

## VOLTAGE PROTECTION RELAY

MULTISPAN

VPR-126-2R



### TECHNICAL SPECIFICATION

#### FEATURES :

Protection Available

- Over Voltage
- Under Voltage
- Over Frequency
- Under Frequency
- Asymmetry
- Phase Loss
- Phase Sequence

3 digit bright LED display, Auto/ Manual/ ZVR Reset Option

Network Selection 3Ø-3W/3Ø-4W/1Ø-2W

Time parameter: Power on delay, Trip delay  
Recovery time ( Auto Reset )

#### INPUT SPECIFICATION :

Direct Voltage AC	50 to 300V AC (L - N) 3Ø-4W/1Ø-2W 85 to 520V AC (L - L) 3Ø-3W
Frequency	45.0 Hz to 65.0 Hz
Resolution	1 Volt
Accuracy	Class 1.0

#### DISPLAY AND KEY :

Display	3 digit, 1line, 7 seg, 0.4" RED LED
Keys	SET, INC, DEC/RST

#### GENERAL SPECIFICATION :

Dimension (mm)	75 (H) x 45 (W) x 110 (D) mm
Trip Setting	Under Voltage : 85-520V AC 3Ø-3W 50-300V AC 3Ø-4W/1Ø-2W Over Voltage : 85-550V AC 3Ø-3W 50-330V AC 3Ø4W/1Ø2W Under Frequency : 45.0 Hz To 65.0 Hz Over Frequency : 45.0 Hz To 65.0 Hz Phase Asymmetry : 2-30%
Time Parameter	Power ON Delay Time : 0 To 99 Sec. Trip delay Time : 0 To 999 Sec. Recovery Time : 0 To 99 Sec.

#### ACCURACY

Class 1.0 (Standard)

#### OUTPUT SPECIFICATION :

Relay	2 nos.
Relay Type	1 C/O (NO-C-NC)
Rating	1 <sup>st</sup> Relay 10A, 230V AC 2 <sup>nd</sup> Relay 5A, 230V AC

#### AUXILIARY SUPPLY :

Supply voltage	100 to 270V AC, 50-60Hz
Power consumption (VA RATING)	3 VA @ 230V AC MAX

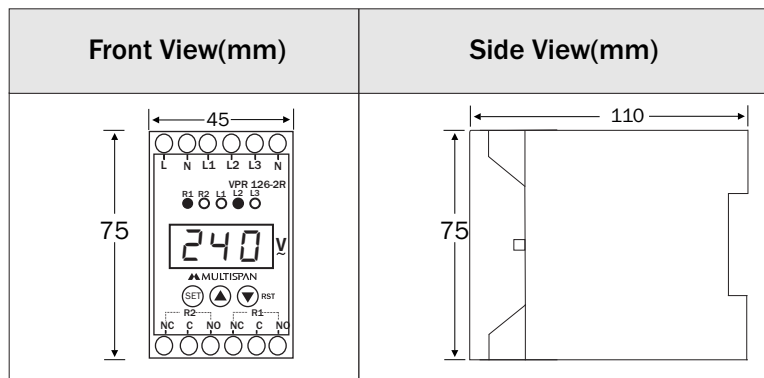
#### ENVIRONMENT CONDITION :

Operating Temp.	0 °C to 55 °C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

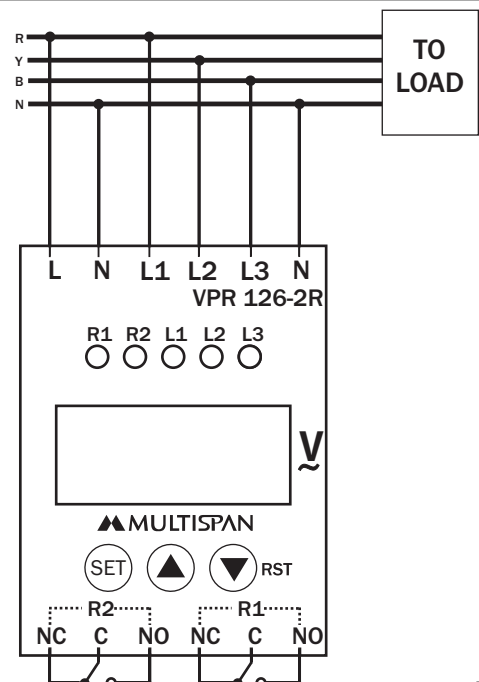
#### NETWORK CONNECTION :

