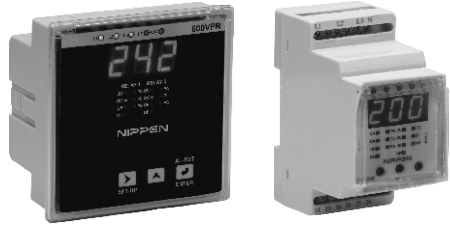


NIPPEN
driven by values

VOLTAGE PROTECTION RELAY 600VPR/300VPR



FEATURES

- Under voltage, Over voltage, Under Frequency,
- Over Frequency, Asymmetry, phase failure, and
- phase sequence
- RMS Measurement
- Separate Power ON delay, Trip time delay
- Recovery time delay for each fault
- Adjustable switching Hysteresis for each fault
- Two separate alarm relays operation
- Auto/Manual Reset

SPECIFICATIONS

DISPLAY: 3Digits, 7 segments LED display

ELECTRICAL CONNECTION: 1-2wire, 3-3wire, 3-4wire

AUXILIARY SUPPLY: Self-Powered / Auxillary Powered (Optional)

OPERATING RANGE: 280-520V AC(L-L) 160-280V AC(L-N)

FREQUENCY RANGE: 45-65Hz

VA RATING: 45VA max For self powered & 15 VA for Aux. Powered

TRIP SETTING

Under Voltage: 280 to 520V AC(L -L)[for 3-3W]
160 to 280V AC(L-N)[for3-4W]

Over Voltage: 280 to 520V AC(L -L)[for 3-3W]
160 to 280V AC(L-N)[for3-4W]

Under/Over Frequency: 45/65Hz

Phase Asymmetry: 0-999

Phase failure: Yes

Phase Sequence: Yes

TIME SETTINGS

Power ON Delay: 0-999sec

Trip Time Delay: 0-999sec

Recovery Time Delay: 0-999sec

Response Time:<100ms

HYSTERESIS

Voltage: 00.0-99.9%

Frequency: 0.2-5Hz

Asymmetry: 2-20%

RESOLUTION

Voltage: 1V

Frequency: 0.1Hz

ACCURACY

Voltage: 1% of set value

Frequency: 0.3Hz

Time: 5%of setting 100ms

OUTPUT SPECIFICATIONS

2 Relays: Relay1: 1C/O (SPDT)

Relay2 : 1C/O (SPDT)

RELAY RATING

NO (5A,250V AC /30V DC)

NC (3A,250V AC/30V DC)

LED INDICATION

Parameter: L1,L2,L3,HZ,ASY%

Fault Condn: UV,OV,UF,OF,PL,PSeq,PAsy.

ENVIRONMENTAL SPECIFICATIONS

- Indoor use
- Altitude of up to 2000 meters
- Pollution degree II

Temperature: Operating: 0° to 55°C

Storage: -20° to 70°C

Humidity: Up to 95% RH, non-condensing

MECHANICAL SPECIFICATIONS

No.of Push buttons: 3

Size: 45mm width(DIN)/54mm depth (Panel)

Mounting: DIN rail & Panel Mount

Wire Size(max): 4 sq.mm

Screw tightening torque: 0.5 N-M

WEIGHT

600VPR: 154gms

300VPR: 144gms

SAFETY PRECAUTIONS

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 the equipments is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If the reispysical damage to the unit then do not use it. Read complete instructions prior to installation and operation of the unit.

WIRING GUIDE LINES

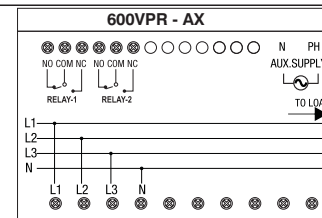
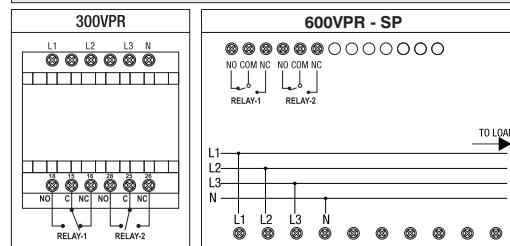
WARNING

1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
2. Wirings hallbe done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

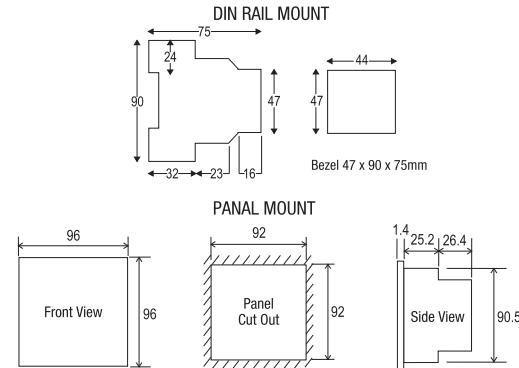
CAUTION

To ensure the safety opreation of unit, check the wiring and connections.

