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RELAY & Protector

INDUSTRIAL CONTROL PRODUCT





Founded in 2007, Geya Electrical Co. Ltd was located in Wenzhou, Zhejiang, China. Our company integrates R&D, production and sales, and committed to be the technology enterprise of low-voltage electrical equipment and automation control products.

After years of operating, our annual turnover has exceeded 200 million yuan. Geya's product series involve a variety of low-voltage electrical equipment and automation control products, including miniature circuit breaker (MCB), molded case circuit breaker (MCCB), residual circuit breaker (RCB), isolation switch, contactors, relays, timer, distribution box, etc. The product series are complete and the application fields are wide, which is widely recognized by domestic and foreign customers.

Our four major sales areas cover six continents, and Geya has been chosen and trusted by more than 40 foreign companies. We takes the development concept of "pursue nature of things, reach to the world", sticking to high standards and high quality.

We have obtained a number of national invention patents, and deployed our brand GEYA in most countries around the world. Global certifications include CCC, CE, SAA, SEMKO, TUV, CE and other EU authoritative certifications.

Our sales team gradually promote Geya brand to the global market, we sincerely welcome customers to achieve win-win and common development with Geya!



COMPANY PROFILE

ZHEJIANG GEYA ELECTRICAL CO.,LTD

 Founded in **2007** Year

 Company address **Wenzhou Yueqing**

 Invention Patent **6** Items

 Company address **20** Items

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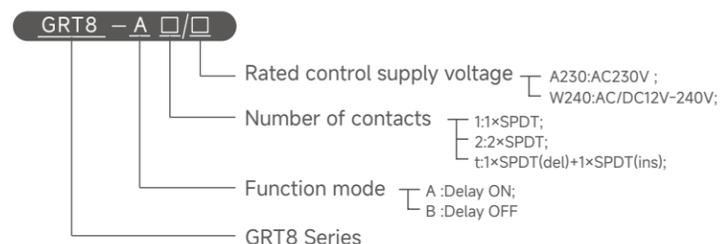
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Applications

- Suitable for applications where function and time requirements are known.
- Time switch, possible to be used for pump decay time after switching heating off, switching of fans.

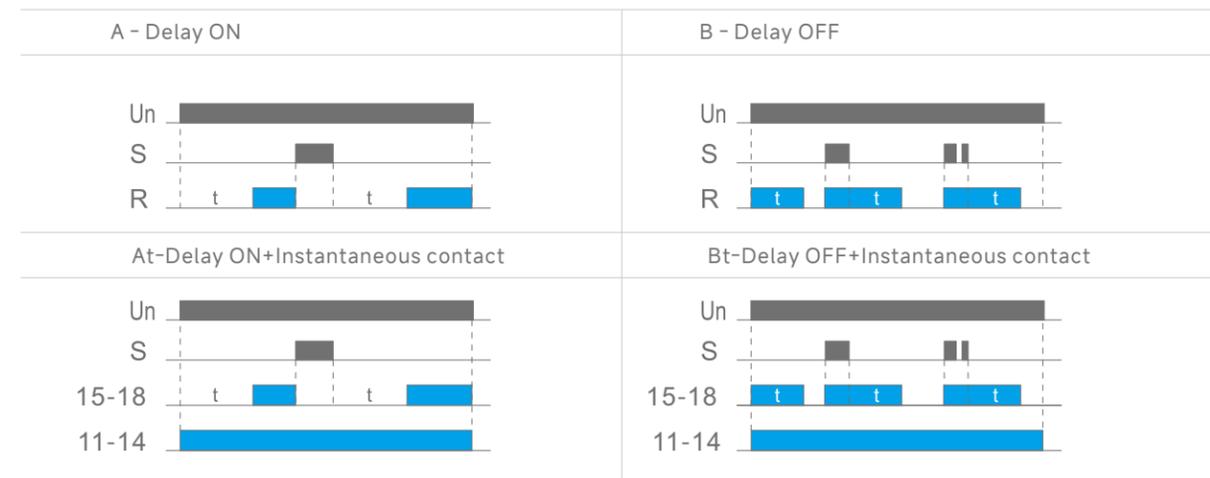
Feature

- Single-function relay with possibility of time setting by a potentiometer.
- Choice of 2 functions:
 - A:Delay ON
 - B:Delay OFF
- Time scale 0.1 s - 10 days divided into 10 ranges.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

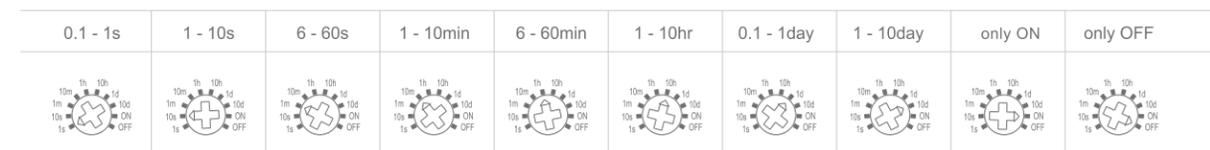
Technical parameters

	GRT8-A1/B1	GRT8-A2/B2	GRT8-At/Bt
Function		A:delay ON;B:delay OFF	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden		AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input		AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		green LED	
Time ranges		0.1s-10days,ON,OFF	
Time setting		potentiometer	
Time deviation		10%-mechanical setting	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C, at=20°C(0.05°F, at=68°F)	
Output	1 X SPDT	2 X SPDT	1 X SPDT(del)+1X SPDT(ins)
Current rating		16A/AC1	
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		1x10 ⁷	
Electrical life(AC1)		1x10 ⁵	
Reset time		max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Tightening torque		0.4Nm	
Dimensions		90x18x64mm	
Weight	W240-61g,A230-61G	W240-81g,A230-80G	
Standards		EN 61812-1.IEC6947-5-1	

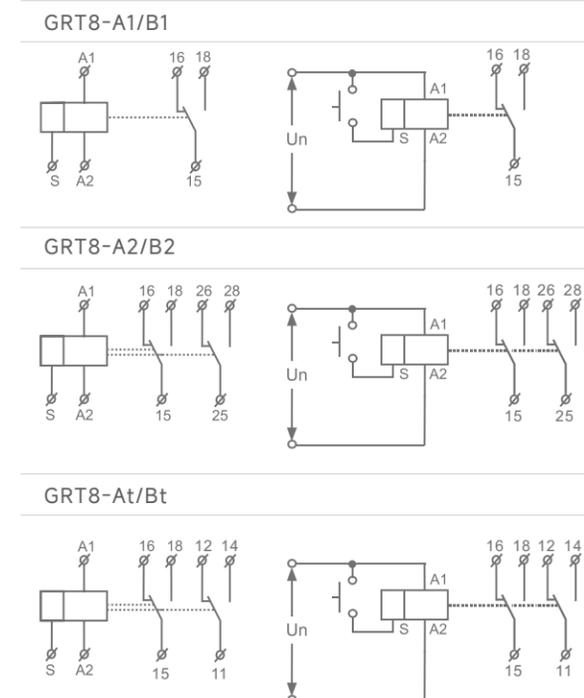
Functions Diagram



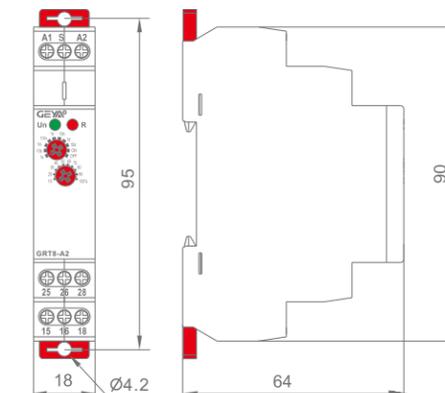
Time Range

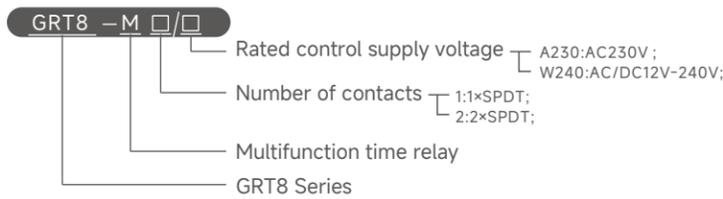


Wiring Diagram



Dimensions(mm)





Applications

- Multifunction time relay can be used for electrical appliances, control of lights, heating, motors, pumps and fans (10 functions, 10 time ranges, multi-voltage).

Feature

- 10 functions: 5 time functions controlled by supply voltage
4 time functions controlled by control input
1 function of latching relay
- Comfortable and well-arranged function and time-range setting by rotary switches.
- Time scale 0.1 s - 10 days divided into 10 ranges.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

	GRT8-M1	GRT8-M2
Function	A,B,C,D,E,F,G,H,I,J	
Supply terminals	A1-A2	
Voltage range	W240 AC/DC 12-240V(50-60Hz)	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230 AC 230V(50-60Hz)	
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	0.1s-10days,ON,OFF	
Time setting	potentionmeter	
Time deviation	10%-mechanical setting	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)	
Output	1 X SPDT	2 X SPDT
Current rating	16A(AC1)	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	1XSPDT:W240-63g, A230-62g	2XSPDT:W240-82g, A230-81g
Standards	EN 61812-1.IEC6947-5-1	

Functions Diagram

A:On Delay (Power On)
When the input voltage U is applied, timing delay t begins. Relay contacts R change state after time delay is complete. Contacts R return to their shelf state when input voltage U is removed. Trigger switch is not used in this function.

B:Interval (Power On)
When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage U is removed, contacts will also return to their shelfstate. Trigger switch is not used in this function.

C:Repeat Cycle (Starting Off)
When input voltage U is applied, time delay t begins. When time delay t is complete, relay contacts R change state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.

D:Repeat Cycle (Starting On)
When input voltage U is applied, relay contacts R change state immediately and time delay t begins. When time delay t is complete, contacts return to their shelf state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.

E:Off Delay (S Break)
Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. When trigger switch S is opened, delay t begins. When delay t is complete, contacts R return to their shelf state. If trigger switch S is closed before time delay t is complete, then time is reset. When trigger switch S is opened, the delay begins again, and relay contacts R remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.

F:Single Shot
Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger switch S when the relay is not energized.

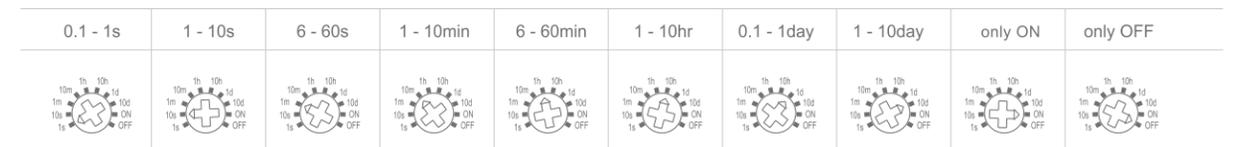
G:Single Shot Trailing Edge (Non-Retriggerable)
Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. At the end of the preset time t, the relay contacts R return to their normal condition unless the trigger switch S is opened and closed prior to time out t (before preset time elapses). Continuous cycling of the trigger switch S at a rate faster than the preset time will cause the relay contacts R to remain closed. If input voltage U is removed, relay contacts R return to their shelf state

H:On/Off Delay
Input voltage U must be applied continuously. When trigger switch S is closed, time delay t begins. When time delay t is complete, relay contacts R change state and remain transferred until trigger switch S is opened. If input voltage U is removed, relay contacts R return to their shelf state.

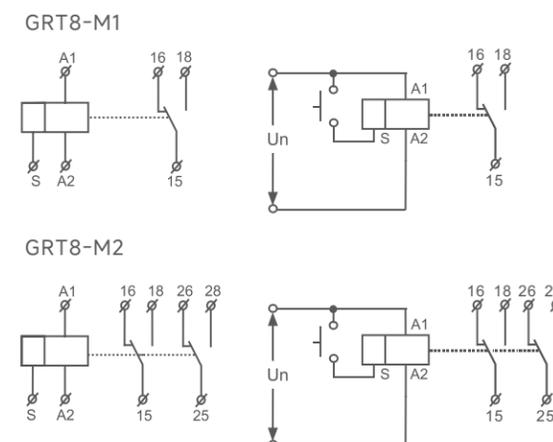
I:Latching relay
Input voltage U must be applied continuously. Output changes state with every trigger switch S closure. If input voltage U is removed, relay contacts R return to their shelf state.

J:Pulse generator
Upon application of input voltage U, a single output pulse of 0.5 seconds is delivered to relay after time delay t. Power must be removed and reapplied to repeat pulse. Trigger switch is not used in this function.

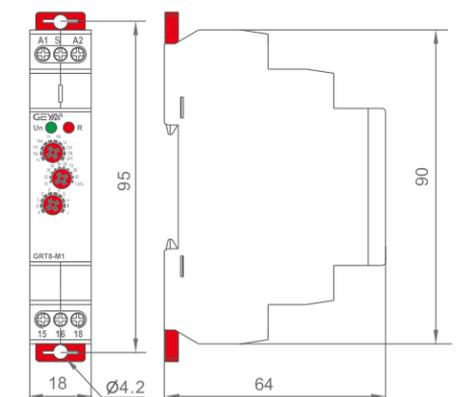
Time Range

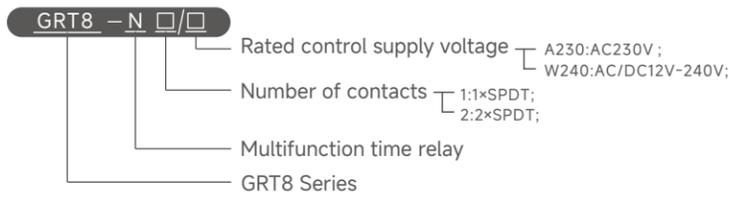


Wiring Diagram



Dimensions(mm)





Applications

- Multifunction time relay can be used for electrical appliances, control of lights, heating, motors, pumps and fans (10 functions, 10 time ranges, multi-voltage).

Feature

- 10 functions: 8 time functions controlled by supply voltage, 2 time functions controlled by control input
- Comfortable and well-arranged function and time-range setting by rotary switches.
- Time scale 0.1 s - 10 days divided into 10 ranges.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

Technical parameters

	GRT8-N1	GRT8-N2
Function	A,As,Aw,B,Bs,Bw,Cs,Ds,Fe,Js	
Supply terminals	A1-A2	
Voltage range	AC/DC 12-240V(50-60Hz)	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	AC 230V(50-60Hz)	
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	0.1s-10days,ON,OFF	
Time setting	potentionmeter	
Time deviation	10%-mechanical setting	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)	
Output	1 X SPDT	2 X SPDT
Current rating	16A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	1XSPDT:W240-63g, A230-62g	2XSPDT:W240-82g, A230-81g
Standards	EN 61812-1.IEC6947-5-1	

Functions Diagram

A:On delay (Power On)

When relay Un is powered on, the relay starts to delay, and the output contact is closed after delay t. After the relay Un is de energized, the output contact R is disconnected and the S control signal is invalid in this function mode.



As:On delay (S rising edge start)

The relay Un is in the energized state. When the S control signal is triggered, the relay starts to delay. After the delay t, the output contact R is closed and held. During the delay period, if the signal is triggered again, restart the delay. When the relay Un is de energized, the relay output contact R opens.



Aw:On delay (S trigger time accumulation)

When the relay Un is energized and the cumulative delay during the closing of S control signal reaches t, the output contact R is closed.



B:Interval (Power On)

When relay Un is powered on, the relay output contact R will be closed immediately and start delay. After delay t, the output contact R will be disconnected. If the delay time t does not arrive and relay Un is powered off, the output contact R will be disconnected, and the S control signal is invalid in this function mode.



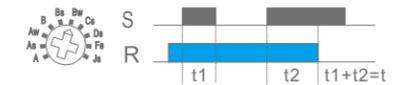
Bs:Off delay(S rising edge trigger start)

The relay Un is in the energized state. When the S control signal is connected, the output contact R of the relay is closed and starts to delay. After the delay t, the output contact R is disconnected. If the S control signal is connected again during the delay, the delay t is cleared and delayed again.



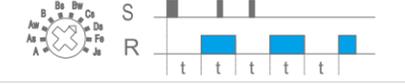
Bw:Off delay(S trigger time accumulation)

When the relay Un is powered on, the the output contact R is closed. When the cumulative delay during the closing of S control end reaches t, the output contact R is open.



Cs:Repeat Cycle (Starting Off ,S rising edge start)

The relay Un is in the energized state. When the S control signal is closed, the relay starts to delay and is input after a delay time t, the output contact R is closed, and after the delay time t, the output contact R of the relay is disconnected. This cycle will repeat until relay Un is de energized.



Ds:Repeat Cycle (Starting On ,S rising edge trigger start)

The relay Un is in the energized state. When the S control signal is closed, the relay output contact R closes and start delay, the output contact R is disconnected after delay t, and the relay output contact R is closed after delay t, this cycle will repeat until relay Un is de energized.



Fe:On and off delay (Triggered by rising and falling edges of S)

The relay Un is in the energized state. When the S control signal is connected, the output contact R closed and starts to delay, with a delay of t the output contact R open. When the S control signal is disconnected, the output contact is closed and starts to delay, with a delay of t the output contact R open.



Js:Pulse output (Triggered by rising edge of S)

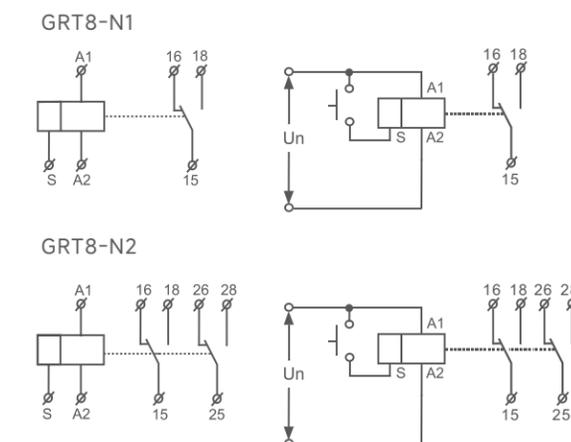
The relay Un is in the energized state. when the S control signal is connected, the relay starts to delay, with a delay of t, the relay output contact R is closed for 1 second and then the output contact R open.



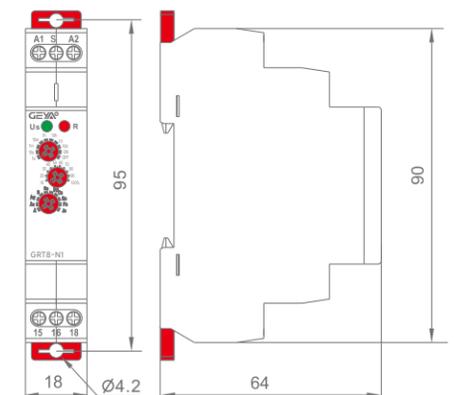
Time Range

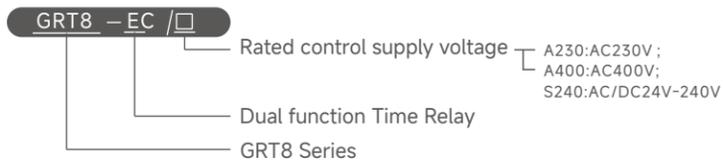
0.1 - 1s	1 - 10s	6 - 60s	1 - 10min	6 - 60min	1 - 10hr	0.1 - 1day	1 - 10day	only ON	only OFF

Wiring Diagram



Dimensions(mm)





Applications

- Dual function time relay can be used for industrial equipment, lighting control, heating element control, motor and fan control, with two delay modes, and the delay range covers 0.1 seconds to 10 days.

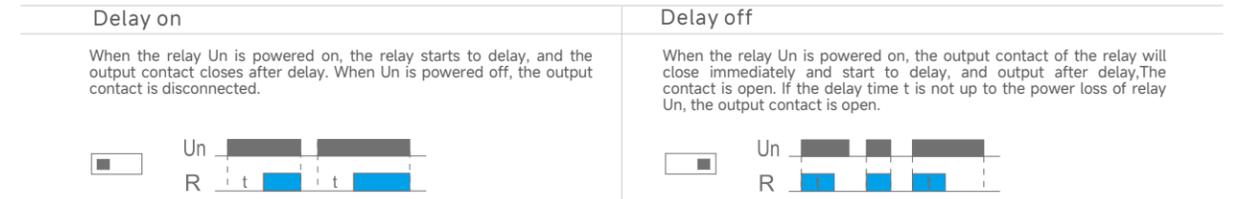
Feature

- Two delay modes can be set.
- Ultra wide delay range, 0.1 seconds - 10 days can be set.
- The working state of the relay is indicated by the LED indicator.
- Ultra small size, only 18mm width, 35mm rail installation.

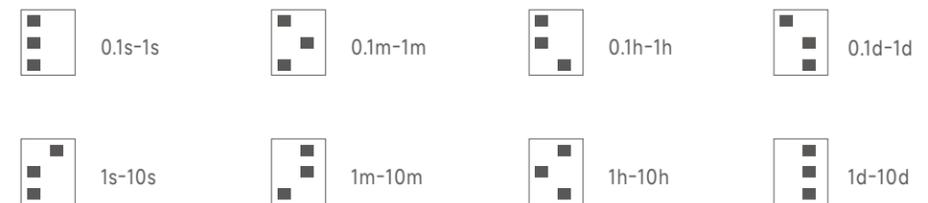
Technical parameters

		GRT8-EC
Function		ON delay, Delay off
Supply terminals		A1-A2,A1-A3
Voltage range	S240	AC/DC 24V-240V(50-60Hz)
Power input		AC 0.3-2VA/DC 0.1-1.2W
Voltage range	A230	AC230V,AC/DC24V(50-60Hz)
Power input		AC max.6VA/1.3W
Voltage range	A380	AC380V-440V(50-60Hz)
Power input		AC max.6VA/1.3W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		0.1s-10day
Time setting		potentionmeter
Time deviation		≤10%
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)
Output		1×SPDT
Current rating		1×10A(AC1)
Switching voltage		250VAC/24VDC,440VAC(Max)
Min. breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		1x10 ⁷
Electrical life(AC1)		1x10 ⁵
Reset time		max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		52g
Standards		EN 61812-1.IEC6947-5-1

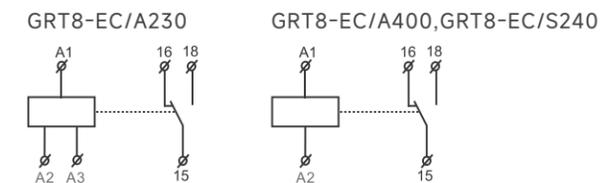
Functions Diagram



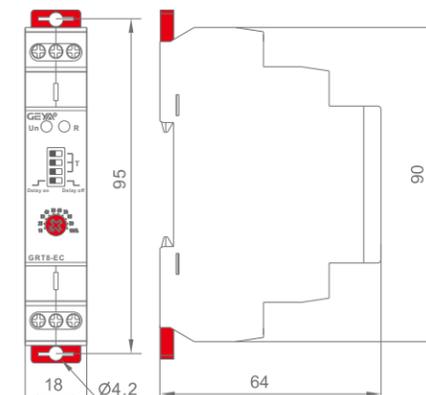
Time Range

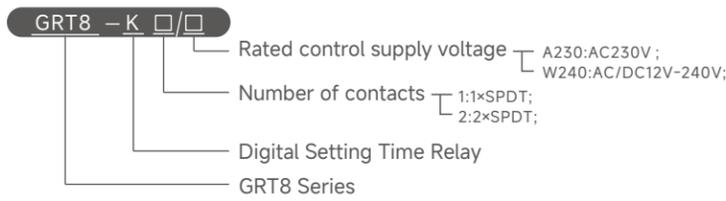


Wiring Diagram



Dimensions(mm)





Applications

- Multifunctional time relay with digital settings can be used for industrial equipment, lighting control, heating element control, motor and fan control. It has four delay modes and the delay range covers 0.1 seconds to 99 hours.

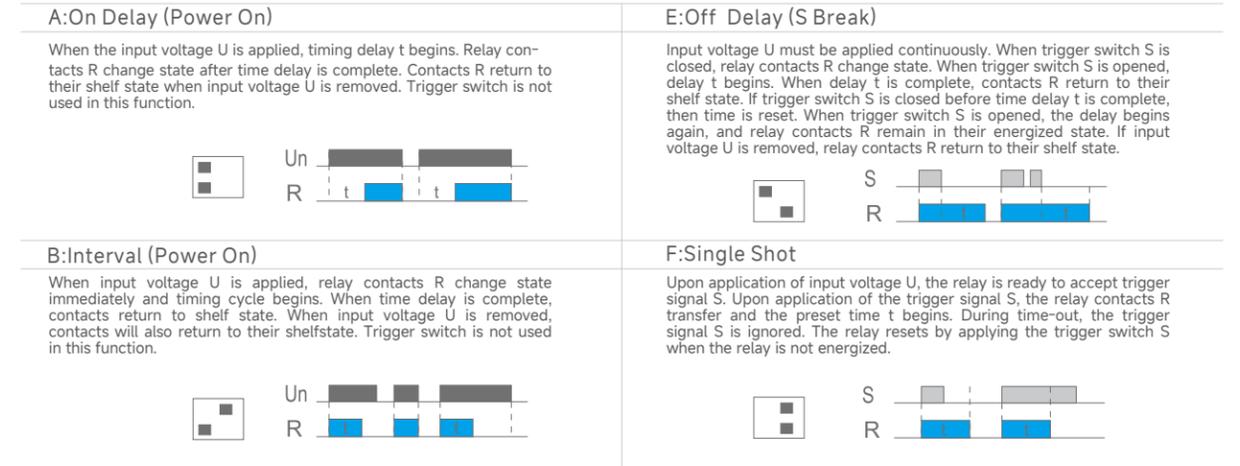
Feature

- Four functional modes can be set.
- Through digital dialing settings, it is easy to operate and set more precisely.
- Extra wide delay range, 0.1 seconds - 99 hours can be set.
- With AC/DC 12V-240V ultra wide operating voltage specifications are optional.
- The working state of the relay is indicated by the LED indicator
- Ultra small size, only 18mm width, 35mm rail installation

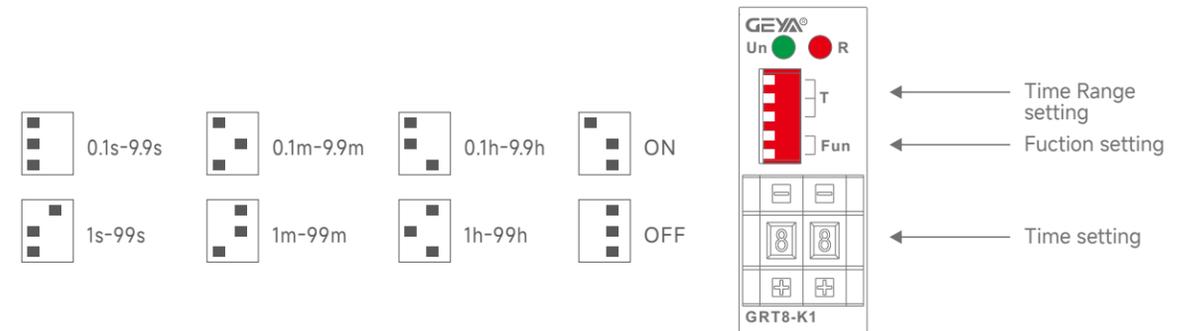
Technical parameters

	GRT8-K1	GRT8-K2
Function	A,B,E,F	
Supply terminals	A1-A2	
Voltage range	AC/DC 12-240V(50-60Hz)	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	AC 230V(50-60Hz)	
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	0.1s-99h ,ON,OFF	
Time setting	Digital switch	
Time deviation	≤1%	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)	
Output	1 X SPDT	2 X SPDT
Current rating	1 X 16A(AC1)	2 X 8A(AC1)
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	1XSPDT:W240-64g, A230-64g 2XSPDT:W240-72g, A230-72g	
Standards	EN 61812-1.IEC6947-5-1	

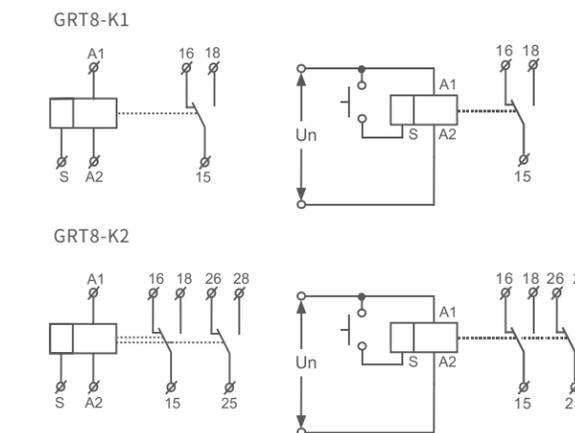
Functions Diagram



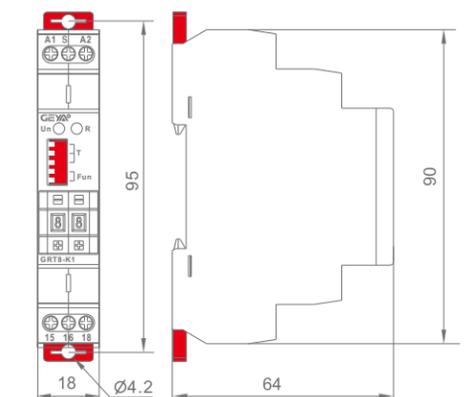
Time Range

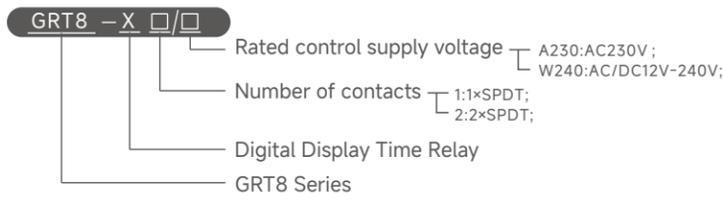


Wiring Diagram



Dimensions(mm)





Applications

- Multifunctional time relay can be used for industrial equipment, lighting control, heating element control, motor, fan control.
- With 20 delay modes, the delay range covers 0.1 seconds to 99 days.

Feature

- 20 delay modes:
 - 5 delay modes controlled by power supply
 - 13 delay modes controlled by signal
 - ON, OFF mode
- Ultra wide delay range, 0.1 seconds - 99 days can be set.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

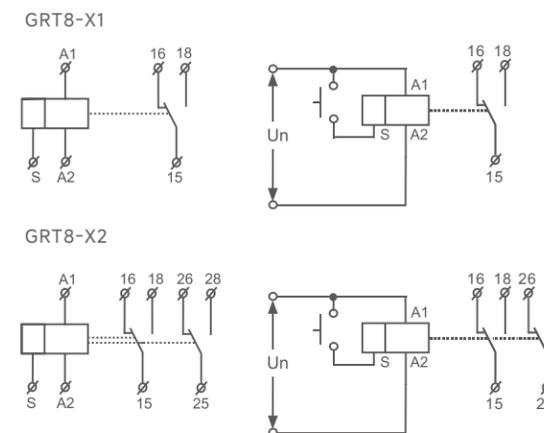
Technical parameters

	GRT8-X1	GRT8-X2
Function	20 functions	
Supply terminals	A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	-	
Time ranges	0.1s-99day ,ON,OFF	
Time setting	Key setting	
Time deviation	≤1%	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output	1 X SPDT	2 X SPDT
Current rating	1 X 16A(AC1)	2 X 16A(AC1)
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	1XSPDT:W240-62g, A230-60g 2XSPDT:W240-82g, A230-81g	
Standards	EN 61812-1.IEC6947-5-1	

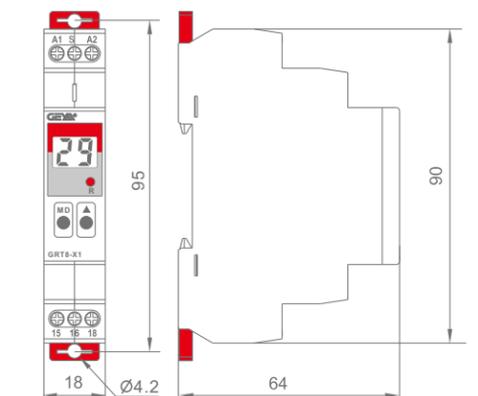
Functions Diagram

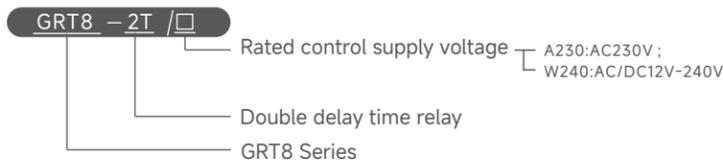


Wiring Diagram



Dimensions(mm)





Applications

- For gradual switching of heavy powers (e.g. el.heating), prevents current strokes in the main.

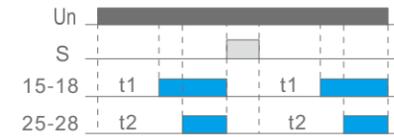
Feature

- 2 x Delay ON (2 time relays in one)
- Time scale 0.1s - 10 days divided into 10 time ranges: 0.1s - 1s / 1s - 10s / 0.1min - 1min / 1min - 10min / 0.1h - 1h / 1h - 10hrs / 0.1 day - 1 day / 1 day - 10 days / ON / OFF.
- Times t1 and t2 are independantly adjustable.
- t1 and t2 are switched on after supply voltage connection.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

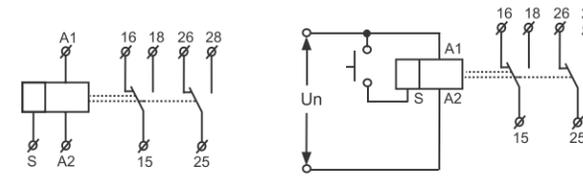
Technical parameters

		GRT8-2T
Function		2 X Delay ON
Supply terminals		A1-A2
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden		AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input		AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		0.1s-10 days ,ON,OFF
Time setting		potentionmeter
Time deviation		10%-mechanical setting
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)
Output		2 X SPDT
Current rating		16A(AC1)
Switching voltage		250VAC/24VDC
Min.breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		1x10 ⁷
Electrical life(AC1)		1x10 ⁵
Reset time		max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-82g, A230-82g
Standards		EN 61812-1.IEC6947-5-1

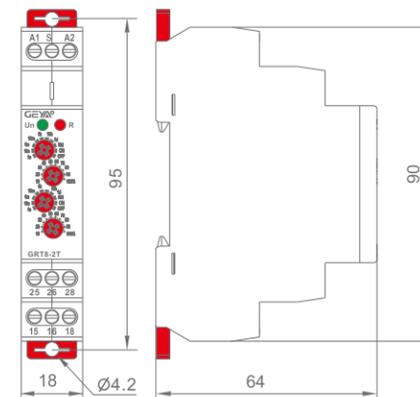
Functions Diagram

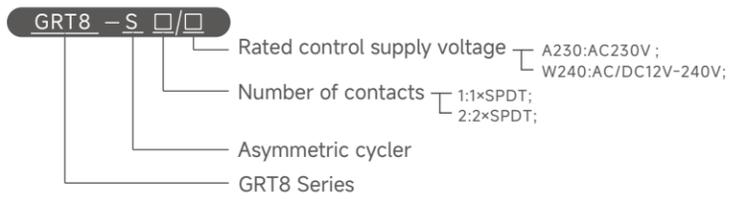


Wiring Diagram



Dimensions(mm)





Applications

- It is used for regular room ventilation, cyclic dehumidification, light control, circulating pumps, noon signs, etc.

