



FEATURES

- User Selectable Trip Time
- Auto/Manual Reset Function
- True RMS Measurement

Protection Available

- Over/Under Voltage
- Over/Under Current
- Over/Under Frequency
- Single Phase Prevention
- Short Circuit
- Unbalance
- Phase Loss
- Lock Rotor Point
- Phase Sequence
- Neutral Loss

TECHNICAL SPECIFICATION

INPUT:

Voltage AC	
Direct Voltage AC	30 to 300V(L - N) 50 to 500V(L - L)
Burden	< 0.2VA
Current AC	
Primary CT Ratio	5 to 6000 Amp selectable
Secondary Current AC	60mA to 5 Amp
Burden	< 0.2VA
Overload	Up to 6A continuous
Frequency	45.0 to 65.0 Hz

DISPLAY AND KEYS:

Display	3 Digit, 3 Line 7 Seg 0.56", RED LED
Keys	SET, INC, DEC, ACK

DIMENSION:

Size (mm)	96 (H) X 96 (W) X 52 (D) mm
Panel Cutout (mm)	92 (H) X 92 (W) mm

NETWORK SELECTION:

3 Phase - 4 Wire, 3 Phase - 3 Wire

ACCURACY

Class 1.0 (Standard)

TRIP SETTING:

Under Current	0.00 to CTR
Over Current	0.00 to CTR
Under Voltage	50 to 520V For 3Ø - 3W 30 to 300V For 3Ø - 4W
Over Voltage	50 to 550V For 3Ø - 3W 30 to 330V For 3Ø - 4W
Over / Under Frequency	45.0 to 65.0 Hz
Short Circuit	1 - 9 Scale
Lock Rotor Point	0.5 to 9.0 Scale
Unbalance	5 - 60%

TIME PARAMETER:

Power On Delay	0 to 99 Sec
Initial Time Delay	0 to 99 Sec
Trip Delay Time (Voltage, Current, Frequency, SSP, Unbalance)	0 to 999 Sec
Scrolling Time	1 to 99 Sec
Reset Time	0 to 99 Sec

OUTPUT SPECIFICATION:

Relay	2 Nos
Relay Type	1 st Relay (NO - C - NC) 2 nd Relay (NO - C)
Rating	1 st Relay 10Amp, 250V AC 2 nd Relay 5 Amp, 250V AC

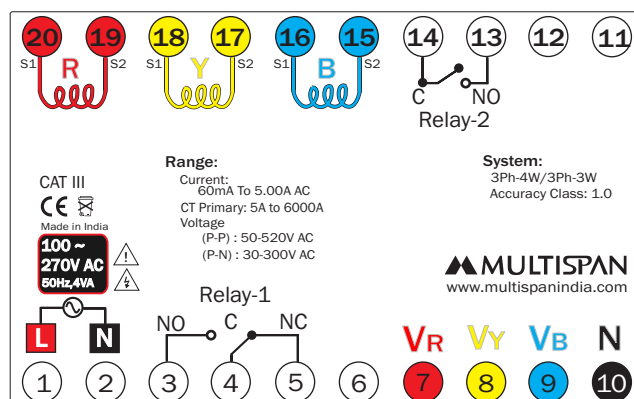
AUXILIARY SUPPLY:

Supply Voltage	100 to 270V AC, 50Hz
Power Consumption	4VA @ 230 AC MAX

ENVIRONMENTAL CONDITION:

Working Temperature	0 to 55 °C
Storage Temperature	0 to 55 °C
Relative Humidity	95 % RH Non-Condensing
Protection Level (As Per request)	IP-65 (Front side As per IS/IEC 60529 : 2001)

TERMINAL CONNECTION

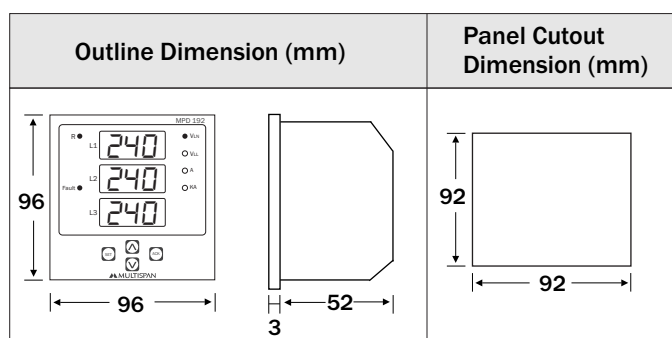


Key Operation

Operator Mode

To View Individual Parameters Value	 OR 
To Enter In Parameter Setting Mode	
To View The Voltage Page While Display Indicate fault	
To View The Current Page While Display Indicate fault	
To Reset The Relay Contact manually after Tripping	
Parameter Setting Mode	
Edited Parameter Value to be Set, And Move to the Next Step	
To Increment Parameter Value	
To Decrement Parameter Value	

