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Product catalog

Relay



GEYA

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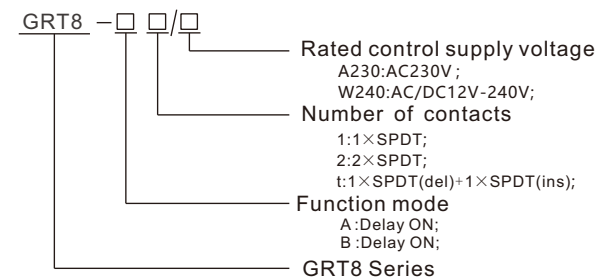
Applications

- 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.

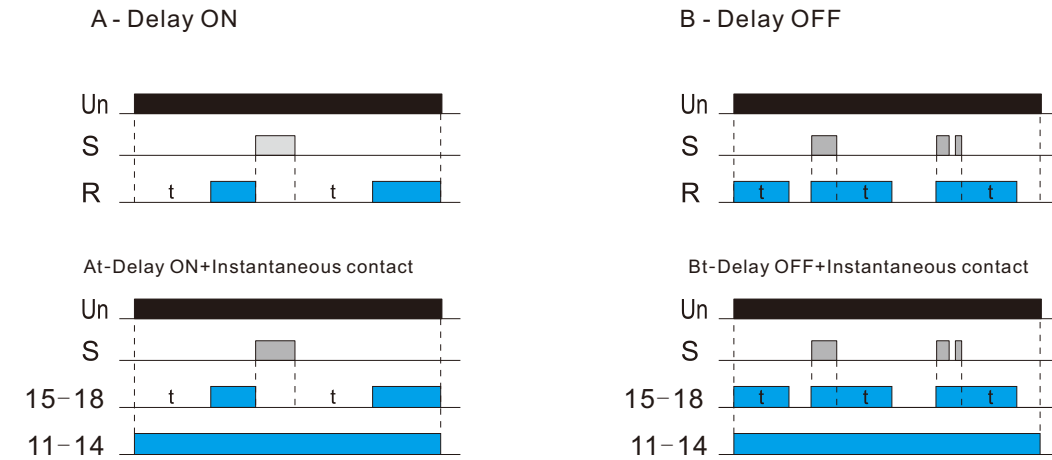
Model and connotation



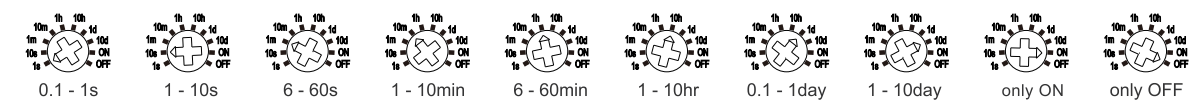
Technical parameters

	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	W240	AC 0.09-3VA/DC 0.05-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	
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×SPDT	2×SPDT	1×SPDT(del)+1×SPDT(ins)
Current rating	1×16A(AC1)	2×16A(AC1)	
Switching voltage	250VAC/24VDC		
Min.breaking capacity DC	500mW		
Output indication	red LED		
Mechanical life	1×10 ⁷		
Electrical life(AC1)	1×10 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.1×2.5 or 2×1.5 /with sleeve max.1×2.5 (AWG 12)		
Dimensions	90×18×64mm		
Weight	1×SPDT: W240-60g, A230-59g 2×SPDT: W240-81g, A230-79g		
Standards	EN 61812-1, IEC6947-5-1		

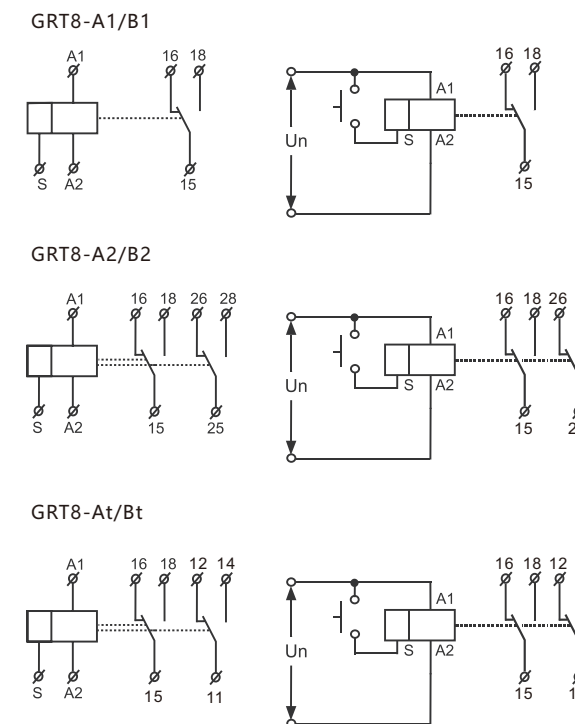
Functions Diagram



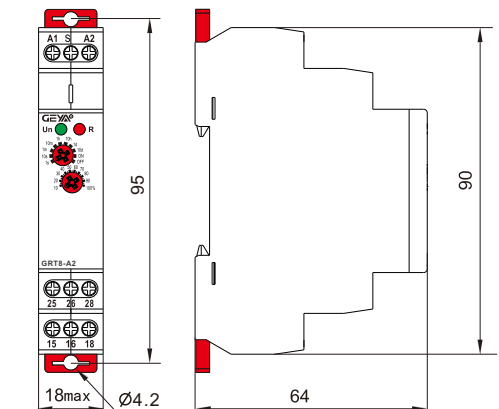
Time Range



Wiring Diagram



Dimensions(mm)



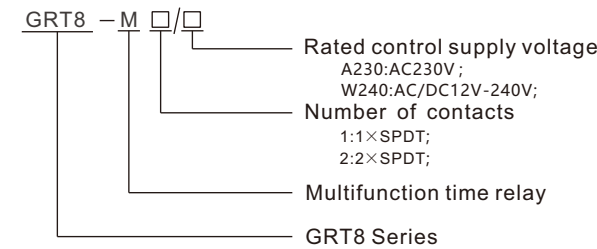
Applications

-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.

Model and connotation



Technical parameters

	GRT8-M1	GRT8-M2
Function	A,B,C,D,E,F,G,H,I,J	
Supply terminals	A1-A2	
Voltage range	AC/DC 12-240V(50-60Hz)	
Burden	AC 0.09-3VA/DC 0.05-1.7W	
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×SPDT	2×SPDT
Current rating	1×16A(AC1)	2×16A(AC1)
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 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 cathegory	III.	
Pollution degree	2	
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90×18×64mm	
Weight	1×SPDT: W240-62g,A230-60g 2×SPDT: W240-82g,A230-81g	
Standards	EN 61812-1,IEC60947-5-1	

Functions Diagram

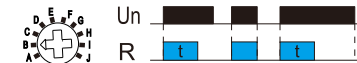
A:On Delay (Power On)

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 their 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.



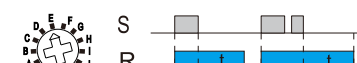
D:Repeat Cycle (Starting On)

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.



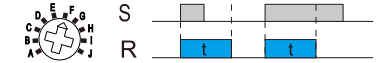
E:Off Delay (S Break)

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.



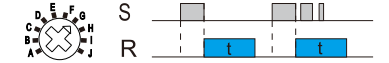
F:Single Shot

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.



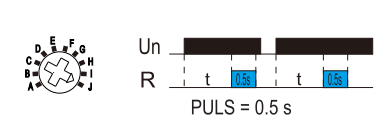
I:Latching relay

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.

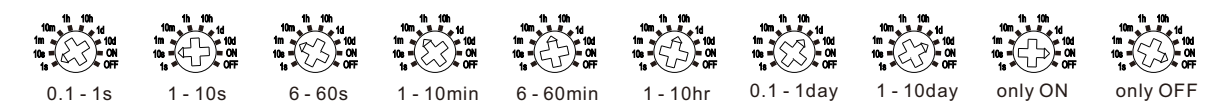


J:Pulse generator

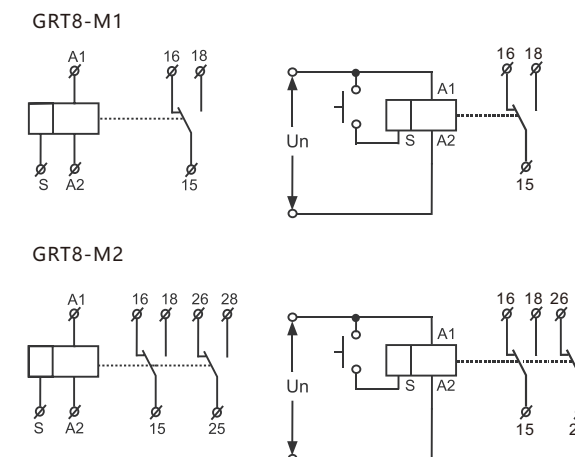
Upon application of input voltage U, a single output pulse of 0.5 seconds is delivered to relay after time delay t. Power must be removed and re-applied to repeat pulse. Trigger switch is not used in this function.