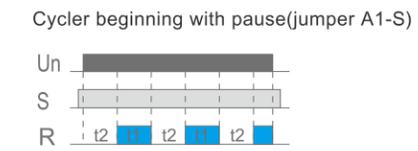
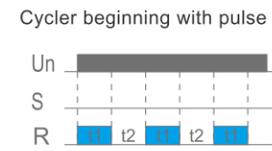
Feature

- 2 time functions:
 - Cycler beginning with pulse
 - Cycler beginning with pause
- Function choice is done by an external jumper of terminals S-A1.
- Time scale 0.1 s - 100 days divided into 10 time ranges:(0.1 s - 1 s / 1 s - 10 s / 0.1 min - 1 min / 1 min - 10 min / 0.1 hrs - 1 h / 1 hrs - 10 hrs / 0.1 day - 1 day / 1 day - 10 days / 3 days - 30 days / 10 days - 100 days).
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

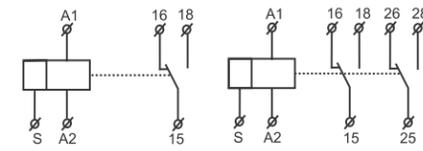
Technical parameters

	GRT8-S1	GRT8-S2
Function	Asymmetric cycler time relay	
Supply terminals	A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden		AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	0.1s-100days	
Time setting	potentionmeter	
Time deviation	10%-mechanical setting	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)	
Output	1 X SPDT	2 X SPDT
Current rating	16A(AC1)	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	1XSPDT:W240-63g, A230-62g 2XSPDT:W240-83g, A230-82g	
Standards	EN 61812-1,IEC6947-5-1	

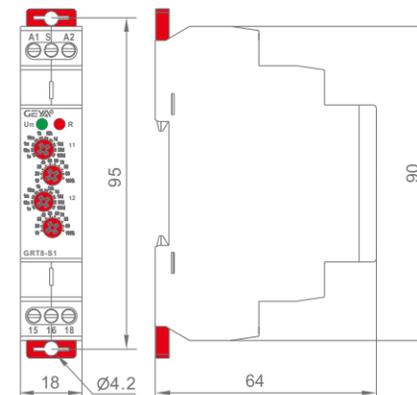
Functions Diagram

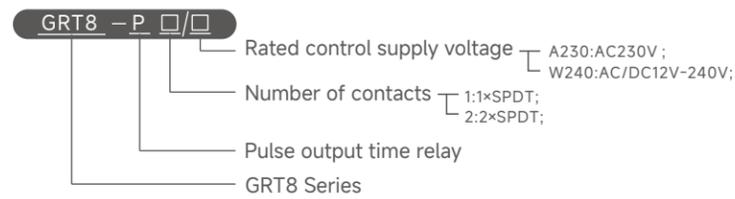


Wiring Diagram



Dimensions(mm)





Applications

- It is used to delay and generate a pulse, which is used to delay the connection of a load for a period of time.

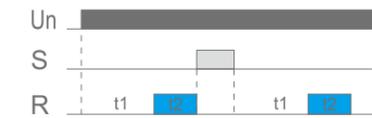
Feature

- Separate delay time and pulse width setting can set different delay time.
- Time scale 0.1 s - 100 days.
- The delay time can be reset by shorting S-A1.
- With AC/DC 12V-240V ultra wide operating voltage specifications are optional.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

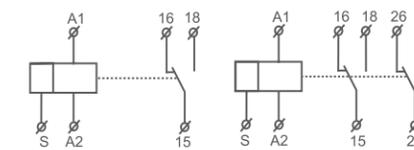
Technical parameters

	GRT8-P1	GRT8-P2
Function	Pulse output time relay	
Supply terminals	A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden		AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	0.1s-100days	
Time setting	potentionmeter	
Time deviation	10%-mechanical setting	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)	
Output	1 X SPDT	2 X SPDT
Current rating	16A(AC1)	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	1XSPDT:W240-62g, A230-61g 2XSPDT:W240-82g, A230-82g	
Standards	EN 61812-1,IEC6947-5-1	

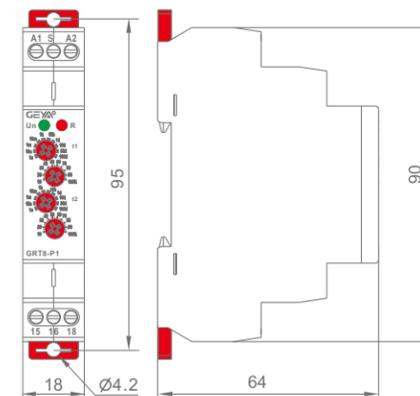
Functions Diagram

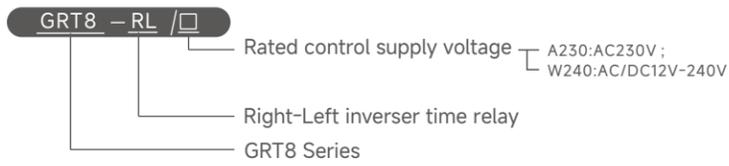


Wiring Diagram



Dimensions(mm)





Applications

- Right-Left(inverser) timer relay are used for 2 different loads,which works by turn. First load starts working,stops and waits(off) and second load starts working.Both working time is same.

Feature

- The default is right load first. You can select left load first by shorting S-A1
- Time scale 0.1 s - 100 days divided into 10 time ranges: (0.1 s - 1 s / 1 s - 10 s / 0.1 min - 1 min / 1 min - 10 min / 0.1 hrs - 1 h / 1 hrs - 10 hrs / 0.1 day - 1 day / 1 day - 10 days / 3 days - 30 days / 10 days - 100 days).
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

		GRT8-RL
Function		Right-Left inverser time relay
Supply terminals		A1-A2
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden		AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input		AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		0.1s-100 days
Time setting		potentionmeter
Time deviation		10%-mechanical setting
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05°F, at=68°F)
Output		2 X SPDT
Current rating		16A(AC1)
Switching voltage		250VAC/24VDC
Min.breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		1x10 ⁷
Electrical life(AC1)		1x10 ⁵
Reset time		max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-83g, A230-82g
Standards		EN 61812-1.EN61010-1

Functions Diagram

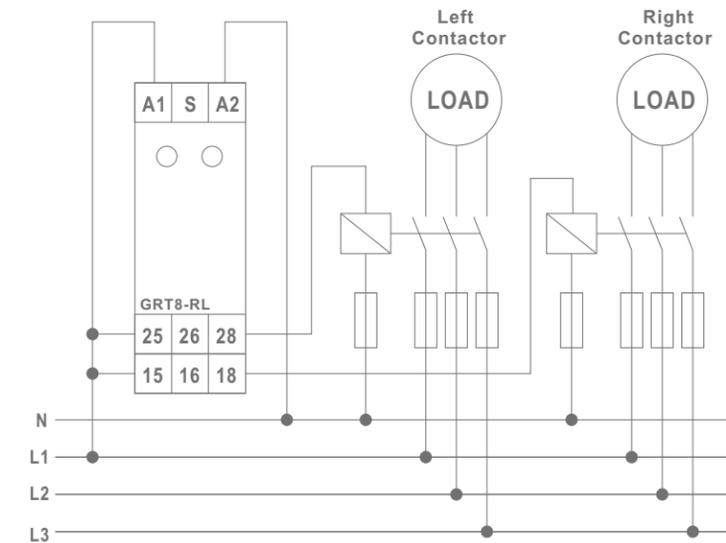
Right load first by disconnecting S-A1



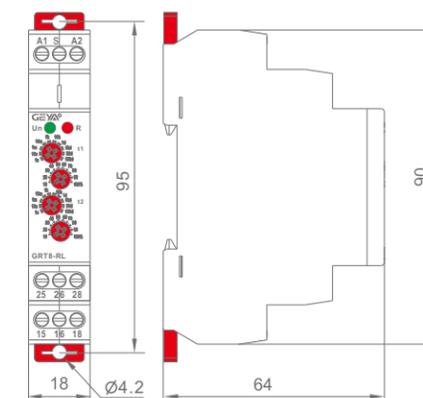
Left load first by connecting S-A1

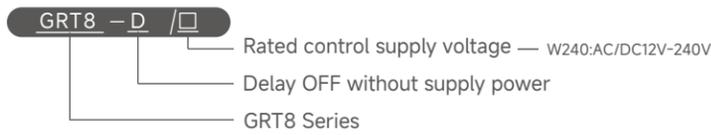


Wiring Diagram



Dimensions(mm)





Applications

- Used in situations where backup power supply is delayed shutdown (emergency lighting, voltage faults, emergency ventilators, fire door control).

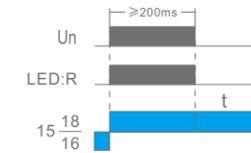
Feature

- The delay range can be set from 0.1s-10min (knob setting).
- Built in energy storage capacitor , with a maximum delay of 10 min.
- Voltage range: AC/DC12-240V, clamp terminals.
- Relay status is indicated by LED
- 1-MODULE, DIN rail mounting.

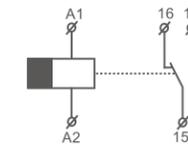
Technical parameters

GRT8-D	
Function	Delay OFF without supply power
Supply terminals	A1-A2
Voltage range	AC/DC12-240V(50-60Hz)
Burden	AC 0.7-3VA/DC 0.5-1.7W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.1s-10min
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	200ms
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)
Output	1×SPDT
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁶
Electrical life(AC1)	5x10 ⁴
Reset time	max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Tightening torque	0.8Nm
Dimensions	90x18x64mm
Weight	69g
Standards	EN 61812-1.IEC6947-5-1

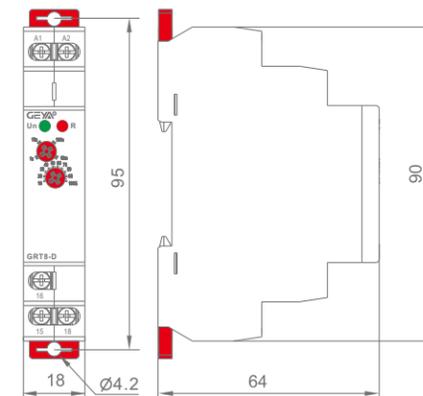
Functions Diagram

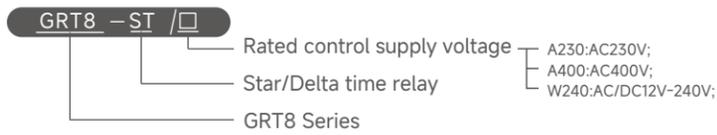


Wiring Diagram



Dimensions(mm)





Applications

- Designated for delay ON of motors star/delta.

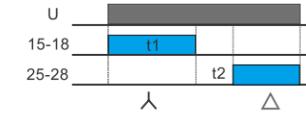
Feature

- Time t1 (star) :
time scale 0.1 s - 10min divided into 4 time ranges
rough time setting by rotary switch.
- Time t2 (delay) :
time scale 0.1 s - 1 s
time setting by potentiometer
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

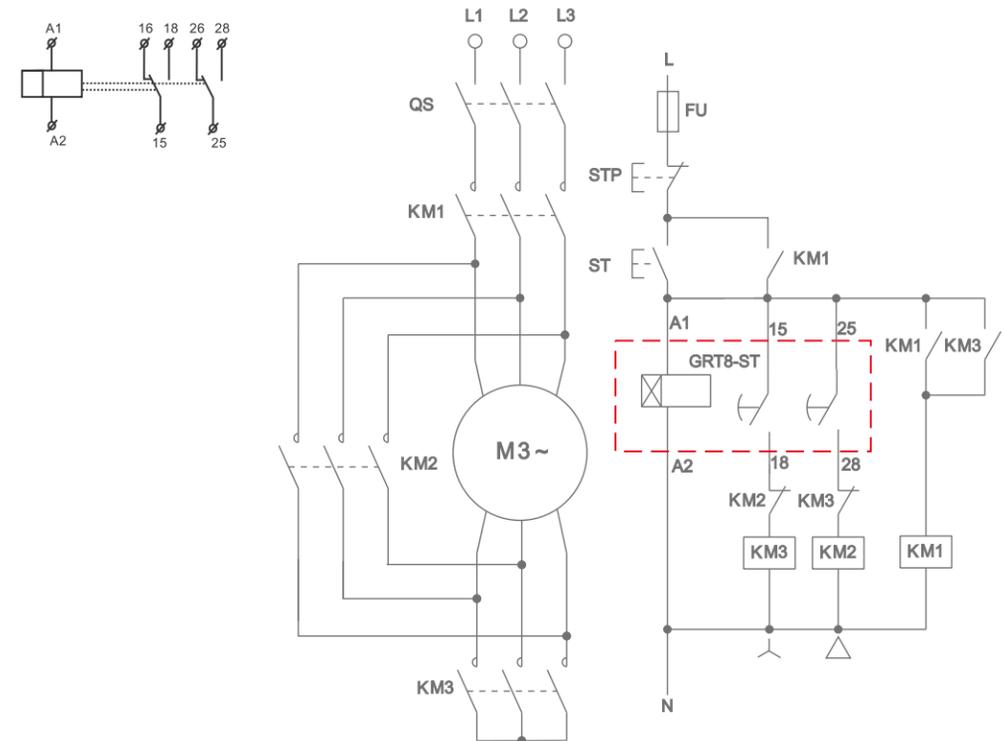
Technical parameters

		GRT8-ST
Function	Star/Delta time relay	
Supply terminals	A1-A2	
Voltage range	W240	AC/DC12-240V(50-60Hz)
Burden	AC 0.3-2VA/DC 0.1-1.2W	
Voltage range	A230	AC 230V/AC400V(50-60Hz)
Power input	A400	AC max.6VA/1.3W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	Range of time delay t1:0.1s-10 min,Switch time t2: 0.1 s-1 s	
Time setting	potentionmeter	
Time deviation	10%-mechanical setting	
Repeat accuracy	0.2%-set value stability	
Temperature coefficient	0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output	2×SPDT	
Current rating	16A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	W240-82g,A230-80g	
Standards	EN 61812-1.IEC6947-5-1	

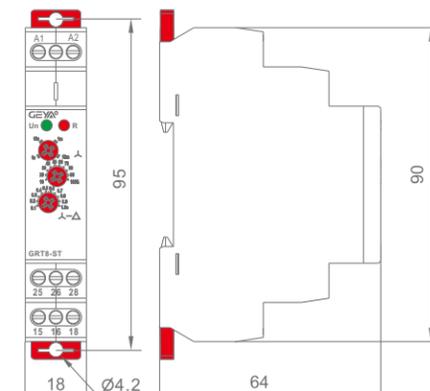
Functions Diagram

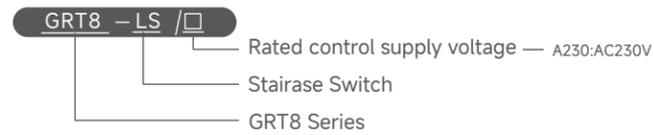


Wiring Diagram



Dimensions(mm)





Applications

- It is used for delayed switching of lights in the corridors, entrances, stairways, halls or for delayed finish of fans (WC, bathroom, etc.).

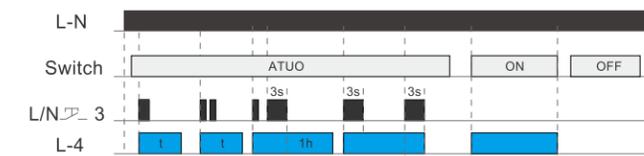
Feature

- Operating system switch:
 - ON - output is constantly ON .
 - AUTO - timing according to adjusting by potentiometer in range 0.5-20min
 - OFF - output is constantly OFF.
- Voltage range: AC 230 V, clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

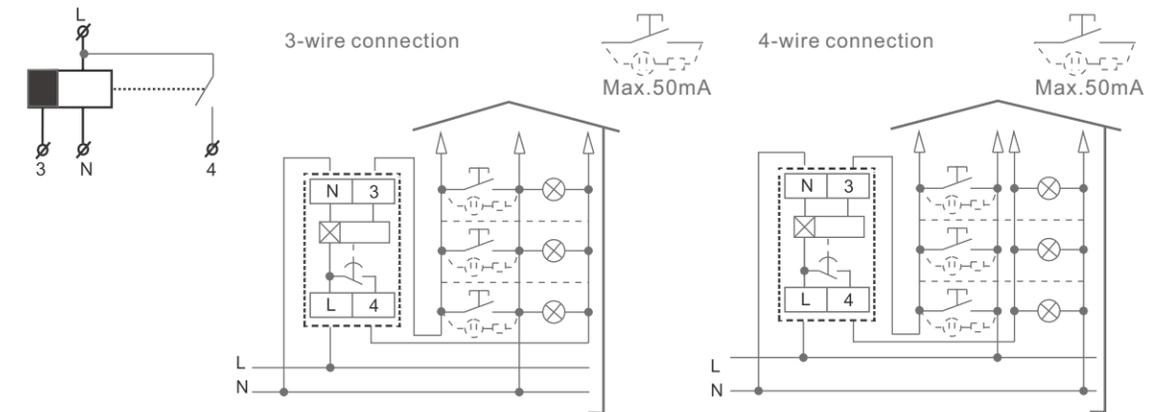
Technical parameters

	GRT8-LS
Function	delay off reacting to contact switching
Supply terminals	L-N
Voltage range	AC230V(50-60Hz)
Power input	AC max.1.2VA/0.8W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	AUTO:0.5-20min ON OFF
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	200ms
Glow tubes connetions	Yes(N-3 or L-3)
Max. amount of glow lamps	230V,max.75pcs(Measured with glow lamp 0.68mA/230V AC)
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)
Output	1×SPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 ⁵
Reset time	max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x18x64mm
Weight	61g
Standards	EN61812-1,IEC 60669-2-3,IEC60947-5-1

Functions Diagram



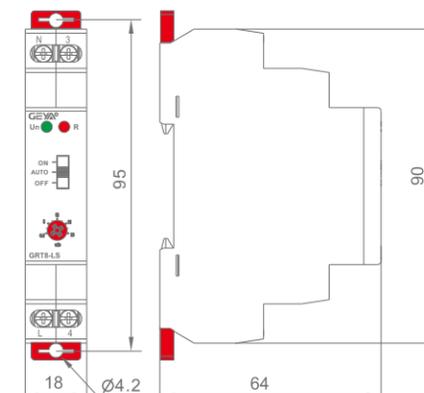
Wiring Diagram



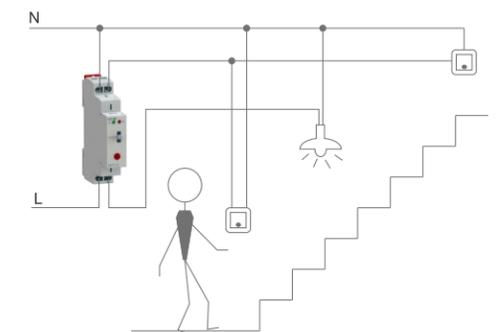
Types of lamps

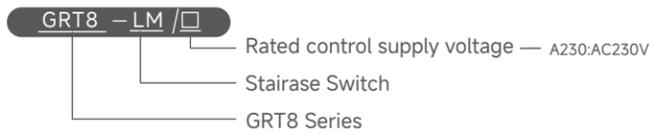
2000W	2000W	1000W	900W(125uF)	400W	300W

Dimensions(mm)



Example





Applications

- It is used for delayed switching of lights in the corridors, entrances, stairways, halls or for delayed finish of fans (WC, bathroom, etc.).

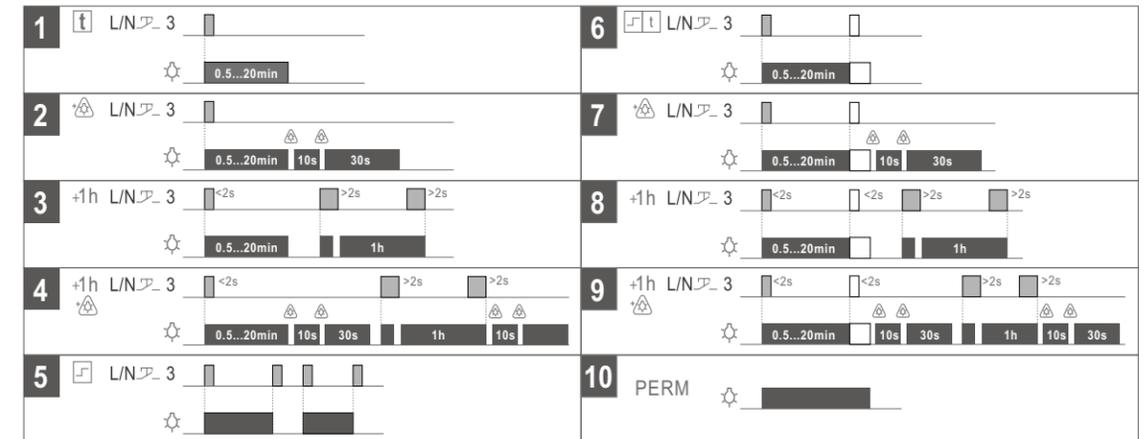
Feature

- 10 functional modes
- It has zero crossing switching ability.
- Voltage range: AC 230 V, clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

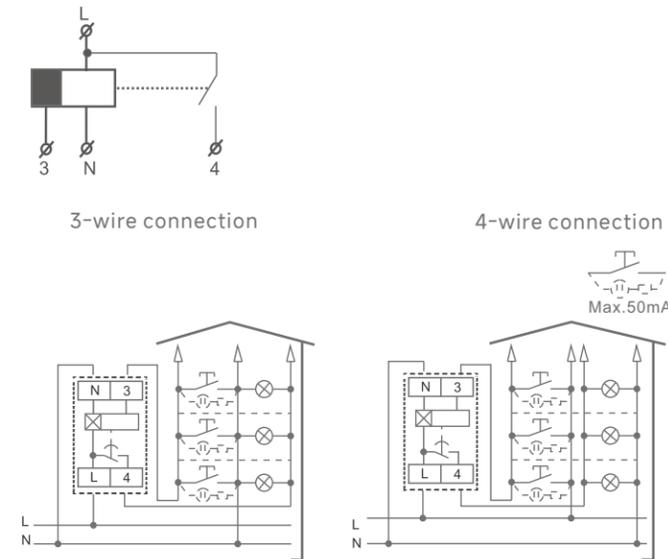
Technical parameters

	GRT8-LM
Function	delay off reacting to contact switching
Supply terminals	L-N
Voltage range	AC230V(50-60Hz)
Power input	AC max.1.2VA/0.8W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.5-20min
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	200ms
Glow tubes connctions	Yes(N-3 or L-3)
Max. amount of glow lamps	230V,max.75pcs(Measured with glow lamp 0.68mA/230V AC)
Temperature coefficient	0.05%/°C , at=20°C(0.05°F, at=68°F)
Output	1×SPST(zero crossing switching)
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 ⁵
Reset time	max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x18x64mm
Weight	65g
Standards	EN61812-1,IEC 60669-2-3,IEC60947-5-1

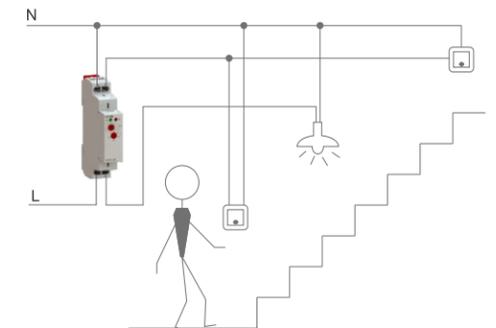
Functions Diagram



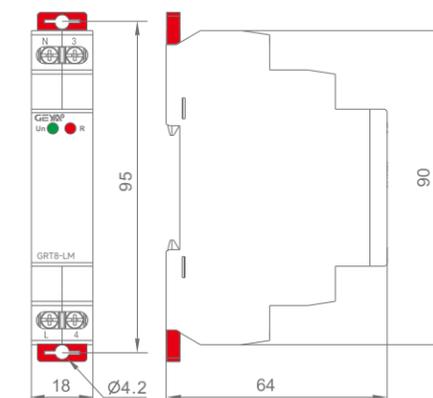
Wiring Diagram



Example

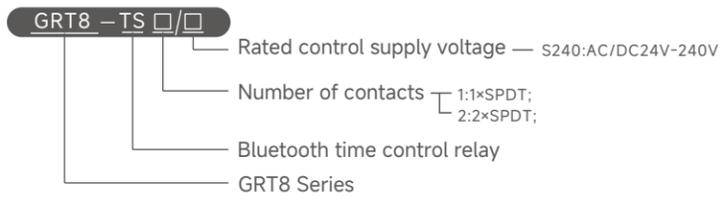


Dimensions(mm)



Types of lamps

Incandescent		3600W
Halogen lamp		3600W
Fluorescent, corrected, in series		1000W
Fluorescent, corrected, in paralle		900W(125uF)
Compact fluorescent		400W
LED lamps(<2W)		55W
LED lamps(>2W)		600W



Applications

- Bluetooth time control relay can be used for industrial equipment, lighting control, heating element control, motor and fan control, and regularly turn on and off loads.

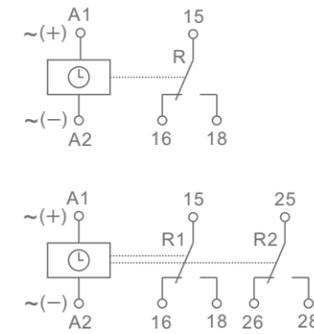
Feature

- The relay is set through Bluetooth connection of mobile phone app, which is simple and easy to operate.
- 8 / 16 group timing setting.
- It has two working modes: automatic and manual.
- It has AC / DC 24v-240v ultra wide working voltage.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

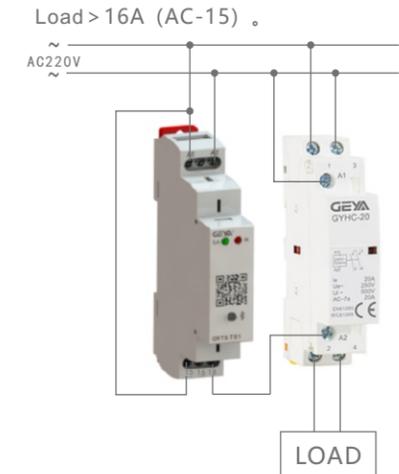
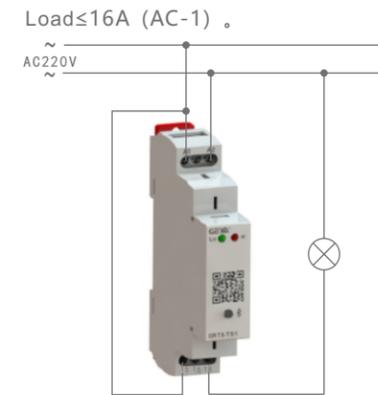
Technical parameters

	GRT8-TS1	GRT8-TS2
Function	Bluetooth time control relay	
Supply terminals	A1-A2	
Voltage range	AC/DC 24-240V 50Hz	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Number of times	8-ON/8-OFF	2×8-ON/2×8-OFF
Time setting	APP(Bluetooth connectivity)	
Time deviation	±2s/day	
Output	1×SPDT	2×SPDT
Min.breaking capacity DC	16A/AC1	
Output indication	500mW	
Mechanical life	Red LED	
Electrical life(AC1)	1x10 ⁷	
Operating temperature	1x10 ⁵	
Storage temperature	-20°C to + 55°C(-4°F to 131°F)	
Mounting/DIN rail	-35°C to + 75°C(-22°F to 158°F)	
Protection degree	Din rail EN/IEC 60715	
Operating position	Ip20	
Overvoltage category	any	
Pollution degree	III	
Max. cable size(mm ²)	2	
Dimensions	1×2.5mm ² or 2×1.5mm ² 0.4N·m	
Weight	62g	82g
Standards	90x18x64mm	
	GB/T14048.5,IEC60947-5-1,EN 61812-1	

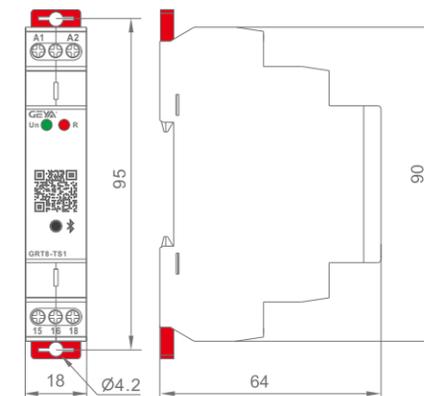
Wiring Diagram

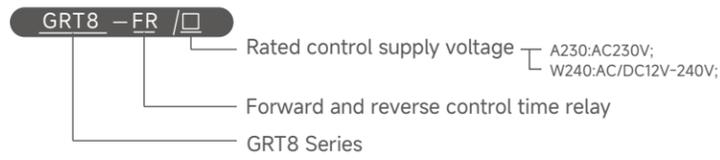


Example



Dimensions(mm)





Applications

- The forward and reverse control time relay can be used to control the forward and reverse rotation of the motor.

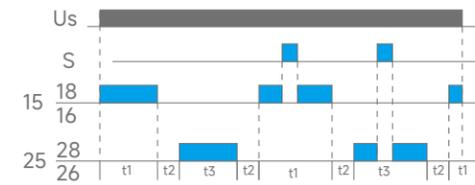
Feature

- You can individually set the forward, stop, and reverse times.
- With a forced stop function, it can be pressed to stop forward or reverse rotation at any time.
- Ultra wide delay range, 0.1 seconds - 99 days can be set.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

Technical parameters

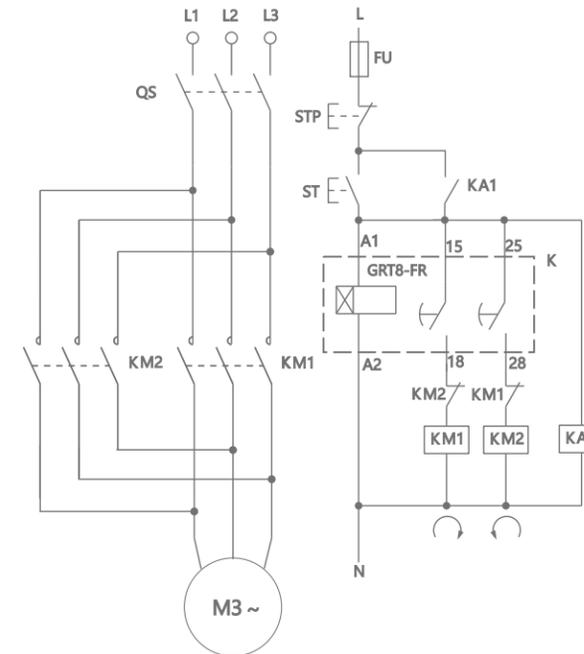
		GRT8-FR
Function		Forward and reverse control time relay
Supply terminals		A1-A2
Voltage range	W240	AC/DC12-240V(50-60Hz)
Burden		AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input		AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Time ranges		0.1s-99day,ON,OFF
Time setting		Key setting
Time deviation		≤1%
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05°F, at=68°F)
Output		2×SPDT
Current rating		16A/AC1
Switching voltage		250VAC/24VDC
Min. breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		1x10 ⁷
Electrical life(AC1)		1x10 ⁵
Reset time		max.200ms
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.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-82g,A230-81g
Standards		EN 61812-1.IEC6947-5-1

Functions Diagram

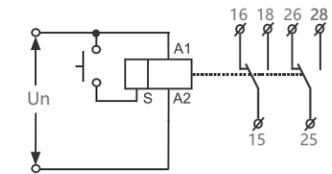


t1: Forward rotation time
t2: Stop time
t3: Reverse rotation time

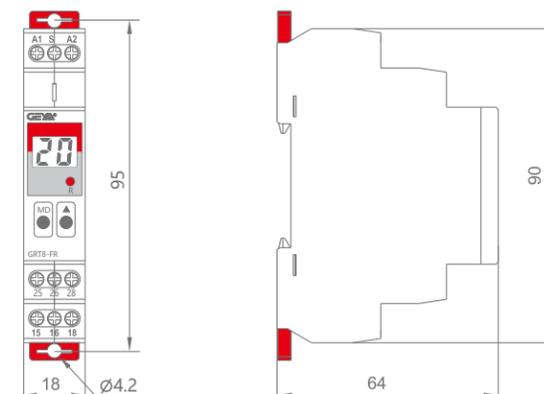
Example

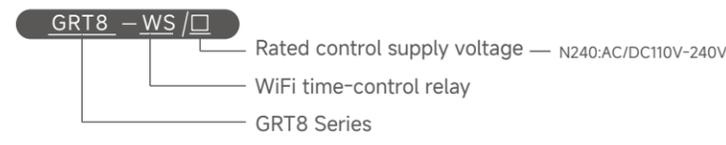


Wiring Diagram



Dimensions(mm)





Applications

- It turns on and off the load periodically and regularly, and usually control household equipment such as lights and appliances.