MECHANICAL INSTALLATION



1. Prepare the panel cutout with proper dimensions as shown above.
2. Fit the unit into the panel with the help of clamp given.
3. 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.
4. Use the specified size of crimp terminal (M3.5 screws) to wire the terminal block. Tightening the screws on the terminal block using the tightening torque of the range of 1.2 N.m.
5. Do not connect anything to unused terminals.

MAINTENANCE

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

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.



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.

FAULT MESSAGE

Under Current fault Message

1) Unc in R Phase

r	→ Fault in R phase
U n C	→ Under Current
2.87	→ R phase Current Value

2) Unc in Y Phase

y
U n C
2.72

3) Unc in B Phase

b
U n C
2.63

4) Unc in RY Phase

r y
U n C
2.70

5) Unc in YB Phase

y b
U n C
2.60

6) Unc in RB Phase

r b
U n C
2.55

7) Unc in RYB Phase

r y b
U n C
2.55

Frequency Fault Message

Over Frequency Fault Message

O u F	→ Over frequency
52.6	→ Frequency Value

Under Frequency Fault Message

U n F	→ Under frequency
48.6	→ Frequency Value

Unbalance Fault Message

1) Unb in R Phase

r b	→ Fault Between R & B Phase
U n b	→ Unbalance
55	→ Unbalance Percentage Between R & B Phase