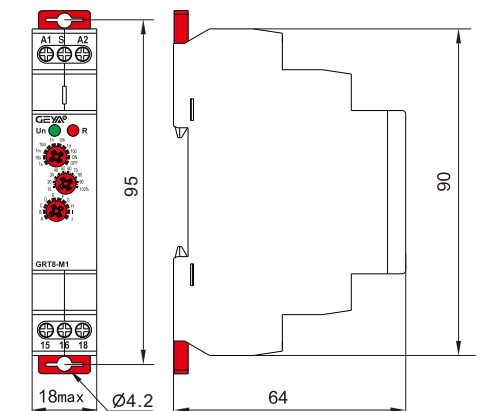
Time Range



Wiring Diagram



Dimensions(mm)





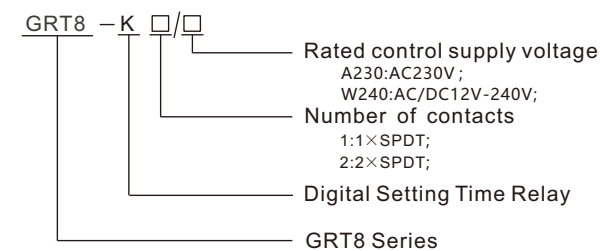
Applications

-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.

Model and connotation



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 0.09-3VA/DC 0.05-1.7W	
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×SPDT	2×SPDT
Current rating	1×16A(AC1)	2×8A(AC1)
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 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 cathegory	III.	
Pollution degree	2	
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90×18×64mm	
Weight	1×SPDT: W240-62g,A230-60g 2×SPDT: W240-72g,A230-70g	
Standards	EN 61812-1,IEC60947-5-1	

Functions Diagram

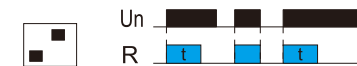
A:On Delay (Power On)

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.



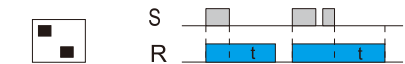
B:Interval (Power On)

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.



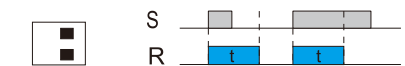
E:Off Delay (S Break)

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.

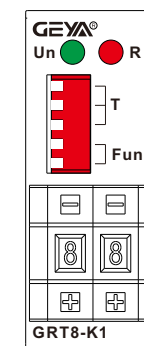
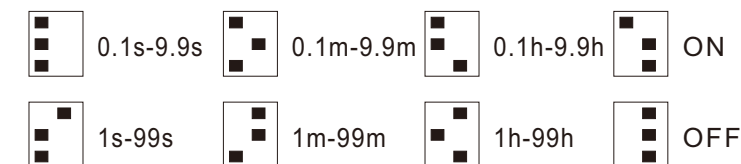


F:Single Shot

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.



Time Range

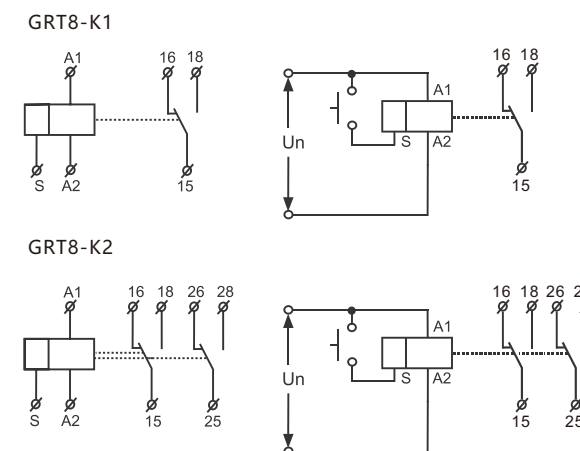


← Time Range setting

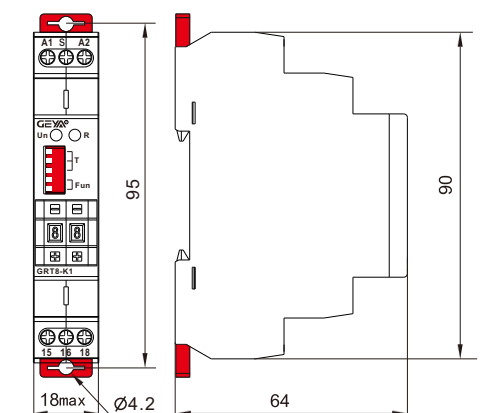
← Fuction setting

← Time setting

Wiring Diagram



Dimensions(mm)



Double delay time relay

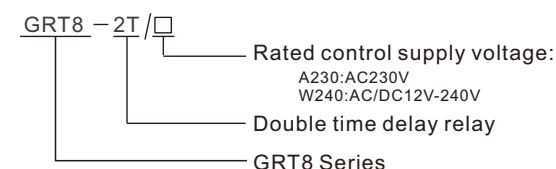
Applications

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

Feature

- 2x 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.

Model and connotation

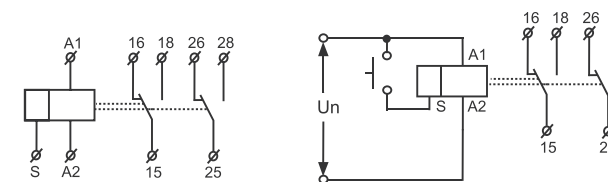


Technical parameters

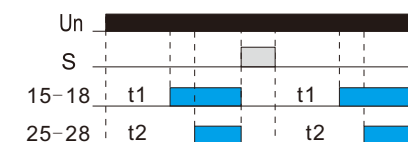
		GRT8-2T
Function		2x Delay ON
Supply terminals		A1-A2
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input		AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		0.1s-10days, ON, OFF
Time setting		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		2×SPDT
Current rating		16A/AC1
Switching voltage		250VAC/24VDC
Min.breaking capacity DC		500mW
Output indication		red LED
Mechanical life		1×10 ⁷
Electrical life(AC1)		1×10 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 cathegory		III.
Pollution degree		2
Max.cable size(mm ²)		solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions		90×18×64mm
Weight		W240-82g,A230-82g
Standards		EN 61812-1,IEC60947-5-1



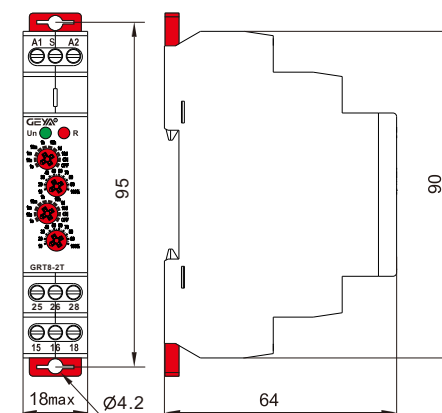
Wiring Diagram



Functions Diagram



Dimensions(mm)



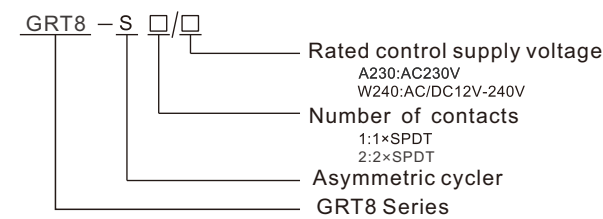
Applications

-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.

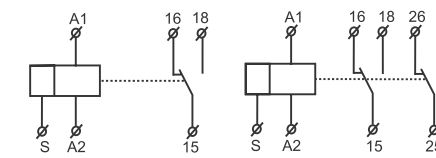
Model and connotation



Technical parameters

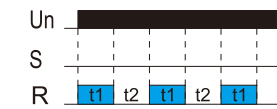
	GRT8-S1	GRT8-S2
Function	Asymmetric cycler time relay	
Supply terminals	A1-A2	
Voltage range	W240 AC/DC 12-240V(50-60Hz)	
Burden	AC 0.09-3VA/DC 0.05-1.7W	
Voltage range	A230 AC 230V(50-60Hz)	
Power input	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Time ranges	0.1s-10days	
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×SPDT	2×SPDT
Current rating	1×16A(AC1)	2×16A(AC1)
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 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 cathegory	III.	
Pollution degree	2	
Max. cable size(mm ²)	solid wire max.1×2.5 or 2×1.5 / with sleeve max.1×2.5 (AWG 12)	
Dimensions	90×18×64mm	
Weight	1×SPDT: W240-62g, A230-61g 2×SPDT: W240-82g, A230-82g	
Standards	EN 61812-1, IEC60947-5-1	

Wiring Diagram

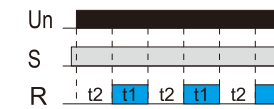


Functions Diagram

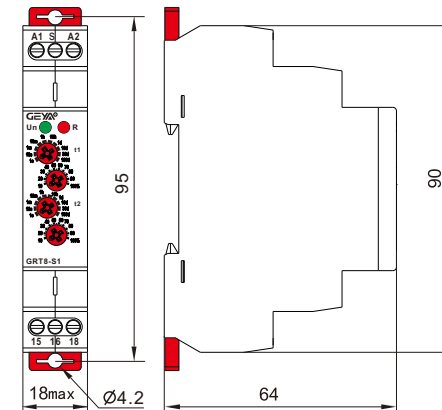
Cycler beginning with pulse



Cycler beginning with pause(jumper A1-S)



Dimensions(mm)



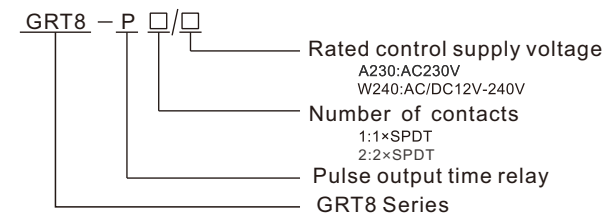
Applications

-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.

