

3-Phase display voltage relay GRV8-S Instruction Manual



General

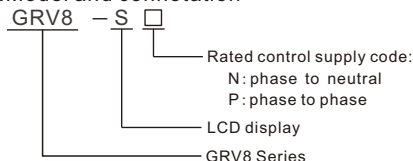
■ Applications

- Control for connection of moving equipment (site equipment, agricultural equipment, 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



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%/°C, at=20°C (0.05%°F, at=68°F)	
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°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III.	
Pollution degree	2	
Max. cable size(mm ²)	solid wire max. 1×2.5 or 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) 220-230-240-380-400 -415-440-460(P-P)		220V 380V	GRV8-SN GRV8-SP
Over voltage	Operation value	OFF,(Un+1)...350 OFF,(Un+1)...600	1V 1V	253V 437V	GRV8-SN GRV8-SP
	Delay time	0.1...20s	0.1s	2s	
Under voltage	Operation value	80...(Un-1),OFF 150...(Un-1),OFF	1V 1V	187V 323V	GRV8-SN 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:

$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

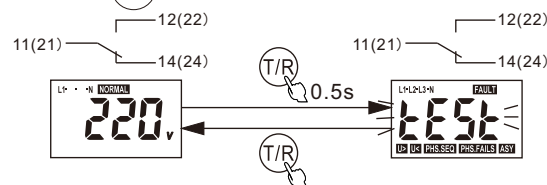
$$U_{avr} = \frac{U_1 + U_2 + U_3}{3}$$

$$U_{max} = \max(U_1, U_2, U_3)$$

$$U_{min} = \min(U_1, U_2, U_3)$$

Operation description

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



NOTE:

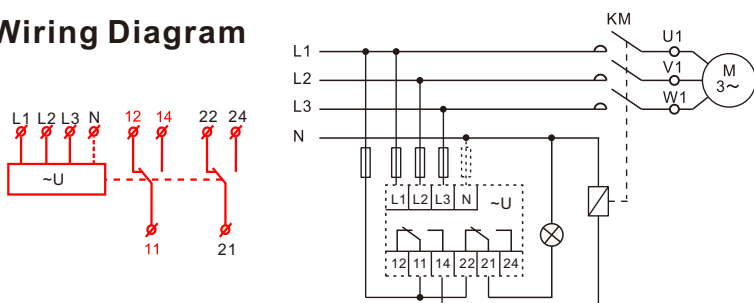
Only when the power supply is normal, press the button.

- Phase voltage inquiry

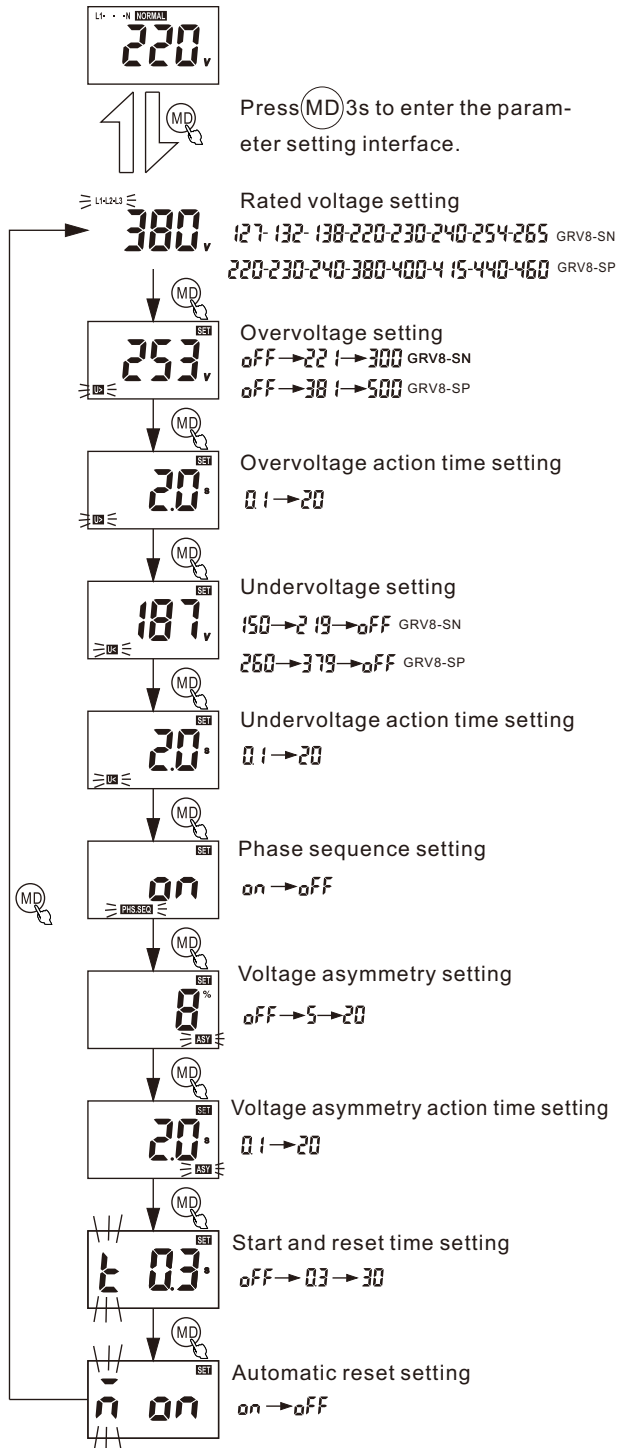
Short press ▲ to see the value of 3-phase voltage.