3Ø-3W/3Ø-4W/1Ø-2W










### MECHANICAL INSTALLATION



### TERMINAL CONNECTION



## KEY OPERATION

FUNCTION	PRESS KEY
<b>OPERATOR MODE</b>	
To enter in parameter setting	 For 5 sec
To view individual phase voltage	 OR 
To Scroll & Hold Page	 + 
To reset the relay contact in manual mode after tripping	 RST
<b>PARAMETER SETTING MODE</b>	
It is used to set parameter value and to be save & exit from menu	
To increment value in parameter setting	
To decrement value in parameter setting	 RST

## DISPLAY PAGE

3Ø-4W	3Ø-3W	1Ø-2W
<p>1) Voltage L1-N</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>240</p>	<p>1) Voltage L1-L2</p> <p>R1 R2 L1 L2 L3 ● ● ● ● ○ ○</p> <p>415</p>	<p>1) Voltage L1-N</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>240</p>
<p>2) Voltage L2-N</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>330</p>	<p>2) Voltage L2-L3</p> <p>R1 R2 L1 L2 L3 ● ● ● ● ● ○</p> <p>400</p>	<p>2) Frequency</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>50.0</p>
<p>3) Voltage L3-N</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>250</p>	<p>3) Voltage L3-L1</p> <p>R1 R2 L1 L2 L3 ● ● ● ● ● ○</p> <p>430</p>	
<p>4) Frequency</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>50.0</p>	<p>4) Frequency</p> <p>R1 R2 L1 L2 L3 ● ● ● ○ ○ ○</p> <p>50.0</p>	

## MECHANICAL INSTALLATION

- 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.
- Ensure proper fitting of the instrument by pulling it outwards.
- To remove the instrument raise the clamp to release it from the DIN rail.
- 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.
- Do not connect anything to unused terminals.

## MAINTENANCE

- The equipment should be cleaned regularly to avoid blockage of ventilating parts.
- Clean the equipment with a clean soft cloth. Do not use isopropyl alcohol or any other cleaning agent.
- Fusible resistor must not be replaced by operator.

## INSTALLATION GUIDELINES

- 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.
- 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.
- Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.