2) Unb in Y Phase

r y
U n b
59

3) Unb in B Phase

y b
U n b
57

4) Unb in RYB Phase

r y b
U n b
55

Phase Sequence Message

P H A	→ Phase
S E Q	→ Sequence
F L t	→ Fault

Phase Loss Message

1) R Phase loss

r	→ R
P H A	→ Phase
L O S	→ Loss

2) Y Phase loss

y
P H A
L O S

3) B Phase loss

b
P H A
L O S

Single Phase Prevention Fault

1) SPP in R Phase

r	→ R Phase Fault
S P P	→ Single Phase Prevention
100	→ R - Phase Voltage Value

2) SPP in Y Phase

y
S P P
105

3) SPP in B Phase

b
S P P
110

SPP Fault Due to Phase Loss

1) SPP in R Phase

S P P	→ Single Phase Prevention
r	→ R Phase
L O S	→ Loss

2) SPP in Y Phase

S P P
y
L O S

3) SPP in B Phase

S P P
b
L O S

Lock Rotor Point

1) LRP in R Phase

r	→ R Phase Fault
L r P	→ Lock Rotor Point
5.00	→ Phase Current Value

2) LRP in Y Phase

y
L r P
5.00

3) LRP in B Phase

b
L r P
5.00

Neutral Loss Message

S P P
r
158

