3-Phase display voltage relay GRV8-S
Instruction Manual

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General

■Applications
-Control for connection of moving equipment(site equipment,agricultural equipent,refrigerated trucks).
-Control for protection of persons and equipment against the consequences of reverse running.
-Normal/emergency power supply switching.
-Protection against the risk of a driving load(phase failure).

■Function Features
-Controls its own supply voltage(True RMS measurement).
-LCD display.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- 2-MODULE,DIN rail mounting.

■Model and connotation

GRV8 −S □
- Rated control supply code: N: phase to neutral; P: phase to phase
- LCD display
- GRV8 Series

Technical parameters

Technical parameters	GRV8-SN	GRV8-SP
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3-N	L1-L2-L3
Voltage range(Un)	127-132-138-220-230 -240-254-265(P-N)	220-230-240-380-400 -415-440-460(P-P)
Rated supply frequency	45Hz-65Hz	
Measuring range	70V-400V	130V-650V
Measurement error	≤1%	
Hysteresis	2%	
Phase failure value	50% of Un selected	
Time deviation	≤5%	
Temperature coefficient	0.05%/℃,at=20℃(0.05%℉ , at=68℉)	
Output	2×SPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Mechanical life	1×10^7	
Electrical life(AC1)	1×10^5	
Operating temperature	-20℃ to +55℃ (-4℉ to 131℉)	
Storage temperature	-35℃ to +75℃ (-22℉ to 158℉)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage cathegory	III.	
Pollution degree	2	
Max.cable size(mm^2)	solid wire max.1×2. 5or 2×1. 5/with sleeve max.1×2. 5(AWG 12)	
Tightening torque	0.4Nm	
Dimensions	90×36×64mm	
Weight	100g	109g

Parameter setting range

Parameters		Setting range	Step	Factory default	Remarks
Rate voltage(Un)		127-132-138-220-230 -240-254-265(P-N)		220V	GRV8-SN
		220-230-240-380-400 -415-440-460(P-P)		380V	GRV8-SP
Over voltage	Operation value	OFF,(Un+1)...350	1V	253V	GRV8-SN
		OFF,(Un+1)...600	1V	437V	GRV8-SP
	Delay time	0.1...20s	0.1s	2s	
Under voltage	Operation value	80...(Un-1),OFF	1V	187V	GRV8-SN
		150...(Un-1),OFF	1V	323V	GRV8-SP
	Delay time	0.1...20s	0.1s	2s	
Asymmetry	Operation value	OFF-5%...20%	1%	8%	
	Delay time	0.1...20s	0.1s	2s	
Phase sequence protection		ON-OFF		ON	
Start-reset delay time		0.3...30s	0.1s	0.3s	
Auto-reset		ON-OFF		ON	

Note: "ON"means activating protection function,and"OFF"means inactivating protection function.

Note:

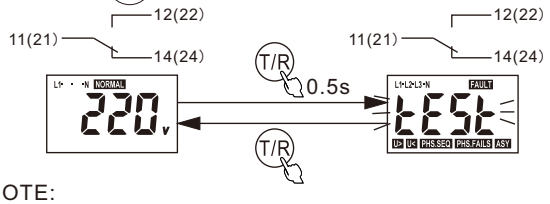
$$Asy=\frac{Umax-Umin}{Uavr}\times100\%$$

Umax=Max(U_1,U_2,U_3)
Umin=Min(U_1,U_2,U_3)

$$Uavr=\frac{U_1+U_2+U_3}{3}$$

Operation description

● Short press T/R 0.5s can test relay action.

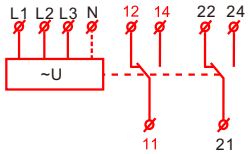


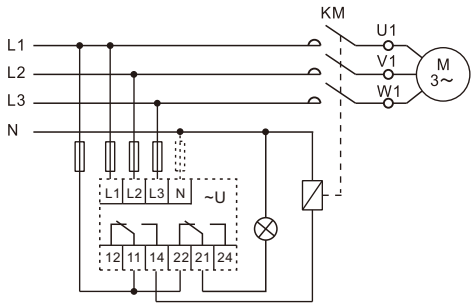
NOTE:
Only when the power supply is normal, press the button.

