OP3022-V02

selec

600DVR-CE

Operating Instructions



FEATURES

- Over voltage, Under voltage, Over frequency, Under frequency, Phase asymmetry, Phase failure Phase sequence and Neutral loss monitoring in system etc.
- True RMS measurement
- Power ON delay, Trip time delay and Recovery time delay.
- Adjustable switching hysteresis

SPECIFICATIONS

DISPLAY
6 Digits, LCD with Backlight
ELECTRICAL CONNECTION
3Ø-3 wire, 3Ø-4 wire
AUXILIARY SUPPLY
Self powered
OPERATING RANGE
3Ø-3 wire (L-L): 280 – 600V AC
3Ø-4 wire (L-N):160 – 300V AC
FREQUENCY RANGE
45 - 65 Hz
VA RATING
25 VA max
TRIP SETTINGS
Under Voltage : 280 to 600V AC (L-L) [for 3Ø-3 wire] 160 to 300V AC (L-N) [for 3Ø-4 wire]
Over Voltage : 280 to 600V AC (L-L) [for 3Ø-3 wire] 160 to 300V AC (L-N) [for 3Ø-4 wire]
Under Frequency : 45 – 65Hz
Over Frequency : 45 – 65Hz
Phase Asymmetry : 5 - 99.9%
ASYMMETRY CALCULATION FORMULA
Asymmetry % : $\frac{\text{Max.voltage - Avg.voltage}}{\text{Avg.voltage}} \times 100$

TIME SETTINGS
Power ON Delay :0 - 999 sec
Trip time Delay :0 - 999 sec
Recovery Time :0 - 999 sec
Response Time
Under Voltage :<120ms
Over Voltage :<120ms
Phase Asymmetry :<120ms
Phase loss :<250ms
Phase Sequence :<250ms
Neutral Loss :<250ms
HYSTERESIS
Voltage : 1.0V – 99.9V
Frequency : 0.2 – 2.0Hz
Asymmetry : 2.0 - 20%
RESOLUTION
Voltage : 1V
Frequency : 0.1Hz
ACCURACY
Voltage : ±1% of full range
Frequency : ±0.3Hz
Time : ±5% of setting ± 250ms
(Recovery Time, Trip time Delay, Power ON Delay, Response time Delay)
OUTPUT SPECIFICATIONS
Relay : 1C/O (SPDT)
RELAY RATING
NO (5A, 250V AC)
NC (3A, 250V AC)
ENVIRONMENTAL SPECIFICATIONS
- Indoor use
- Altitude of up to 2000 meters
- Pollution degree II

Temperature : Operating: 0 to 55°C
Storage : -20°C to 70°C
Humidity : Up to 95% RH, non-condensing
MECHANICAL SPECIFICATIONS
No. of Push Buttons : 4
Size : 17.5mm width
Mounting : Din Rail Mount
Wire Size (max) : 4 sq.mm
Screw tightening torque : 0.6-0.8 N-M
WEIGHT : 75 gms.
Product standard : IEC60255-1/IEC 60947-5-1

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

If there is physical damage to the unit then do not use it.

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

WIRING GUIDELINES

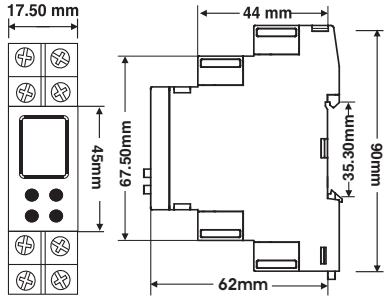
WARNING

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

CAUTION

1. To ensure the safe operation of unit, check the wiring and connections.

DIMENSIONS (All dimensions in mm)



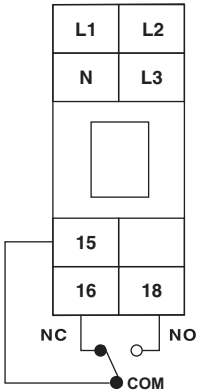
Outline dimensions (in mm)

DISPLAY INDICATION CHART

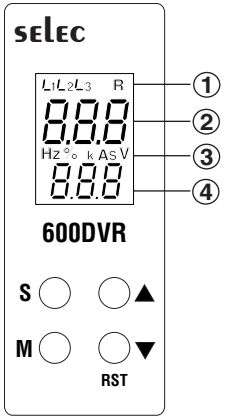
Fault Display	Description
t.OV	Over Voltage
t.UV	Under Voltage
t.OF	Over Frequency
t.UF	Under Frequency
t.AS	Phase Asymmetry
t.SQ	Phase Sequence
t.PL	Phase Loss
t.NL	Neutral Loss

Note: During fault,average value & type of fault will display alternately for 1 sec.