NOTE : Neutral loss Protection available Only,
In Case Of SPP Enable

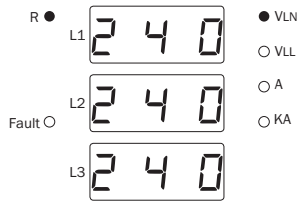
DISPLAY PAGES

3Ø - 4W NETWORK CONNECTION

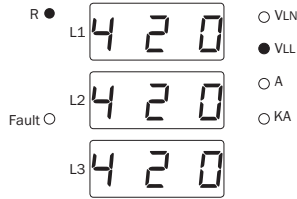
3Ø - 3 W NETWORK CONNECTION

3Ø - 3W / 3 - 4W NETWORK CONNECTION

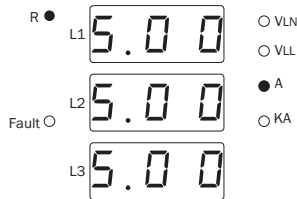
1) VLN Page



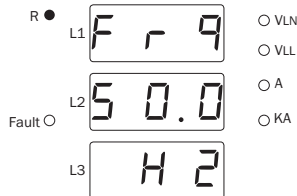
2) VLL Page



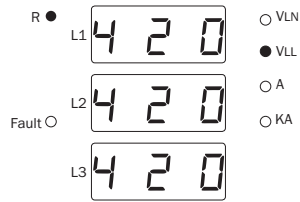
3) Amp Page



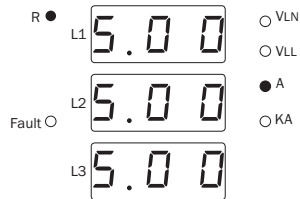
4) Frequency Page



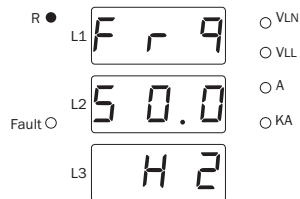
1) VLL Page



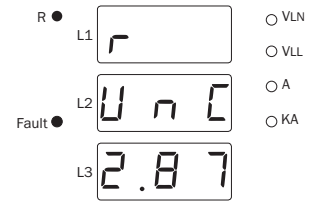
2) Amp Page



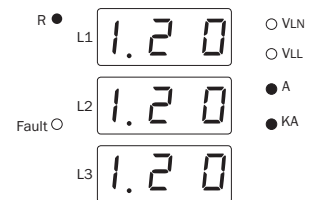
3) Frequency Page



1) Fault Message

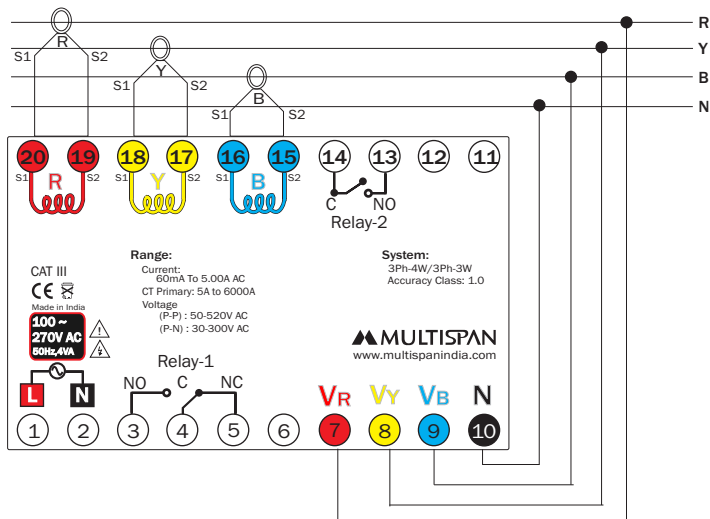


2) KA Page

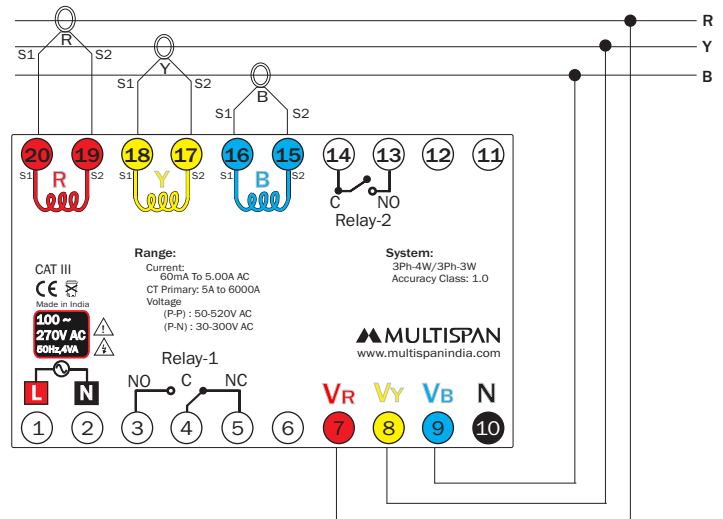


WIRING CONNECTION

1) 3 Phase - 4 Wire



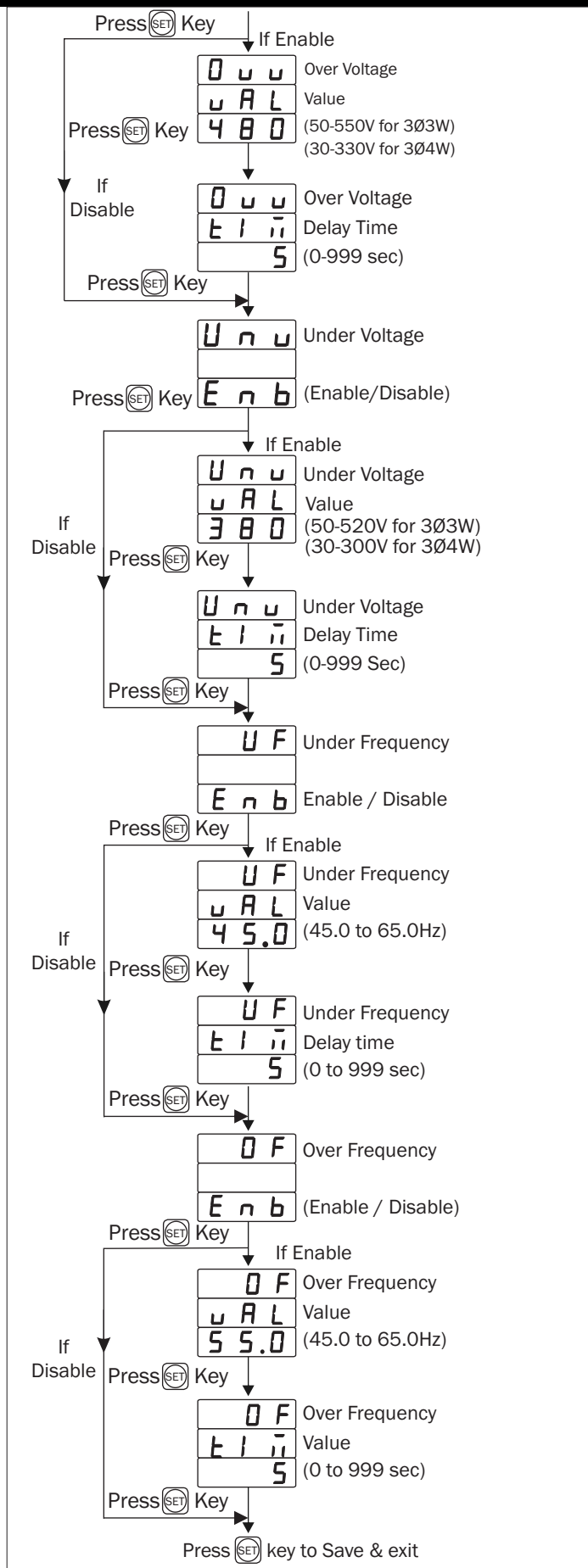
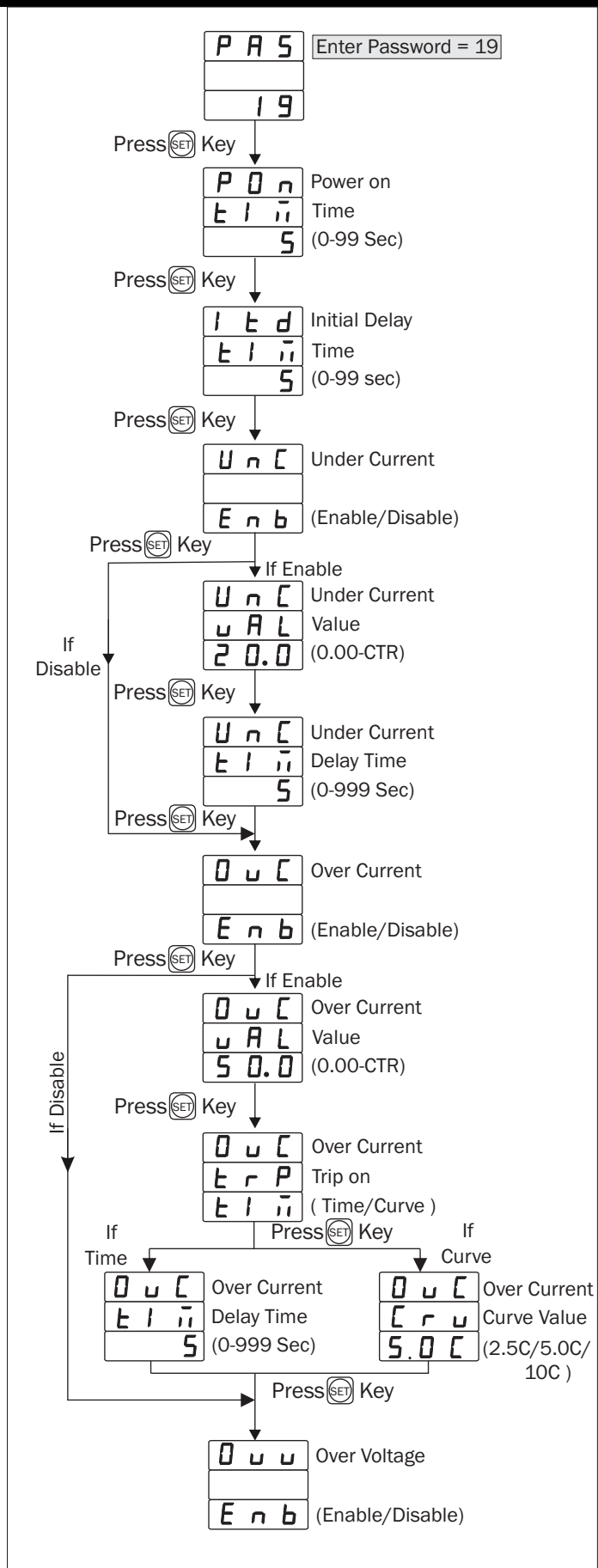
2) 3 Phase - 3 Wire