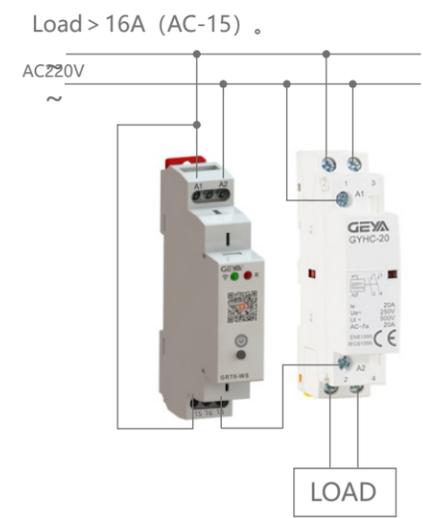
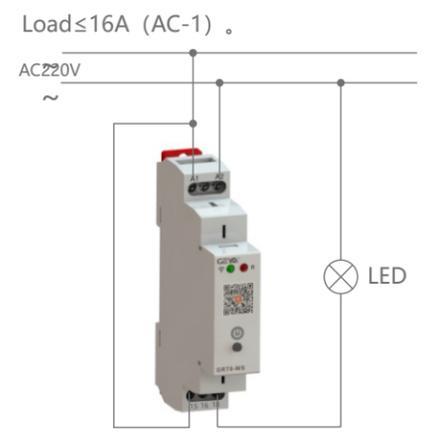
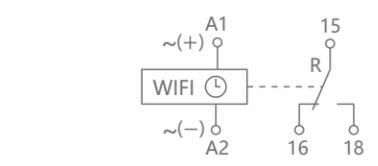
Feature

- Support access to Tuya's App Tuya smart.
- The on and off time of the load can be conveniently set through the App.
- On and off can be controlled manually.
- The cycle on / off can be set during the on time.
- DIN rail mounting.

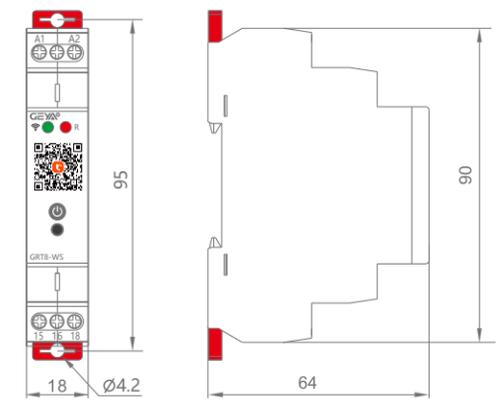
Technical parameters

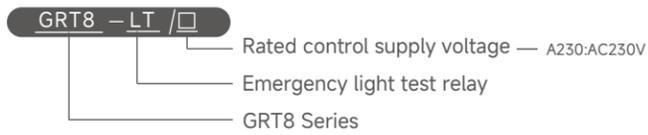
	GRT8-WS
Function	WiFi time-control relay
Supply terminals	A1-A2
Voltage range	AC/DC 110-240V 50Hz
Burden	AC 0.7-3VA/DC 0.5-1.7W
Supply voltage tolerance	-15%;+10%
Supply indication	Green LED
Time setting	APP
Time deviation	±30s
WIFI connectivity	802.11 b/g/n 2.4GHz
Output	1×SPDT 16A/AC1
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 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)	1×2.5mm ² or 2×1.5mm ² 0.4N·m
Dimensions	90x18x64mm
Weight	62g
Standards	GB/T14048.5,IEC60947-5-1,EN 61812-1

Wiring Diagram



Dimensions(mm)





Applications

- Timer for automatic test of emergency lights

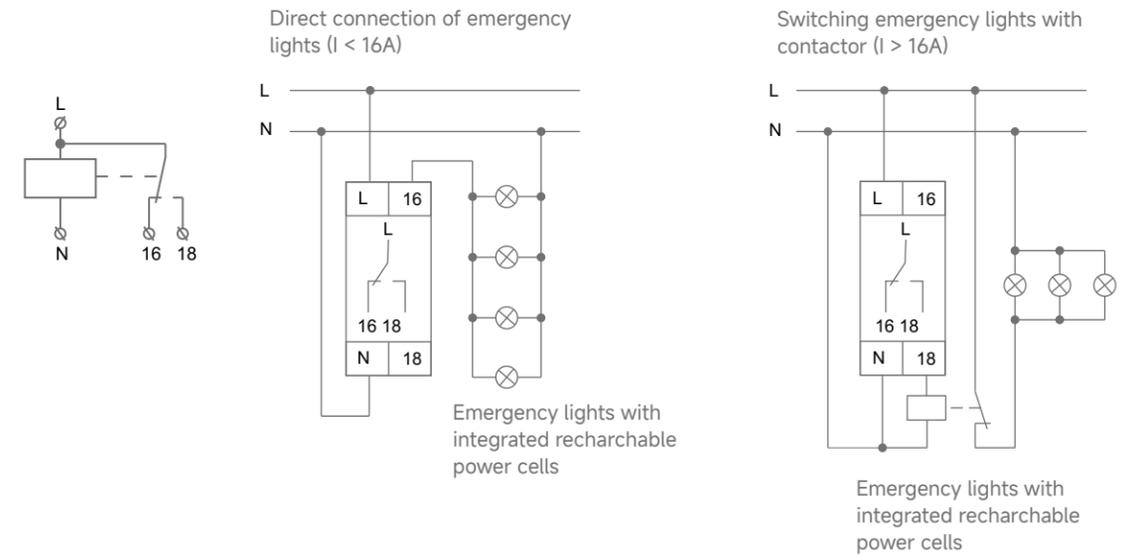
Feature

- Integrated test key.
- 1 change over contact.
- Voltage range: AC 230 V, clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

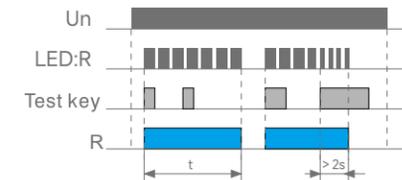
Technical parameters

	GRT8-LT
Function	Emergency light test relay
Supply terminals	L-N
Voltage range	AC 230V(50/60Hz)
Power input	AC max.1.2VA/0.8W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.5m-3hours
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	500ms
Temperature coecient	0.05%/°C
Output	1×SPDT
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity	500mW
DC Output indication	red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 ⁵
Reset time	max.200ms
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 cathogory	III
Pollution degree	2
Max. cable size(mm ²)	1×2.5mm ² or 2×1.5mm ²
Tightening torque	0.8Nm
Dimensions	90x18x64mm
Weight	70g
Standards	EN 61812-1,IEC 60669-2-3,IEC60947-5-1

Wiring Diagram

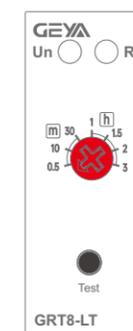


Functions Diagram

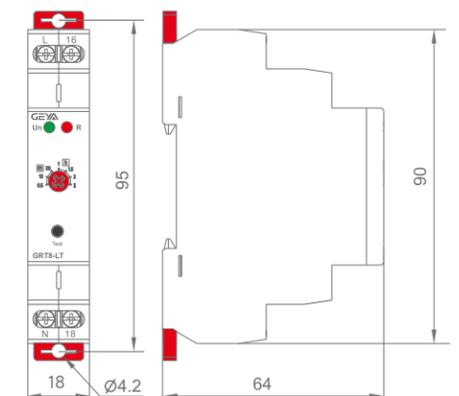


The supply voltage Un(L-N) must be constantly to the device (green LED Un illuminated). Pressing the integrated test key forces the output relay R to switch into on-position (red LED illuminated), so the emergency ligths are disconnected from the mains and the set interval t begins (red LED R flashes). After the interval t has expired (red LED R not illuminated), the output relay R switches into off-position and the emergency lights are reconnected to the mains. During the interval, the test key can be operated any number of times. Prolonged pressure on the test key (>2s) aborts the running test interval (red LED R flashes fast) and a further cycle can be started.

Panel Diagram



Dimensions(mm)



GRV8 - □ / □

Rated control supply voltage

Rated supply voltage code	Rated supply voltage	Supply voltage limits	Range of adjustment
D12	DC 12V	DC 7...20V	DC 9...15V
AD48	AC/DC 24...48V	AC/DC 18...270V	AC/DC 20...80V
AD240	AC/DC 110...240V	AC/DC 18...270V	AC/DC 65...260V
A220	AC 220V	AC 160...270V	AC 180...260V

Function mode

- 01:Over/Under voltage
- 02:Overvoltage and Undervoltage

GRV8 Series



Applications

- Protect electrical equipment and motors from over-voltage and under-voltage.
- Normal/emergency power supply switching.

Feature

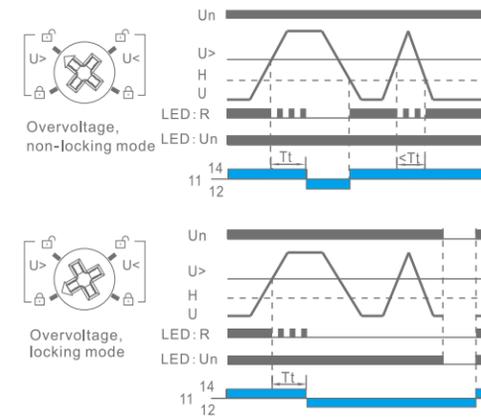
- Controls its own supply voltage(True RMS measurement)
- User may select operation mode through knob.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

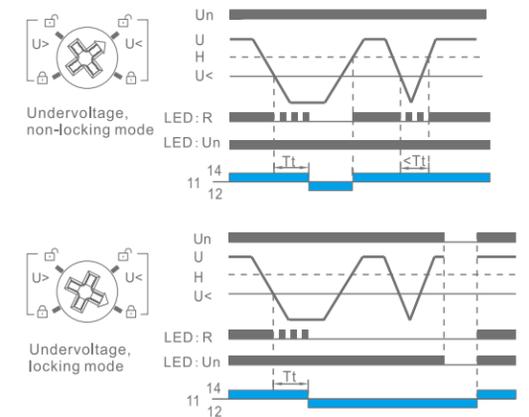
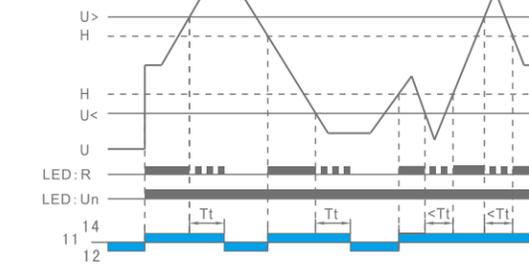
	GRV8-01	GRV8-02
Function	Monitoring voltage	
Supply terminals	A1-A2	
Rated supply voltage	DC12V,AC/DC24V-48V,AC/DC110V-240V,AC220V	
Rated supply frequency	45Hz-65Hz,0	
Hysteresis	5%-20%	3% fixed
Supply indication	Green LED	
OFF time delay(Tt)	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up(Tr)	0.5s time delay	
Knob setting accuracy	10% of scale value	
Reset time(Tr)	1s	
Temperature coefficient	0.05%/°C,at=20°C(0.05°F, at=68°F)	
Output	1×SPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life (AC1)	1x10 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.1×2.5or 2×1.5(with sleeve max.1×2.5(AWG 12)	
Tightening torque	0.8Nm	
Dimensions	90x18x64mm	
Weight	59g	
Standards	EN 60255-1,IEC60947-5-1	

Functions Diagram

GRV8-01

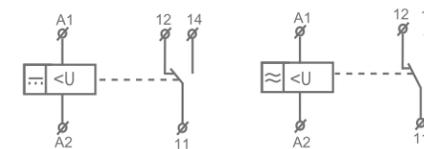


GRV8-02

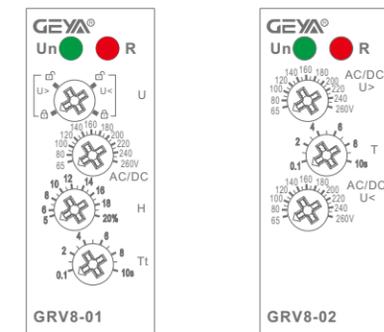


U>:Overvoltage threshold
U<:Undervoltage threshold
H:Hysteresis
U:Controlled signal
Tt: OFF time delay

Wiring Diagram



Panel Diagram



Dimensions(mm)

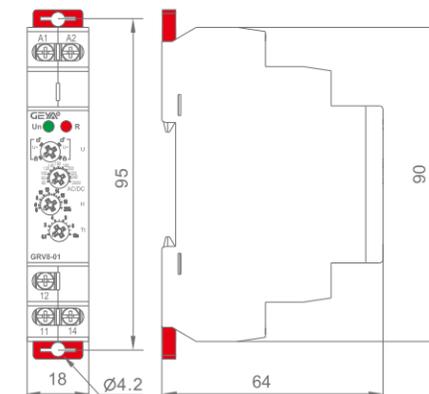
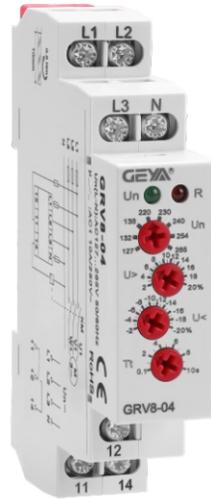




Table 1

Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure
03	—	—	—	—	●	●
04	2%...20%	-20%...2%	—	0.1s...10s	●	●
05	2%...20%	-20%...2%	8%	0.1s...10s	●	●
06	2%...20%	-20%...2%	5%...15%	2s	●	●
07	—	—	5%...15%	0.1s...10s	●	●
08	15%	-15%	8%	2s	●	●

Note: ●the function is available



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).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	L1-N
Voltage range	220-230-240-380-400-415-440-460(P-P)	127-132-138-220-230-240-254-265(P-N)
Rated supply frequency	45Hz-65Hz	
Measuring range	176V-552V	101V-318V
Threshold adjustment voltage	2%-20%of Un selected	
Adjustment of asymmetry threshold	5%-15%	
Hysteresis	2%	
Phase failure value	70% of Un selected M=165V	70% of Un selected
Supply indication	Green LED	
OFF time delay(Tt)	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up(Tr)	0.5s time delay	
Knob setting accuracy	10% of scale value	
Reset time(Tr)	1s	
Temperature coefficient	0.05%/°C,at=20°C(0.05°F, at=68°F)	
Output	1×SPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	

Functions Diagram

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.1×2.5or 2×1.5/ with sleeve max.1×2.5(AWG 12)
Tightening torque	0.8Nm
Dimensions	90x18x64mm
Weight	61-66g
Standards	EN 60255-1,IEC60947-5-1

Note:

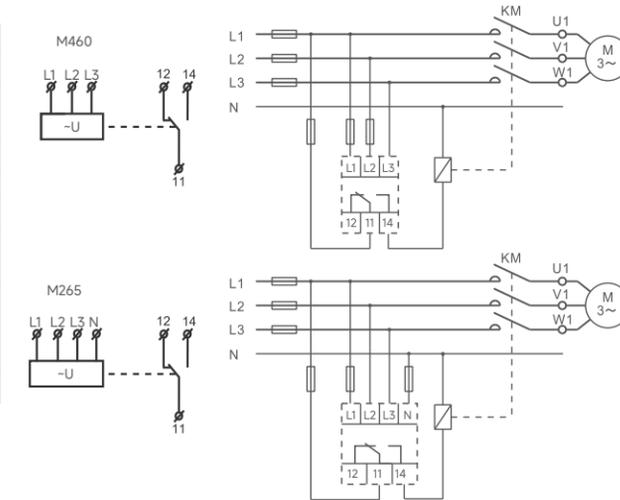
$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

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

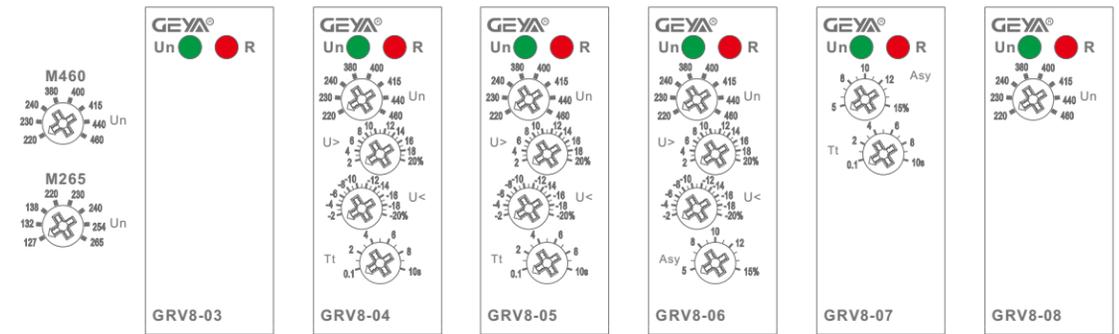
$$U_{max} = \text{Max}(U_1, U_2, U_3)$$

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

Wiring Diagram

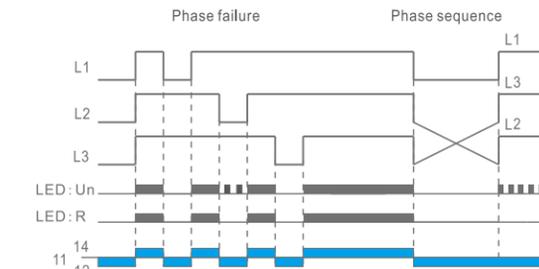


Panel Diagram

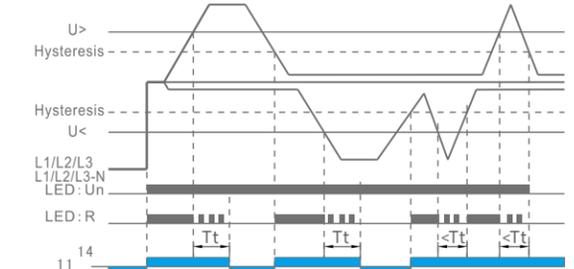


Functions Diagram

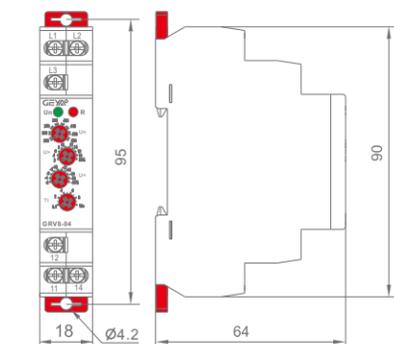
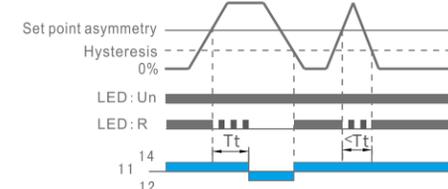
● Phase failure and phase equence function diagram



● Overvoltage and undervoltage function diagram



● Asymmetry function diagram



Tt: OFF time delay



Table 1

Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure
03D	—	—	—	—	●	●
04D	2%...20%	-20%...2%	—	0.1s...10s	●	●
05D	2%...20%	-20%...2%	8%	0.1s...10s	●	●
06D	2%...20%	-20%...2%	5%...15%	2s	●	●
07D	—	—	5%...15%	0.1s...10s	●	●
08D	15%	-15%	8%	2s	●	●

Note: ●the function is available

Applications

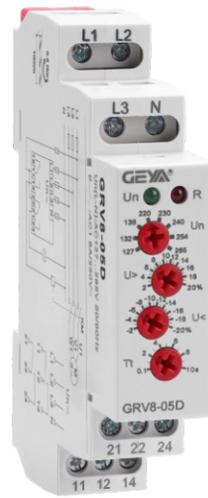
- Control for connection of moving equipment(site equipment,agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- 2 C/O output .
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	L1-N
Voltage range	220-230-240-380-400-415-440-460(P-P)	127-132-138-220-230-240-254-265(P-N)
Rated supply frequency	45Hz-65Hz	
Measuring range	176V-552V	101V-318V
Threshold adjustment voltage	2%-20%of Un selected	
Adjustment of asymmetry threshold	5%-15%	
Hysteresis	2%	
Phase failure value	70% of Un selected	70% of Un selected
Supply indication	Green LED	
OFF time delay(Tt)	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up(Tr)	0.5s time delay	
Knob setting accuracy	10% of scale value	
Reset time(Tr)	1s	
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	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	



Functions Diagram

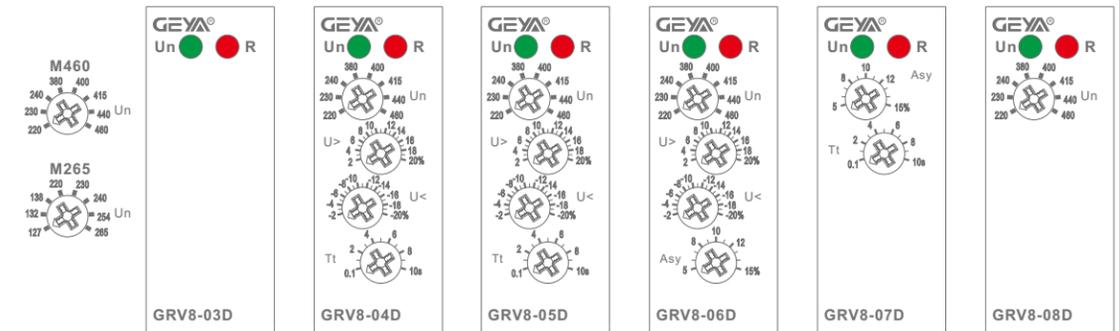
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/ with sleeve max.1×2.5(AWG 12)
Dimensions	90x18x64mm
Tightening torque	0.4Nm
Weight	68-71g
Standards	EN 60255-1,IEC60947-5-1

Note:

$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\% \quad U_{max} = \text{Max}(U_1, U_2, U_3)$$

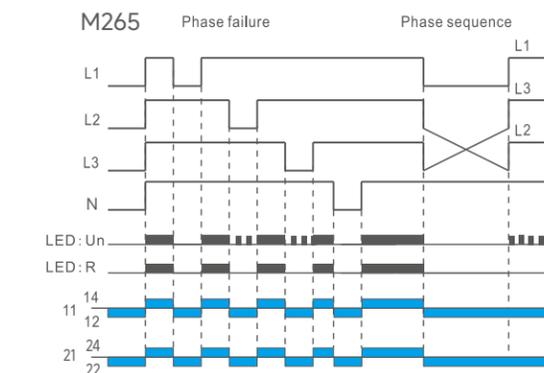
$$U_{avr} = \frac{U_1 + U_2 + U_3}{3} \quad U_{min} = \text{Min}(U_1, U_2, U_3)$$

Panel Diagram

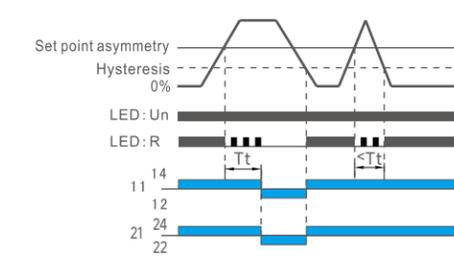


Functions Diagram

●Phase failure and phase equence function diagram

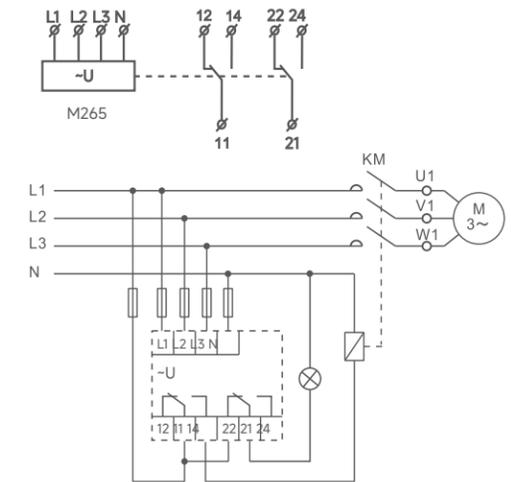


●Asymmetry function diagram



Tt: OFF time delay

Wiring Diagram



●Overvoltage and undervoltage function diagram

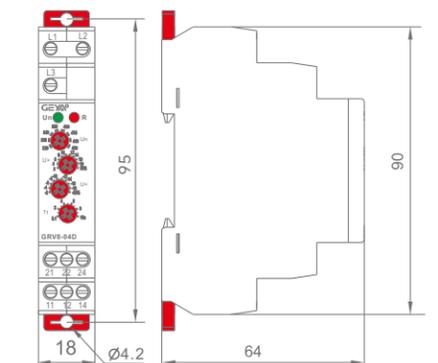
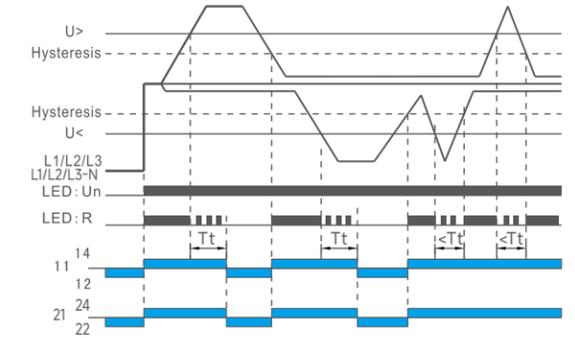




Table 1

Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure	Reset time
09					●	●	
10	2%...20%	-20%...2%	5%...15%	0.1s...10s	●	●	0.1s...10s

Note: ●the function is available



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).

Feature

- Controls its own supply voltage (True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Set the reset delay time through the knob.
- 2 C/O output.
- Measuring frequency range: 45Hz-65Hz.
- Voltage measurement accuracy <1%.
- Relay status is indicated by LED.
- 2-MODULE, DIN rail mounting.

Technical parameters

	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2-L3	L1-L2-L3-N
Voltage range	220-230-240-380-400-415-440-460(P-P)	127-132-138-220-230-240-254-265(P-N)
Rated supply frequency	45Hz-65Hz	
Measuring range	176V-552V	101V-318V
Threshold adjustment voltage	2%-20% of Un selected	
Adjustment of asymmetry threshold	5%-15%	
Hysteresis	2%	
Phase failure value	70% of Un selected	
Supply indication	Green LED	
OFF time delay (Tt)	Adjustable 0.1s-10s, 10%	
Measurement error	≤1%	
Run up delay at power up (Tr)	Adjustable 0.1s-10s, 10%	
Knob setting accuracy	10% of scale value	
Temperature coefficient	0.05%/°C, at=20°C (0.05%/°F, at=68°F)	
Output	2xSPDT	
Current rating	5A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life (AC1)	1x10 ⁵	

Functions Diagram

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.1x2.5 or 2x1.5/ with sleeve max.1x2.5(AWG 12)
Dimensions	90x36x64mm
Weight	100g
Tightening torque	0.4Nm
Standards	EN 60255-1, IEC60947-5-1

Note:

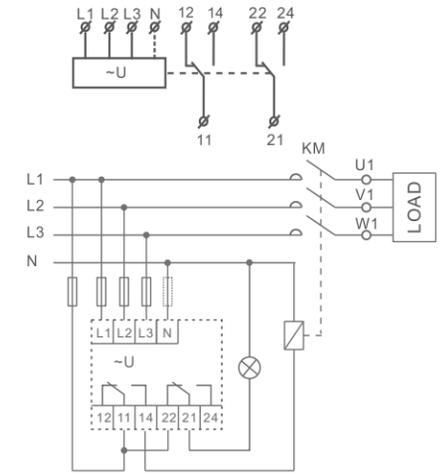
$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

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

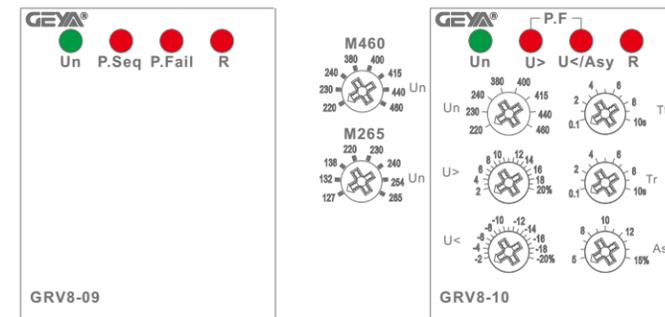
$$U_{max} = \max(U_1, U_2, U_3)$$

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

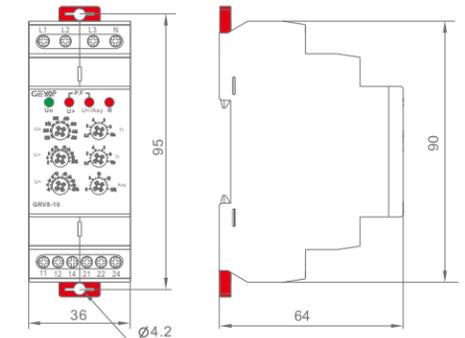
Wiring Diagram



Panel Diagram

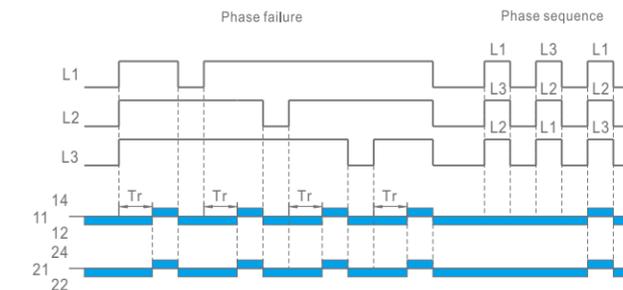


Dimensions (mm)

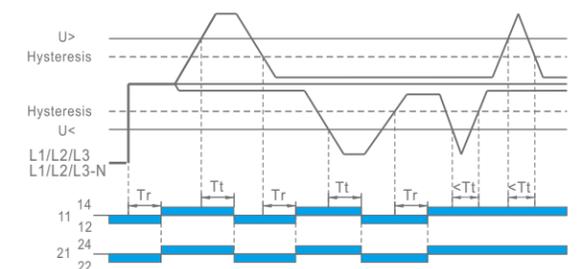


Functions Diagram

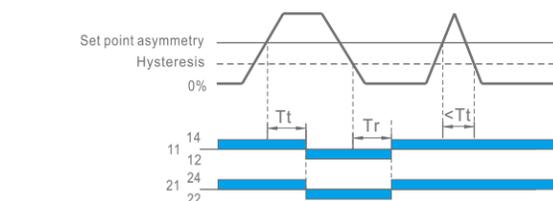
● Phase failure and phase sequence function diagram



● Overvoltage and undervoltage function diagram



● Asymmetry function diagram



Tt: OFF time delay,
Tr: Power up/Reset delay

GRV8 - □

Function mode: Table 1
GRV8 Series

Function code	Over-voltage	Under-voltage	Asymmetry	OFF delay Phase time	Phase sequence	Phase failure
21					○	●
22	5%...25%OFF	OFF,-25%...-5%		0.1s...30s	●	●
23	5%...25%OFF	OFF,-25%...-5%	8%	0.1s...30s	●	●
24	5%...25%OFF	OFF,-25%...-5%	5%...20%OFF	2s	●	●
25			5%...20%	0.1s...30s	●	●
26	15%	-15%	8%	2s	●	●

Note: ● the function is available
○ the function is adjustable

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).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

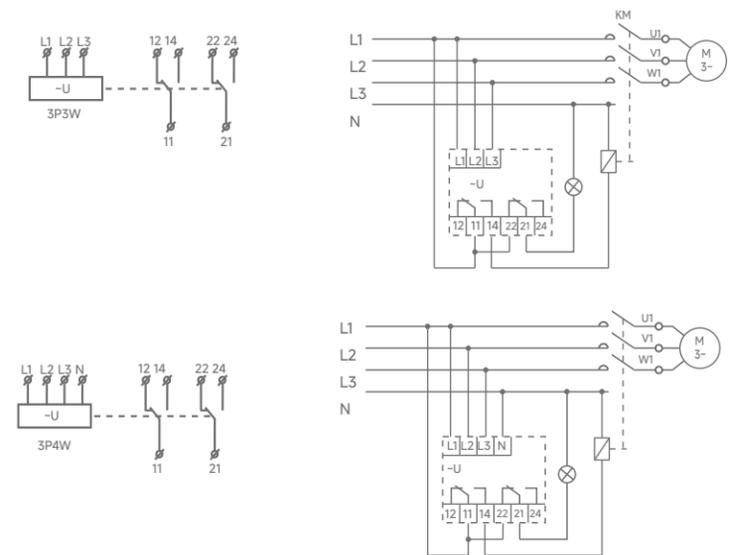
	3P3W	3P4W
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	
Voltage range	380-400-415-440-480(P-P)	220-230-240-254-277(P-N)
Rated supply frequency	45Hz-65Hz	
Measuring range	260V-576V	150V-332V
Threshold adjustment voltage	5%-25%of Un selected or OFF The Max "U>" for Un 277V or 480V shall not exceed 20%	
Adjustment threshold	5%-20% or OFF	
Hysteresis	2%	
Phase failure value	70% of Un selected	
OFF delay time(Tt)	Adjustable 0.1s-30s,10%	
Measurement error	≤1%	
Delay at power up(Tr)	0.5s	
Knob setting accuracy	10% of scale value	
Output indication	Green LED	
Fault indication	Red LED	
Reset time	1s	
Output	2×SPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Temperature coefficient	0.05%/°C,at=20°C(0.05%/°F,at=68°F)	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	



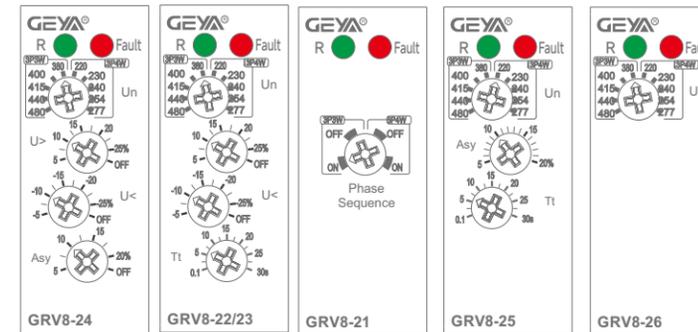
Functions Diagram

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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Tightening torque	0.4Nm
Dimensions	90x18x64mm
Weight	69-72g
Standards	EN 60255-1, IEC60947-5-1

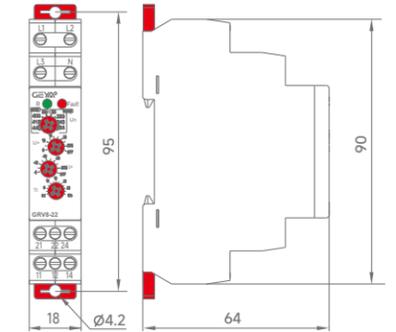
Wiring Diagram



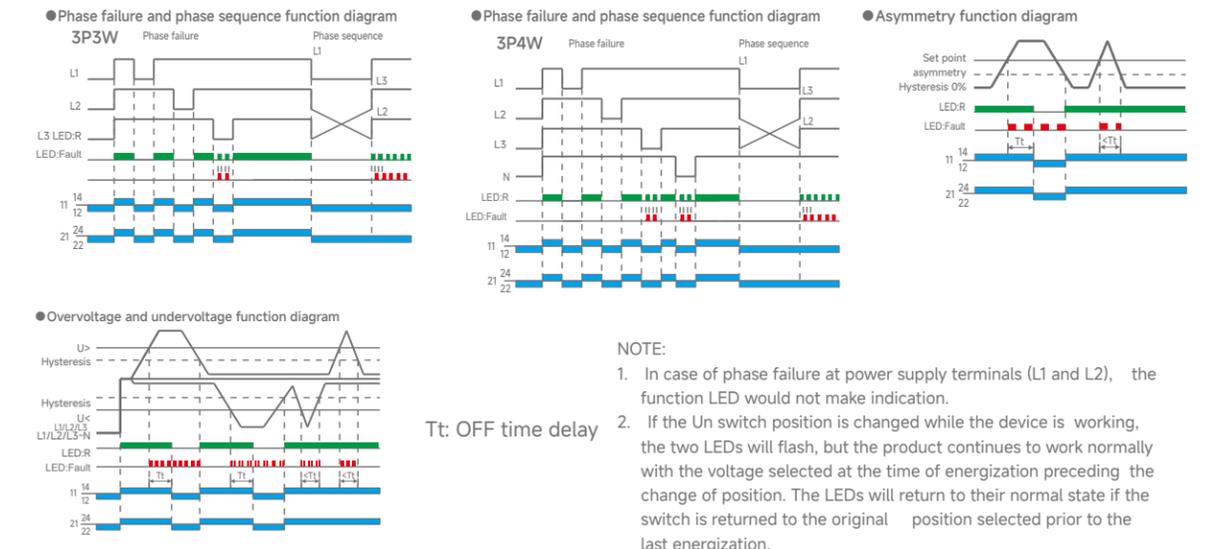
Panel Diagram



Dimensions(mm)



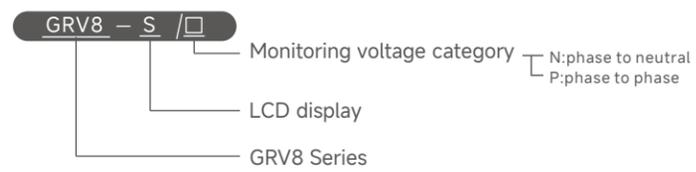
Functions Diagram



NOTE:

- In case of phase failure at power supply terminals (L1 and L2), the function LED would not make indication.
- If the Un switch position is changed while the device is working, the two LEDs will flash, but the product continues to work normally with the voltage selected at the time of energization preceding the change of position. The LEDs will return to their normal state if the switch is returned to the original position selected prior to the last energization.