## 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.

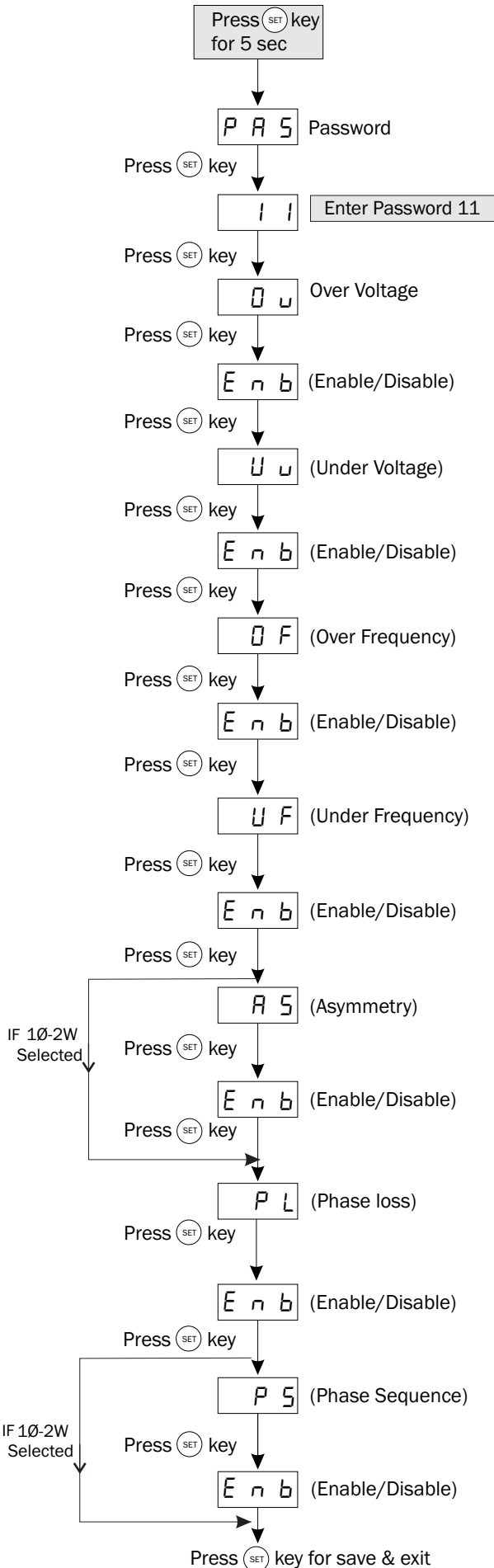
## WARNING GUIDELINES



**WARNING** : Risk of electric shock.

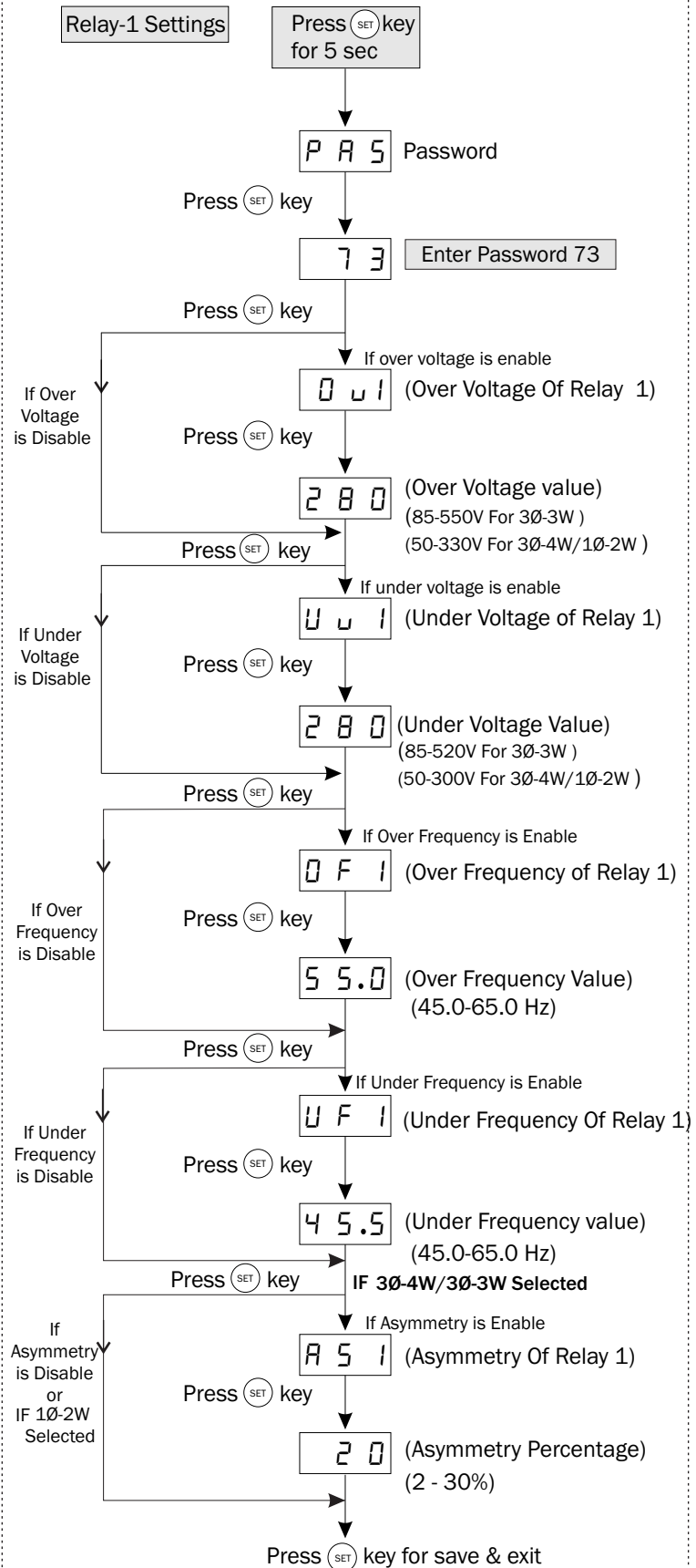
- To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
- To reduce electro magnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
- 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.
- A better anti-noise effect can be expected by using standard power supply cable for the instrument.