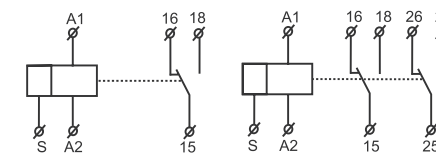
Model and connotation



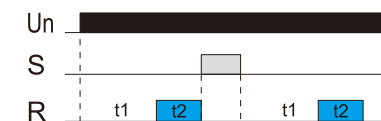
Technical parameters

	GRT8-P1	GRT8-P2
Function	Pulse output time relay	
Supply terminals	A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden	W240	AC 0.09-3VA/DC 0.05-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input	A230	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×SPDT	2×SPDT
Current rating	1×16A(AC1)	2×16A(AC1)
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 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 cathegory	III.	
Pollution degree	2	
Max. cable size(mm ²)	solid wire max.1×2.5 or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90×18×64mm	
Weight	1×SPDT: W240-62g,A230-61g 2×SPDT: W240-82g,A230-82g	
Standards	EN 61812-1,IEC60947-5-1	

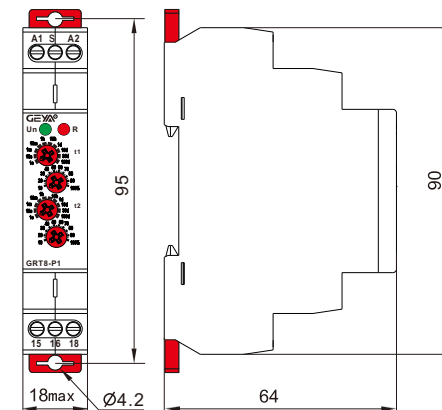
Wiring Diagram



Functions Diagram



Dimensions(mm)





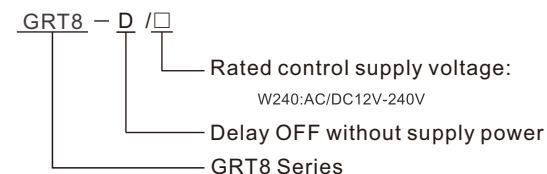
Applications

-Back-up source for Delay OFF in case of voltage failure (emergency lighting, emergency respirator, or protection of el. controlled doors - in case of fire).

Feature

- Time range (adjustable by rotary switch and fine setting by potentiometer): 0.1 s - 10 min.
- Voltage range: AC/DC12-240V , clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

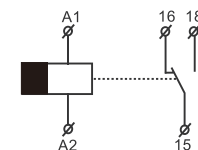
Model and connotation



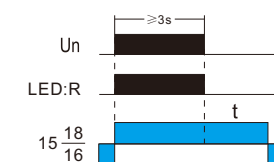
Technical parameters

	GRT8-D
Function	Delay OFF without supply power
Supply terminals	A1-A2
Voltage range	AC/DC 12-240V(50-60Hz)
Burden	AC 0.09-3VA/DC 0.05-1.5W
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	3s
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	1×10 ⁶
Electrical life(AC1)	5×10 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 cathegory	III.
Pollution degree	2
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90×18×64mm
Weight	66g
Standards	EN 61812-1,IEC60947-5-1

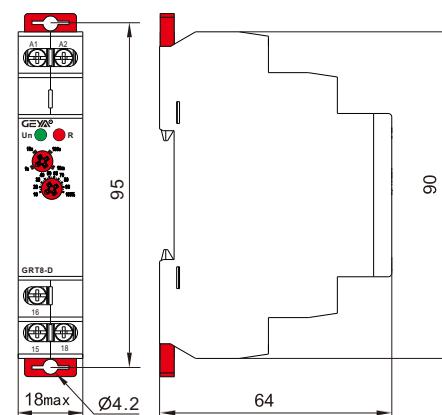
Wiring Diagram



Functions Diagram



Dimensions(mm)





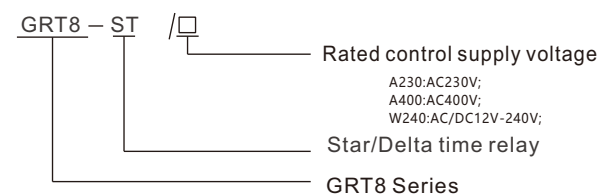
Applications

-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.

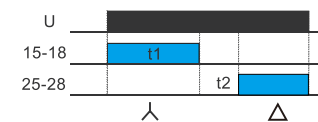
Model and connotation



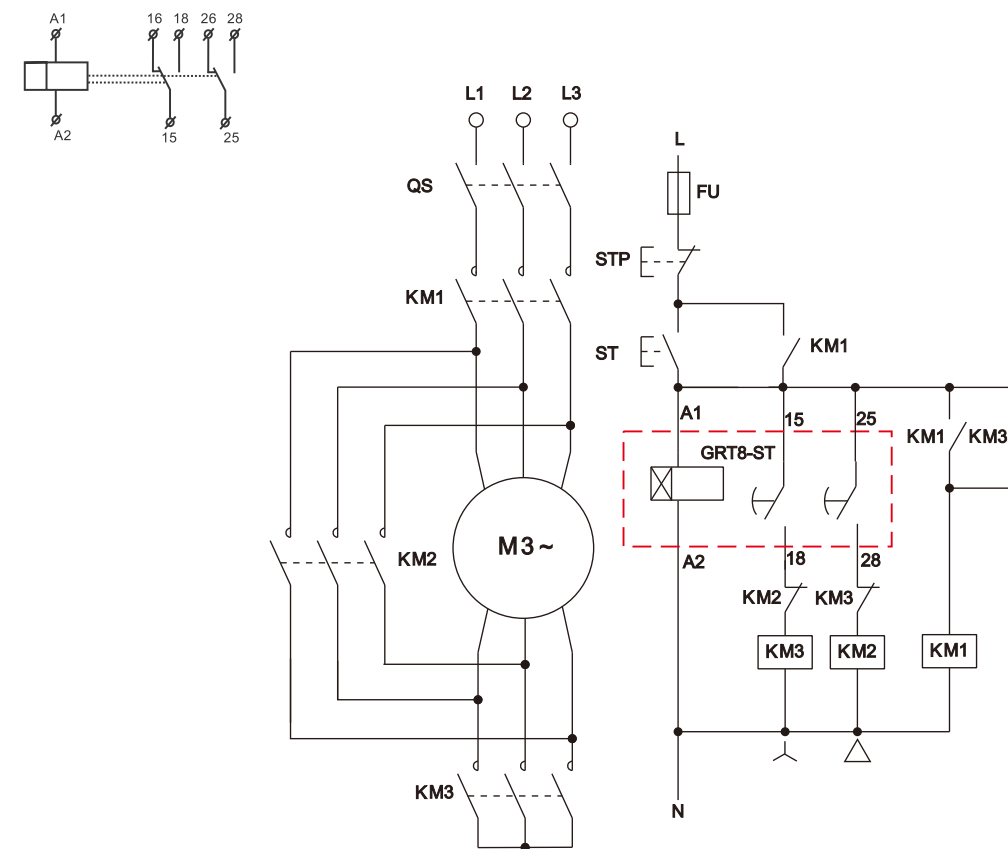
Technical parameters

		GRT8-ST
Function		Star/Delta time relay
Supply terminals		A1-A2
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden		AC 0.3-2VA/DC 0.1-1.2W
Voltage range	A230 A400	AC 230V/AC400V(50-60Hz)
Power input		AC max.6VA/1.3W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		Range of time delay t1: 0.1 s - 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		1×10 ⁷
Electrical life(AC1)		1×10 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 cathegory		III.
Pollution degree		2
Max.cable size(mm ²)		solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions		90×18×64mm
Weight		W240-82g,A230-80g
Standards		EN 61812-1,IEC60947-5-1

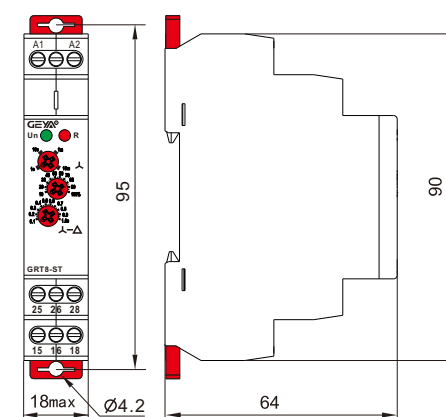
Functions Diagram



Wiring Diagram



Dimensions(mm)





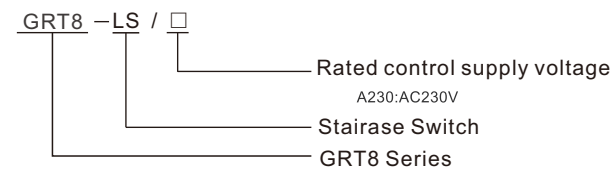
Applications

-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.