TERMINAL CONNECTIONS



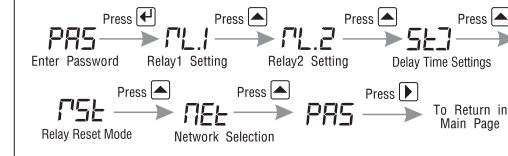
MECHANICAL INSTALLATION



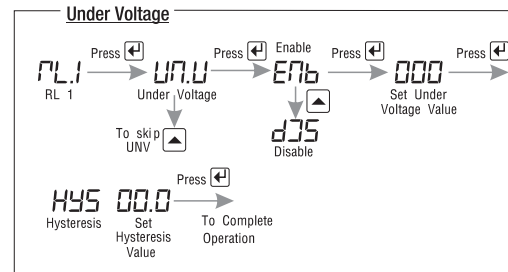
CONFIGURATION MENU

Press for 5sec to enter or exit configuration menu

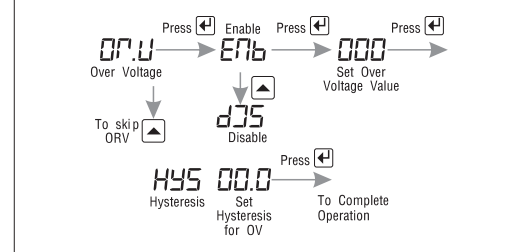
MAIN MENU



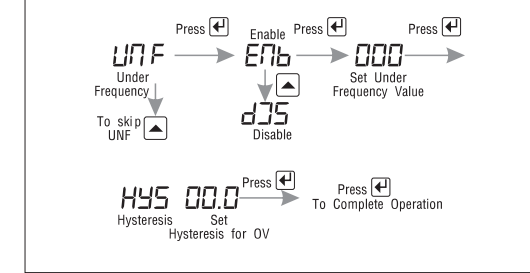
RELAY 1 SETTING



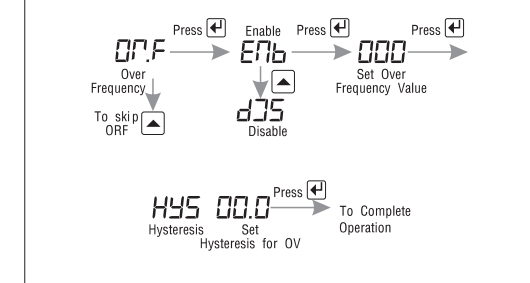
Over Voltage



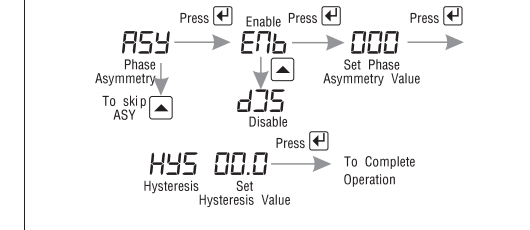
Under Frequency



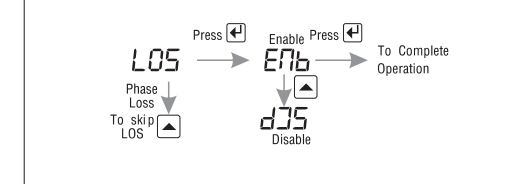
Over Frequency



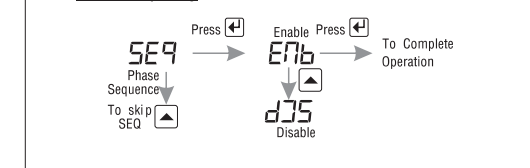
Phase Asymmetry



Phase Loss

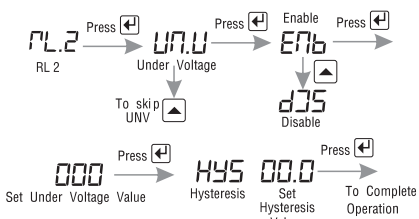


Phase Sequence

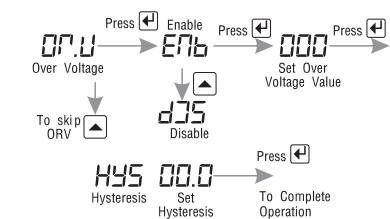


RELAY 2 SETTING

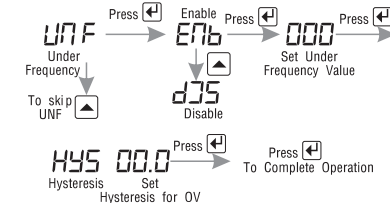
Under Voltage



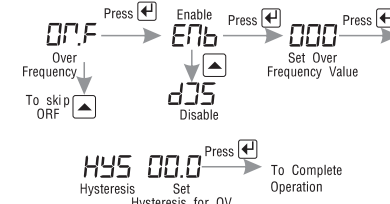
Over Voltage



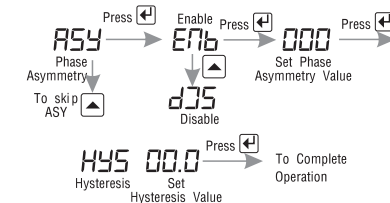
Under Frequency



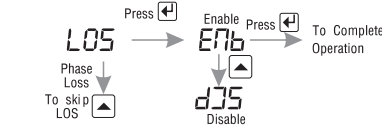
Over Frequency



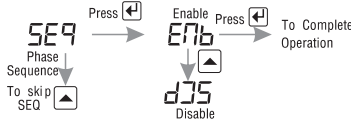
Phase Asymmetry



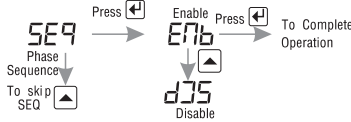
Phase Loss



Phase Sequence



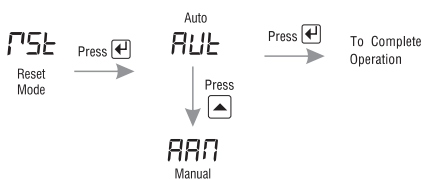
Phase Sequence



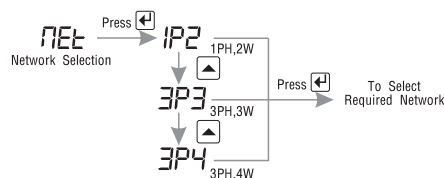
DELAY TIME SETTINGS



RESET MODE SELECTION



NETWORK SELECTION



PASSWORD SETTING



Relay 1(RLY1) Setting

Press to enter Sub Menu from Main Menu.

Press to scroll through Sub menu		Press to move forward & press to change parameter value		
Display	Description	Default Value	Range	Condition
UNV	Under Voltage	ENb	Enable/Disable	If user choose disable option, then under voltage function will not work.