# PARAMETER SETTING

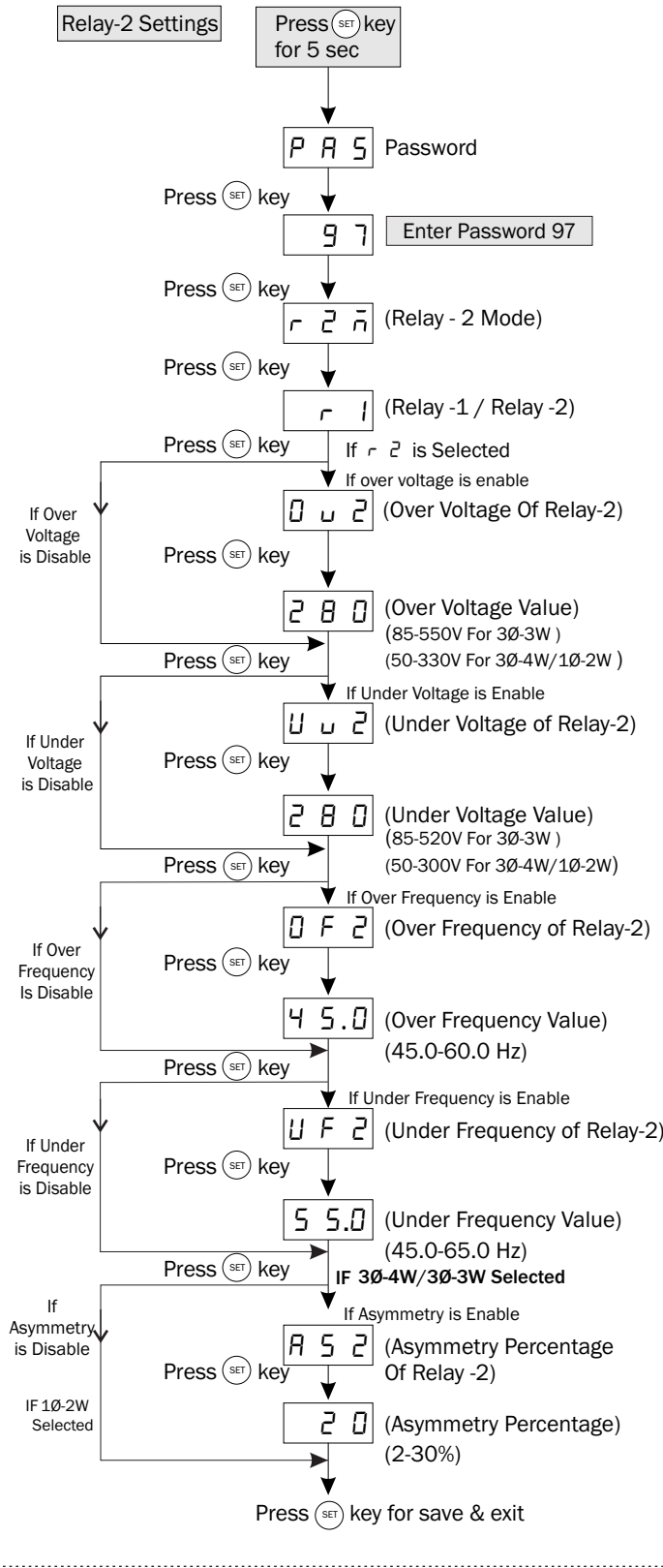


**Password 11** : To Enable / Disable parameter (Over Voltage, Under Voltage, over Frequency, Under Frequency, Asymmetry, Phase loss, Phase sequence)