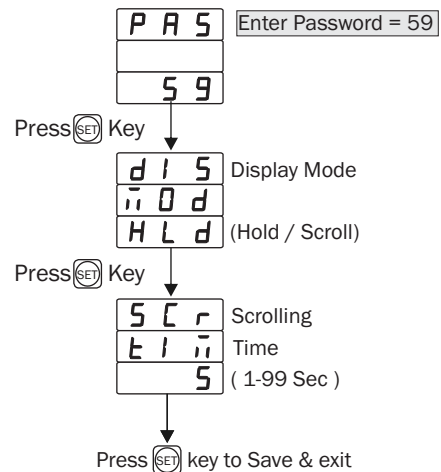
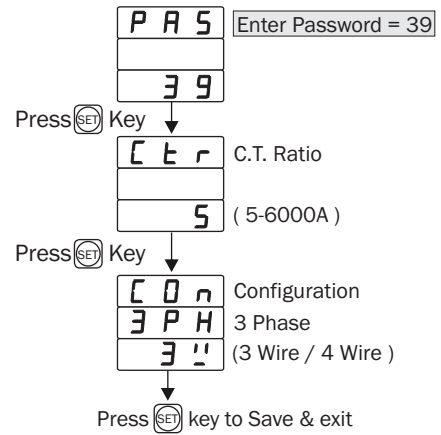
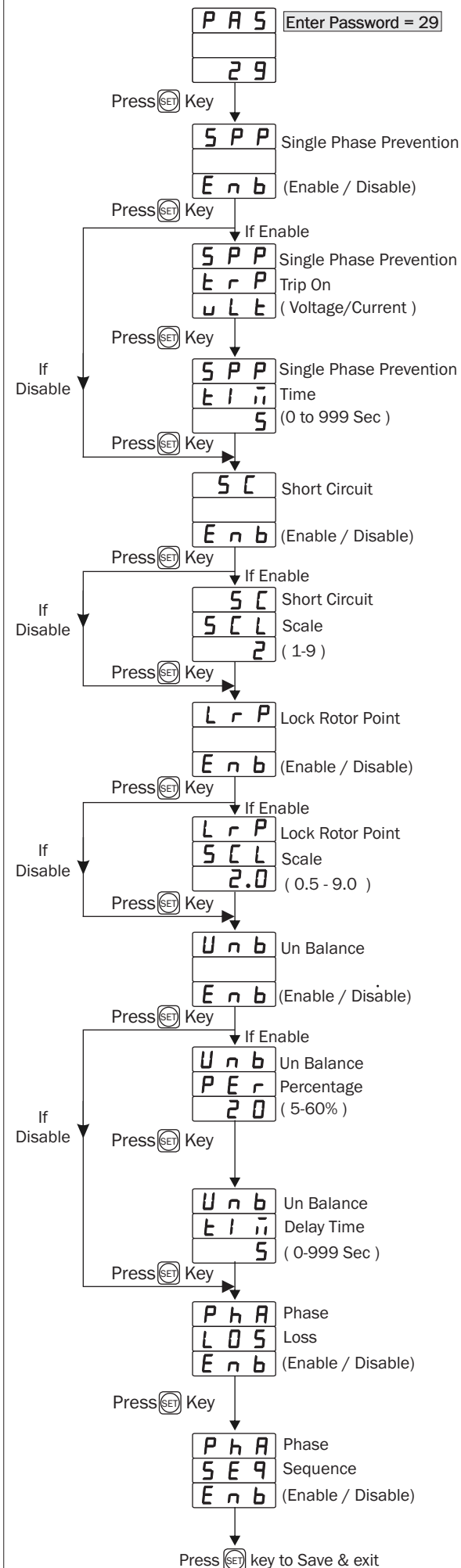


Password = 19 » Power On Time & ITD Time Selection » Under Current, Over Current, Under Voltage, Over Voltage, Under Frequency, Over Frequency
Password = 29 » Single Phase Prevention (SPP) Short Circuit, Lock Rotor Point, Unbalance Current, Phase Sequence, Phase Loss