Wiring Diagram



● Parameter setting



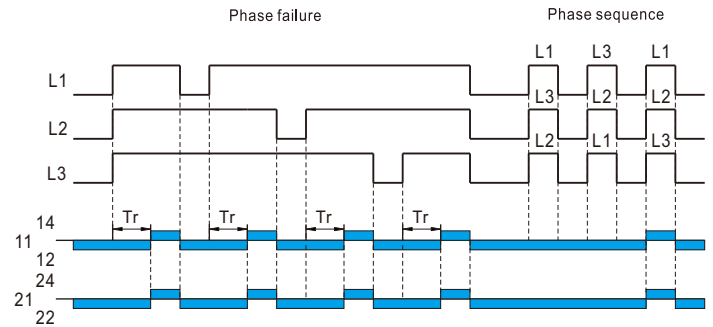
NOTE:

Short press can add and drop parameters, long

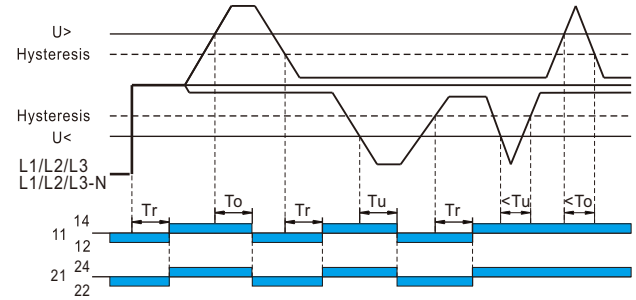
press can be quickly set. If 60s does not operate the key, it will exit automatically. When over-voltage protection, undervoltage protection or unbalanced protection are switched off, The menu is not showing the action time setup process.

Functions Diagram

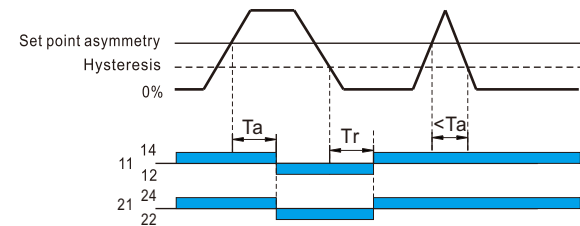
● Phase failure and phase sequence function diagram



● Overvoltage and undervoltage function diagram

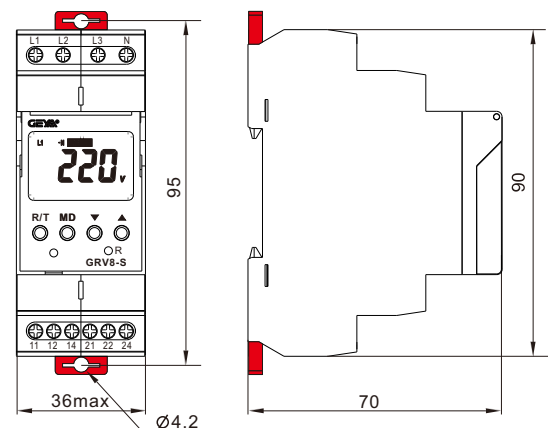


● Asymmetry function diagram



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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