● Phase voltage inquiry

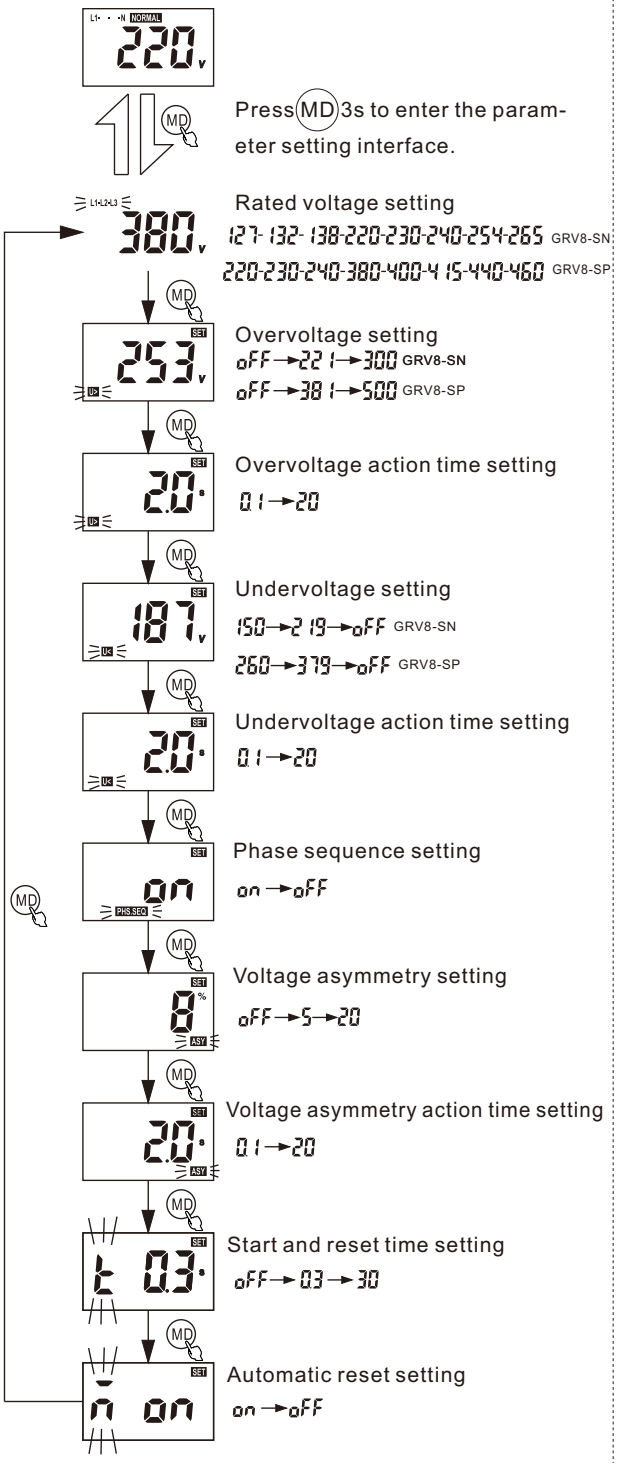
Short press ▼ ▲ to see the value of 3- phase voltage.

Wiring Diagram





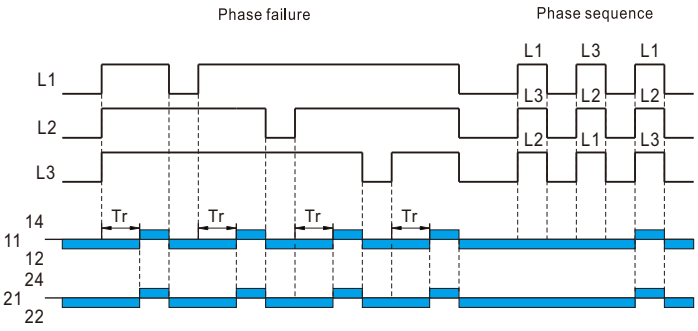
● Parameter setting



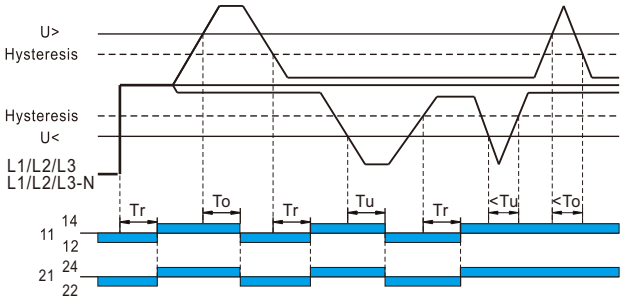
NOTE:
Short press ▼ ▲ can add and drop parameters, long press can be quickly set.If 60s does not operate the key, it will exit automatically.When over-voltage protection, under-voltage protection or unbalanced protection are switched off,The menu is not showing the action time setup process.

Functions Diagram

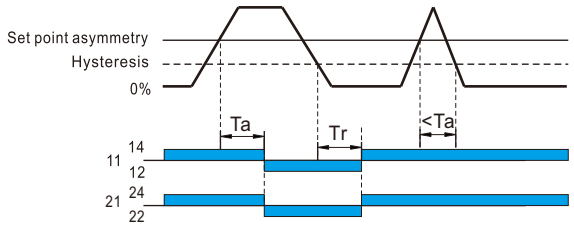
●Phase failure and phase equence function diagram



●Overvoltage and undervoltage function diagram

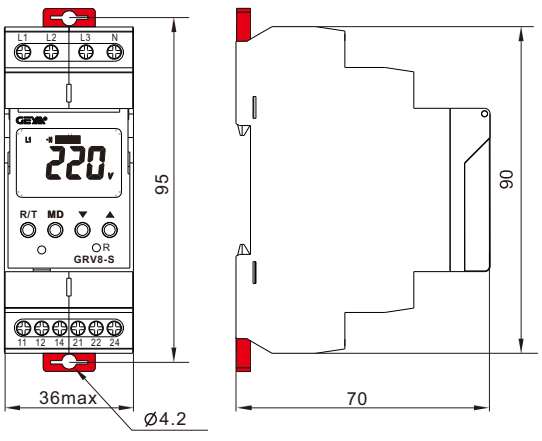


●Asymmetry function diagram



To:Overvoltage threshold tripping delay.
Tu:Undervoltage threshold tripping delay.
Ta:Asymmetry threshold tripping delay.
Tr:Power up delay

Dimensions(mm)



Disposal of Electrical Waste
All electrical waste should be disposed of in compliance with current WEEE regulations.

Caution
The products must be installed by qualified electricians. All and any electrical connections of the product shall comply with the appropriate safety standards.

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