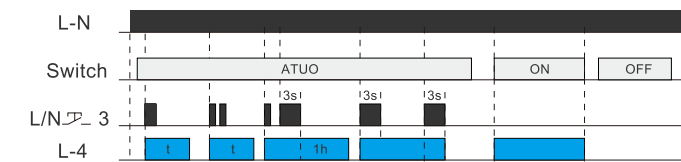
Model and connotation



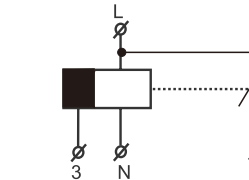
Technical parameters

	GRT8-LS
Function	delay off reacting to contact switching
Supply terminals	L-N
Voltage range	AC 230V(50-60Hz)
Power input	AC max.6VA/1.3W
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
Mininum 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
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity DC	500mW
Output indication	red LED
Mechanical life	1×10 ⁷
Electrical life(AC1)	1×10 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 cathegory	III.
Pollution degree	2
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90×18×64mm
Weight	61g
Standards	EN61812-1,IEC 60669-2-3,IEC60947-5-1

Functions Diagram



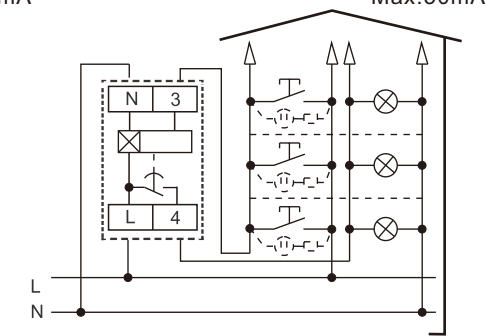
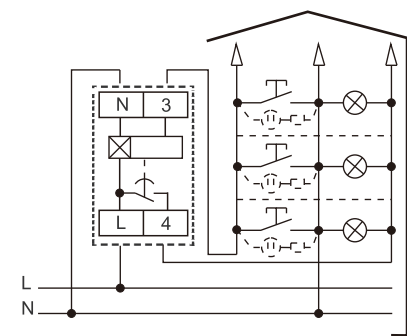
Wiring Diagram



3-wire connection



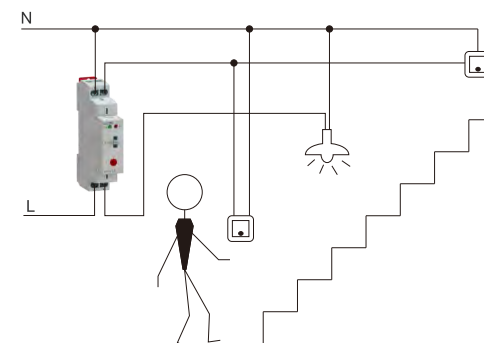
4-wire connection



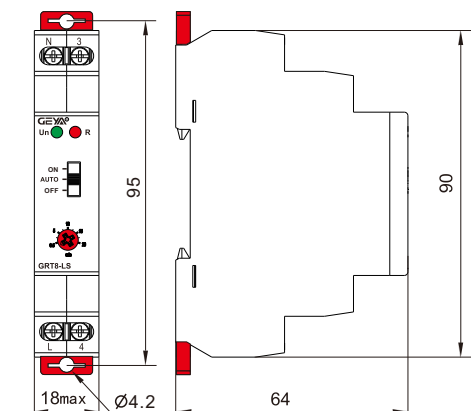
Types of lamps

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

Example



Dimensions(mm)





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.

Model and connotation

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 15...100V	AC/DC 20...80V
AD240	AC/DC 110...240V	AC/DC 50...270V	AC/DC 65...260V
A220	AC 220V	AC 160...270V	AC 180...260V

Fuction mode

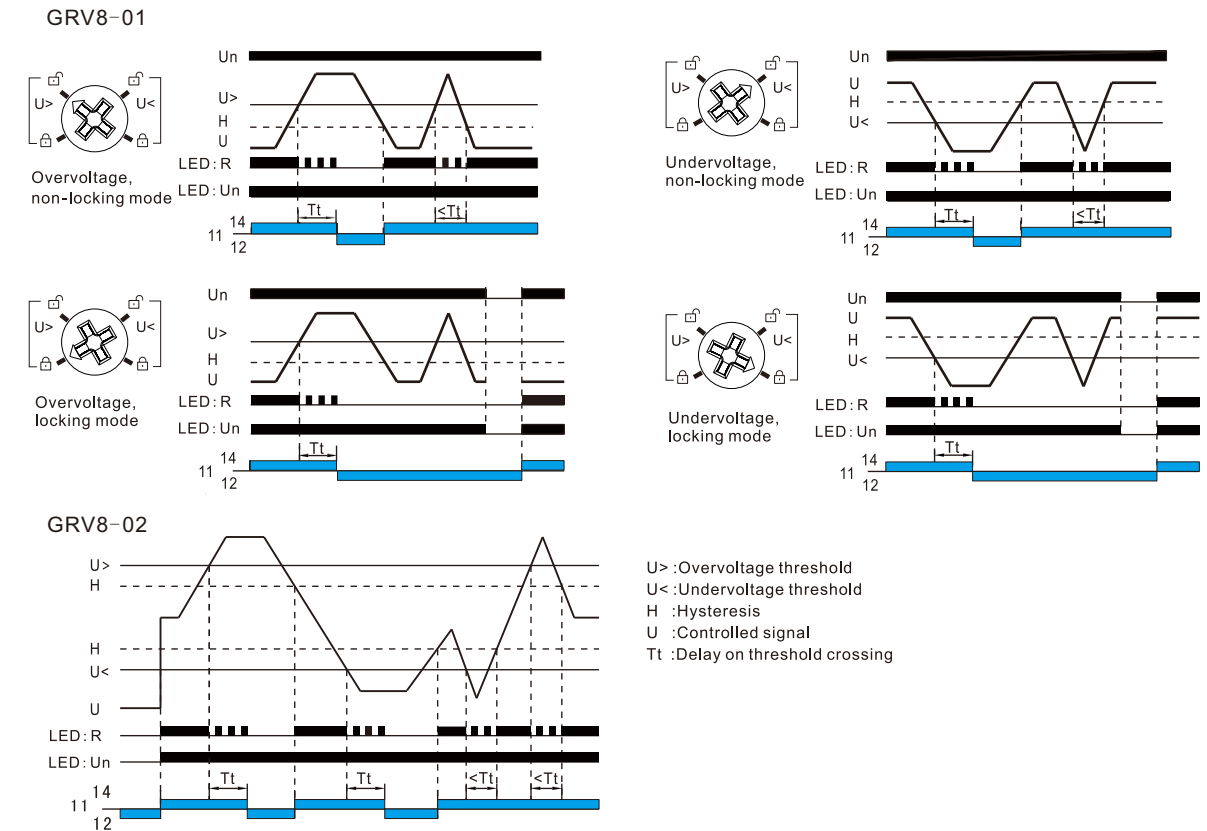
01:Over/Under voltage
02:Overvoltage and Undervoltage

GRV8 Series

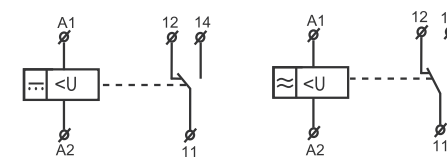
Technical parameters

	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	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	0.5s time delay	
Konb setting accuracy	10% of scale value	
Reset time	1000ms	
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	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage cathegory	III.	
Pollution degree	2	
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90×18×64mm	
Weight	59g	
Standards	EN 60255-1,IEC60947-5-1	

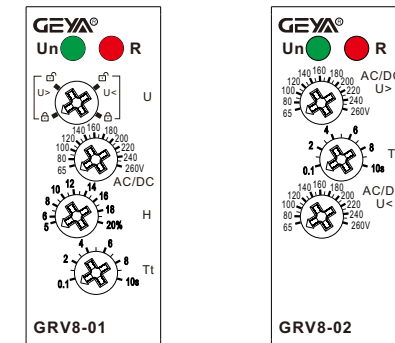
Functions Diagram



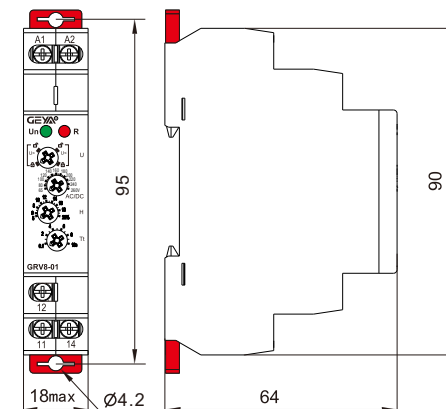
Wiring Diagram



Panel Diagram



Dimensions(mm)