000	Set under voltage	190	280-520V AC(L-L) (for 3P-3W) 160-280V AC(L-N) (for 3P-4W)	This option will be prompted only when UNV option is made ENABLE
HYS	Set Hysteresis for UV	05.0	0-99.9%	
OVV	Over voltage	ENb	Enable/Disable	
000	Over voltage setting	260	260-520V AC(for 3P-3W) 160-280V AC(for 3P-4W)	If user choose disable option then over voltage function will not wok.
HYS	Set hysteresis for OV	05.0	0-99.9%	This option will be prompted only when Orv option is made ENABLE
UNF	Under Frequency	ENb	Enable/Disable	
000	Under frequency setting	45.0	45.0-65.0 HZ	If user choose disable option then under frequency function will not work.
HYS	Set hysteresis for UF	05.0	0.99.9%	This option will be prompted only when UNF option is made ENABLE.
ORF	Over frequency	ENb	Enable/Disable	
000	Over frequency setting	55.0	45.0-65.0 HZ	If user choose disable option then over frequency function will not work.
HYS	Set hysteresis for OF	05.0	0-99.9%	This option will be prompted only when ORF option is made ENABLE
ASY	Asymmetry	ENb	Enable/Disable	If user choose disable option then asymmetry function will not work.
000	Asymmetry setting	005	0-999 sec	This option will be prompted only when Asy option is made ENABLE.
HYS	Set Hysteresis for Asymmetry	05.0	0-99.9%	
LOS	Phase Loss	ENb	Enable/Disable	If user choose disable option then phase loss function will not work.
SEQ	Phase sequence setting	ENb	Enable/Disable	If user choose disable option then phase sequence function will not work.

Relay 2(RLY2) Setting

Press 5 sec to enter Sub Menu from Main Menu.