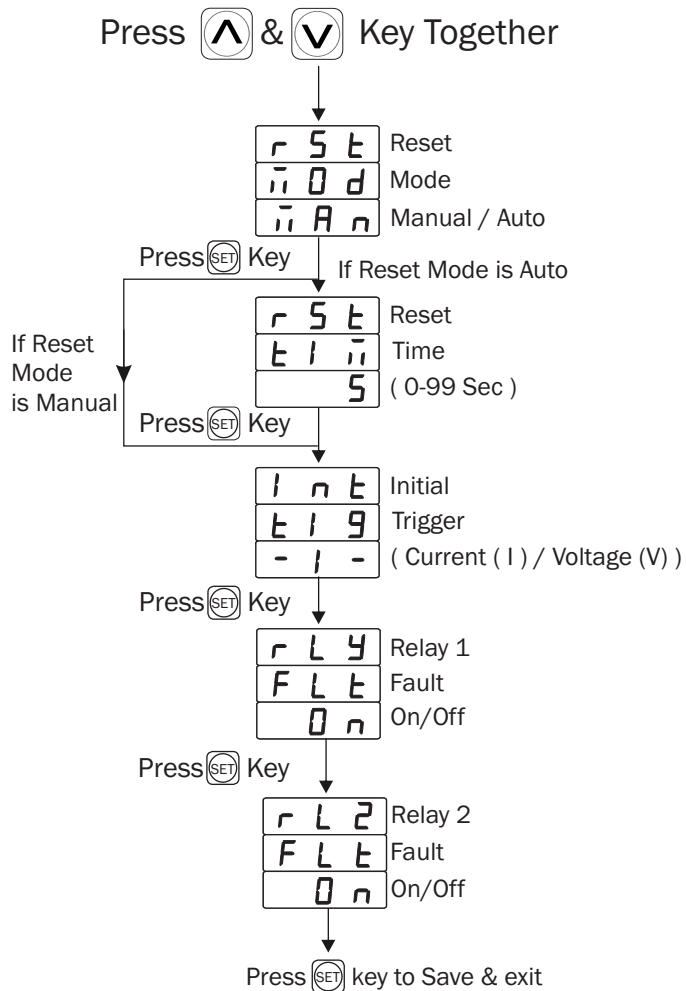
Password = 39 » Network Selection & CT Ratio Selection
Password = 59 » Display Mode Selection (Hold / Scroll)
Press (▲) & (▼) Key Together » Reset mode , Initial Trigger, Relay Fault mode selection.
Long Press (SET) Key to enter into Password

PARAMETER SETTING





PARAMETER SETTING



NOTES

Reset Mode:

- 1) If Reset Mode Selected is Manual, then the Fault will Reset Manually by pressing the Reset key on the instrument.
- 2) If Reset Mode Selected is Auto, then the Relay will be reset after Selected Reset time once the healthy condition achieved.

Initial Trigger:

- 1) If Initial trigger mode "I" is selected then Relay will start working once current is applied.
- 2) If Initial trigger mode "V" is selected then Relay will start working once Voltage is applied.

Relay Fault:

- 1) If Relay fault selected is "off" then Relay will turn "off" when fault is achieved, otherwise Relay will remain turn "on".
- 2) If Relay fault selected is "on" then Relay will turn "on" when fault is achieved, otherwise Relay will remain turn "off".

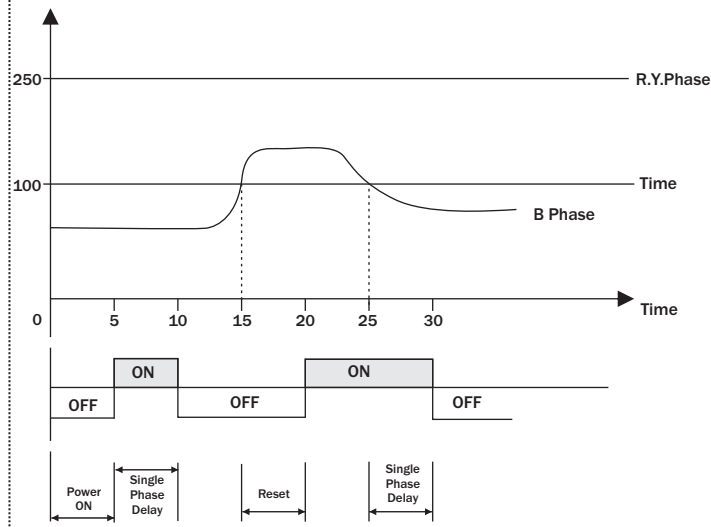
CONTROL FUNCTION

Single Phase Prevention (SPP)