Applications

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

Model and connotation

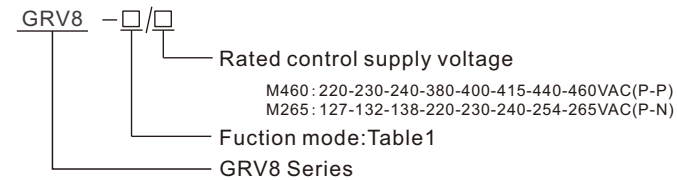


Table 1

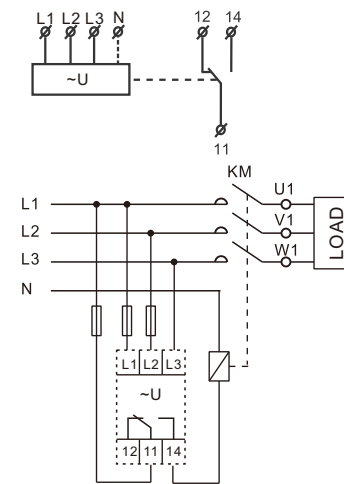
Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure
03					●	●
04	2%...20%	-20%...2%		0.1s...10s	●	●
05	2%...20%	-20%...2%	8%	0.1s...10s	●	●
06	2%...20%	-20%...2%	5%...15%	2s	●	●
07			8%	2s	●	●
08	15%	-15%	8%	2s	●	●

Note:●the function is available

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%	
Supply indication	green LED	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	0.5s time delay	
Konb setting accuracy	10% of scale value	
Reset time	1000ms	
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	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	

Wiring 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.1×2.5or2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90×18×64mm
Weight	64g
Standards	EN 60255-1,IEC60947-5-1

Note:

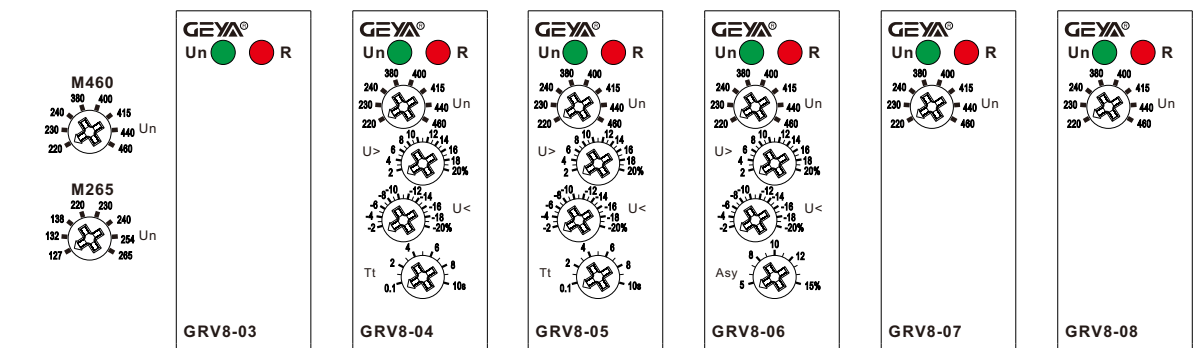
$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

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

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

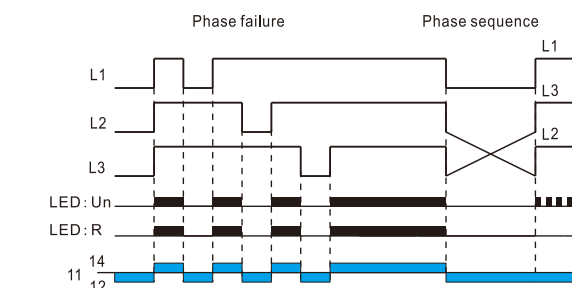
$$U_{min} = \min(U_1, U_2, U_3)$$

Panel Diagram

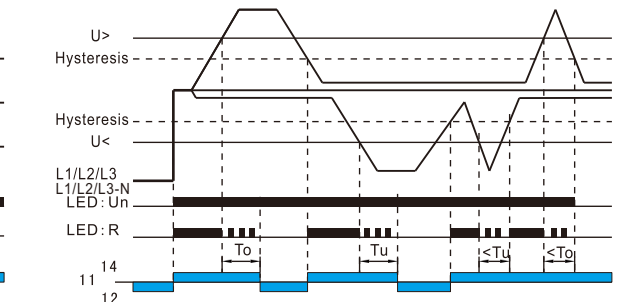


Functions Diagram

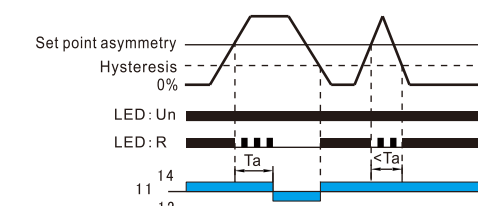
●Phase failure and phase equence function diagram



●Overvoltage and undervoltage function diagram

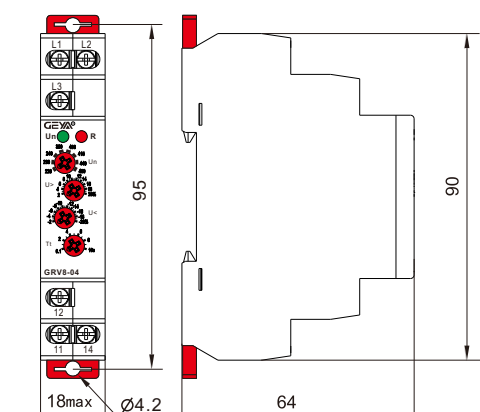


●Asymmetry function diagram



To:Overvoltage threshold tripping delay.
Tu:Undervoltage threshold tripping delay.
Ta:Asymmetry threshold tripping delay.

Dimensions(mm)



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.
- 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.

Model and connotation

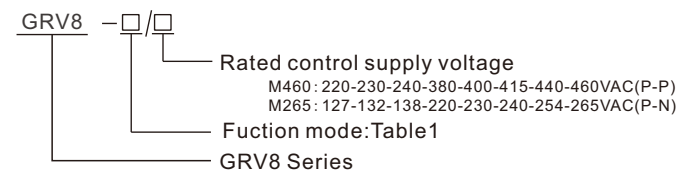


Table 1

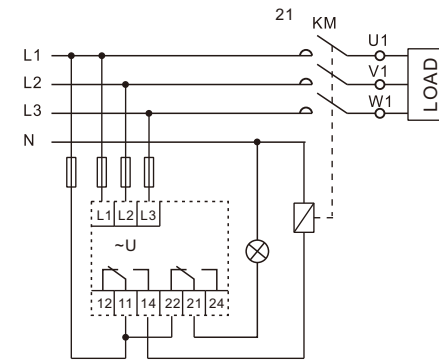
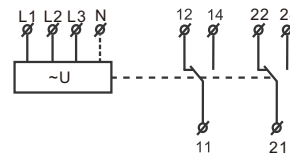
Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure	Reset time
09			8%		●	●	
10	2%...20%	-20%...2%	5%...15%	0.1s...10s	●	●	0.1s...10s

Note:●the function is available

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%	
Supply indication	green LED	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	Adjustable 0.1s-10s,10%	
Konb setting accuracy	10% of scale value	
Reset time	Adjustable 0.1s-10s,10%	
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	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	

Wiring 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 catgory	III.
Pollution degree	2
Max. cable size(mm ²)	solid wire max.1×2. 5or2×1. 5/with sleeve max.1×2. 5(AWG 12)
Dimensions	90×36×64mm
Weight	80g
Standards	EN 60255-1, IEC60947-5-1

Note:

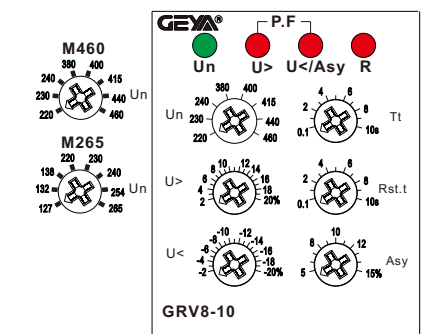
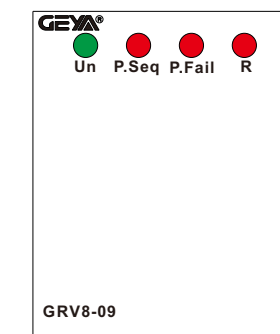
$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

