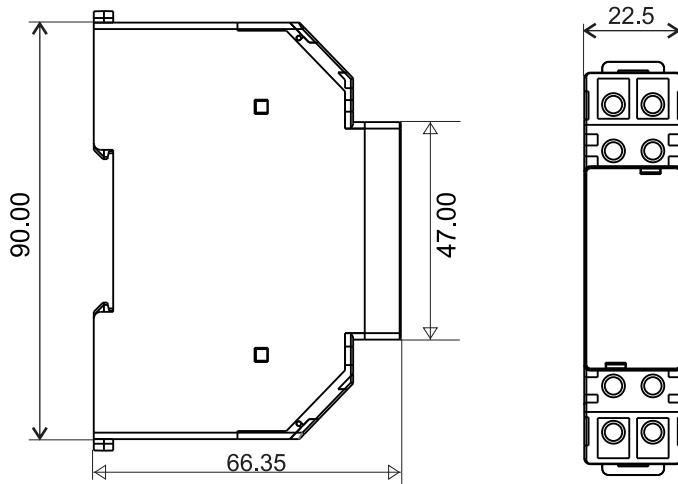
**Delay Time :**

Trip Delay: 15/10/5/0 Sec Selectable  
 Power ON Delay: 15/10/5/0 Sec Selectable  
 PS,PL: ≤200ms  
 Asymmetry: 5 Sec.

**LED Indication:**

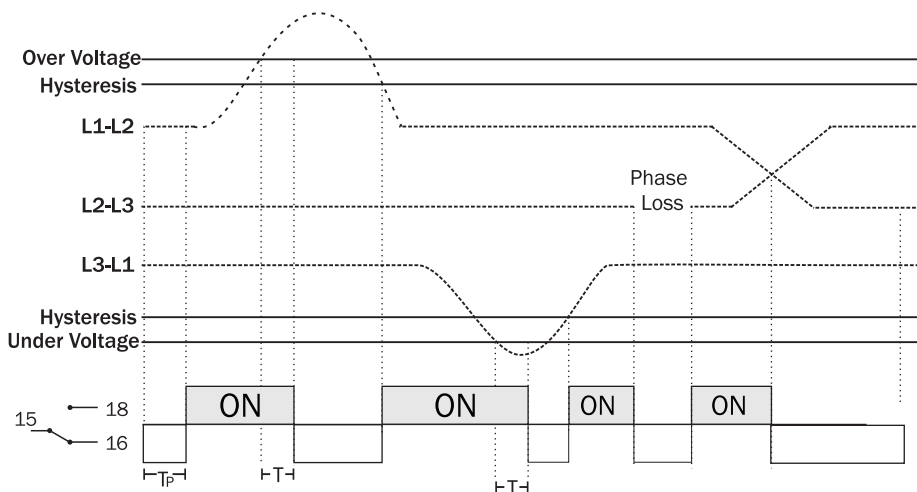
RED: PL  
 Blinking Red: PA  
 Yellow: PS  
 OFF: Healthy

## Dimension



**NOTE:**  
 All dimension are in mm.

## Control Function



**Phase Loss** < 280V AC (L-L)  
**Phase Asymmetry** 40V AC (L-L)  
**Hysteresis** 6 V

**T<sub>P</sub>** = Power ON Delay (5 sec)  
**T** = Trip Delay (5 sec)

# SAFETY PRECAUTION

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If all the equipment is not handled in a manner specified by the manufacturer, it might impair the protection provided by the equipment.



Read complete instructions prior to installation and operation of the unit.



**WARNING** : Risk of electric shock.

## WARNING GUIDELINES



**WARNING** : Risk of electric shock.

1. To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
2. To reduce electro magnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
3. Cable used for connection to power source, must have a cross section of 1mm or greater. These wires should have insulations capacity made of at least 1.5kV.
4. A better anti-noise effect can be expected by using standard power supply cable for the instrument.

## INSTALLATION GUIDELINES

1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the product or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between power source and supply terminal to facilitate power 'ON' or 'OFF' function. However this mains switch or circuit breaker must be installed at convenient place normally accessible to the operator.
4. Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.

## MECHANICAL INSTALLATION GUIDELINES

- 1) To install the instrument on a DIN rail, raise the clamp at the back of the instrument and place it on the rail. Now release the clamp, so the instrument fits on the DIN rail.
- 2) Ensure proper fitting of the instrument by pulling it outwards.
- 3) To remove the instrument raise the clamp to release it from the DIN rail.
- 4) The equipment in its installed state must not come in close proximity to any heating source, caustic vapors, oil steam, or other unwanted process byproducts.
- 5) Do not connect anything to unused terminals.

We reserves the right to change specifications without prior notice. Printing and typographical errors reserved.

Product improvement and upgrade is a constant procedure. For more information contact Mimic components (0)11-689-5700