(For Voltage)

Power On:- 5 Sec
Initial Time Delay:- 5 Sec
SPP:- Enable

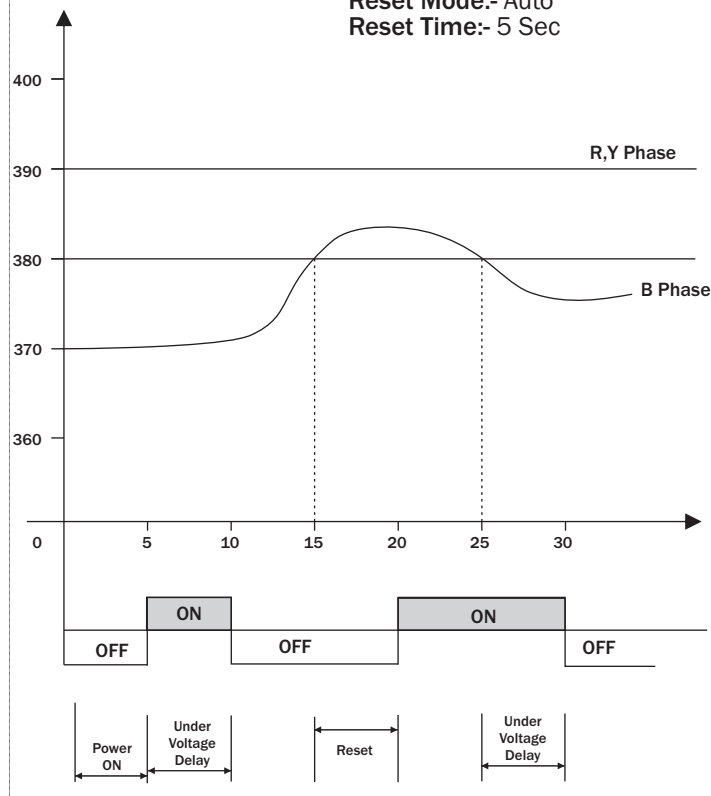
SPP Time:- 5 Sec
Reset Time:- 5 Sec
Reset Fault:- OFF
Fault Reset mode:- Auto



Under Voltage

Power On:- 5 Sec
Initial Time Delay:- 5 Sec
Under Voltage:- Enable

Under Voltage:- 380V
Under Voltage time:- 5 Sec
Relay Fault:- OFF
Reset Mode:- Auto
Reset Time:- 5 Sec