Tt: OFF time delay



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).

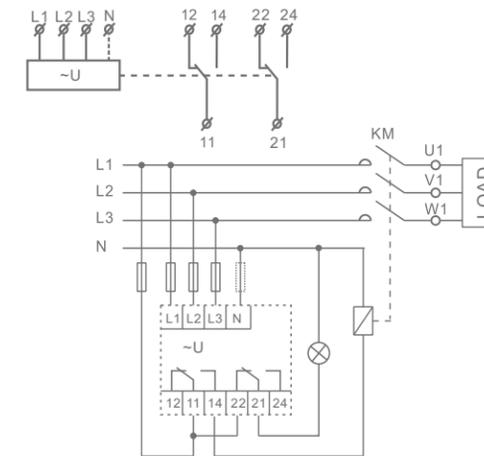
Feature

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

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	
Voltage hysteresis	2% Un	
Measuring range	130V-650V	70V-400V
Measurement error	≤1%	
Phase failure	50% Un selected	
Time deviation	≤5%	
Temperature coefficient	0.05%/°C,at=20°C(0.05°F, at=68°F)	
Output	2×SPDT	
Current rating	5A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Tightening torque	0.4Nm	
Dimensions	90x36x64mm	
Weight	100g	109g
Standards	EN 60255-1, IEC60947-5-1	
Time deviation	≤5%	

Wiring Diagram

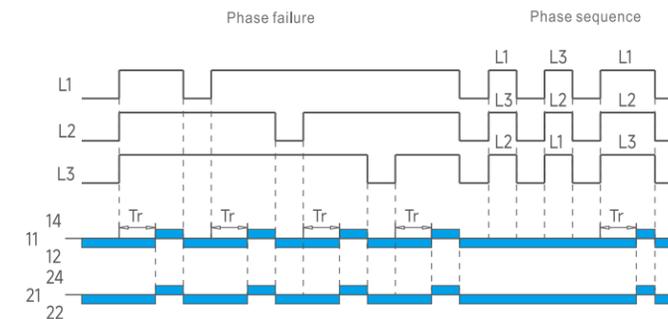


Parameters	Setting range	Step	Factory default	Remarks	
Rated voltage(Un)	127-132-138-220-230-240-254-265(P-N)		220V	GRV8-SN	
	220-230-240-380-400-415-440-460(P-P)		380V	GRV8-SP	
Over voltage	Operation value	OFF-(Un+1)...350	1V	253V	GRV8-SN
	Delay time	OFF-(Un+1)...600	1V	437V	GRV8-SP
Under voltage	Operation value	80...(Un-1)-OFF	1V	187V	GRV8-SN
	Delay time	150...(Un-1)-OFF	1V	323V	GRV8-SP
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	

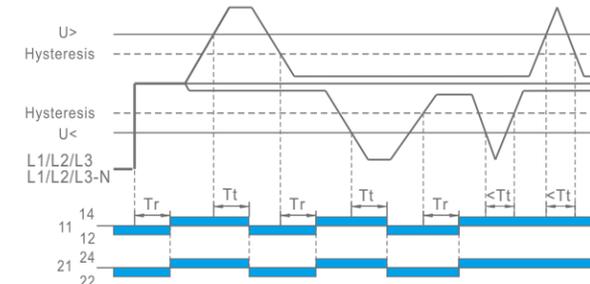
Note: "ON" means activating protection function,and"OFF" means inactivating protection function.

Functions Diagram

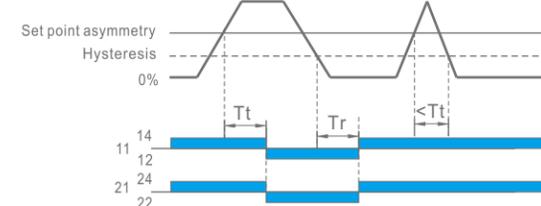
● Phase failure and phase equence function diagram



● Overvoltage and undervoltage function diagram

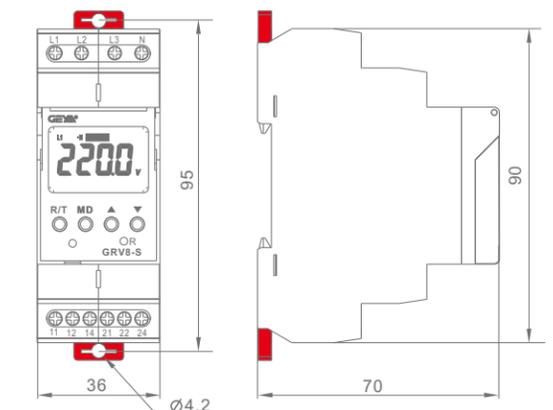


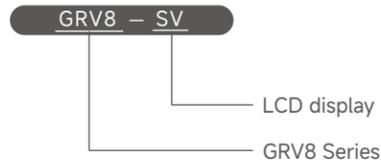
● Asymmetry function diagram



Tt: OFF time delay,
Tr: Power up/Reset delay

Dimensions(mm)





Applications

- Control for connection of moving equipment(site equipment, agricultural equipment,refrigerated trucks).
- Normal/emergency power supply switching.

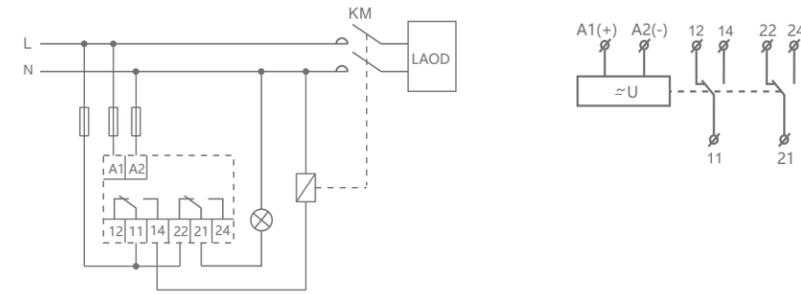
Feature

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

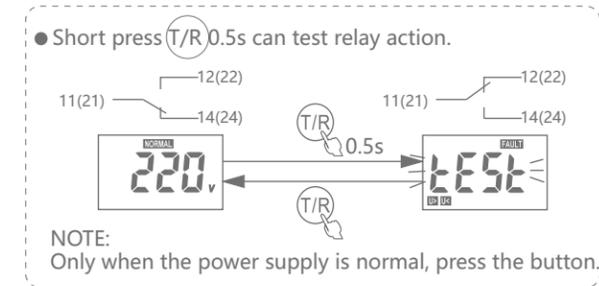
Technical parameters

	GRV8-SV
Function	Over voltage, under voltage
Rated supply voltage	AC/DC110V..240V
Rated supply frequency	45~65Hz,0Hz
Operation voltage range	50V~350V
Burden	AC max.3VA
Over voltage operation value	65V~300V OFF
Under voltage operation value	OFF.65V~300V
Over/under voltage action delay(Tt)	0.1s~20s
Power-up delay	0.5s~300s
Reset time(Tr)	0.5s~300s
Measurement error	≤1%
Output	2xSPDT
Current rating	8A/AC1
Switching voltage	250VAC/24VDC
Electrical life(AC1)	1x10 ⁷
Mechanical life	1x10 ⁵
Operating temperature	-20°C~+60°C
Storage temperature	-35°C~+75°C
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.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)
Tightening torque	0.4Nm
Dimensions	90x 36x 70mm
Weight	100g
Standards	EN 60255-1 IEC60947-5-1

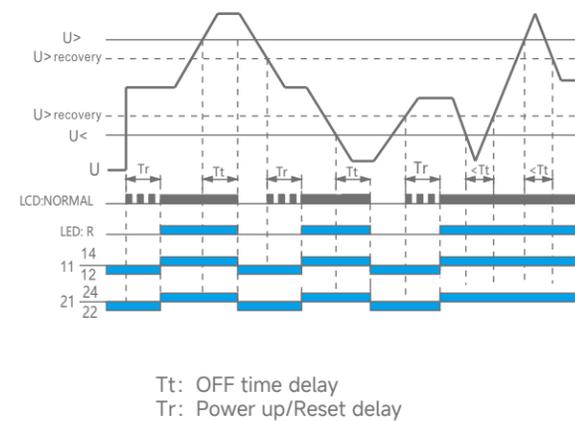
Wiring Diagram



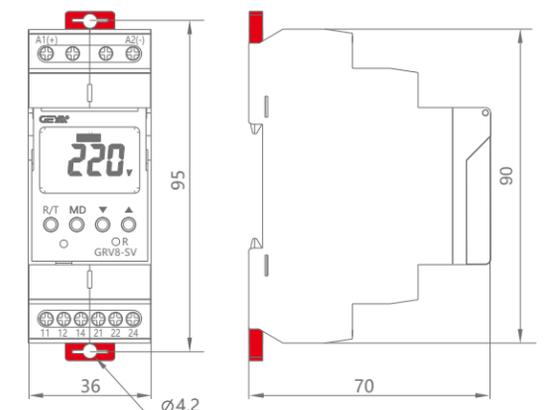
Operation description

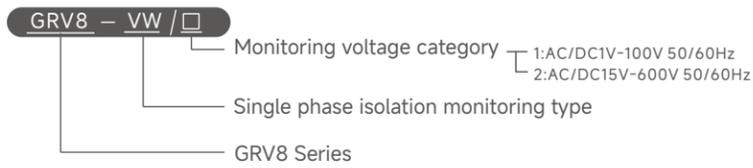


Functions Diagram



Dimensions(mm)





Applications

- Used for overvoltage and undervoltage protection of electrical equipment. Monitor weak load carrying capacity or voltage signals that require isolation.
- Normal/emergency power switch. Prevent phase failure of dynamic loads.

Feature

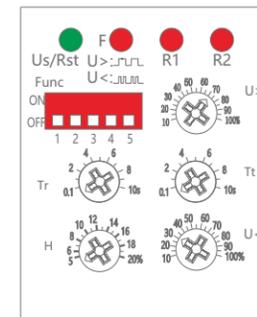
- True RMS measurement with high measurement accuracy.
- Overvoltage and undervoltage selection monitoring or simultaneous monitoring.
- The output contact is normally open or normally closed and can be set.
- Two sets of contact outputs, which can act separately and independently.
- 36mm wide, 35mm clamp rail installation.

Technical parameters

	GRV8-VW1	GRV8-VW2
Function	Monitoring voltage	
supply terminals	A1,A2	
Rated supply voltage	AC/DC24-240V 50/60Hz	
Monitoring voltage input terminal	V1,V2,V3,C	
Monitoring voltage range	AC/DC1V-100V 50/60Hz	AC/DC15V-600V 50/60Hz
Rated insulation voltage	600V	
Hysteresis	Only over or under:5%-20%adjustable;Over and under:fixed 3%	
Supply/Reset indication	Green LED	
Measurement error	≤2%	
OFF time delay(Tt)	0.1s~10s	
Power up delay/Reset time(Tr)	0.1s~10s	
Knob setting accuracy	10%	
Output	2xSPDT	
Current rating	5A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	5x10 ⁶	
Electrical life(AC1)	5x10 ⁴	
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.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)	
Dimensions	90x 36x 70mm	
Weight	100g	
Standards	IEC60947-5-1	

Model	Input terminal	Input monitoring voltage range	Input resistance
GRV8-VW1	V1-C	AC/DC 1V-10V 50/60Hz	22kΩ
	V2-C	AC/DC 5V-50V 50/60Hz	110kΩ
	V3-C	AC/DC 10V-100V 50/60Hz	220kΩ
GRV8-VW2	V1-C	AC/DC 15V-150V 50/60Hz	500kΩ
	V2-C	AC/DC 30V-300V 50/60Hz	1MΩ
	V3-C	AC/DC 60V-600V 50/60Hz	2MΩ

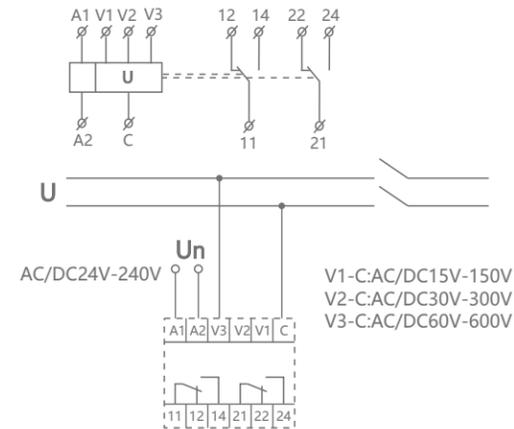
Panel Diagram



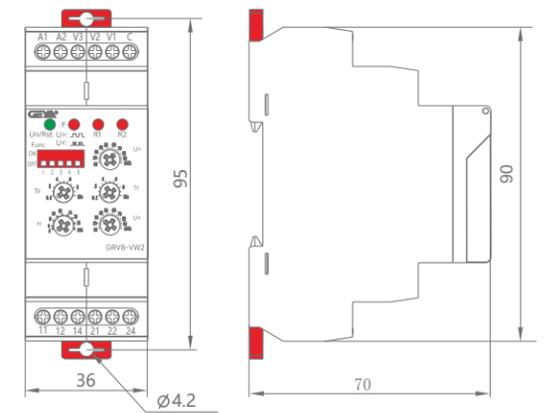
Switch Settings

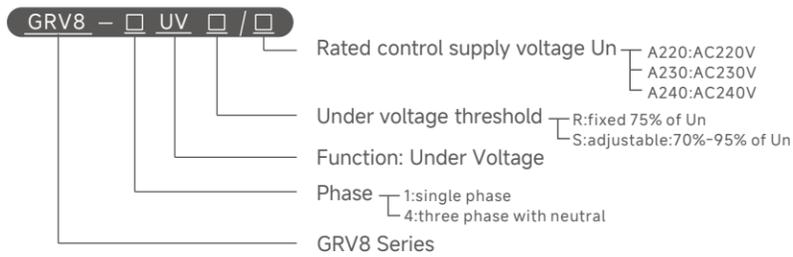
SW1	ON	Over or under
	OFF	Over and under
SW2	ON	Only over(Valid when SW1=ON)
	OFF	Only under(Valid when SW1=ON)
SW3	ON	Locked after over/under protect
	OFF	Auto-reset after over/under protect
SW4	ON	11-14/21-14 Normal closed
	OFF	11-14/21-14 Normal open
Sw5	ON	Relay 1 and relay 2 operate simultaneously (This mode is defaulted when SW1=ON)
	OFF	Relay 1 and relay 2 operate separately Valid when SW1=OFF,R1(11,12,14)-Over,R2(21,22,24)-Under

Wiring Diagram



Dimensions(mm)





Applications

- Product is used for highly fluctuating inductive load such as Air Conditioning system in Industrial and commercial establishments. It protects the system equipment and load from sudden under voltage fluctuations.

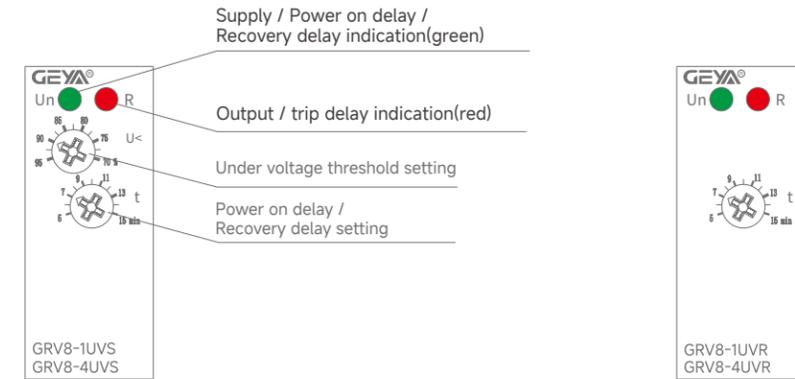
Feature

- Controls its own supply voltage(True RMS measurement).
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

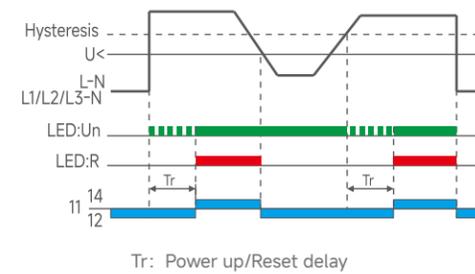
Technical parameters

	GRV8-1UV	GRV8-4UV
Function	Under voltage	
Monitoring terminals	L-N	L1-L2-L3-N
supply terminals	L-N	L1-N
Rated supply voltage(U_n)	220V/230V/240V	
Rated supply frequency	45Hz-65Hz	
Under voltage threshold	R:fixed 75% of U_n ; S:70%-95%of U_n	
Trip delay time	0.1s	
Hysteresis	5V	
Measurement error	≤1%	
Power on delay time(T_r)	Adjustable: 5min-15min	
Recovery delay time(T_r)	Adjustable: 5min-15min	
Knob setting accuracy	10% of scale value	
Supply indication	Green LED	
Output indication	Red LED	
Output	1 X SPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 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.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)	
Tightening torque	0.8Nm	
Dimensions	90x 18x 64mm	
Weight	63g,65g	
Standards	EN 60255-1 IEC60947-5-1	

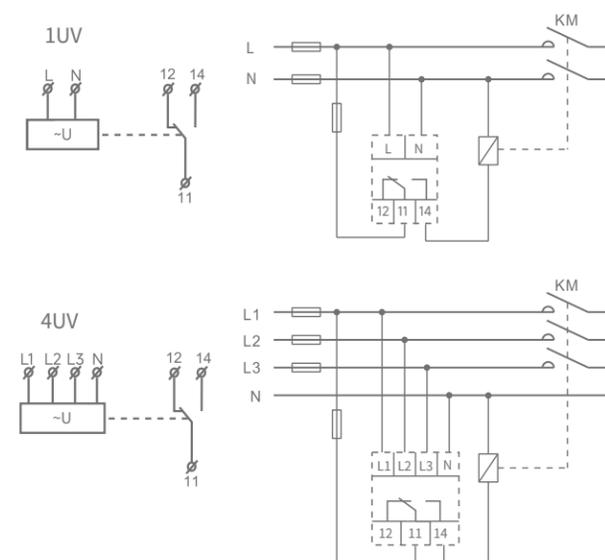
Panel Diagram



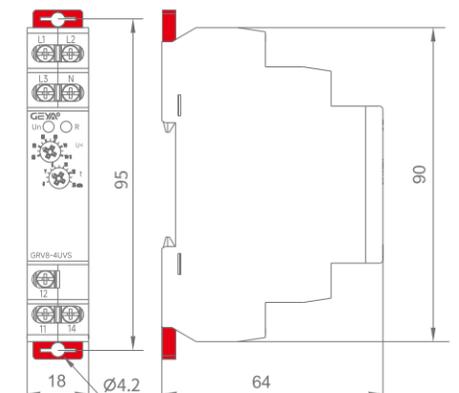
Functions Diagram

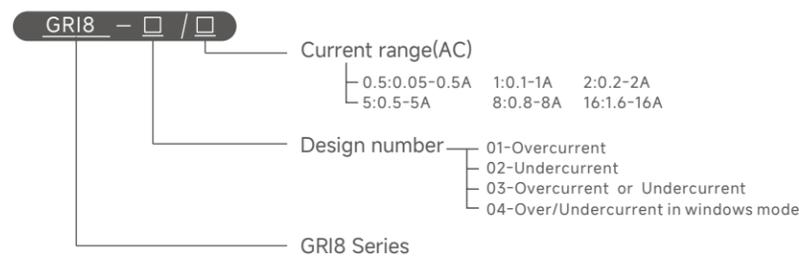


Wiring Diagram



Dimensions(mm)





Applications

- Serves for monitoring of heating in rail-switches, heating cables, consumption of one-phase motors, indicates current flow.

Feature

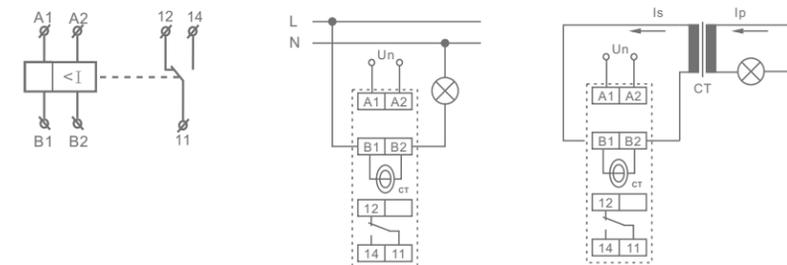
- Adjustable delay 0.1 - 10 s to eliminate short current peaks.
- Flexible adjustment by potentiometer, choice of 6 ranges:AC 0.05-0.5A; AC 0.1-1A; AC 0.2-2A; AC 0.5-5A; AC 0.8-8A; AC 1.6-16A
- Power up delay.
- Possible to use for current scanning from current transformer.
- Universal supply AC/DC 24 - 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Technical parameters

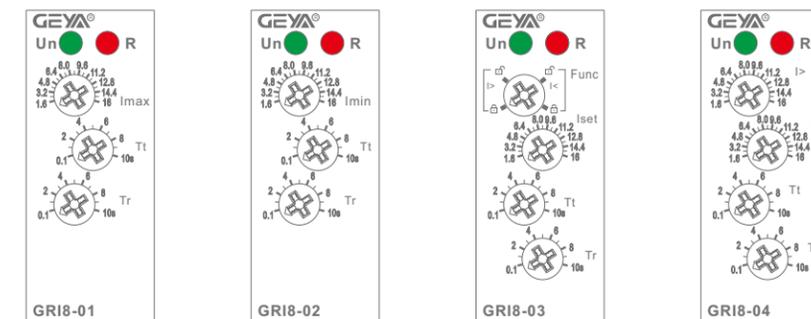
	GRI8-01	GRI8-02	GRI8-03	GRI8-04		
Function	Over current	Under current	Over Under current	Over/Under current		
supply terminals	A1-A2					
Rated supply voltage	AC/DC 24V-240V					
Rated supply frequency	50/60Hz,0					
Burden	max. 2VA					
Supply voltage tolerance	-15%;+10%					
Current range	0.05A-0.5A	0.1A-1A	0.2A-2A	0.5A-5A	0.8A-8A	1.6A-16A
Current frequency	AC 50Hz					
Max. operating current	2A	2A	4A	8A	12A	22A
Current adjustment	potentiometer					
OFF time delay	Adjustable: 0.1-10s					
Power up delay	Adjustable: 0.1-10s					
Supply indication	Green LED					
Setting accuracy	10%					
Repeat accuracy	≤1%					
Temperature dependancy	<0.1%/°C					
Limit values tolerance	5%(10% for 0.05-0.5A range)					
Hysteresis	5%					
Temperature coefficient	0.05%/°C,at=20°C(0.05°F, at=68°F)					
Output	1 X SPDT					
Current rating	10A/AC1					
Switching voltage	250VAC/24VDC					
Min. breaking capacity DC	500mW					
Output indication	Red LED					
Mechanical life	1x10 ⁷					
Electrical life(AC1)	1x10 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.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	62g
Standards	EN 60255-1

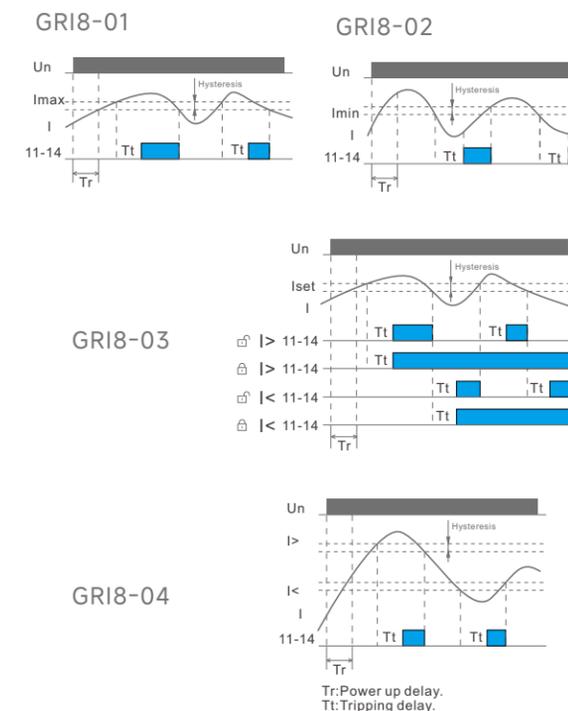
Wiring Diagram



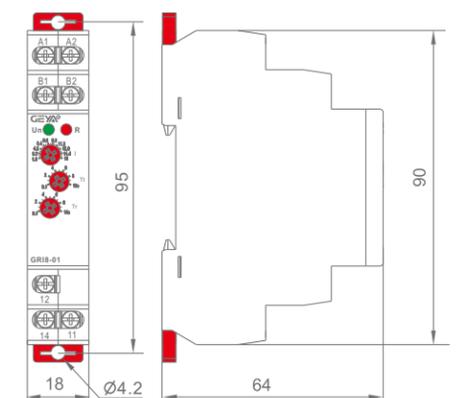
Panel Diagram

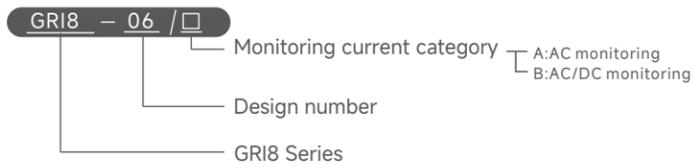


Functions Diagram



Dimensions(mm)





Applications

- Serves for monitoring of heating in rail-switches, heating cables, consumption of one-phase motors, indicates current flow.

Feature

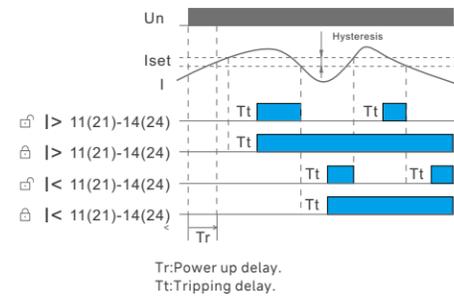
- Through center design, no need to disconnect the current circuit, through center installation is convenient to use.
- Over / under current monitoring mode can be set by knob.
- With AC and DC universal testing specifications optional.
- Isolation current transformer is adopted, and external current transformer can be connected to expand the monitoring current range.
- 2 C/O output .
- Universal supply AC/DC 24 - 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.



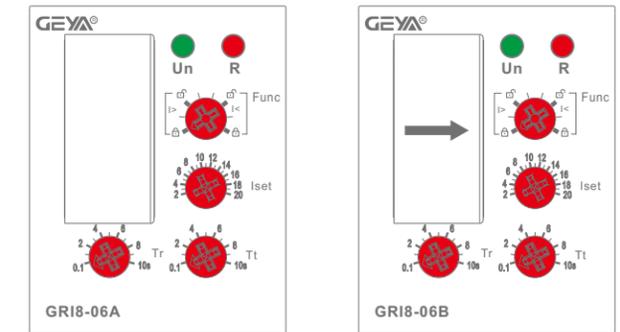
Technical parameters

	GRI8-06A	GRI8-06B
Function	AC measurement	AC/DC measurement
Supply terminals	A1,A2	
Rated supply voltage	AC/DC24-240V	
Rated supply frequency	50/60Hz,0	
Burden	max 1.5VA	
Supply voltage tolerance	-15%;+10%	
Current range	2A-20A	2A-20A
Current frequency	AC 50Hz	AC 50Hz ,DC
Setting accuracy	Potentiometer	
Supply indication	Green LED	
Setting accuracy	10%	
Hysteresis	5%	
Output	2xSPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 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	IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max.cable size(mm ²)	1x2.5mm ² or 2x1.5mm ²	0.4N·m
Dimensions	90x 36x 64mm	
Weight	103g	100g
Standards	EN 60255-1	

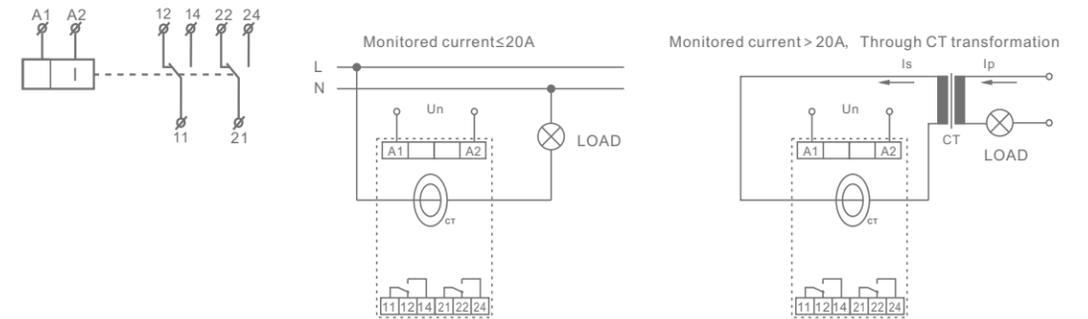
Functions Diagram



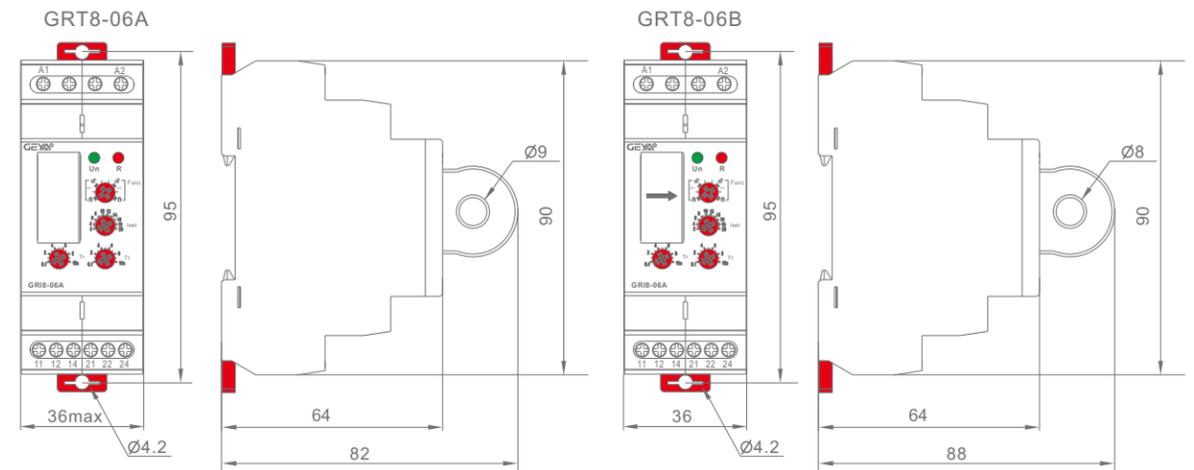
Panel Diagram

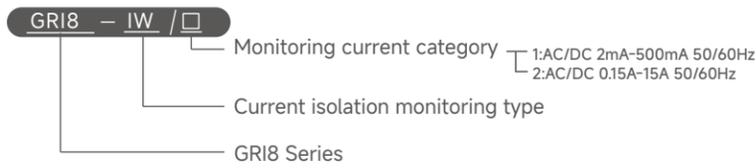


Wiring Diagram



Dimensions(mm)



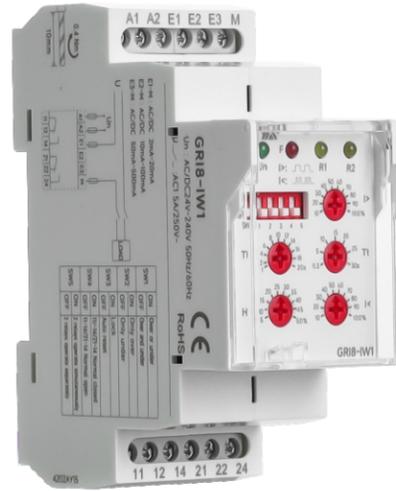


Applications

- Used for overcurrent and undercurrent protection of electrical equipment.