TERMINAL CONNECTIONS



FRONT PANEL DESCRIPTION



Sr. no.	Online Page	Config. Page
1	Average Voltage of L-N,L-L	——
2	UUT supply voltage	Parameter name
3	V Hz % As	Units of parameter
4	Fault Occured	Current set value

ORDER CODE INFORMATION

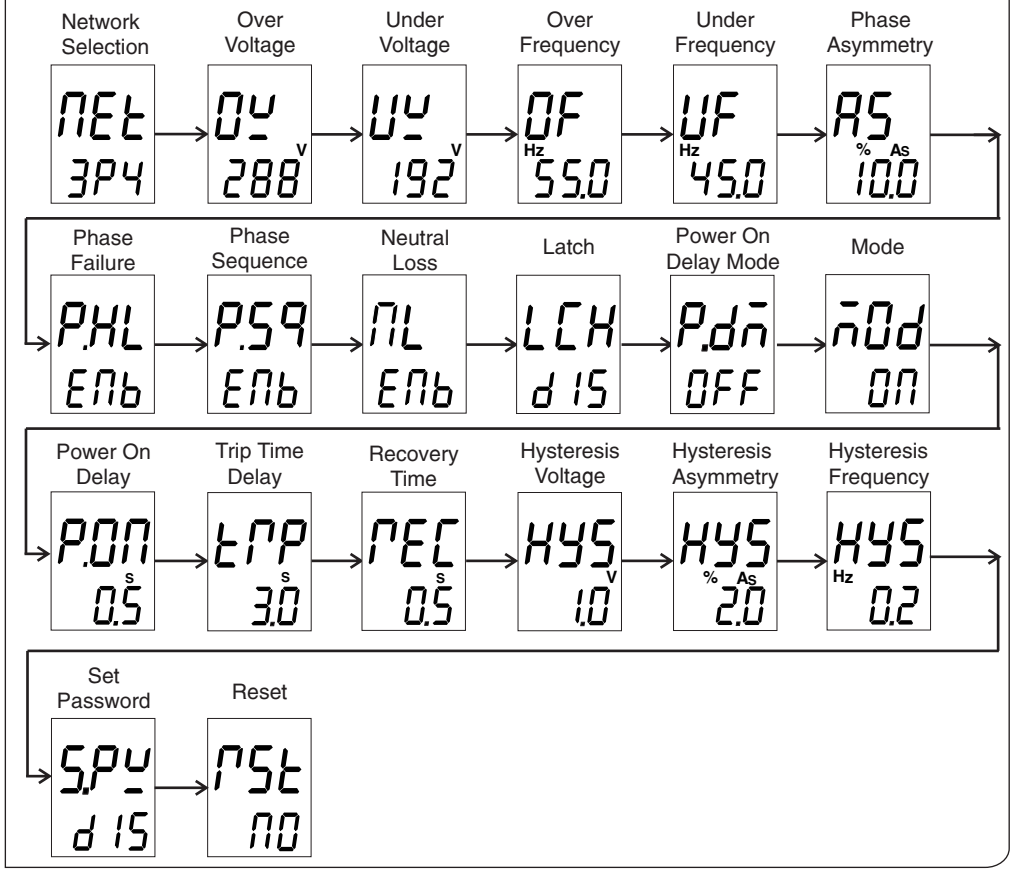
Product	Supply	Certification	
		CE	cULus LISTED
600DVR-CE	280-600V	■	-

CONFIGURATION MENU

Press Menu key for 3sec. to enter or exit configuration menu.