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

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

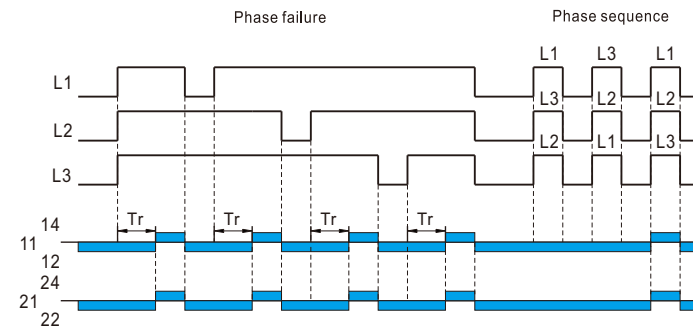
$$U_{min} = \min(U_1, U_2, U_3)$$

Panel Diagram

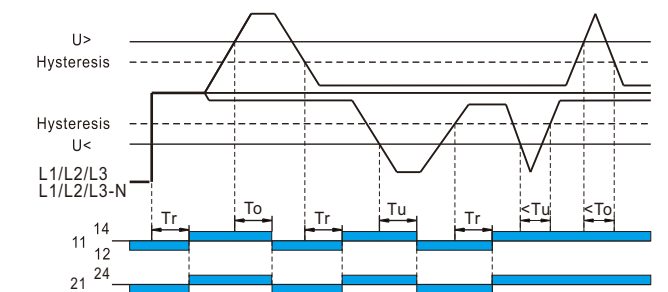


Functions Diagram

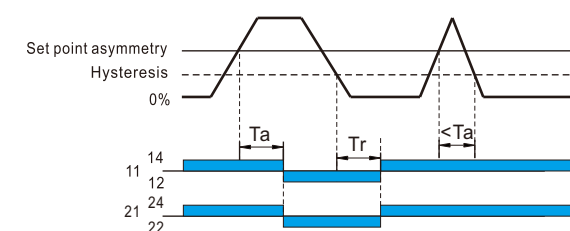
●Phase failure and phase equence function diagram



●Overvoltage and undervoltage function diagram

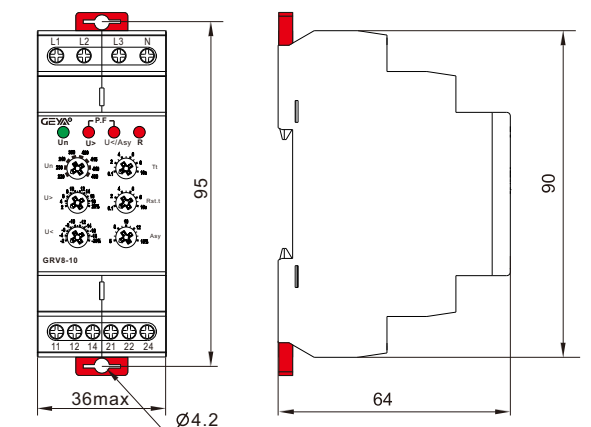


●Asymmetry function diagram



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

Dimensions(mm)





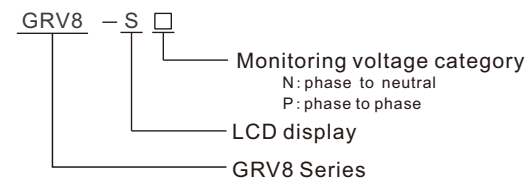
Applications

- 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.

Model and connotation



Technical parameters

	GRV8-SN	GRV8-SP
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3-N	L1-L2-L3
Supply voltage limits	70V-400V	130V-650V
Rated supply frequency	45Hz-65Hz	
Voltage hysteresis	2% Un	
Measuring range	80V-350V	150V-600V
Measurement error	≤ 1%	
Phase failure	50% Un	
Start-reset delay time	0.3-30s	
Temperature coefficient	0.05%/°C, at=20°C(0.05%°F, at=68°F)	
Output	2×SPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III.	
Pollution degree	2	
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90×36×64mm	
Weight	90g	
Standards	EN 60255-1,IEC60947-5-1	

Note:

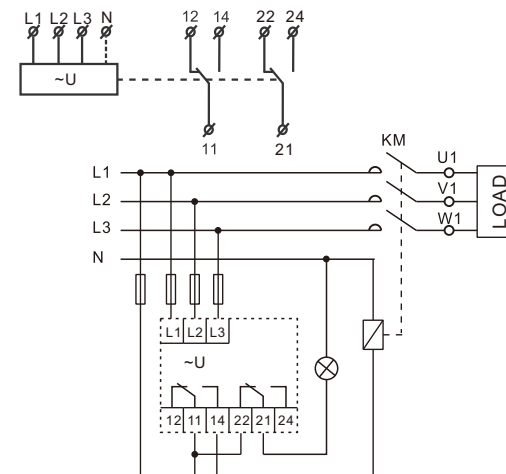
$$Asy = \frac{U_{max} - U_{min}}{U_{avr}} \times 100\%$$

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

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

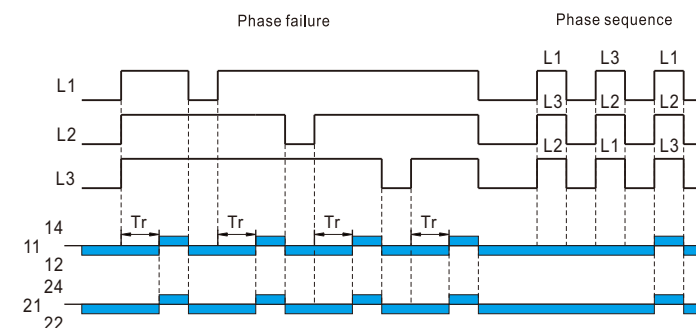
$$U_{min} = \min(U_1, U_2, U_3)$$

Wiring Diagram

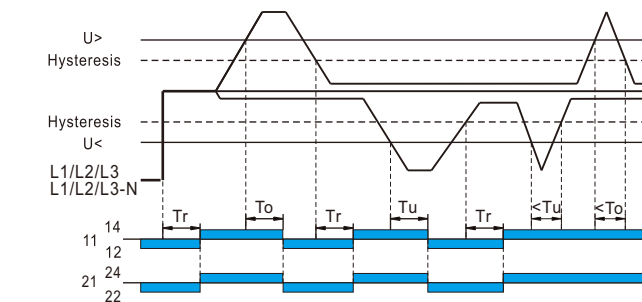


Functions Diagram

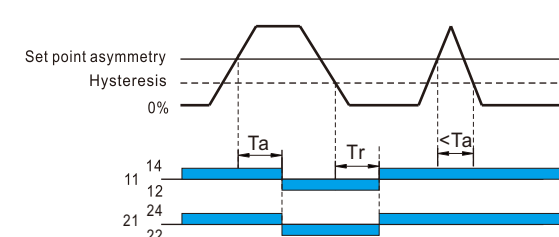
●Phase failure and phase sequence function diagram



●Overvoltage and undervoltage function diagram



●Asymmetry function diagram

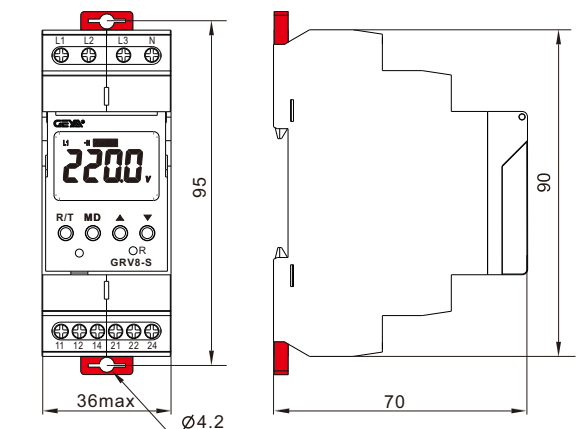


To:Overvoltage threshold tripping delay.
Tu:Undervoltage threshold tripping delay.
Ta:Asymmetry threshold tripping delay.
Tr:Power up delay

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.

Dimensions(mm)



Current monitoring relay



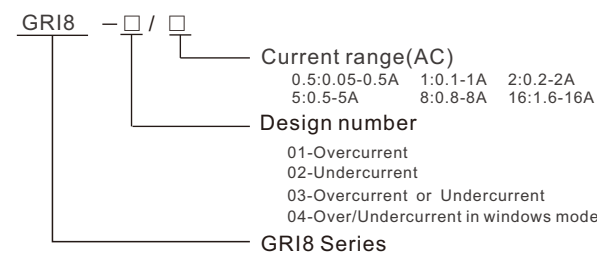
Applications

-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.

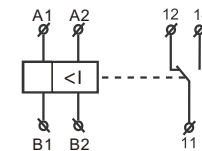
Model and connotation



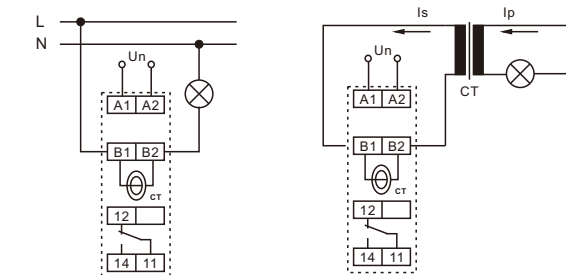
Technical parameters

	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 25VA			
Supply voltage tolerance	-15%;+10%			
Current range	0.05A-0.5A	0.1A-1A	0.5A-5A	0.8A-8A 1.6A-16A
Current frequency	AC 50Hz			
Max.operating current	1A	2A	8A	12A 22A
Current adjustment	potentiometer			
Time delay	adjustable 0.1-10 s			
Power up delay	adjustable 0.1-10 s			
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×SPDT			
Current rating	10A/ AC1			
Switching voltage	250VAC/24VDC			
Min.breaking capacity DC	500mW			
Output indication	red LED			
Mechanical life	1×10 ⁷			
Electrical life(AC1)	1×10 ⁵			
Operating temperature	-20°C to +55°C (-4°F to 131°F)			
Storage temperature	-35°C to +75°C (-22°F to 158°F)			
Mounting/DIN rail	Din rail EN/IEC 60715			
Protection degree	IP40 for front panel/IP20 terminals			
Operating position	any			
Overvoltage cathegory	III.			