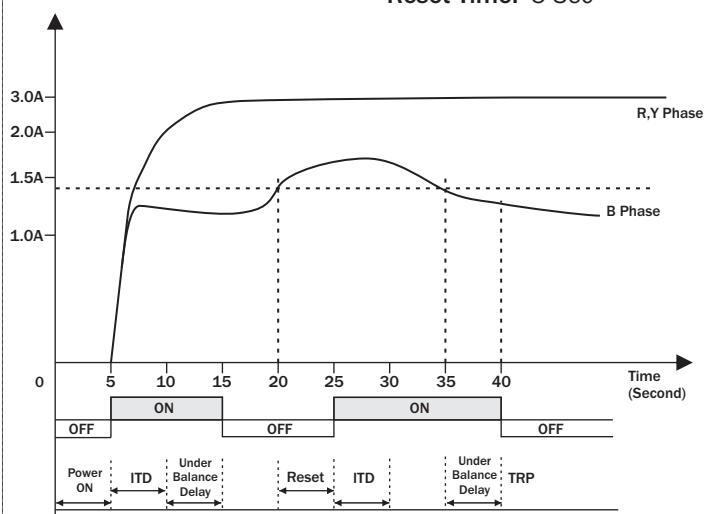


CONTROL FUNCTION

Unbalance

Power On:- 5 Sec
Initial Time Delay:- 5 Sec
Unbalance:- Enable

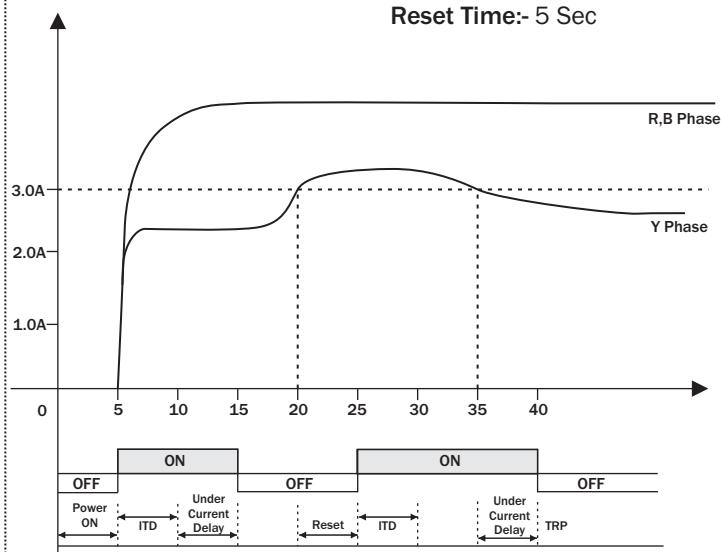
Unbalance Percentage:- 50%
Unbalance Time:- 5 Sec
Relay Fault:- OFF
Reset Mode:- Auto
Reset Time:- 5 Sec



Under Current

Power On:- 5 Sec
Initial Time Delay:- 5 Sec
Under Current:- Enable

Under Current:- 3.0A
Under Current time:- 5 Sec
Relay Fault:- OFF
Reset Mode:- Auto
Reset Time:- 5 Sec

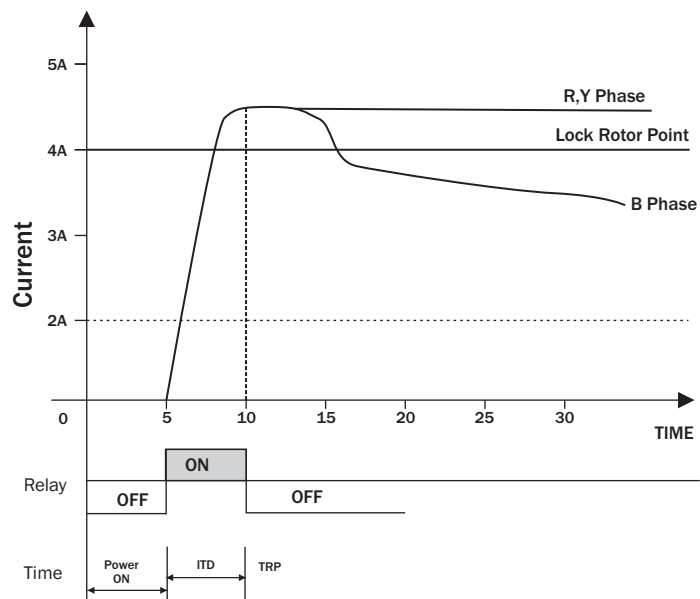


Lock Rotor Point

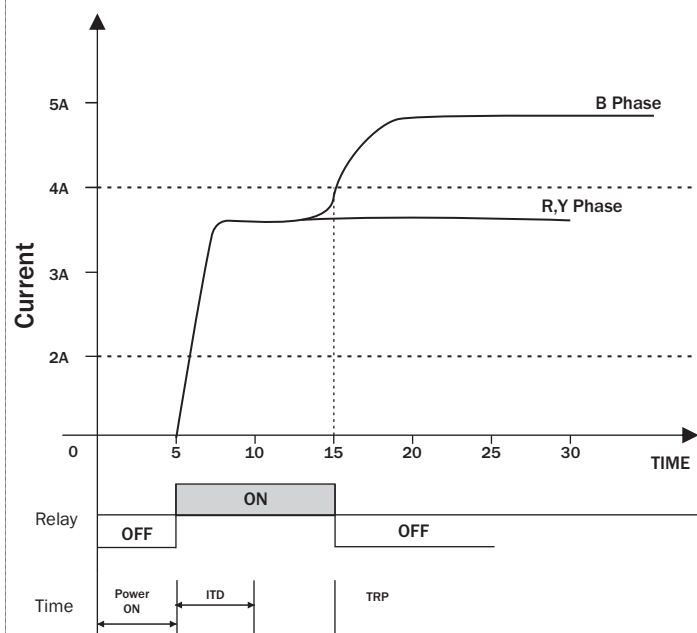
Power On:- 5 Sec
Initial Time Delay:- 5 Sec
Lock Rotor Point:- Enable
Over Current:- Disable

Lock Rotor Point:- 2.0
Over Current Value:- 2.0A
Relay Fault:- OFF
Reset Mode:- Auto
Reset Time:- 5 Sec

Case-1



Case-2



Specifications are subject to change, since development is a continuous process,
So for more updated operating information and Support,
Please contact our Helpline: 9081078683/9081078681 or
Email at service@multispanindia.com Ver:201101