Feature

- True RMS measurement with high measurement accuracy.
- Overcurrent and undercurrent selection monitoring or simultaneous monitoring.
- The output contact is normally open or normally closed and can be set.
- Two sets of contact outputs, which can act separately and independently.
- 36mm wide, 35mm clamp rail installation.



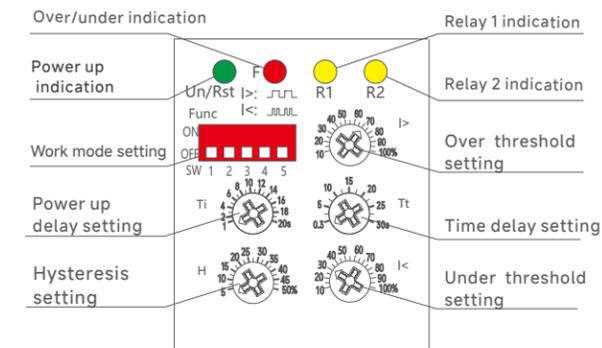
Technical parameters

	GRI8-IW1	GRI8-IW2
Function	Monitoring current	
Supply terminals	A1,A2	
Rated supply voltage	AC/DC24-240V 50/60Hz	
Monitoring current input terminal	E1,E2,E3,M	
Monitoring current range	AC/DC2mA-500mA 50/60Hz	AC/DC0.15mA-15A 50/60Hz
Rated insulation voltage	500V	
Hysteresis	Only over or under:5%-50%adjustable;Over and under:fixed 5%	
Supply indication	Green LED	
Measurement error	≤5%	
Time delay(Tt)	0.3s-30s	
Power up delay/Reset time(Tr)	1s-20s	
knob setting accuracy	10%	
Output	2×SPDT	
Current rating	5A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Yellow LED	
Mechanical life	5×10 ⁶	
Electrical life(AC1)	5×10 ⁴	
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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90mm×36mm×70mm	
Weight	100g	
Standards	EN/IEC60947-5-1	

Functions Diagram

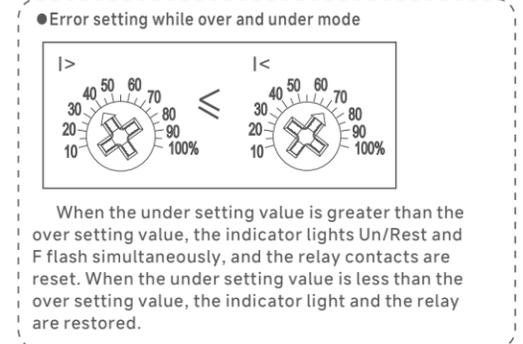
Model	Input terminal	Input monitoring current range	Input resistance	Overload capacity
GRI8-IW1	E1-M	AC/DC2mA-20mA 50/60Hz	5Ω	Continuous input at 120% of maximum input. 1s at 150%
	E2-M	AC/DC10mA-100mA 50/60Hz	1Ω	
	E3-M	AC/DC50mA-500mA 50/60Hz	0.2Ω	
GRI8-IW2	E1-M	AC/DC0.15A-1.5A 50/60Hz	0.05Ω	
	E2-M	AC/DC0.5A-5A 50/60Hz	0.015Ω	
	E3-M	AC/DC1.5A-15A 50/60Hz	0.005Ω	

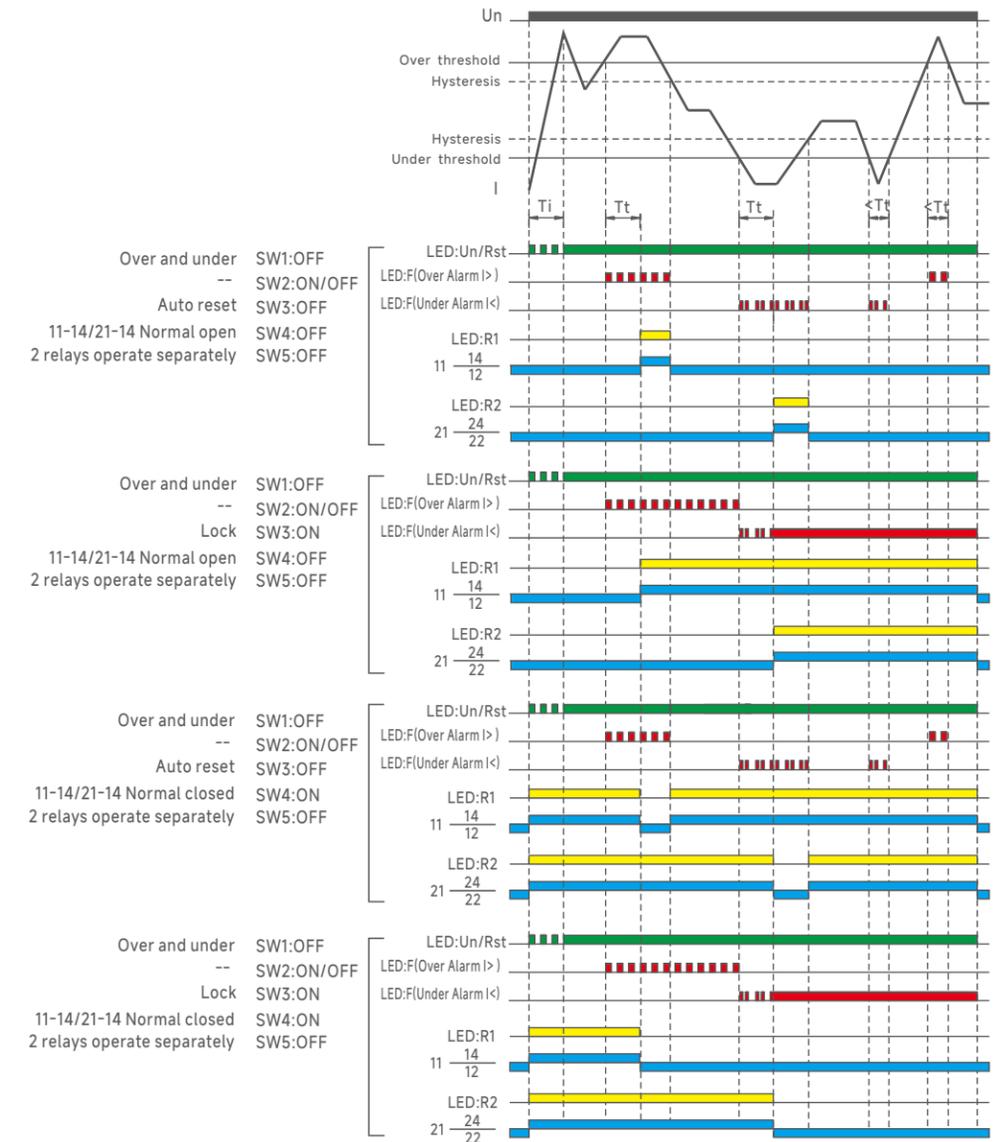
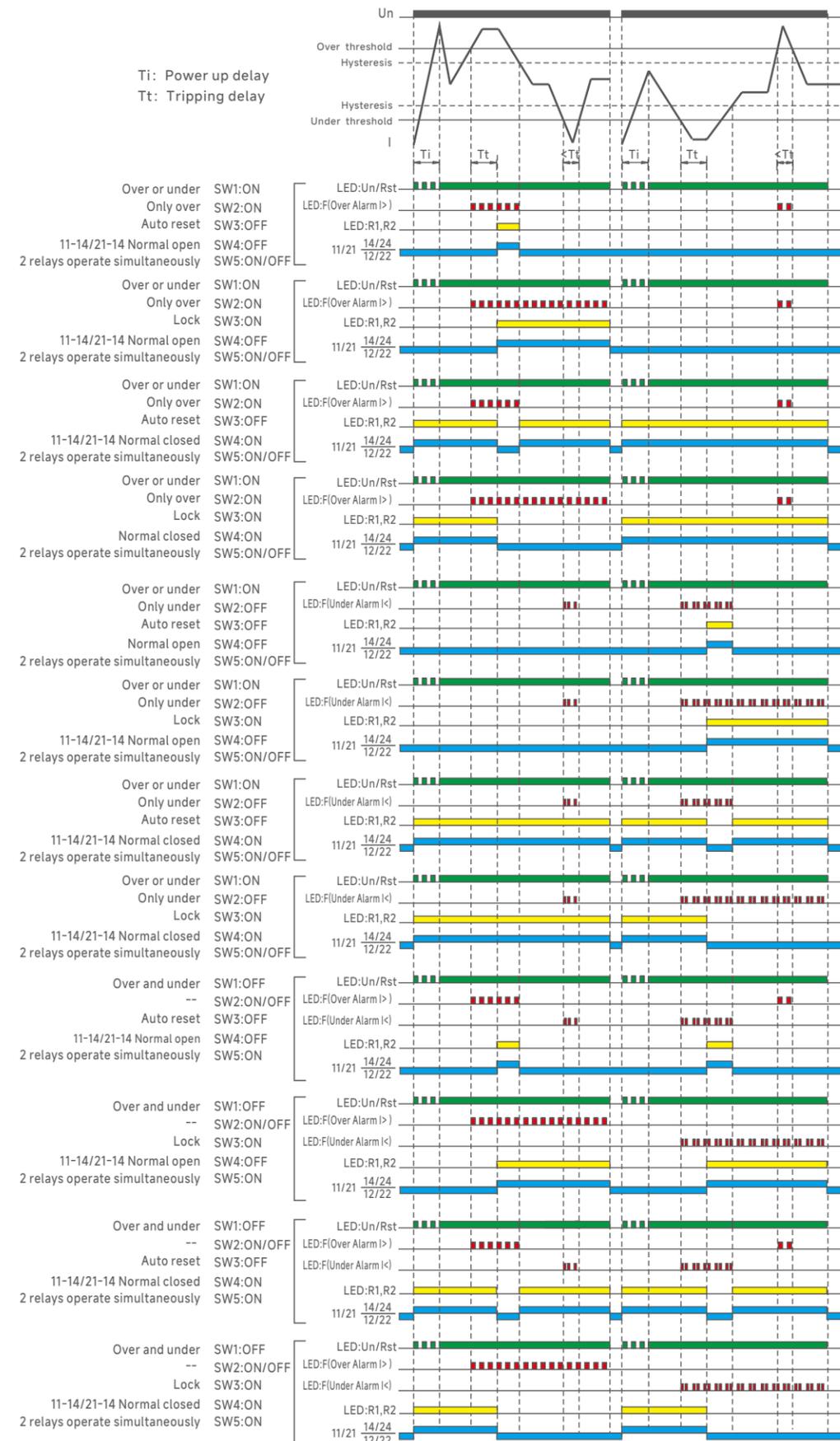
Panel Diagram



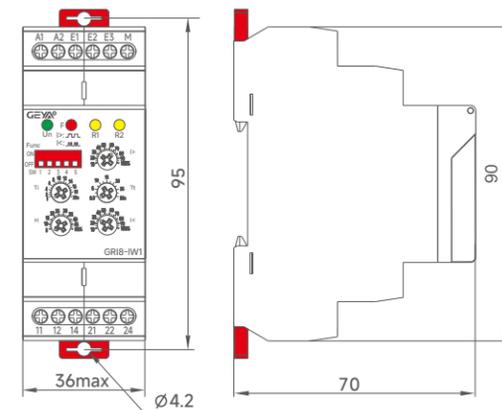
Switch settings

SW1	ON	Over or under
	OFF	Over and under
SW2	ON	Only over (Valid when SW1=ON)
	OFF	Only under (Valid when SW1=ON)
SW3	ON	Locking after over/under protection
	OFF	Auto-reset after over/under protection
SW4	ON	11/-14/21-14 Normal closed
	OFF	11-14/21-14 Normal open
SW5	ON	Relay 1 and relay 2 operate simultaneously (This mode is defaulted when SW1=ON)
	OFF	Relay 1 and relay 2 operate separately Valid when SW1=OFF, R1(11,12,14)-Over, R2(21,22,24)-Under

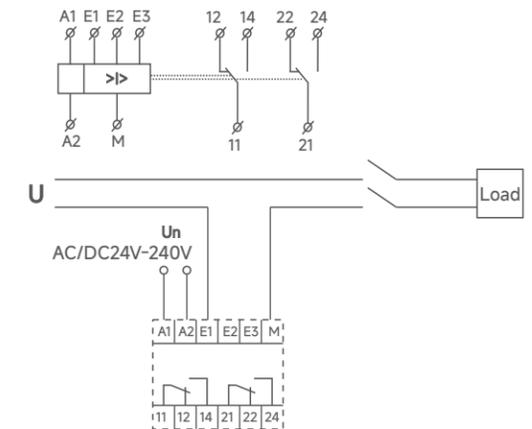




Dimensions(mm)



Wiring diagram





Applications

- Used for monitoring and measuring residual current in single-phase/three-phase power systems.

Feature

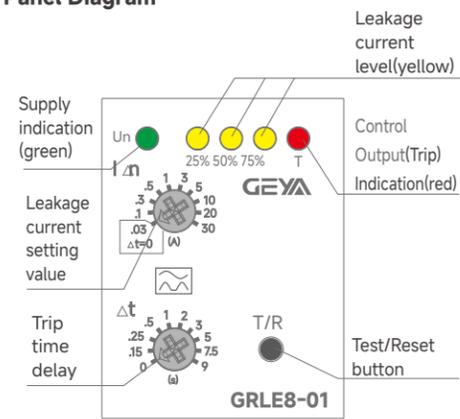
- RMS value measurement(AC)
- ZCT detection.
- User selectable trip time delay,leakage current levels
- Test and Reset via front/remote.
- One SPDT relay output.
- DIN rail mounting



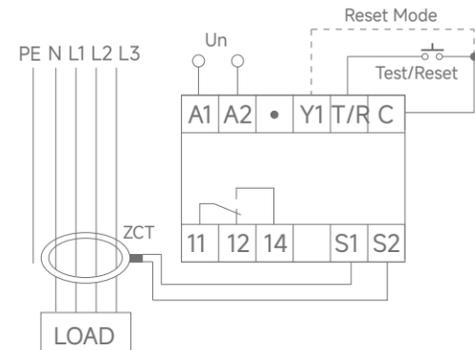
Technical parameters

	GRLE8-01
Function	Earth leakage Relay
Supply terminals	A1-A2
Voltage range	AC85-265V 50/60Hz
Burden	3VA
Operation range	30,100,300,500mA and 1,3,5,10,20,30A
Trip level limits	95% to 105% of setvalue
Trip time delay	0,0.15,0.25,0.5,1,2,3,5,7.5,9sec NA when leakage level set 30mA
Reset time	~1sec
Response time	≤30ms (if trip current≥5×setvalue) ≤50ms (if trip current=1×setvalue)
Hysteresis	15%
ZCT detection	absent or short
Accuracy	Trip: ±5% of set trip current Time: ±5% of set time±50ms
Reset mode	Manual/Auto reset
Output	1×SPDT
Current rating	10A/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~+55°C
Storage temperature	-35°C~+75°C
Humidity	Up to 95% RH(non-condensing)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP20
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm ²)	1×2.5mm ² 或 2×1.5mm ² 0.4N·m
Dimensions	90mm×36mm×64mm
Weight	98g
Standards	GB/T 14048.2,IEC 60947-2

Panel Diagram



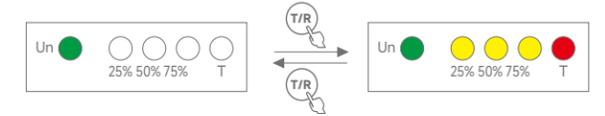
Wiring diagram



NOTE:
Disconnect Y1-C, operate in manual reset mode, short circuit Y1 and C, operate in auto reset mode.

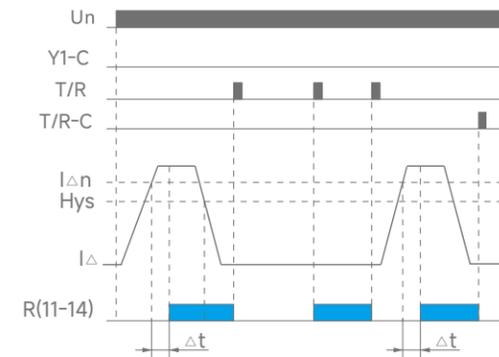
Function

1.Test Mode : The unit can be placed into a fault condition by pressing the "T/R" button on the front of the unit(or shorting terminals T&C).

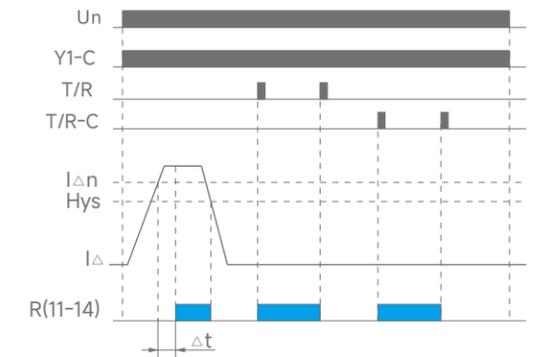


2. Normal Operating mode

Disconnect Y1-C, operate in manual reset mode.



Short circuit Y1 and C, operate in auto reset mode.



NOTE:

- If leakage current ≥ 5 times the setvalue, the relay trips instantaneously irrespective of trip time delay.
- When IΔn is set to 30mA, Δt is forced to be 0.

3. LED Status indication



- For leakage current level ≥25%, LED Continuously ON.
- For leakage current level ≥50%, LED Continuously ON.
- For leakage current level ≥75%, LED Continuously ON.
- Control Output(Trip) Indication.

NOTE:

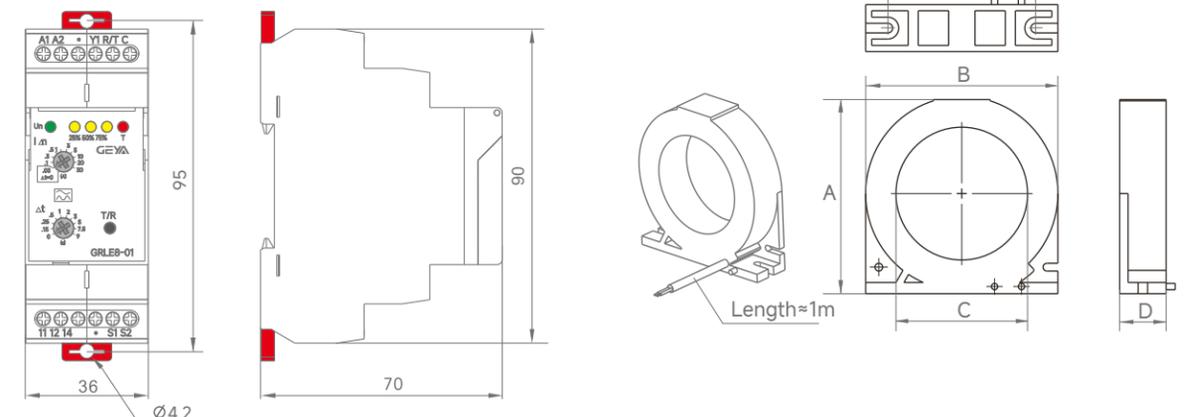
At ZCT error condition,LED ①②③④ are continuously blinking.

Accessory

TYPE	Dimensions(mm)				
	A	B	C	D	E
ZCT26AL	45.6	51	26	18	39.5
ZCT45AL	75.5	75	45	25.5	61
ZCT63AL	100	96	63	25	76
ZCT80AL	126	120	80	25	100
ZCT100AL	146	140	100	25	118
ZCT150AL	205	200	150	30	170
ZCT200AL	247	240	200	40	210

NOTE:ZCT need to purchase separately.

Dimensions(mm)





Applications

- Designed for monitoring level in wellss, basins, reservoirs, tanks....

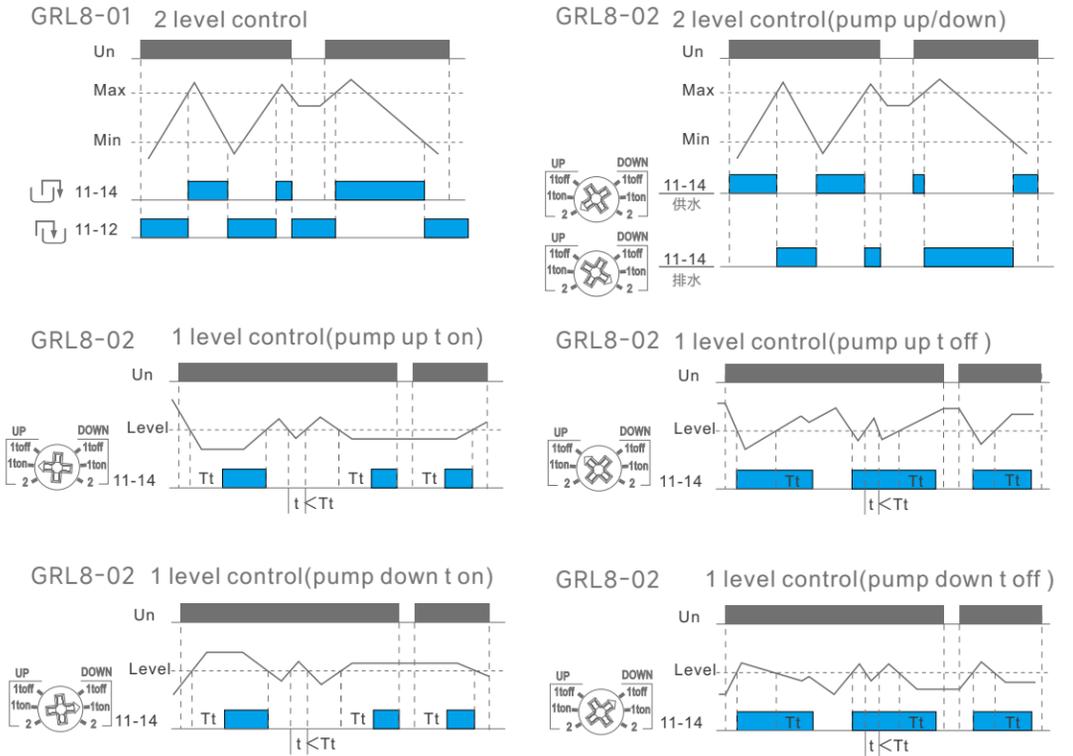
Feature

- In one device you can choose the following configurations:
 - 2 level control mode
 - 1 level control mode
- Choice of function PUMP UP, PUMP DOWN.
- Adjustable time delay on the output (0.1 - 10s).
- Sensitivity adjustable by a potentiometer (5-100kΩ).
- Galvanically separated supply voltage AC/DC 24-240V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

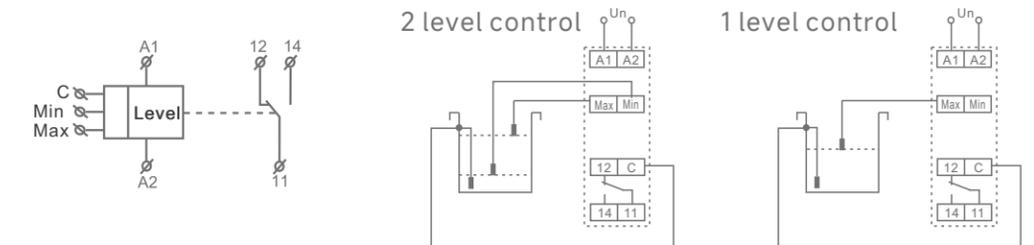
Technical parameters

	GRL8-01	GRL8-02
Function	2 level control mode	2 or 1 level control mode
Supply terminals	A1,A2	
Voltage range	AC/DC 24-240V(50-60Hz)	
Input	max .2VA	
Supply voltage tolerance	-15%;+10%	
Sensitivity(input resistance)	adjustable in range 5 kΩ -100 kΩ	
Voltage in electrodes	max. AC 5 V	
Current in probe	AC <0.1 mA	
Time response	max. 400 ms	
Max. capacity length	800 m (sensitivity 25kΩ), 200 m (sensitivity 100 kΩ)	
Max. capacity of probe cable	400 nF (sensitivity 25kΩ), 100 nF (sensitivity 100 kΩ)	
Time delay(t)	adjustable, 0.1 -10 s	
Accuracy in setting(mechanical)	± 10 %	
Temperature coefficient	0.05%/°C,at=20°C(0.05%/°F, at=68°F)	
Output	1xSPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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	IP20 terminals	
Operating position	any	
Overvoltage category	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)	
Dimensions	90x 18x 64mm	
Weight	GRL8-01:61g; GRL8-02:81g	
Standards	EN 60255-1	

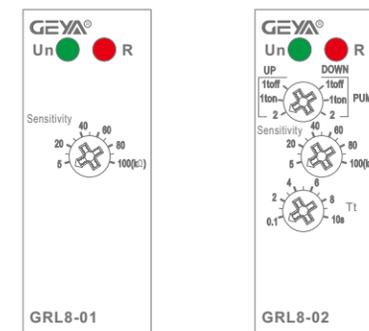
Functions Diagram



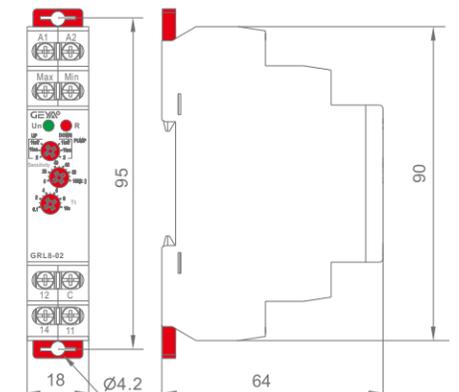
Wiring Diagram



Panel Diagram



Dimensions(mm)



GRL8 - 03 / □

- Rated control supply voltage — S240:AC/DC24V-240V
- Function mode
- GRL8 Series



Applications

- The function is used to ensure the water supply by means of a water tower and a well.

Feature

- It has a button to manually start the water pump, and can also be connected to an external start button.
- When the well is short of water, it can prevent the water pump from running empty.
- Sensitivity adjustable by a potentiometer (5-100kΩ).
- Galvanically separated supply voltage AC/DC 24-240V.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

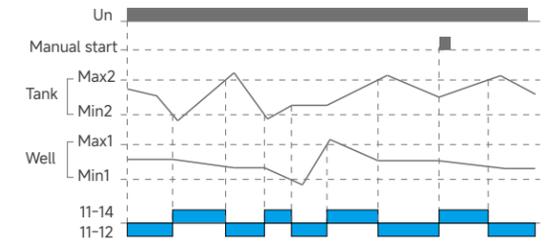
Technical parameters

GRL8-03	
Function	well-tank level control
Supply terminals	A1,A2
Voltage range	AC/DC 24-240V(50-60Hz)
Input	max .2VA
Supply voltage tolerance	-15%;+10%
Sensitivity(input resistance)	adjustable in range 5 kΩ -100 kΩ
Voltage in electrodes	max. AC 5 V
Current in probe	AC <0.1 mA
Time response	max. 400 ms
Max. capacity length	800 m (sensitivity 25kΩ), 200 m (sensitivity 100 kΩ)
Max. capacity of probe cable	400 nF (sensitivity 25kΩ), 100 nF (sensitivity 100 kΩ)
Supply indication	Green LED
Accuracy in setting(mechanical)	≤10 %
Output	1xSPDT
Current rating	10A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 ⁵
Reset time	max.200ms
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	IP20 terminals
Operating position	any
Overvoltage category	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)
Dimensions	90x 18x 64mm
Weight	80g
Standards	EN 60255-1

Functions Diagram

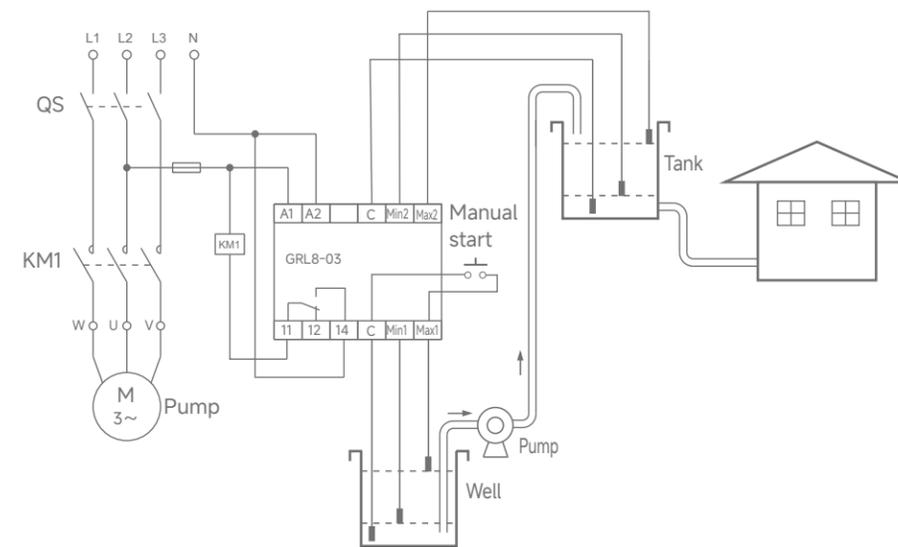
This product is used to control high water towers to pump water from low water wells. The working principle is as follows:

- When the water level in the high water tower is lower than Min2, if the water level in the well is higher than Min1, the pump will start working until the water level in the tower reaches Max2, and the pump will stop working.
- When the water level in the well reaches Max1, if the water level in the tower is lower than Max2, the pump will start working until the water level in the tower reaches Max2, and the pump will stop working.If this function is not required, please do not connect the Max1 probe.
- When the water level in the water tower is between Max2 and Min2, the water pump can be started by pressing the "manual start" button until the water level in the tower reaches Max2, and the water pump stops working.

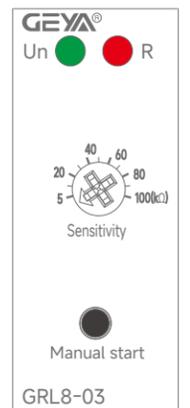


4. When the water pump is running, if the water level in the well is lower than Min1, the pump will stop working to avoid empty load to prevent damage to the pump. At this time, the red light will flash to indicate that the well is short of water.

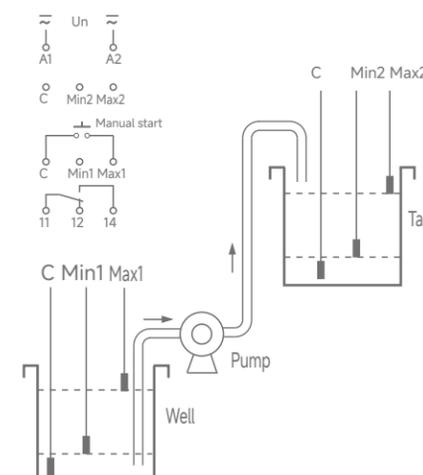
Wiring Diagram



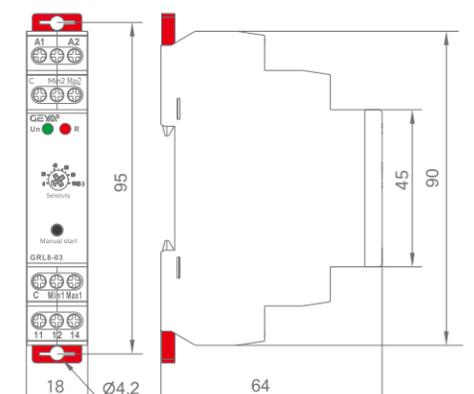
Panel Diagram



Wiring Diagram



Dimensions(mm)



GRP8 - 01 / □

- Rated control supply voltage — S240:AC/DC24V-240V
- Function mode
- GRP8 Series



Applications

- To protect against thermal overload of motors caused by high switching frequency, heavy duty starting, phase failure on one phase, bad cooling, high ambient temperature.

Feature

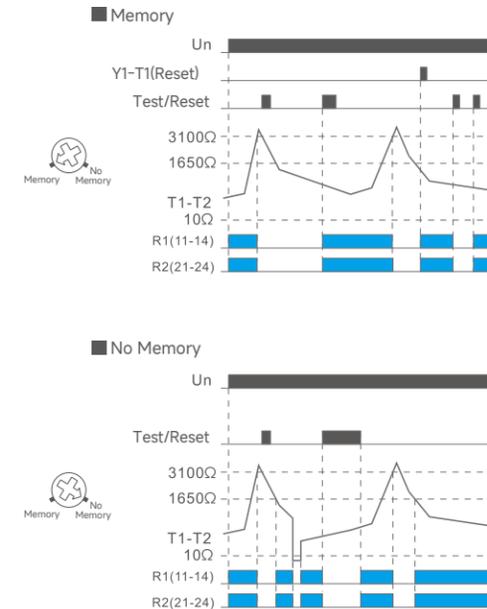
- 1 input for PTC-resistors or bimetal contacts.
- Broken wire detection in sensor circuit.
- 1 or 2 changeover contacts.
- Can be externally connected with a reset button.
- 1-MODULE,DIN rail mounting.

Technical parameters

	GRP8-01	GRP8-02
Function	Thermistor motor protection relay	
Supply terminals	A1,A2	
Voltage range	AC/DC 24-240V(50-60Hz)	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Max cold PTC resistance	1500Ω	
Alarm setpoint	3100Ω±10%	
Return setpoint	1650Ω±10%	
Short-circuit detection	0 to 10Ω	
Output	1×SPDT	2×SPDT
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life (AC1)	1x10 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	IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max. cable size(mm)	1×2.5mm ² or 2×1.5mm ² 0.4N.m	
Dimensions	90x 18x 64mm	
Weight		
Standards	IEC 60947-1	

Functions Diagram

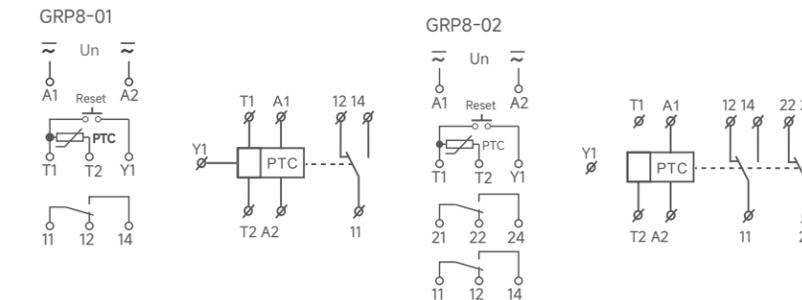
The temperature control relay can take up to 6 PTC (positive temperature coefficient) probes wired in series between terminals T1 and T2.