Press to scroll through Sub menu		Press to move forward & press to change parameter value		
Display	Description	Default Value	Range	Condition
UNV	Under Voltage	ENb	Enable/Disable	If user choose disable option, then under voltage function will not work.
000	Set under voltage	190	280-520V AC(L-L) (for 3P-3W) 160-280V AC(L-N) (for 3P-4W)	This option will be prompted only when UNV option is made ENABLE
HYS	Set Hysteresis for UV	05.0	0-99.9%	
OVV	Over voltage	ENb	Enable/Disable	If user choose disable option then over voltage function will not wok.
000	Over voltage setting	260	260-520V AC(for 3P-3W) 160-280V AC(for 3P-4W)	This option will be prompted only when Orv option is made ENABLE
HYS	Set hysteresis for OV	05.0	0-99.9%	
UNF	Under Frequency	ENb	Enable/Disable	If user choose disable option then under frequency function will not work.
000	Under frequency setting	45.0	45.0-65.0 HZ	This option will be prompted only when UNF option is made ENABLE.

Display	Description	Default Value	Range	Condition
<i>HYS</i>	Set hysteresis for UF	<i>05.0</i>	0.99.9%	
<i>ORF</i>	Over frequency	<i>ENb</i>	Enable/Disable	If user choose disable option then over frequency function will not work.
<i>000</i>	Over frequency setting	<i>55.0</i>	45.0-65.0 HZ	This option will be prompted only when ORF option is made ENABLE
<i>HYS</i>	Set hysteresis for OF	<i>05.0</i>	0-99.9%	
<i>ASy</i>	Asymmetry	<i>ENb</i>	Enable/Disable	If user choose disable option then asymmetry function will not work.
<i>000</i>	Asymmetry setting	<i>005</i>	0-999 sec	This option will be prompted only when Asy option is made ENABLE.
<i>HYS</i>	Set Hysteresis for Asymmetry	<i>05.0</i>	0-99.9%	
<i>LOS</i>	Phase Loss	<i>ENb</i>	Enable/Disable	If user choose disable option then phase loss function will not work.
<i>SEq</i>	Phase sequence setting	<i>ENb</i>	Enable/Disable	If user choose disable option then phase sequence function will not work.

Delay Time Setting

Press **▶** for 5 sec to enter in main menu.

Press ▲ to scroll through main menu		Press ▶ to move forward & press ▲ to change parameter value		
Display	Description	Default Value	Range	Condition
<i>SEt</i>	Delay time setting			
<i>POd</i>	Power on Delay setting	<i>005</i>	0-999 sec	
<i>TRd</i>	Trip Time Delay setting	<i>005</i>	0-999 sec	
<i>OFd</i>	Recovery Time Delay setting	<i>005</i>	0-999 sec	

Reset Mode Selection

Press **▶** for 5 sec to enter in main menu.

Press ▲ to scroll through main menu		Press ▶ to move forward & press ▲ to change parameter value		
Display	Description	Default Value	Range	Condition
<i>RSL</i>	Reset Mode setting	<i>RLU</i>	Auto/manual	If user set <i>RRN</i> user has to reset the unit manually when fault is removed

Network Setting

Press **▶** for 5 sec to enter in main menu.

Press ▲ to scroll through main menu		Press ▶ to move forward & press ▲ to change parameter value		
Display	Description	Default Value	Range	Condition
<i>NEt</i>	Network setting	<i>3P4</i>	1P-2W/3P-3W/3P-4W	

Password Setting

Press **▶** for 5 sec to enter in main menu.

Press ▲ to scroll through main menu		Press ▶ to move forward & press ▲ to change parameter value		
Display	Description	Default Value	Range	Condition
<i>PAS</i>	Password	<i>000</i>	0-999	

Display Parameter

Individual parameter can be viewed with every press of **▲** key

300 VPR / 600 VPR

Parameter	Symbol
Voltage (VLN-1)	L1
Voltage(VLN-2)	L2
Voltage(VLN-3)	L3
Average Voltage(VLN)	L1, L2, L3
Voltage (VLL-L1L2)	L1, L2
Voltage(VLL-L2L3)	L2 L3
Voltage(VLL-L3L1)	L1, L3
Frequency	H2
Phase Asymmetry	AS%
Note: For 3P4W system average of L-N voltage is shown.	
For 3P3W system Average of L-L voltage is shown.	

Trip Indications

For Relay 1/ Relay 2

- 1) UV: Under Voltage
- 2) OV: Over Voltage
- 3) UF: Under Frequency
- 4) OF: Over Frequency
- 5) PA: Phase Asymmetry
- 6) PL: Phase Loss
- 7) PS: Phase Sequence

NOTE : If fault occurs on both relay, it will display respected fault indications for both relay.

Reset: Press **↵** Key for 3 sec to reset manually.

Master Password : 540

Auto scroll ON/OFF: Press **▲** for 3 sec

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