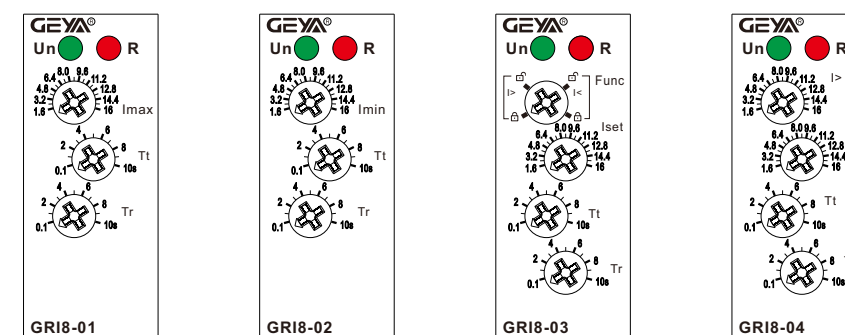
Wiring Diagram



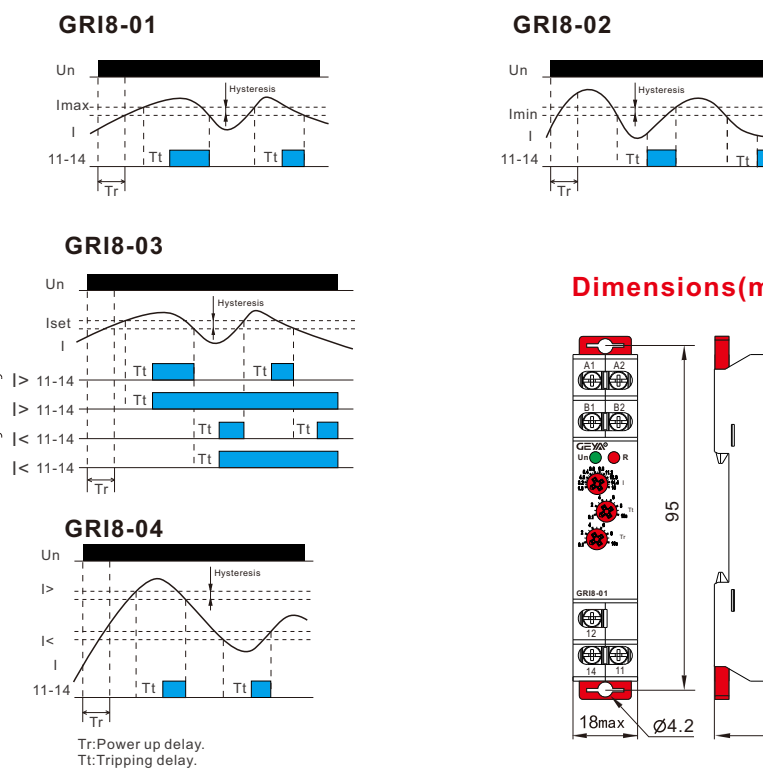
Pollution degree	2
Max.cable size(mm ²)	solid wire max.1×2.5 or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90×18×64mm
Weight	62g
Standards	EN 60255-1



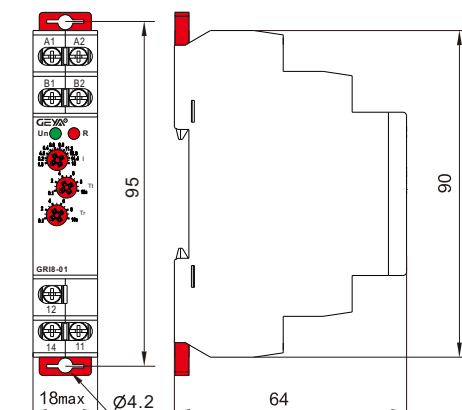
Panel Diagram



Functions Diagram



Dimensions(mm)





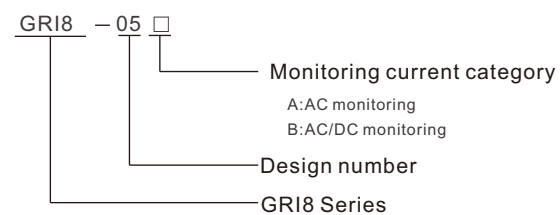
Applications

-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 jumper.
- 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.
- Universal supply AC/DC 24 - 240 V.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

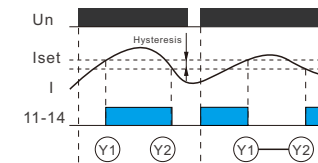
Model and connotation



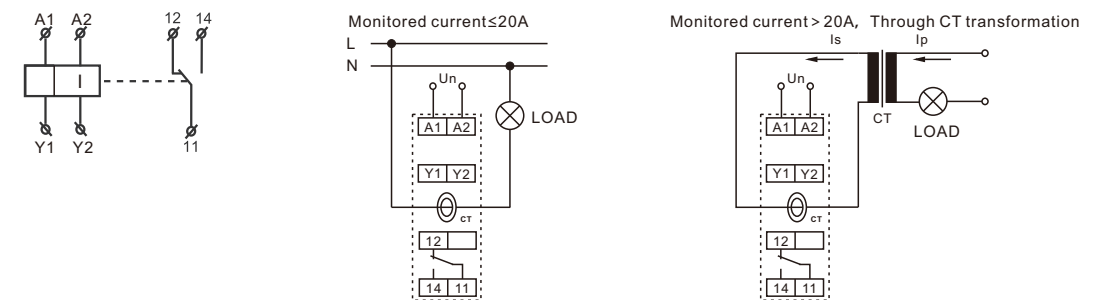
Technical parameters

	GRI8-05A	GRI8-05B
Function	AC measurement	AC/DC measurement
Supply terminals	A1-A2	
Rated supply voltage	AC/DC 24V-240V	
Rated supply frequency	50/60Hz,0	
Burden	max 25VA	
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	1×SPDT	
Current rating	10A/ AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	
Operating temperature	-20°C ~+55°C	
Storage temperature	-35°C~+75°C	
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×18mm×64mm	
Weight	64g	
Standards	EN 60255-1	

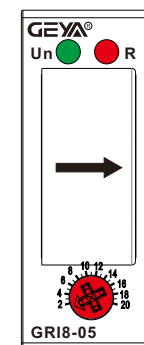
Functions Diagram



Wiring Diagram

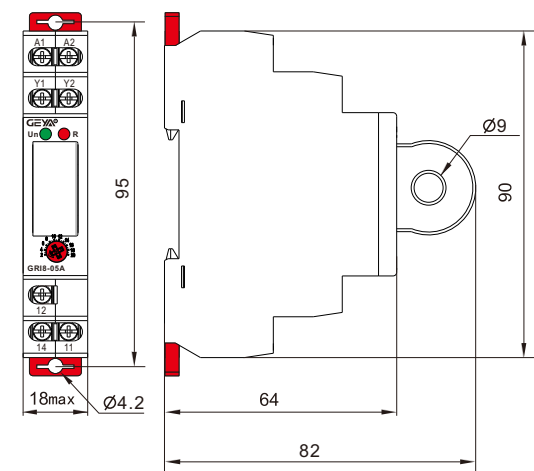


Panel Diagram

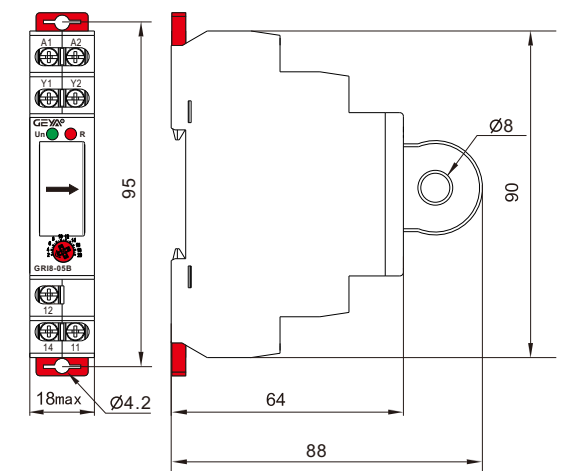


Dimensions(mm)

GRI8-05A



GRI8-05B





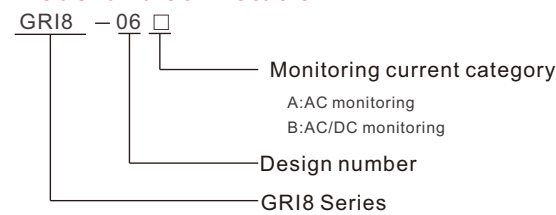
Applications

-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.