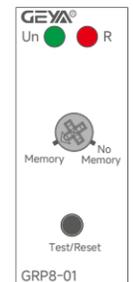
In "memory" mode, when a fault is detected, the "temperature" relay locks in the open position. As soon as the temperature returns to the correct value, the relay can be unlocked (reset), either by pressing the "Test/Reset" button (for at least 200 ms), or by closing a volt-free contact (for at least 200 ms) between terminal Y1 and T1 (without a parallel load). When a fault has been detected and the temperature has returned to normal, the "temperature" control relay can be unlocked (reset) by pressing the "Test/Reset" button.

In "No Memory" mode, a fault is declared when the resistance of the temperature sensing circuit exceeds 3100 Ω. Return to normal status is detected when the resistance is once again below 1650 Ω. The result of the control is indicated by the status of the "temperature" output relay, NO contact 11-14 is open in the event of a fault. Opening of the thermal sensing circuit, which has the same effect as a high temperature (resistance exceeds 3100 Ω), is therefore interpreted as a fault. Total short-circuiting of the temperature probe(s), detected when resistance is less than 10 Ω, is treated as a fault. LED R is on when the temperature is correct.

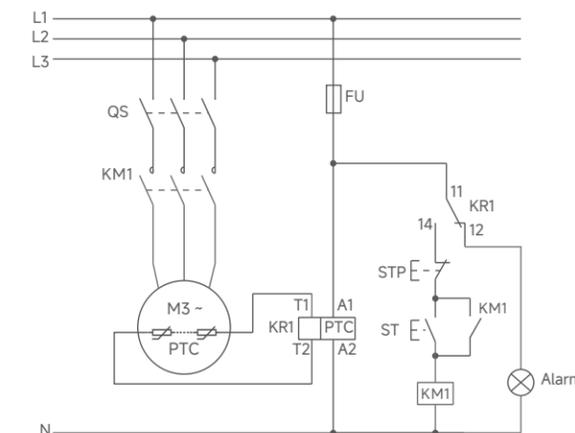
Wiring Diagram



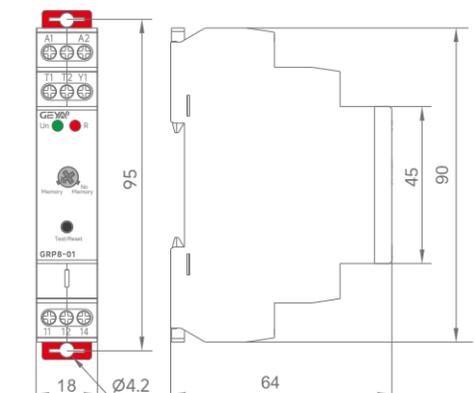
Panel Diagram



Application Examples



Dimensions(mm)



GRB8 - 01 / □

- Sensor type — A: PLS-01R-0.2m
B: PLS-02R-0.2m
- Design number
- GRB8 Series

Applications

- Used for switching street illumination and garden lights, illumination of advertisements, shop windows, etc.

Feature

- Serves to control lights on the basis of ambient light intensity.
- Level of ambient intensity is monitored by an external sensor and output is switched according to set level on the device.
- Control input for additional control.
- Universal supply AC 110V- 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.



PLS-01R-0.2m



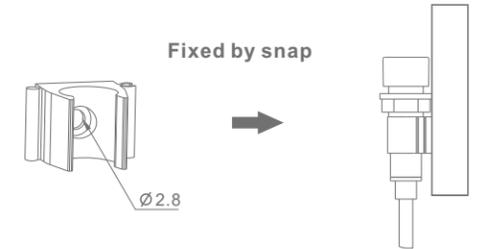
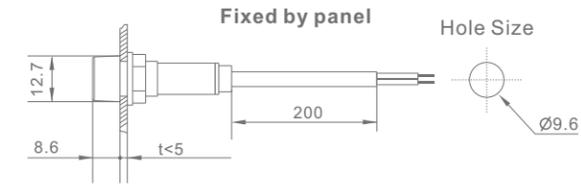
PLS-02R-0.2m

Technical parameters

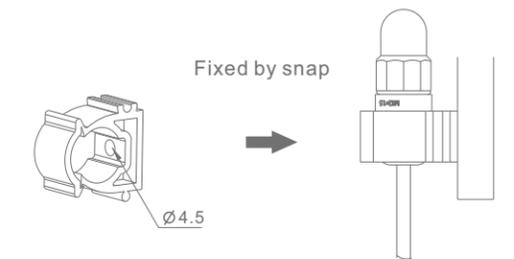
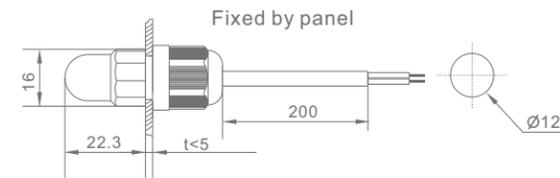
	GRB8-01
Function	Twilight switch
Supply terminals	L-N
Rated supply voltage	AC110V-240V
Rated supply frequency	50-60Hz
Burden	max .2VA
Supply voltage tolerance	-15%;+10%
Illumination rang	1-100Lx
Function	ON-AUTO-OFF
Supply indication	Green LED
Tolerance sensor	±35%
Delay time	2min
Sensor cable length	max. 50 m (standard wire)
Output	1xSPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	62g
Standards	EN 60255-1

Sensor

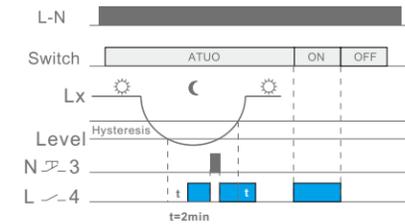
PLS-01 □



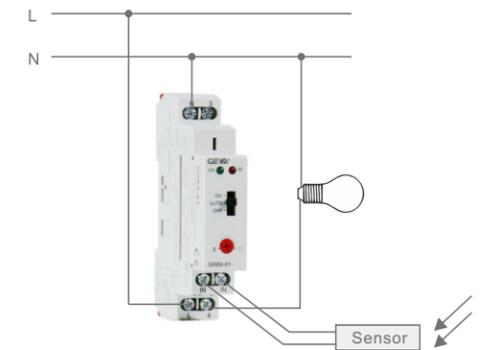
PLS-02 □



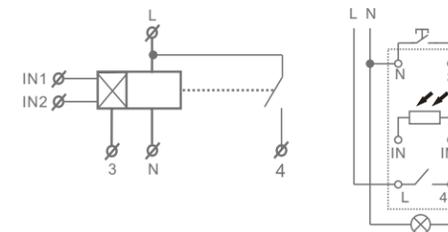
Functions Diagram



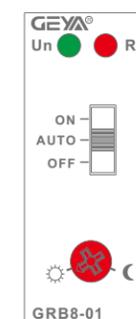
Example



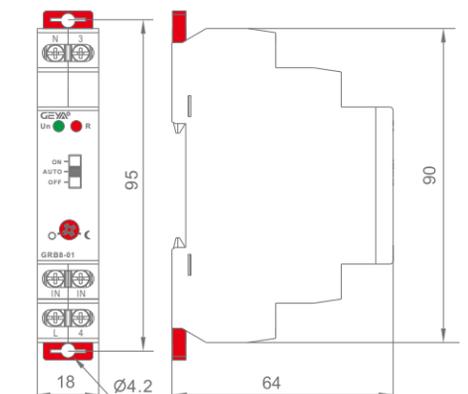
Wiring Diagram



Panel Diagram



Dimensions(mm)



GRB8 - 02 / □

- Sensor type
 - A: PLS-01R-0.2m
 - B: PLS-02R-0.2m
- Design number
- GRB8 Series

Applications

- Used for switching street illumination and garden lights, illumination of advertisements, shop windows, etc.

Feature

- Serves to control lights on the basis of ambient light intensity.
- Level of ambient intensity is monitored by an external sensor and output is switched according to set level on the device.
- Control input for additional control.
- Universal supply AC 110V- 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.



PLS-01R-0.2m



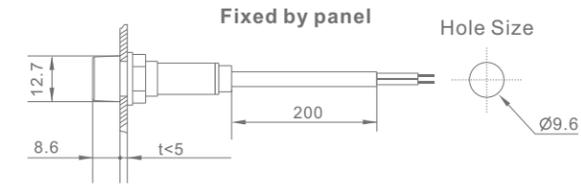
PLS-02R-0.2m

Technical parameters

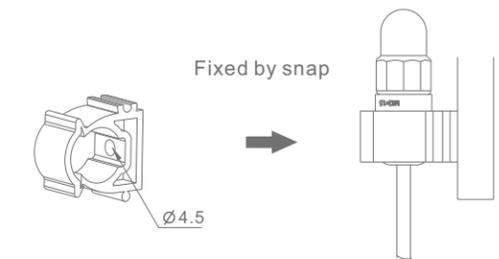
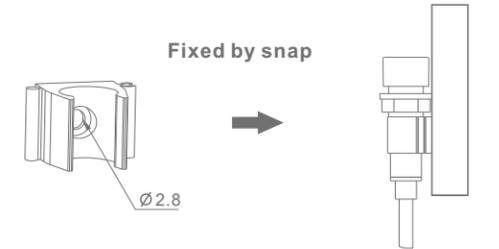
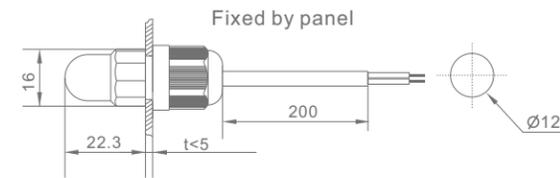
GRB8-02	
Function	Twilight switch
Supply terminals	L-N
Rated supply voltage	AC110V-240V
Rated supply frequency	50-60Hz
Burden	max .2VA
Supply voltage tolerance	-15%;+10%
Illumination rang	1-1000Lx,10-10000Lx
Function	ON-x1-x10-OFF
Supply indication	Green LED
Tolerance sensor	±35%
Delay time	2min
Output	1xSPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	65g
Standards	EN 60255-1

Sensor

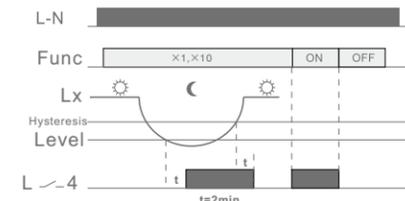
PLS-01 □



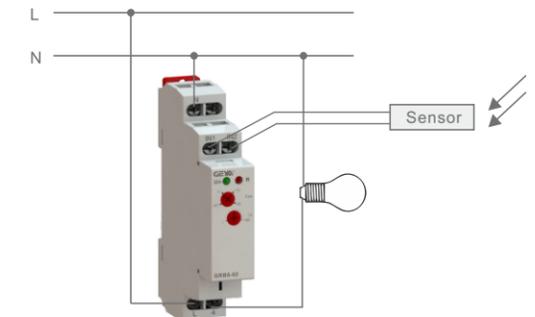
PLS-02 □



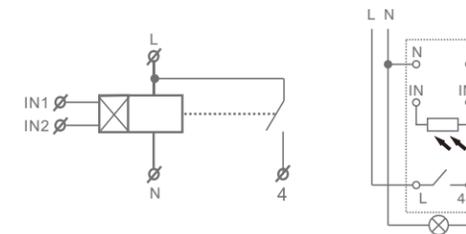
Functions Diagram



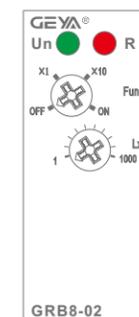
Example



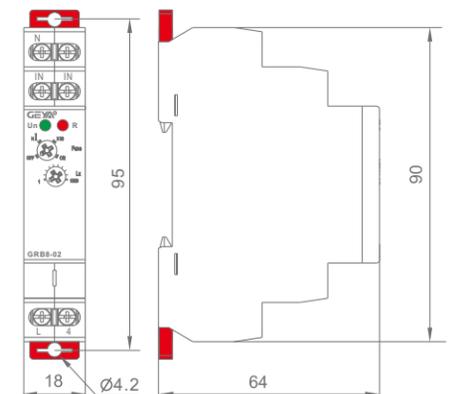
Wiring Diagram



Panel Diagram



Dimensions(mm)



GRW8 - □

Design number
01: Temperature control
02: Temperature range control
GRW8 Series



Applications

- Can be used for monitoring temperature e.g. in switchboards, heating systems, cooling systems, liquids, radiators, motors, devices, open spaces, etc..

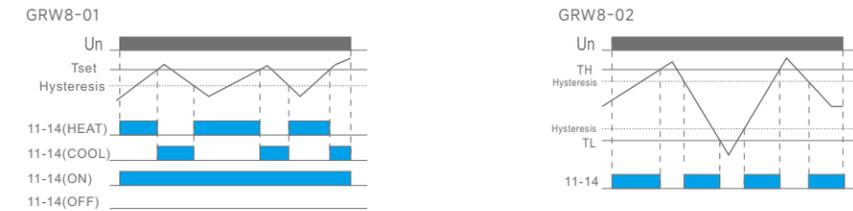
Feature

- Function of short-circuit or sensor disconnection monitoring.
- Possibility to set function "heating"/"cooling".
- It is possible to place sensor directly on terminal block – for temperature monitoring in a switchboard or in its surroundings
- Universal supply AC/DC 24V- 240 V.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

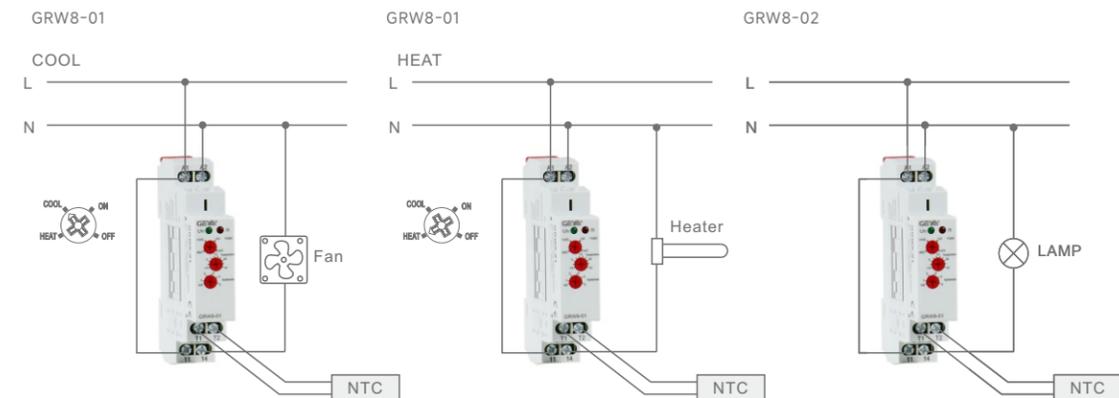
Technical parameters

	GRW8-01	GRW8-02
Function	Temperature control	Temperature range control
Supply terminals	A1-A2	
Rated supply voltage	AC/DC 24V-240V	
Rated supply frequency	50-60Hz	
Burden	max .2VA	
Supply voltage tolerance	-15%;+10%	
Temperature range	-15°C to +45°C	
Hysteresis	0.5°C to 5°C	
Supply indication	Green LED	
Measurement accuracy	±2°C	
Output	1xSPST	
Current rating	16A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90x 18x 64mm	
Weight	62g	
Standards	EN 60255-1	

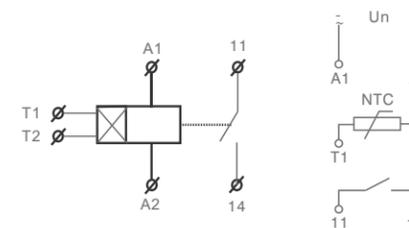
Functions Diagram



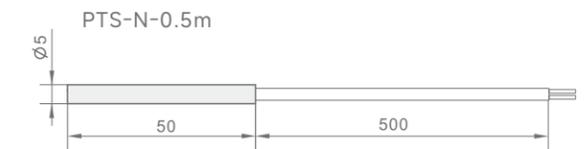
Example



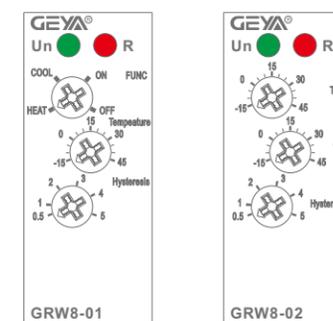
Wiring Diagram



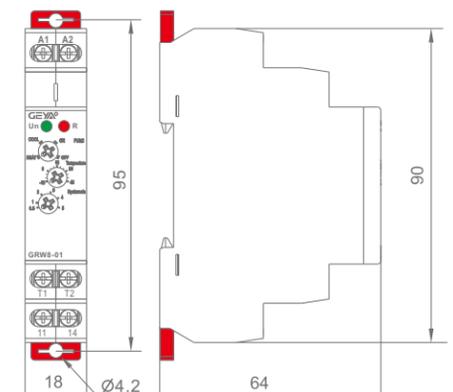
Sensor

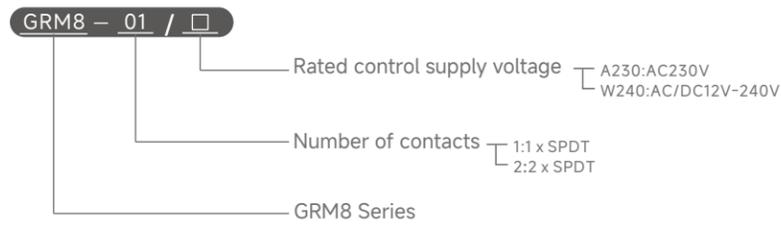


Panel Diagram



Dimensions(mm)





Applications

- latching relay, controlled by buttons from several locations can replace three way switches or cross bar switches thanks to control by buttons (un-limited number, connected in parallel by 2 wires), installation gets more transparent and faster for mounting.

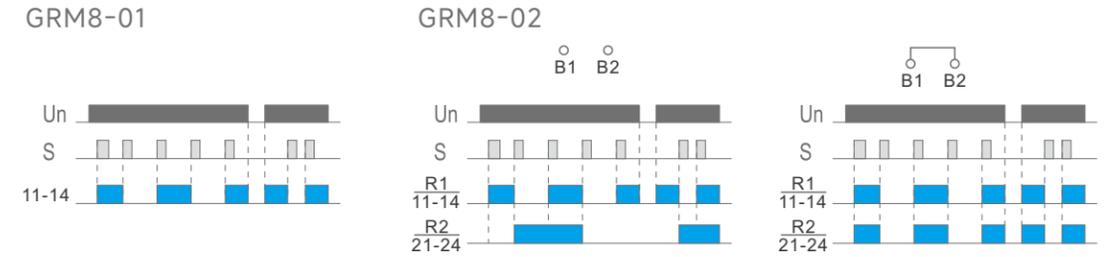
Feature

- Voltage range: AC 230 V, AC/DC12V-240V clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

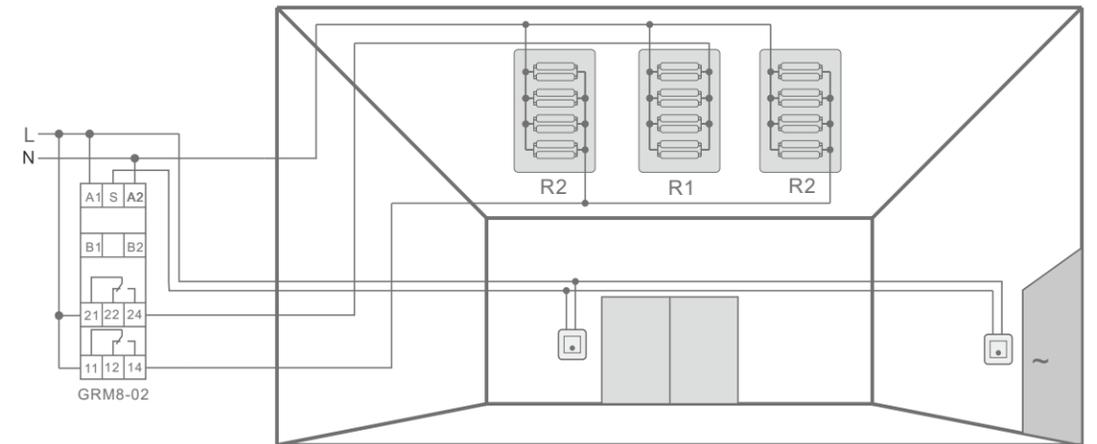
Technical parameters

	GRM8-01	GRM8-02
Supply terminals	A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden	AC 0.7-3VA/DC 0.5-1.2W	
Voltage range	A230	AC 230V(50-60Hz)
Power input	AC max.12VA/1.3W	AC max.12VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	Green LED	
Control terminals	A1-S	
Glow tubes connctions	Voltage range: AC 230V Yes(A1-S)	
Max.amount of glow lamps	230V,max.75 pcs(Measured with glow lamp 0.68mA/230V AC)	
Impulse length	min.25ms	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F, at=68°F)	
Output	1xSPDT	2xSPDT
Current rating	16A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 ⁵	
Reset time	max.200ms	
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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90x 18x 64mm	
Weight	1×SPDT:W240-58g,A230-57g 2×SPDT:W240-79g,A230-77g	
Standards	EN 61810-1	

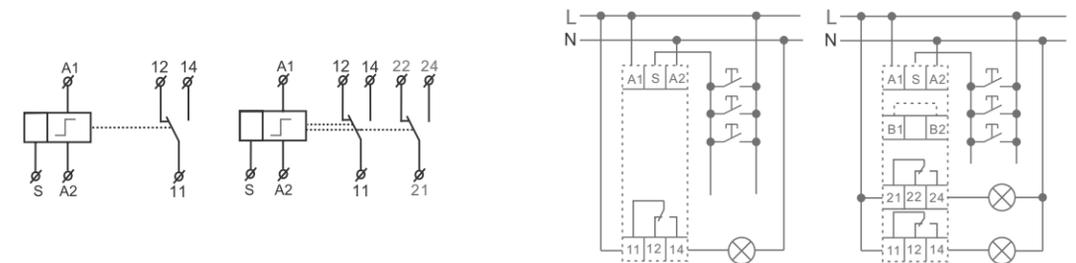
Functions Diagram



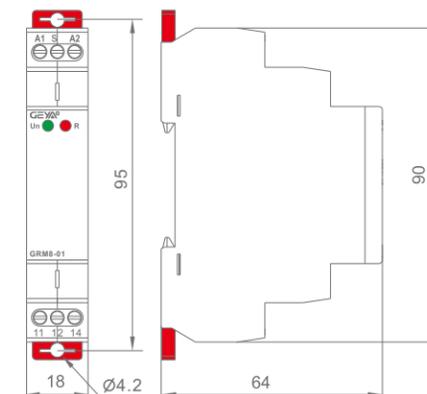
Example



Wiring Diagram



Dimensions(mm)





Applications

- Protect electrical equipment and motors from over or under frequency.
- Normal/emergency power supply switching

Feature

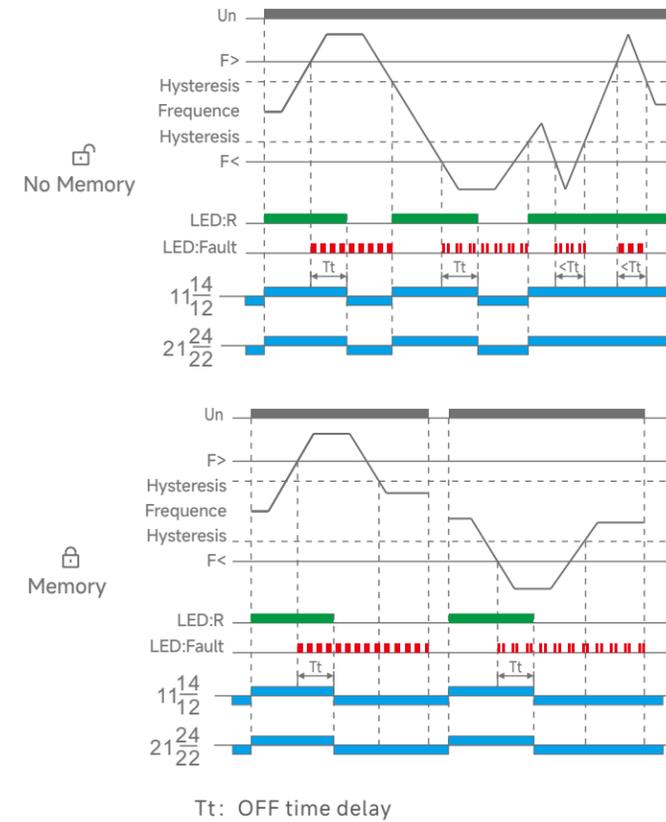
- Supply from monitored voltage.
- 50/60Hz can be set through wire connection.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.



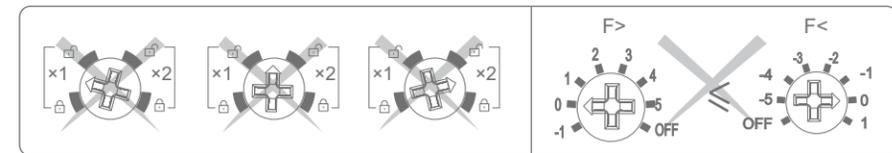
Technical parameters

	GRF8-01
Function	Monitoring frequency
Supply terminals	A1-A2
Rated supply voltage	AC120-277V
Supply voltage limits	AC100-310V
Monitoring frequency range	40Hz-70Hz
Over threshold value	-2...+10 Hz
Under threshold value	-10...+2 Hz
Hysteresis	fixed 0.3Hz
Measurement error	±0.1Hz
OFF time delay(Tt)	Adjustable 0.1s-10s,10%
Delay at power up(Tr)	0.5s
Temperature coecient	0.05%/°C,at=20°C(0.05°F, at=68°F)
Output indication	green LED
Output	2×SPDT
Current rating	8A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Fault indication	red LED
Mechanical life	1x10 ⁷
Electrical life(AC1)	1x10 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 cathogory	III
Pollution degree	2
Max. cable size(mm2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Tightening torque	0.4Nm
Dimensions	90x 18x 64mm
Weight	59g
Standards	EN/IEC60947-5-1

Functions Diagram

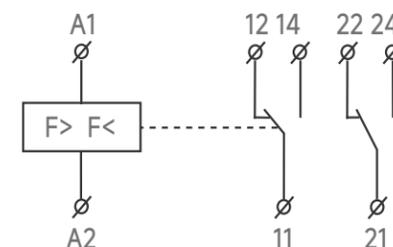


Wrong settings

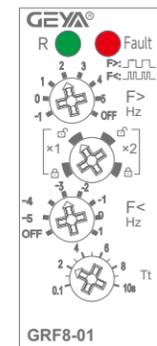


The set over threshold value must be larger than under threshold value. Both over threshold and under threshold cannot be set to OFF at the sametime. Otherwise, all LEDs would flash and the output relay would be disconnected.

Wiring Diagram

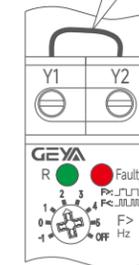


Panel Diagram

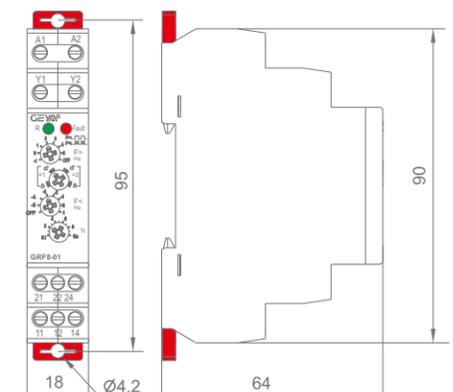


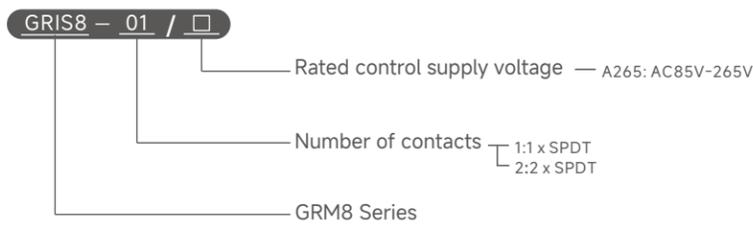
50/60Hz setting

If monitoring at 50Hz, there is no need to short-circuit between Y1 and Y2.If monitoring at 60Hz, please connect Y1 Y2 with wires. And it must be wired when the power is OFF.



Dimensions(mm)





Applications

- Isolated Relays are mainly used in fire safety applications that interface with HVAC system, elevator controls and access control doors. It can also be integrated with PLC systems.

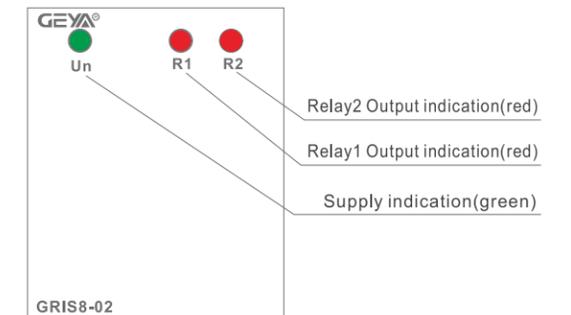
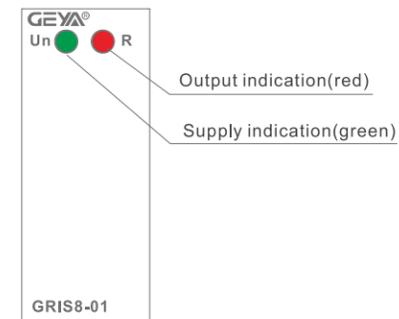
Feature

- Provides effective 3 way isolation between supply, input switch & relay output.
- Provides isolation of dissimilar circuits.
- Enables control of multiple loads when only one relay output is available.
- DIN rail mounting.

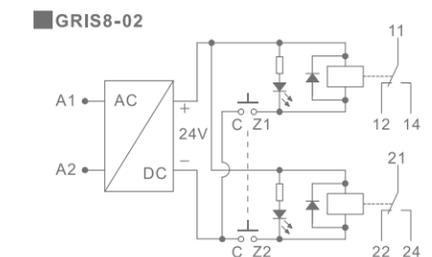
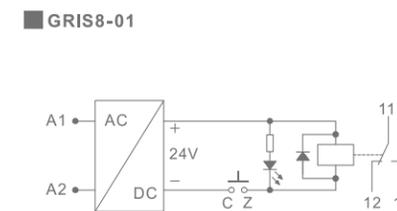
Technical parameters

	GRIS8-01	GRIS8-02
Function	Interface/ Control Relay	
Supply terminals	A1-A2	
Voltage range	AC85-265V 45-65Hz	
Burden	2.5VA	3VA
Supply indication	Green LED	
Isolation voltage		
Supply I/P to I/P Switch	4kVAC	
Supply I/P to O/P Switch	4kVAC	
I/P Switch to Relay O/P	4kVAC	
Output	1 X SPDT	2 X SPDT
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1x10 ⁷	
Electrical life(AC1)	1x10 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	IP20	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max.cable size(mm ²)	1×2.5mm ² or 2×1.5mm ² 0.8Nm	1×2.5mm ² or 2×1.5mm ² 0.4Nm
Dimensions	90x 18x 64mm	90x 36x 64mm
Weight	62g	120g
Standards	GB/T14048.5	IEC60947-5-1

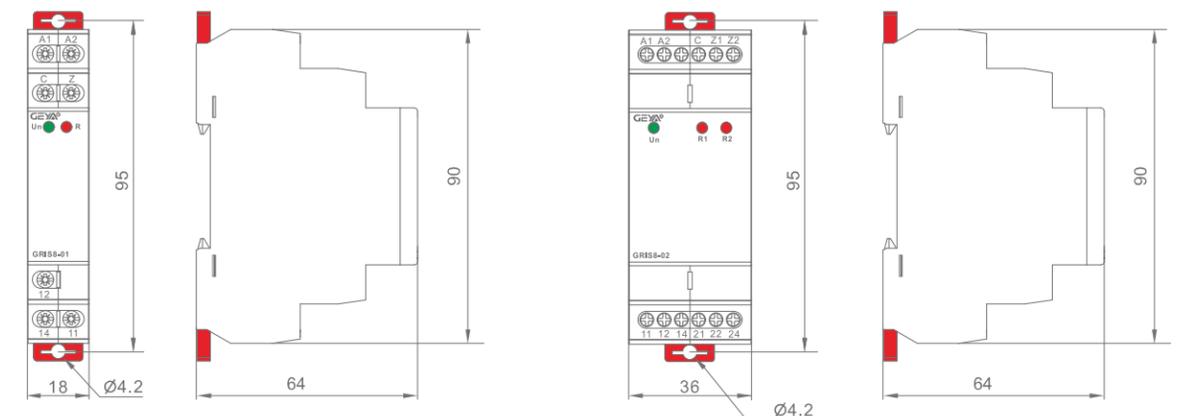
Panel Diagram

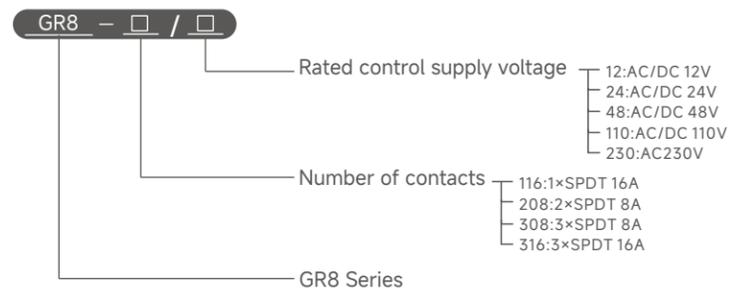


Connection Diagram



Dimensions(mm)





Applications

- Intermediate relay used for switching larger load output, strengthen or multiplying contacts of the existing device.