**Password 37** : To set Power on delay time, Trip delay Time, Relay Fault Mode.

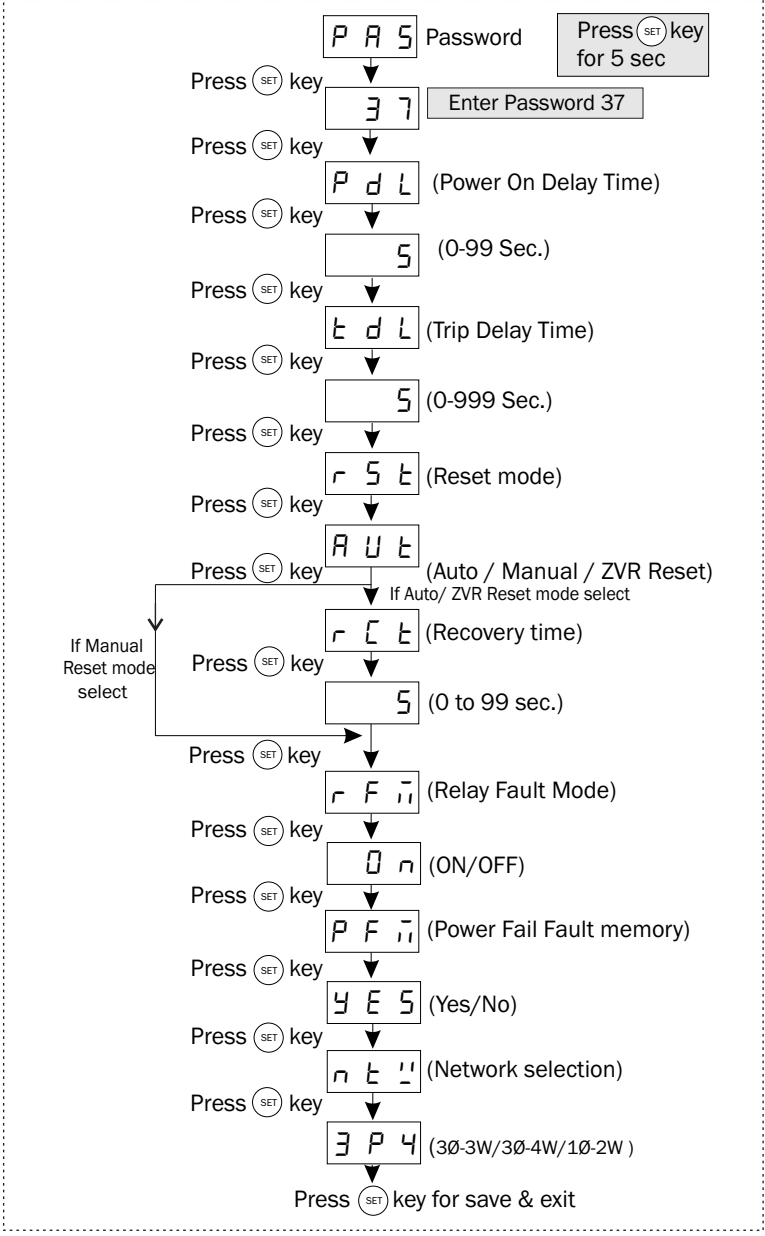


**Password 73 : Relay 1 Settings**  
**Password 97 : Relay 2 Settings**  
 ( Relay -1 & Relay -2 Settings : To Set Trip Value Of Over Voltage, Under Voltage, Over Frequency, Under Frequency, Asymmetry Percentage )



**NOTE :-**

- If R2M ( Relay-2 mode ) is selected as R1 ( Relay-1 ), all the setting done for Relay-1 will be automatically set for Relay-2.
- If Reset Mode Selected As ZVR ( Zero Value Reset ), then the Relay will be reset after Selected Reset time once the healthy condition achieved OR Zero Value reached.



**FAULT MESSAGE**

R1 R2 L1 L2 L3 O ● O O O	← Scroll →	R1 R2 L1 L2 L3 O ● O O O	Over Voltage in VL1L2(3Ø-3W) or VL1(3Ø-4W) Over Voltage Value=400V
R1 R2 L1 L2 L3 O ● O ● O	← Scroll →	R1 R2 L1 L2 L3 O ● O ● O	Under Voltage in VL2L3(3Ø-3W) or VL2(3Ø-4W) Under Voltage Value=320V
R1 R2 L1 L2 L3 O ● O O O	← Scroll →	R1 R2 L1 L2 L3 O ● O O O	Over Frequency Fault Over Frequency Value=52.0 Hz
R1 R2 L1 L2 L3 O ● O O O	← Scroll →	R1 R2 L1 L2 L3 O ● O O O	Under Frequency Fault Under Frequency Value=49.5 Hz
R1 R2 L1 L2 L3 O ● O ● O	← Scroll →	R1 R2 L1 L2 L3 O ● O ● O	Asymmetry Voltage between y & B Phase Asymmetry Percentage = 20 %
R1 R2 L1 L2 L3 O ● O O O			L1 - Phase loss
R1 R2 L1 L2 L3 O ● O O O			Phase sequence Fault

Note : LED Status- ● blinking LED ● LED on ○ LED off

Specifications are subject to change, since development is a continuous process, So for more updated operating information and Support, Please contact our Helpline: 9978991474/76/82 or Email at [service@multispanindia.com](mailto:service@multispanindia.com) Ver:191201