TO SCROLL THROUGH MAIN MENU PRESS ▲ OR ▼ KEYS

MAIN MENU



Network Selection (NWK)

Press **S** to save and press ▲ or ▼ to scroll through main menu

Press **S** to edit & then press ▲ or ▼ to change parameter value

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
NEt 3P4	Network Selection	3P4	3P3 / 3P4	On selection of 3 phase 4 wire network, neutral loss page will be displayed
OV 288 V	Over Voltage	288	280 to 600V AC (Default value : 498V) [for 3Ø-3 wire] 160 to 300V AC (Default value : 288V) [for 3Ø-4 wire]	This function can be disable
UV 192 V	Under Voltage	192	280 to 600V AC (Default value : 332V) [for 3Ø-3 wire] 160 to 300V AC (Default value : 192V) [for 3Ø-4 wire]	1.Under voltage can not be greater than Over voltage 2.This function can be disable
OF 55.0 Hz	Over Frequency	55.0	45 - 65Hz	This function can be disable
UF 45.0 Hz	Under Frequency	45.0	45 - 65Hz	1.Under frequency can not be greater than Over frequency 2.This function can be disable
AS 10.0 %As	Phase Asymmetry	10.0	5.0 - 99.9%	This function can be disable
P.HL ENb	Phase Loss	ENb	ENB / DIS	Enable / Disable is option there
P.SQ ENb	Phase Sequence	ENb	ENB / DIS	Enable / Disable is option there
nL ENb	Neutral Loss	ENb	ENB / DIS	If 3 phase 4 wire network is selected then neutral loss function is displayed in config menu.
LCH d15	Latch	d15	ENB / DIS	If Latch is ENB, user has to reset the unit manually when fault is removed
P.dn OFF	Power 'ON' Delay Mode	OFF	ON/OFF	ON : NO OFF : NC

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
	MOD	ON	ON / OFF	ON: NC (during trip) OFF:NO (during trip)
	Power ON Delay	0.5	0 - 999sec	
	Trip time Delay	3.0	0 - 999sec	
	Recovery Time	0.5	0 - 999sec	
	Hysteresis for Voltage	1.0	1.0 - 99.9V	
	Hysteresis for Asymmetry	2.0	2.0 - 20.0%	
	Hysteresis for frequency	0.2	0.2 - 2.0Hz	
Password (PW)				
Press **S** to save and press ▲ or ▼ to scroll through main menu		Press **S** to edit & then press ▲ or ▼ to change parameter value		
DISPLAY (For 1sec)	**DESCRIPTION**	**DEFAULT VALUE**	**RANGE**	**CONDITION**
	Set Password	dIS	DIS	Disable password protection option

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
	Set Password	0	0-999	Value will depend on set password

NOTE : PW option will be asked when the user enter the config. menu if PW option is enabled in the config menu and the user has to enter the password which he has set in the S.PW (set password) option.

Factory set (RST)				
Press **S** to save and press ▲ or ▼ to scroll through main menu		Press **S** to edit & then press ▲ or ▼ to change parameter value		
DISPLAY (For 1sec)	**DESCRIPTION**	**DEFAULT VALUE**	**RANGE**	**CONDITION**
	Reset (Factory set)	no	YES / NO	

ONLINE KEYS	Individual parameters can be viewed with every press of ▲ keys.

PARAMETER	SYMBOL
*Average Voltage	L1 L2 L3
Voltage (L1-phase)	L1
Voltage (L2-phase)	L2
Voltage (L3-phase)	L3
Voltage (L1-L2 phase)	L1 L2
Voltage (L2-L3 phase)	L2 L3
Voltage (L1-L3 phase)	L1 L3
Frequency	Hz
Phase Asymmetry	% As

In configuration menu, if no key pressed for 30 sec. Then unit resumes online mode.

Trip Indication	Trip indictaion will be shown on press of S key. Trip value will be shown for 3 sec.
Reset	Press RST key for 3sec. to reset manually
Master Password	753

***Default Page** : This page is displayed after 3 sec. from other online page.
For 3P4W system average of L-N voltages is shown.
For 3P3W system average of L-L voltages is shown.

(Specifications are subject to change, since development is a continuous process.)

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