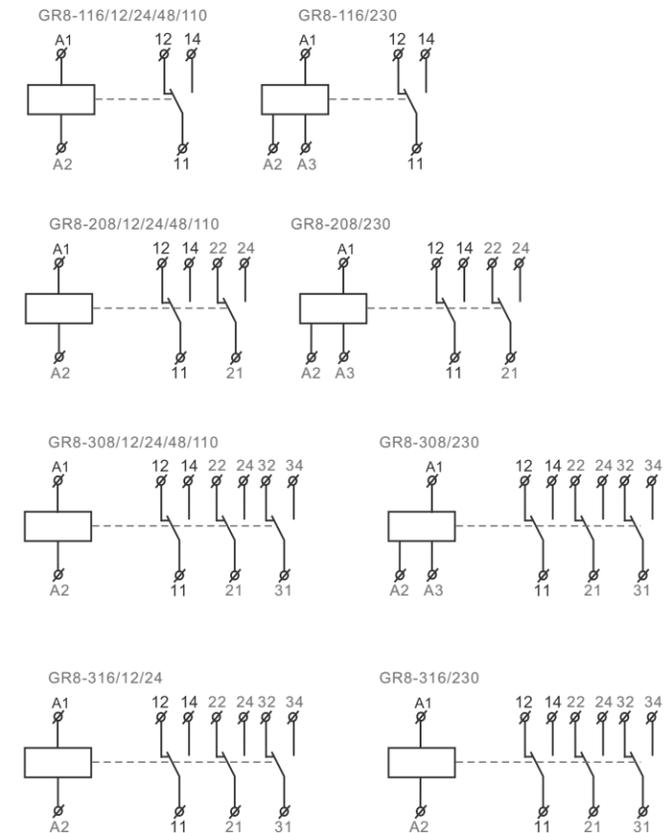
Feature

- Voltage range: AC/DC12V,24V,48V,110V,AC230V.
- relays GR8-316 enable connection to a 3-phase circuit.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

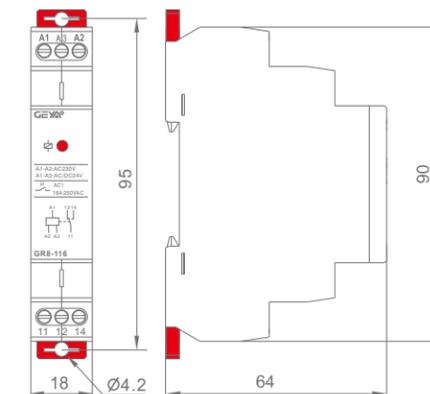
Technical parameters

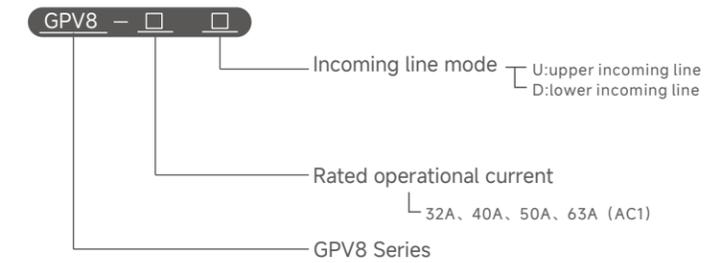
	GR8-116	GR8-208	GR8-308	GR8-316
Supply terminals	A1-A2		A1-A2	
Voltage range	AC/DC 12V、24V、48V、110V			AC/DC 12V、24V
Burden	AC.max 12VA/DC.max1.9W			
Supply terminals	A1-A2-A3		A1-A2	
Voltage range	AC230V(A1-A2),AC/DC24V(A1-A3)			AC230V
Burden	AC.max 12VA/DC.max1.9W			AC. max 6VA
Supply voltage tolerance	-15%;+10%			
Max. chargeover time	40ms			
Number of contact	1xSPDT	2xSPDT	3xSPDT	3xSPDT
Current rating	16A/AC1	8A/AC1	8A/AC1	16A/AC1
Switching voltage	250VAC/24VDC			
Min. breaking capacity DC	500mW			
Output indication	Red LED			
Mechanical life	1x10 ⁷			
Electrical life (AC1)	1x10 ⁵			
Reset time	max.200ms			
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.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)			
Dimensions	90x 18x 64mm			
Weight	44g/54g	50g/60g	72g/82g	86g/96g

Wiring Diagram



Dimensions(mm)





Note: 4P products such as the need to phase protection function can be customized.

Applications

- Overvoltage and undervoltage protection for household equipment.

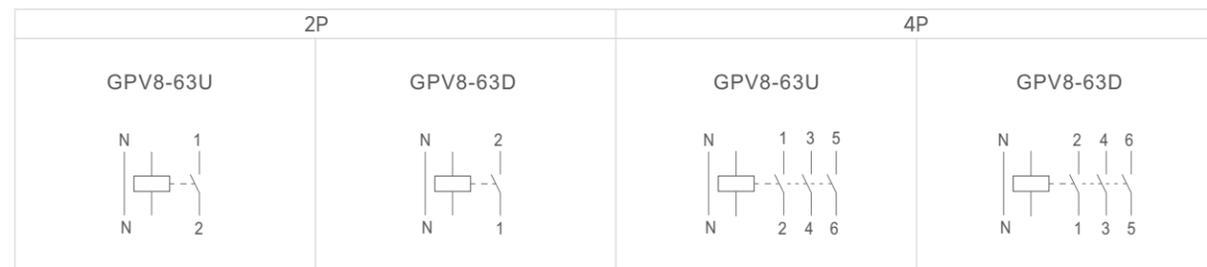
Feature

- Supply voltage measurement and protection.
- Double bus wiring design stronger ability.
- Self reset after fault.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

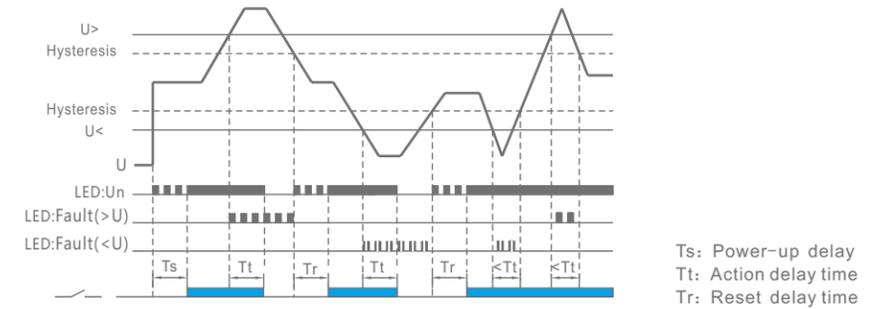
Technical parameters

	2P	4P
Rated supply voltage	AC220V	AC220V(L-N)
Rated supply frequency	50/60Hz	
Rated operational current	32A, 40A, 50A, 63A (AC1)	
Burden	AC max.3VA	
Over voltage operation value	265V	265V(L-N)
Over voltage reset value	257V	257V(L-N)
Under voltage operation value	175V	175V(L-N)
Under voltage reset value	180V	180V(L-N)
Action delay time	1s	
Power-up delay	2s	
Reset time	30s	
Measurement error	≤1%	
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)	25	
Tightening torque	3 Nm	
Dimensions	82×36×68mm	82×72×68mm
weight	120g	250g

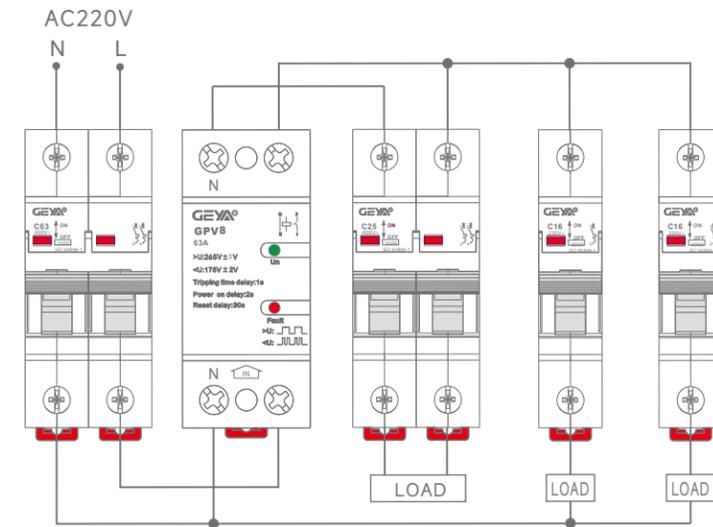
Wiring Diagram



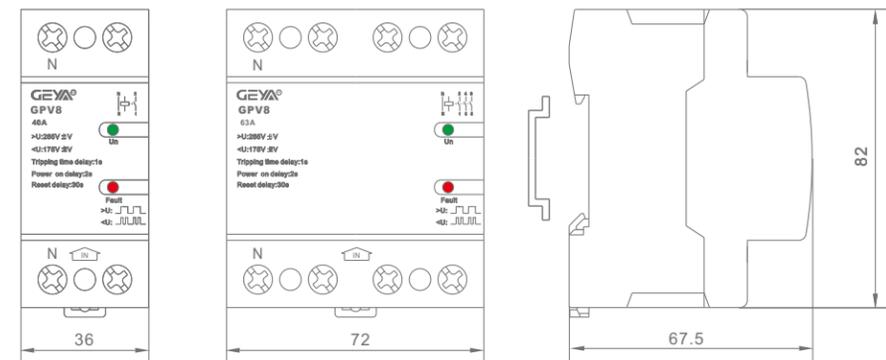
Functions Diagram

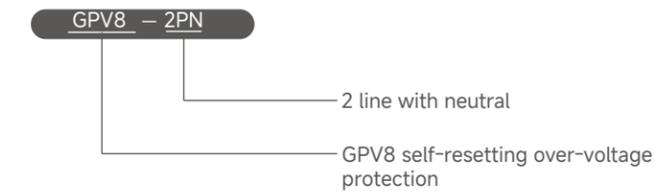


Example



Dimensions(mm)





Note: 4P products such as the need to phase protection function can be customized.

Applications

- Overvoltage and undervoltage protection for household equipment.

Feature

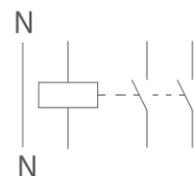
- Supply voltage measurement and protection.
- Double bus wiring design stronger ability.
- Self reset after fault.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.



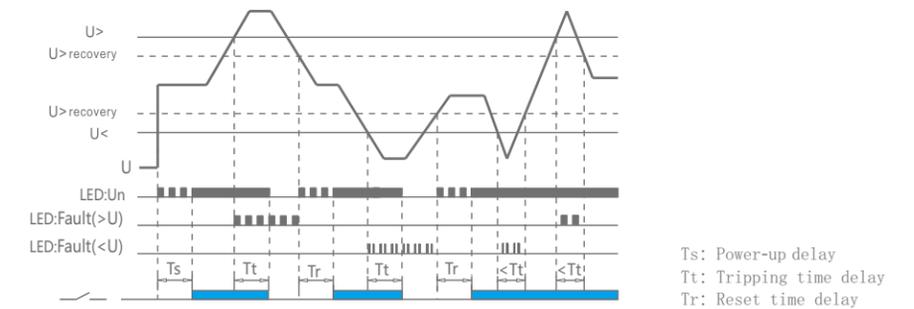
Technical parameters

	2P+N
Rated supply voltage	AC120V(L-N)/AC220V(L-L)
Rated supply frequency	50/60Hz
Rated operational current	50A, 63A (AC1)
Burden	AC max.3VA
Over voltage operation value	AC145V(L-N)/AC250V(L-L)
Over voltage reset value	AC140V(L-N)/AC245V(L-L)
Under voltage operation value	AC85V(L-N)/AC165V(L-L)
Under voltage reset value	AC90V(L-N)/AC170V(L-L)
Tripping time delay	1s
Power-up delay	2s
Reset time	30s
Measurement error	≤1%
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)	25
Tightening torque	3Nm
Dimensions	82 x 72 x 68 mm
weight	250g

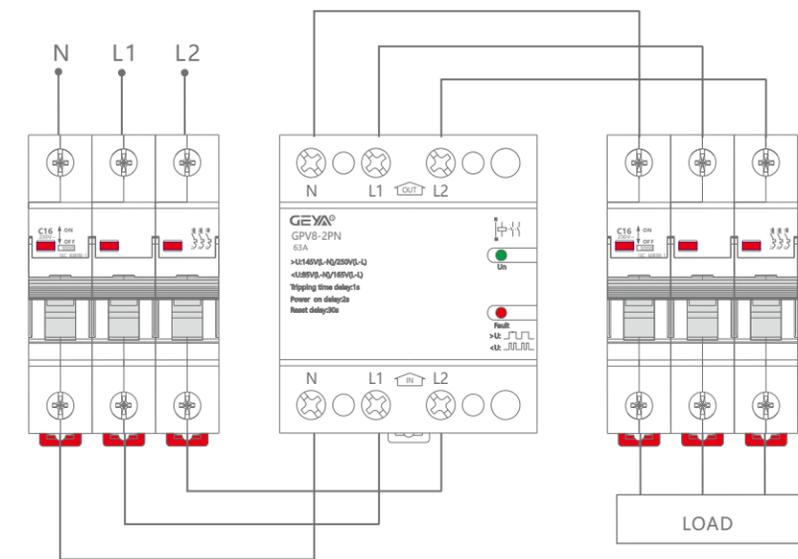
Wiring Diagram



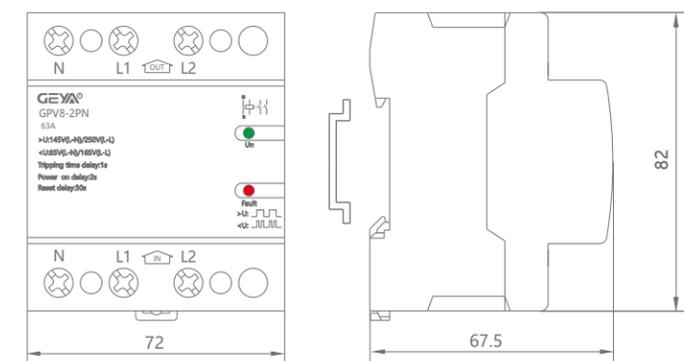
Functions Diagram

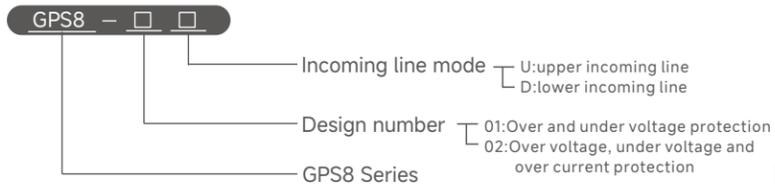


Example



Dimensions(mm)





Applications

- Overvoltage and undervoltage protection for household equipment.

Feature

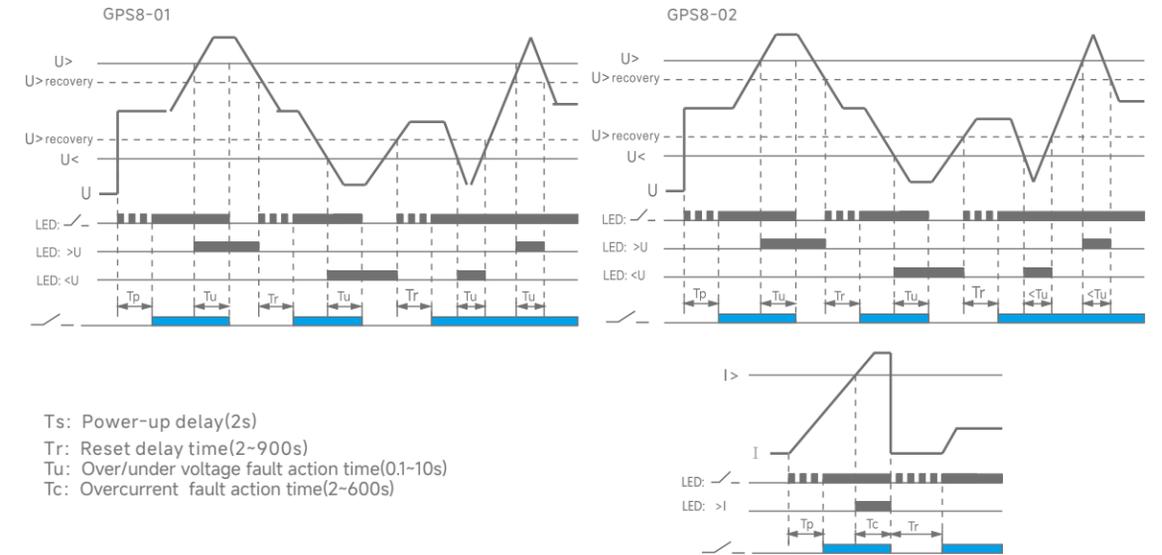
- Supply voltage measurement and protection.
- Double bus wiring design stronger ability.
- Self reset after fault.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

Technical parameters

	GPS8-01	GPS8-02
Function	Over and under voltage	Over voltage, under voltage and over current
Rated supply voltage		AC220V(L-N)
Rated supply frequency		45-65HZ
Operation voltage range		80V-400V(L-N)
Rated operational current		32A,40A,50A,63A,80A (AC1)
Burden		AC max.3VA
Over voltage operation value		OFF,230V~300V
Under voltage operation value		140V~210V,OFF
Over/under voltage action delay		0.1s~10s
Over current operation value	-	1~32A,40A,50A,63A,80A
Over current action delay	-	2s~600s
Power-up delay		2s~600s
Reset time		2s~900s
Measurement error		≤1%
Electrical life(AC1)		1×10 ⁴
Mechanical life		1×10 ⁶
Operating temperature		-20°C ~ +60°C
Storage temperature		-35°C ~ +75°C
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
Dimensions		82×36×68mm
weight		135g

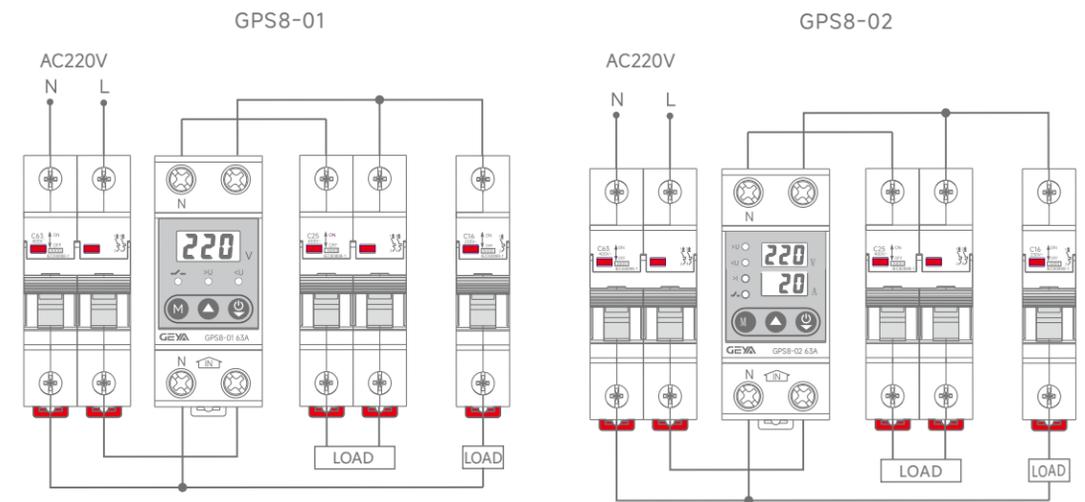
Parameter	Range	Step value	Factory settings
Over voltage value	OFF,230V~300V	1V	275V
Over voltage recovery value	225V~295V	1V	265V
Under voltage value	140V~210V,OFF	1V	175V
Under voltage recovery value	145V~215V	1V	180V
Voltage fault action time	0.1s~10s	0.1s	0.5s
Over current value	OFF,1A~32/40/50/63A	0.1A	32A/40/50/63A
Over current action delay	2s~600s	1s	5s
Power on delay time	2s~600s	1s	5s
Reset time	2s~900s	1s	30s
Fault reset	ON-OFF	—	ON

Functions Diagram

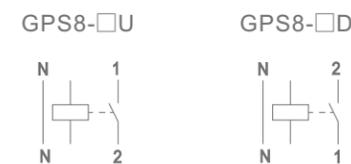


Ts: Power-up delay(2s)
Tr: Reset delay time(2~900s)
Tu: Over/under voltage fault action time(0.1-10s)
Tc: Overcurrent fault action time(2~600s)

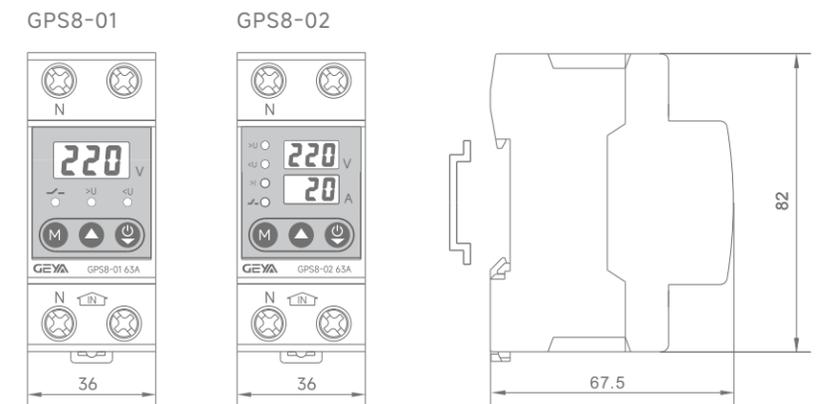
Example

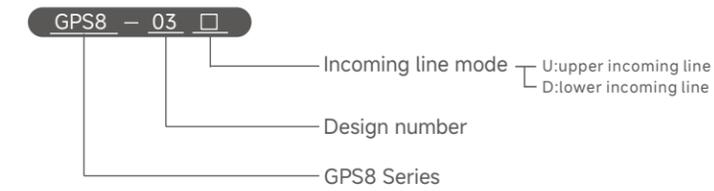


Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage, undervoltage and overcurrent protection for household equipment.

Feature

- Voltage / current (True RMS) monitoring and protection.
- Use true RMS measurement.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Digital display voltage, current value, fault status can be displayed by LED.
- 1-MODULE, DIN rail mounting.

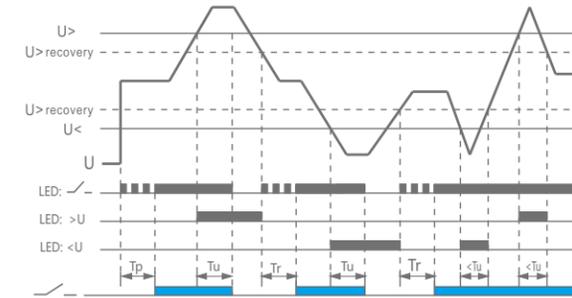


Technical parameters

	GPS8-03
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L1,L2,L3-N)
Rated supply frequency	45-65HZ
Operation voltage range	80V-400V(L1,L2,L3-N)
Rated operational current	63A(AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V-300V
Under voltage operation value	140V-210V,OFF
Over/under voltage action delay	0.1s-10s
Over current operation value	1A-63A
Over current action delay	2s-600s
Voltage unbalance value	20V-99V
Voltage unbalance action time	10s
Power-up delay	2s-600s
Reset time	2s-900s
Measurement error	≤1%
Electrical life(AC1)	1×10 ⁴
Mechanical life	1×10 ⁶
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
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
Dimensions	82×72×68mm
weight	376g

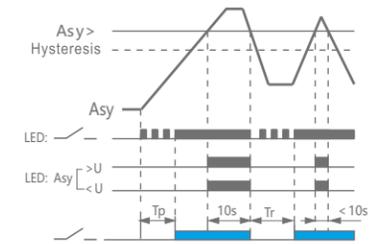
Functions Diagram

Overvoltage or undervoltage fault

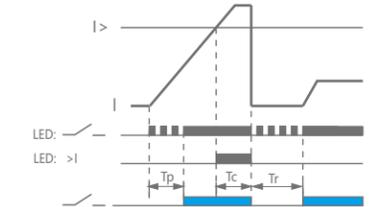


Tp: Power-up delay(2-600s)
Tr: Reset delay time(2-900s)
Tu: Over/under voltage fault action time(0.1-10s)
Tc: Overcurrent fault action time(2-600s)

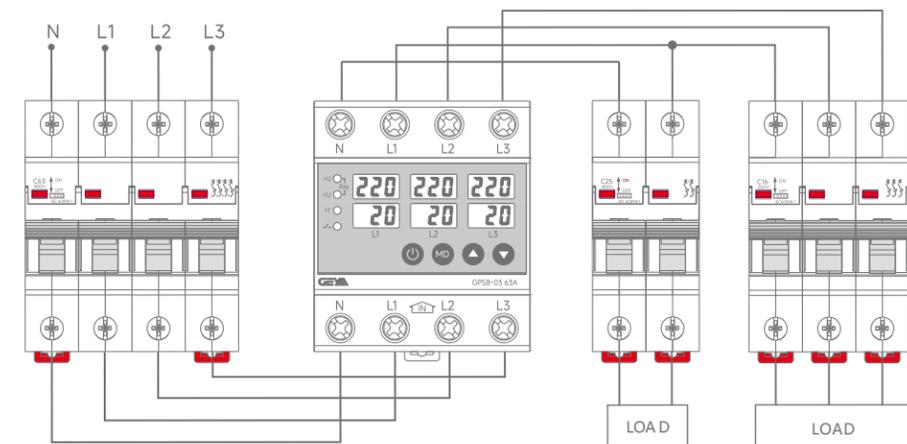
Voltage unbalance fault



Overcurrent fault

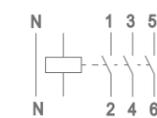


Example

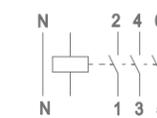


Wiring Diagram

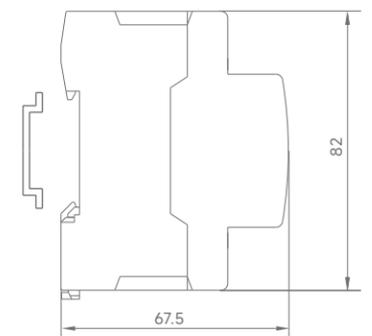
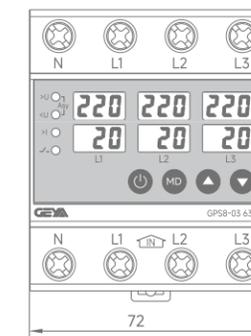
GPS8-03U

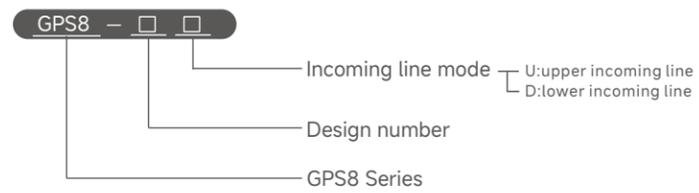


GPS8-03D



Dimensions(mm)





Applications

- Overvoltage and undervoltage protection for household equipment.

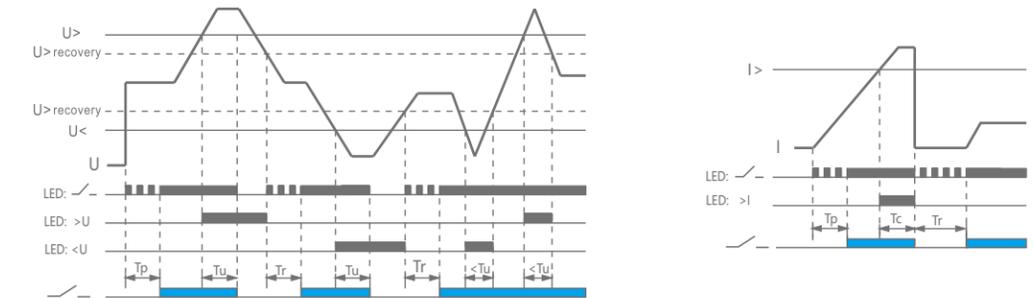
Feature

- Voltage / current monitoring and protection.
- Special metering chips are used to detect voltage, current, electricity, and power.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Digital display voltage, current value, fault status can be displayed by LED.
- DIN rail mounting.

Technical parameters

	GPS8-05	GPS8-06
Function	Over voltage, under voltage and over current	
Rated supply voltage	AC220V(L-N)	
Rated supply frequency	45-65HZ	
Operation voltage range	80V-400V(L-N)	
Rated operational current	32A,40A,50A,63A,80A (AC1)	
Burden	AC max.3VA	
Over voltage operation value	OFF,230V~300V	
Under voltage operation value	140V~210V,OFF	
Over/under voltage action delay	0.1s~10s	
Over current operation value	1~32A,40A,50A,63A,80A	
WIFI connectivity	-	802.11 b/g/n 2.4GHz
Over current action delay	2s~600s	
Power-up delay	2s~600s	
Reset time	2s~900s	
Measurement error	≤1%	
Electrical life(AC1)	1×10 ⁴	
Mechanical life	1×10 ⁶	
Operating temperature	-20°C ~ +60°C	
Storage temperature	-35°C ~ +75°C	
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	
Dimensions	82×36×68mm	
weight		

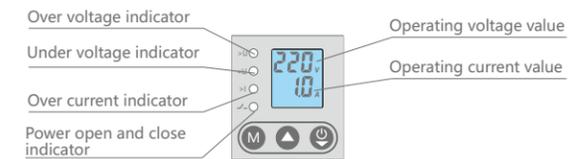
Functions Diagram



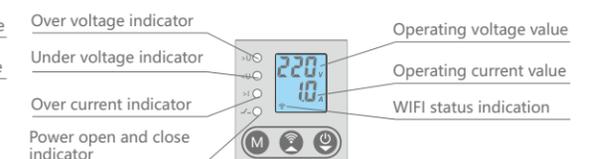
Tp: Power-up delay(2~600s) Tu: Over/under voltage fault action time(0.1~10s)
Tr: Reset delay time(2~900s) Tc: Overcurrent fault action time(2~600s)

Panel Diagram

GPS8-05



GPS8-06



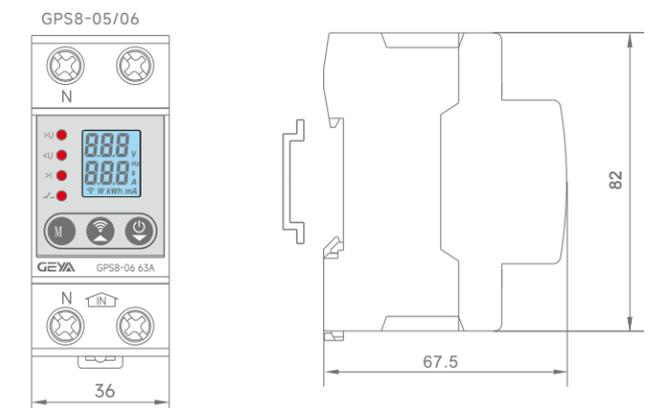
Ⓜ	Press and hold the setting key for 3 seconds to enter the setting. After modifying the setting, press and hold for 3 seconds to save the setting.
⬆	Used to increase the value when setting parameters.
⬇	1.Used to reduce the value when setting parameters. 2.After exiting the setting, it can be used to manually turn on or off the load. 3.If the automatic fault reset function is turned off, this button can be used for manual reset when the fault occurs.

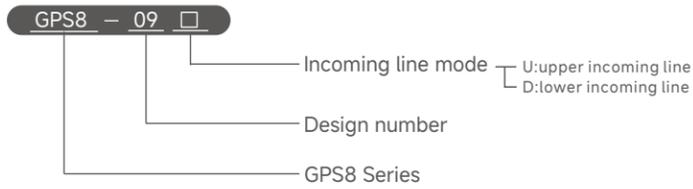
Ⓜ	Press and hold the setting key for 3 seconds to enter the setting. After modifying the setting, press and hold for 3 seconds to save the setting.
⬆	1.Used to increase the value when setting parameters.
⬇	2.Press and hold for 5 seconds to reconfigure WIFI.
⬇	1.Used to reduce the value when setting parameters. 2.After exiting the setting, it can be used to manually turn on or off the load. 3.If the automatic fault reset function is turned off, this button can be used for manual reset when the fault occurs.

Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage, undervoltage, overcurrent and leakage protection for household equipment, while displaying frequency, power factor, power, and electricity consumption.

Feature

- Overvoltage, undervoltage, overcurrent, and leakage protection.
- Special metering chips are used to detect voltage, current, electricity consumption and power.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Large color screen display.
- DIN rail mounting.

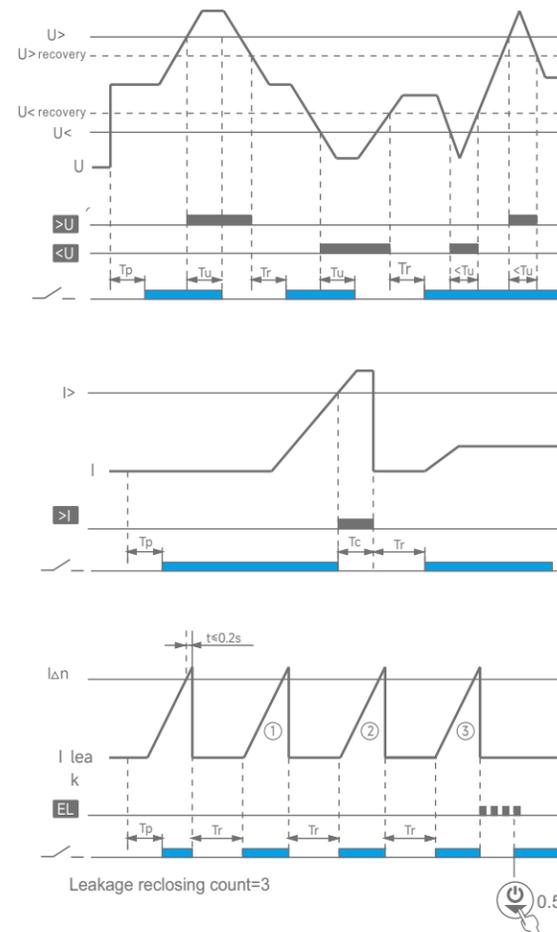
Technical parameters

	GPS8-09
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L-N)
Rated operational current	32A,40A,50A,63A,80A (AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1~32A,40A,50A,63A,80A
Over current action delay	2s~600s
Leakage current value	OFF,10mA~400mA
Leakage reclosing count	OFF,1~20,ON
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10 ⁴
Mechanical life	1×10 ⁶
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
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
Dimensions	82×54×68mm
weight	205g

Wiring Diagram



Functions Diagram



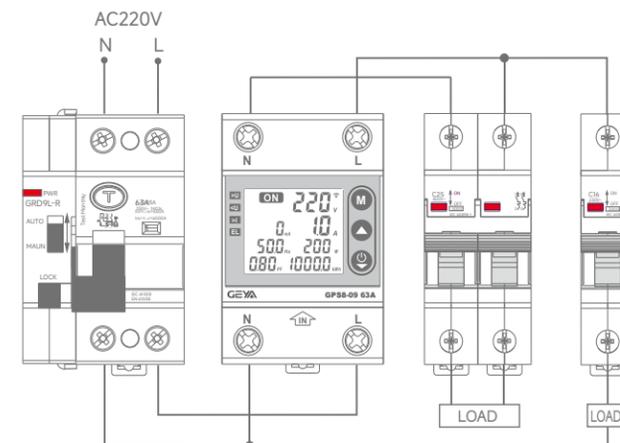
Tp: Power-up delay(2~600s)
Tr: Reset delay time(2~900s)
Tu: Over/under voltage fault action time(0.1~10s)
Tc: Overcurrent fault action time(2~600s)

When an overvoltage/undervoltage fault occurs, the protector will turn off, When the voltage returns to normal, the protector will return on after the reset time and the overvoltage/undervoltage value can be set.

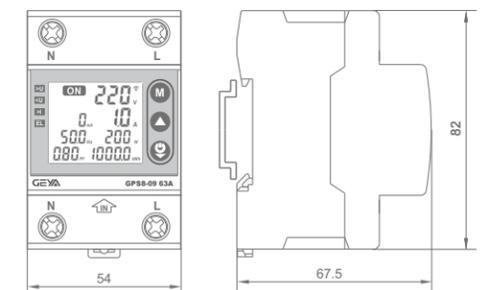
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. You can reset it by pressing the ON/OFF button.

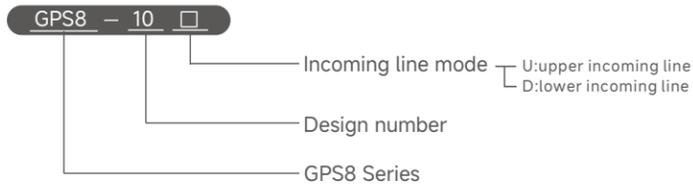
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. The reclosing count of the protector can be set to ON to permanently activate the reclosing function.

Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage, undervoltage, overcurrent and leakage protection for household equipment, while displaying frequency, power factor, power, and electricity consumption.

Feature

- Overvoltage, undervoltage, overcurrent, and leakage protection.
- Special metering chips are used to detect voltage, current, electricity consumption and power.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Large color screen display.
- DIN rail mounting.

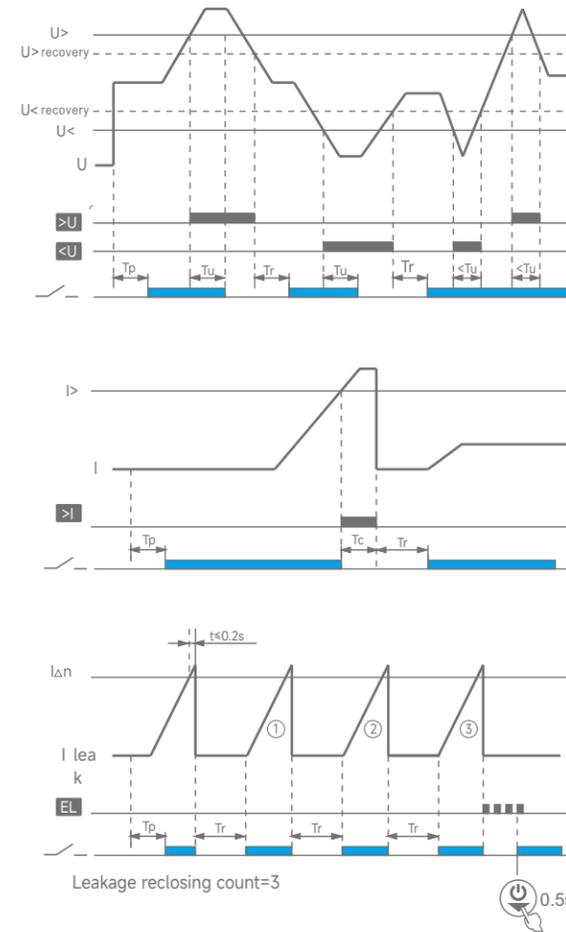
Technical parameters

	GPS8-10
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L-N)
Rated operational current	32A,40A,50A,63A,80A (AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1~32A,40A,50A,63A,80A
Over current action delay	2s~600s,802.11 b/g/n 2.4GHz
Leakage current value	OFF,10mA~400mA
Leakage reclosing count	OFF,1~20,ON
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10 ⁴
Mechanical life	1×10 ⁶
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
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
Dimensions	82×54×68mm
weight	205g

Wiring Diagram



Functions Diagram



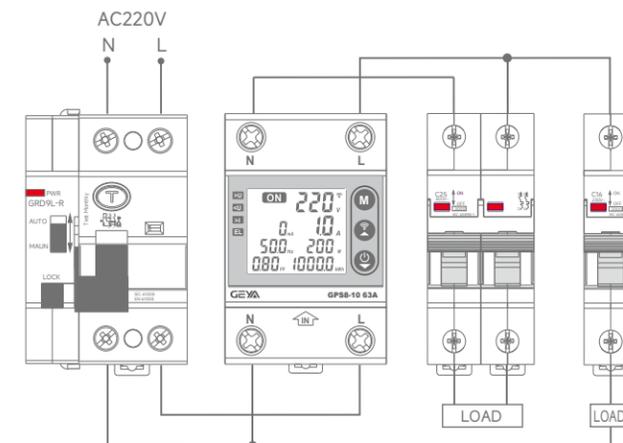
Tp: Power-up delay(2~600s)
 Tr: Reset delay time(2~900s)
 Tu: Over/under voltage fault action time(0.1~10s)
 Tc: Overcurrent fault action time(2~600s)

When an overvoltage/undervoltage fault occurs, the protector will turn off, When the voltage returns to normal, the protector will return on after the reset time and the overvoltage/undervoltage value can be set.

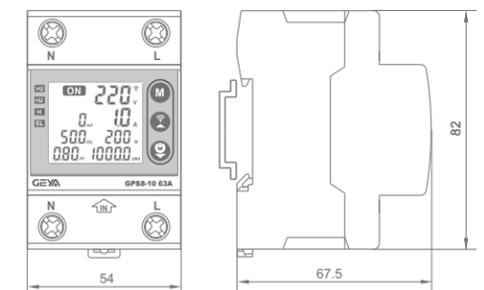
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. You can reset it by pressing the ON/OFF button.

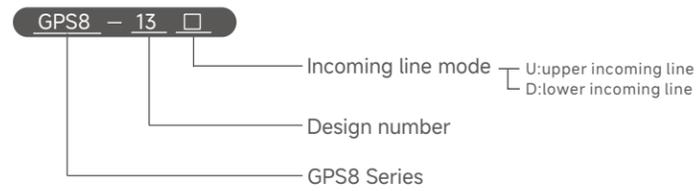
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. The reclosing count of the protector can be set to ON to permanently activate the reclosing function.

Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage, undervoltage and overcurrent protection for household equipment.

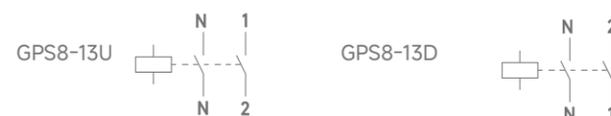
Feature

- Voltage / current (True RMS) monitoring and protection.
- Use true RMS measurement.
- L and N both have disconnected contacts.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Digital display voltage, current value, fault status can be displayed by LED.
- 1-MODULE, DIN rail mounting.

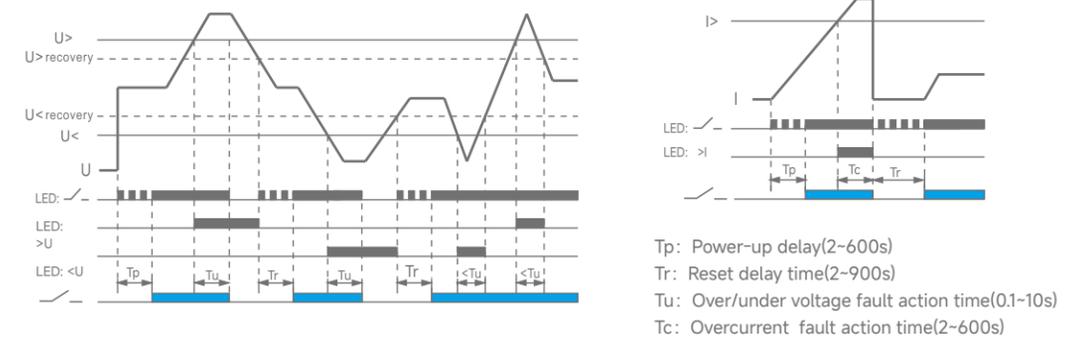
Technical parameters

	GPS8-13
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L-N)
Rated operational current	63A,80A (AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1~63A,80A
Over current action delay	2s~600s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10 ⁴
Mechanical life	1×10 ⁶
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
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
Dimensions	82×54×68mm
weight	135g

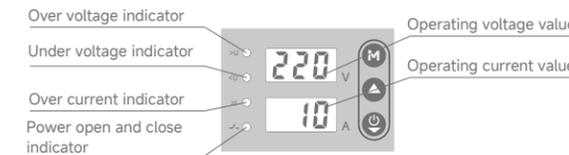
Wiring Diagram



Functions Diagram

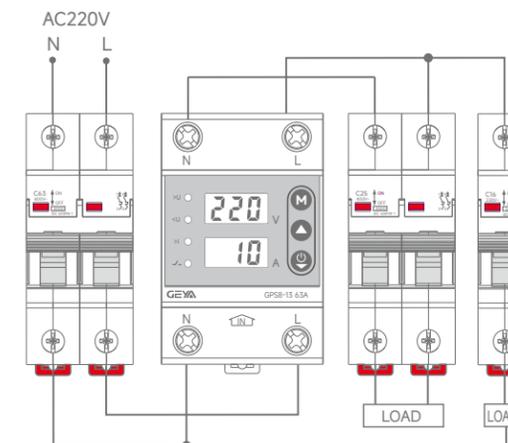


Panel Diagram

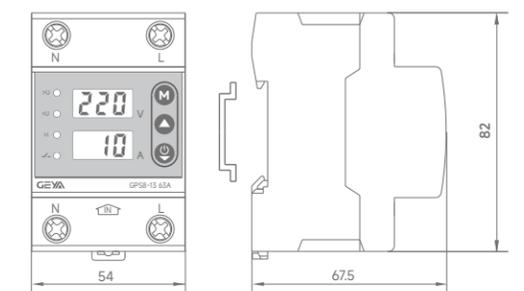


	Press and hold the setting key for 3 seconds to enter the setting. After modifying the setting, press and hold for 3 seconds to save the setting.
	Used to increase the value when setting parameters.
	1.Used to reduce the value when setting parameters. 2.After exiting the setting, it can be used to manually turn on or off the load. 3.If the automatic fault reset function is turned off, this button can be used for manual reset when the fault occurs.

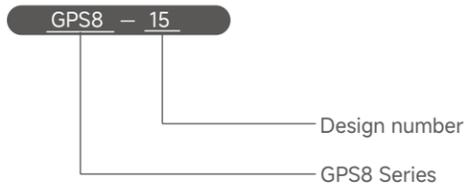
Wiring Diagram



Dimensions(mm)



NOTE: This product does not have isolation function. Please disconnect the superior MCB during maintenance!



Applications

- Equipped with overvoltage/undervoltage protection functions, it automatically selects the phase with normal voltage to supply power

Feature

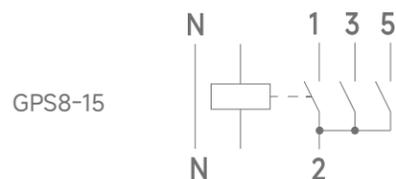
- Voltage(True RMS) monitoring and protection.
- Over / under voltage value can be set.
- Digital display voltage, fault status can be displayed by LED.
- DIN rail mounting.



Technical parameters

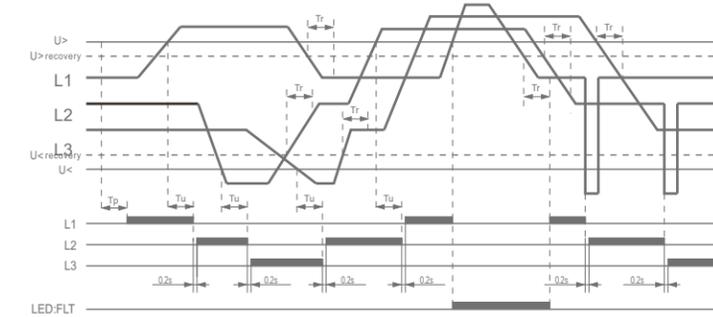
	GPS8-15
Function	Phase selector switch
Rated supply voltage	AC220V(L1,L2,L3-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L1,L2,L3-N)
Rated operational current	63A,80A (AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10 ⁴
Mechanical life	1×10 ⁶
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
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
Dimensions	82×72×68mm
weight	310g

Wiring Diagram

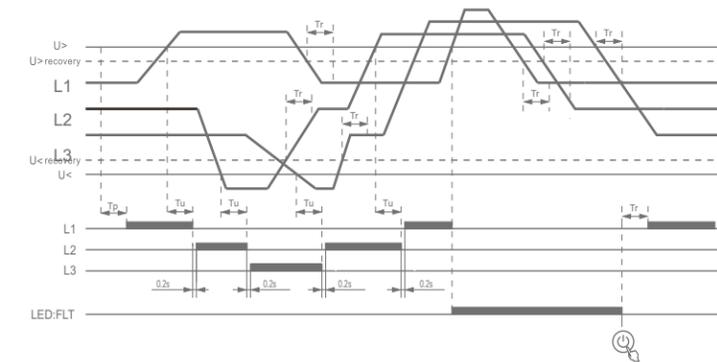


Functions Diagram

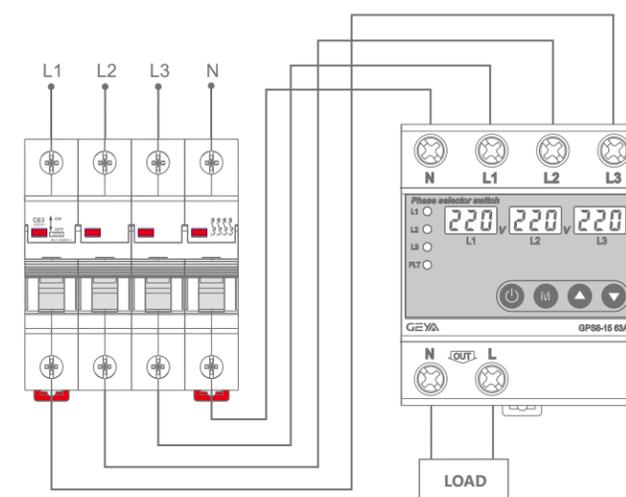
The input of this product is L1, L2, L3, N, and the output is L, N. The product will automatically select the phase output with normal voltage. When one of the phases experiences a voltage fault, it will automatically switch to the phase with normal voltage. If all three phases of the voltage fail, the fault indicator light will light up. When the fault reset function is turned on, the functional diagram is as follows:



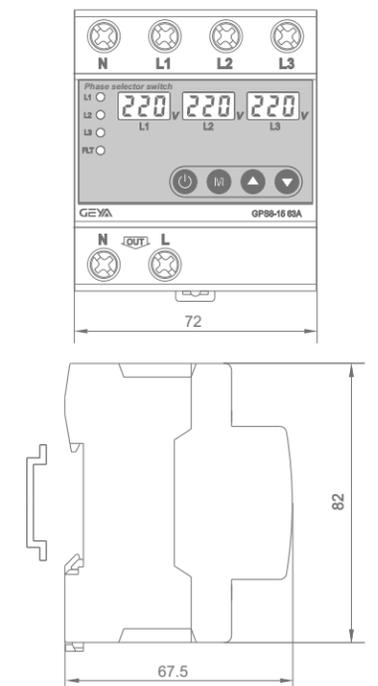
When the fault reset function is turned off, the functional diagram is as follows:



Example

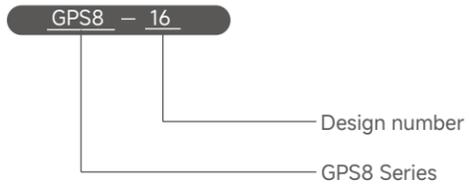


Dimensions(mm)



NOTE:

This product does not have isolation function. Please disconnect the superior MCB during maintenance!!!



Applications

- Equipped with overvoltage/undervoltage and overcurrent protection functions, it automatically selects the phase with normal voltage to power to the load.

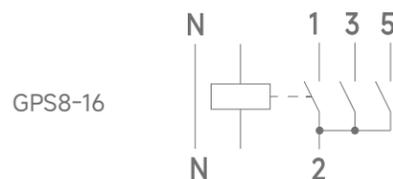
Feature

- Voltage / current(True RMS)monitoring and protection.
- Over / under voltage value and over-current value can be set.
- Digital display voltage, current value, fault status can be displayed
- DIN rail mounting.

Technical parameters

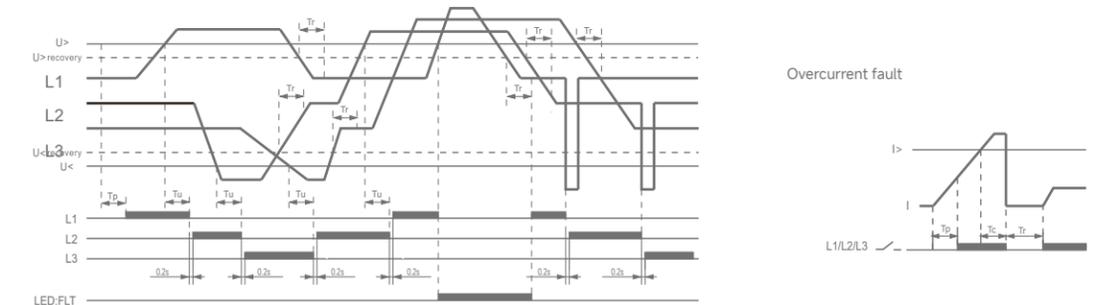
	GPS8-16
Function	Phase selector switch
Rated supply voltage	AC220V(L1,L2,L3-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L1,L2,L3-N)
Rated operational current	63A,80A (AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1A~63A
Over current action delay	2s~600s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10 ⁴
Mechanical life	1×10 ⁶
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
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
Dimensions	82×72×68mm
weight	320g

Wiring Diagram

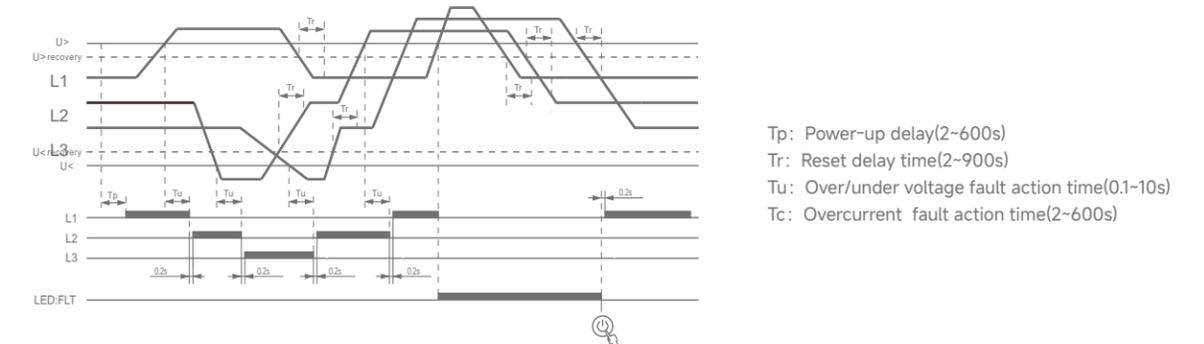


Functions Diagram

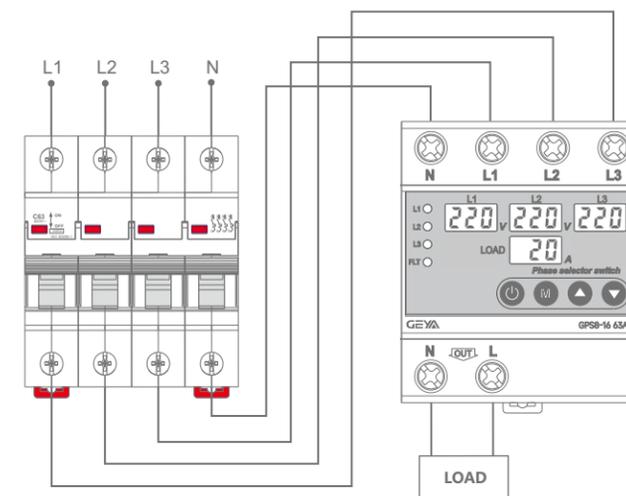
The input of this product is L1, L2, L3, N, and the output is L, N. The product will automatically select the phase with normal voltage. When one of the phases experiences a voltage fault, it will automatically switch to the phase with normal voltage. If all three phases of the voltage fail, the fault indicator light will light up. When the fault reset function is turned on, the functional diagram is as follows:



When the fault reset function is turned off, the functional diagram is as follows:

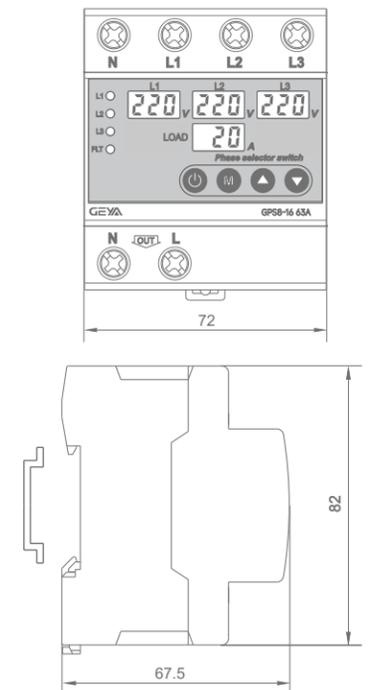


Example



NOTE:
This product does not have isolation function.
Please disconnect the superior MCB during maintenance!!!

Dimensions(mm)





Applications

- It turns on and off the load periodically and regularly, and usually controls household equipment such as lights and appliances.

Feature

- Support access to Tuya's App Tuya smart.
- The on and off time of the load can be conveniently set through the App.
- On and off can be controlled manually.
- The cycle on / off can be set during the on time.
- DIN rail mounting.

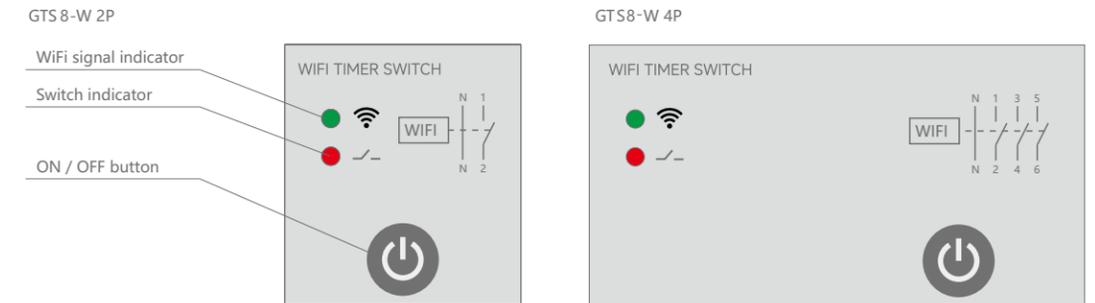
Technical parameters

	2P	4P
Function	WiFi intelligent switch	
Rated supply voltage	AC220V	AC220V(L-N)
Rated supply frequency	45-65Hz	45-65Hz
Rated operational current	32A,40A,50A,63A,80A (AC1)	63A,80A (AC1)
Burden	AC max.3VA	
WiFi connectivity	802.11 b/g/n 2.4GHz	
Electrical life(AC1)	1×10 ⁴	
Mechanical life	1×10 ⁶	
Operating temperature	-20°C ~ +60°C	
Storage temperature	-35°C ~ +75°C	
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	
Dimensions	82×36×68mm	82×72×68mm
weight	130g	370g

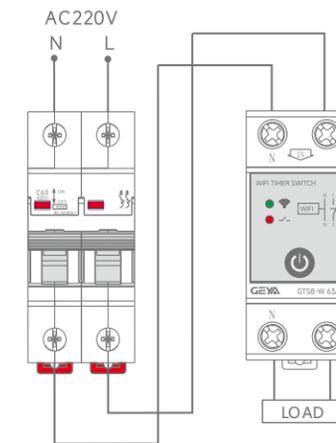
Wiring Diagram



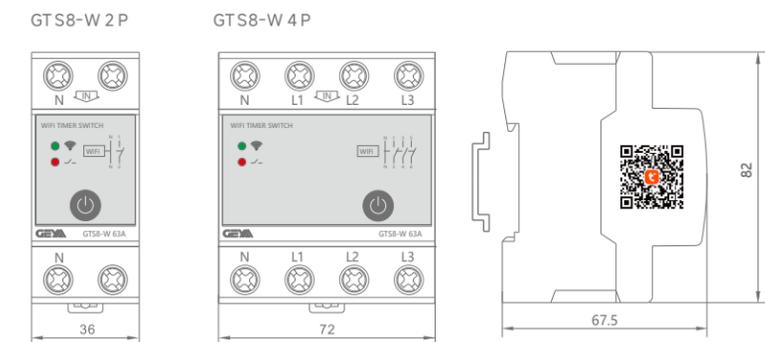
Panel Diagram

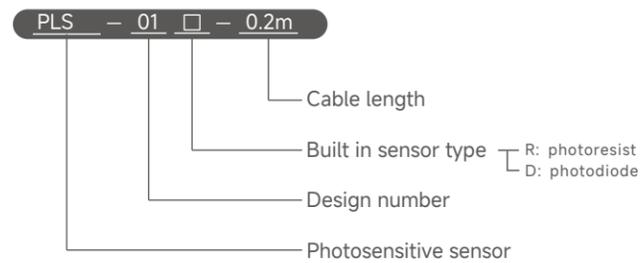


Wiring diagram



Dimensions(mm)





Applications

- It can be used as the supporting sensor of twilight switch.

Feature

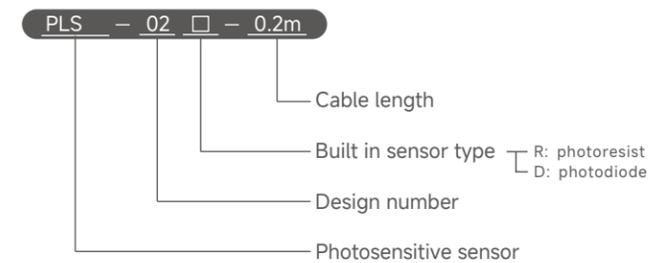
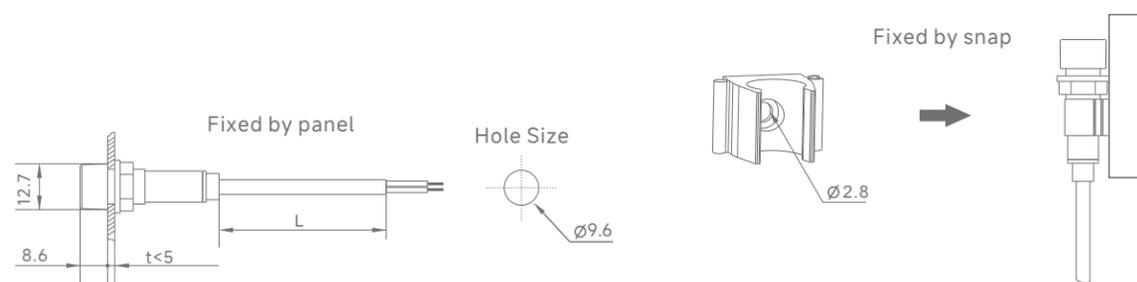
- Small size design, can be installed on the panel.
- It has two models: photoresist and photodiode.
- The model with built-in photodiode has a wider brightness detection range.
- It needs to be matched with the optical switch.

Technical parameters

	PLS-01R
Built in sensor type	Photoresist
Maximum voltage	150VDC
Spectral peak	540nm
Bright resistance(10 Lux)	100kΩ-200kΩ
Dark resistance	15mΩ
100λ10	0.95
Response time	Rise:20ms Descent:30ms
Maximum power consumption	100mW
Protection degree	IP55 for front panel/IP50 terminals
Operating temperature	-20°C to +60°C (-4°F to 140°F)
Storage temperature	-35°C to +75°C (-31°F to 167°F)

	PLS-01D
Built in sensor type	Photoresist
Spectral application range	320nm-1100nm
Operating voltage range	2.2-5VDC
Light current(10 Lux)	≥4uA(VDD=5V,R=1kΩ)
Dark current(0 Lux)	-
Maximum power consumption	100mW
Protection degree	IP55 for front panel/IP50 terminals
Operating temperature	-20°C to +60°C (-4°F to 140°F)
Storage temperature	-35°C to +75°C (-31°F to 167°F)

Dimensions(mm)



Applications

- It can be used as the supporting sensor of twilight switch.

Feature

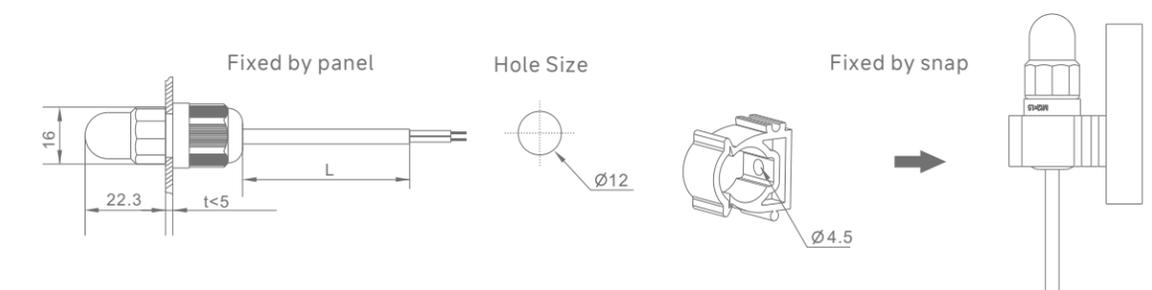
- Small size design, can be installed on the panel.
- It has two models: photoresist and photodiode.
- The model with built-in photodiode has a wider brightness detection range.
- It needs to be matched with the optical switch.

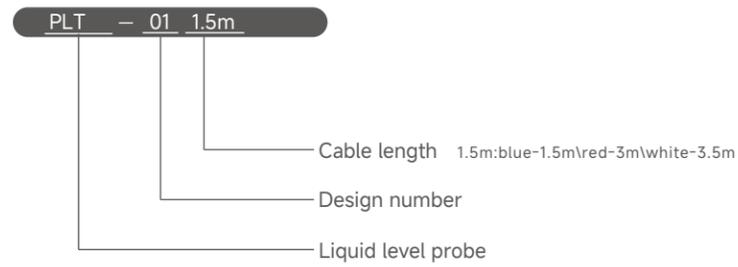
Technical parameters

	PLS-02R
Built in sensor type	Photoresist
Maximum voltage	150VDC
Spectral peak	540nm
Bright resistance(10 Lux)	100kΩ-200kΩ
Dark resistance	15mΩ
100λ10	0.95
Response time	Rise:20ms Descent:30ms
Maximum power consumption	100mW
Protection degree	IP55
Operating temperature	-20°C to +60°C (-4°F to 140°F)
Storage temperature	-35°C to +75°C (-31°F to 167°F)

	PLS-02D
Built in sensor type	Photoresist
Spectral application range	320nm-1100nm
Operating voltage range	2.2-5VDC
Light current(10 Lux)	≥4uA(VDD=5V,R=1kΩ)
Dark current(0 Lux)	-
Maximum power consumption	100mW
Protection degree	IP55
Operating temperature	-20°C to +60°C (-4°F to 140°F)
Storage temperature	-35°C to +75°C (-31°F to 167°F)

Dimensions(mm)





Applications

- Probe for matching liquid level relay.

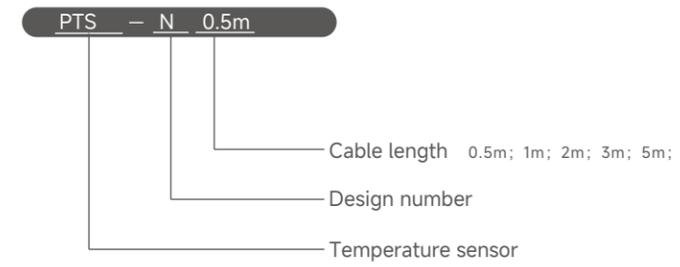
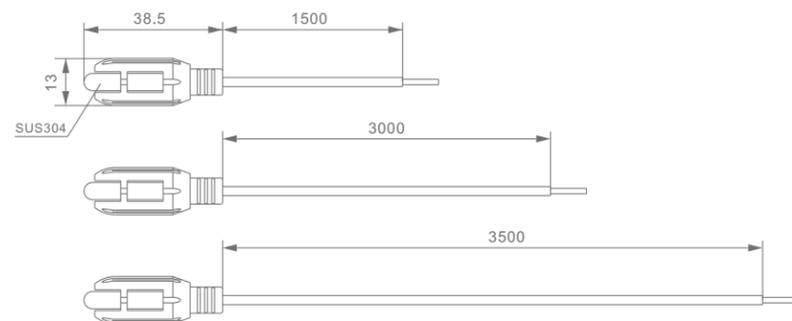
Feature

- The metal part of the probe is made of 304 stainless steel.
- Cables of 3 different colors are used to distinguish different electrodes.
- The manufacturing material has good corrosion resistance.

Technical parameters

	PLT-01
Probe material	304 stainless steel
Cable material	Copper core PVC(20AWG)
Plastic material	PA66
Operating temperature	0°C to +60°C (32°F to 140°F)
Storage temperature	-35°C to +75°C (-31°F to 167°F)

Dimensions(mm)



Applications

- It is used to detect temperature and can be used together with temperature relay.

Feature

- Probe built-in high-precision NTC thermistor.
- The probe adopts waterproof design and can be used to detect water temperature.
- The cable adopts high temperature and corrosion-resistant silica gel.

Technical parameters

	PTS-N
Probe material	304 stainless steel
Cable material	Copper core silica gel
Sensor type	NTC thermistor
Waterproof grade	IP68
Operating temperature	-40°C to +200°C (-40°F to 392°F)
Storage temperature	-40°C to +75°C (-40°F to 167°F)

Dimensions(mm)