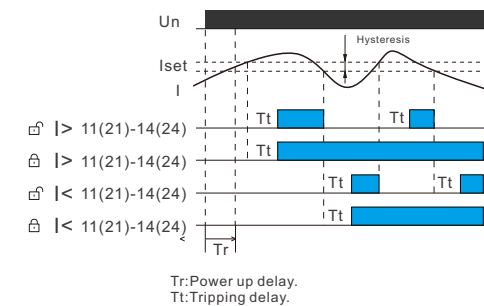
Model and connotation



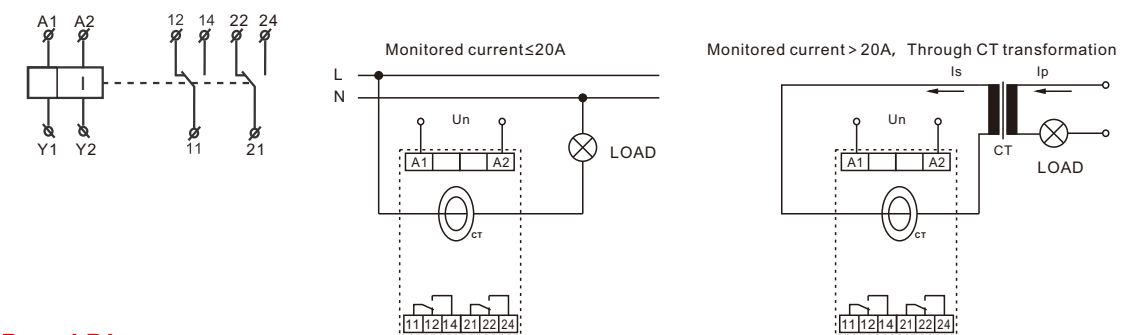
Technical parameters

	GRI8-06A	GRI8-06B
Function	AC measurement	AC/DC measurement
Supply terminals	A1-A2	
Rated supply voltage	AC/DC 24V-240V	
Rated supply frequency	50/60Hz,0	
Burden	max 25VA	
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	2×SPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	
Operating temperature	-20°C ~+55°C	
Storage temperature	-35°C~+75°C	
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 2×1.5mm ² 4×0.4mm ²	
Dimensions	1×2.59mm×26mm×64mm	
Weight	90g	
Standards	EN 60255-1	

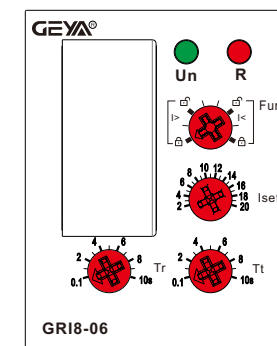
Functions Diagram



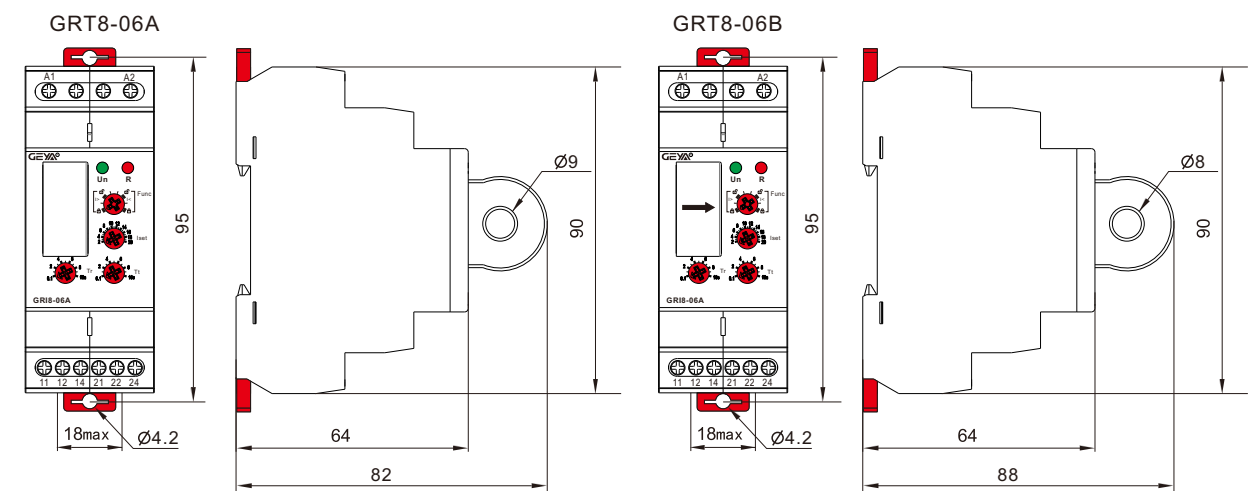
Wiring Diagram



Panel Diagram



Dimensions(mm)



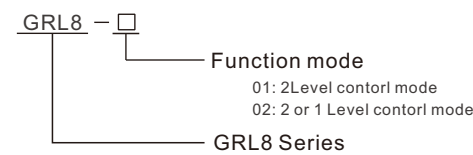
Applications

-Designed for monitoring level in wells, 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.

Model and connotation



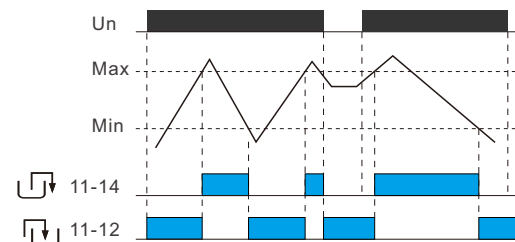
Technical parameters

	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	1×SPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 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	90×18×64mm	
Weight	61g	81g
Standards	EN 60255-1	

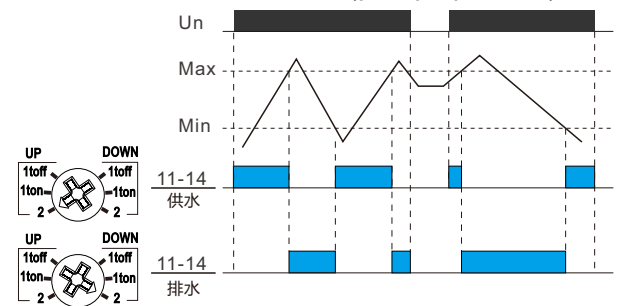


Functions Diagram

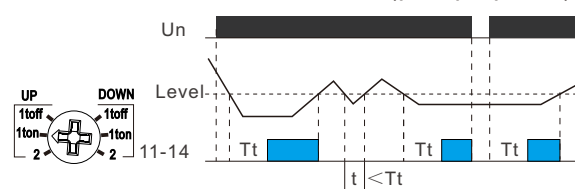
GRL8-01 2 level control



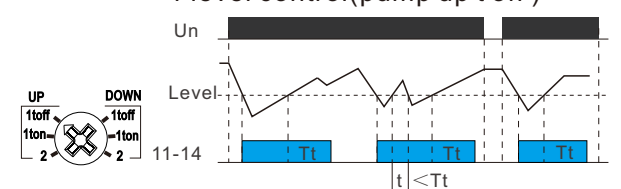
GRL8-02 2 level control(pump up/down)



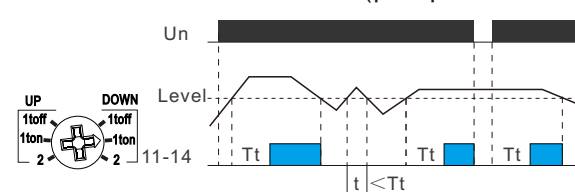
GRL8-02 1 level control(pump up t on)



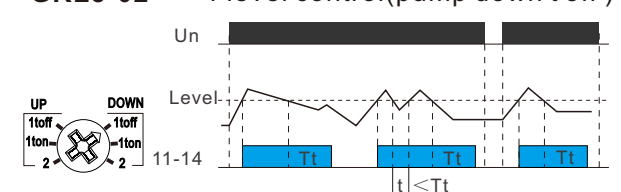
GRL8-02 1 level control(pump up t off)



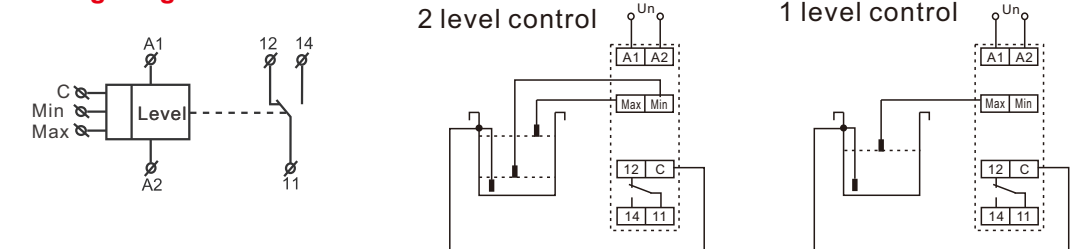
GRL8-02 1 level control(pump down t on)



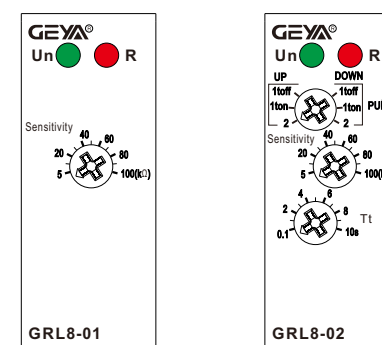
GRL8-02 1 level control(pump down t off)



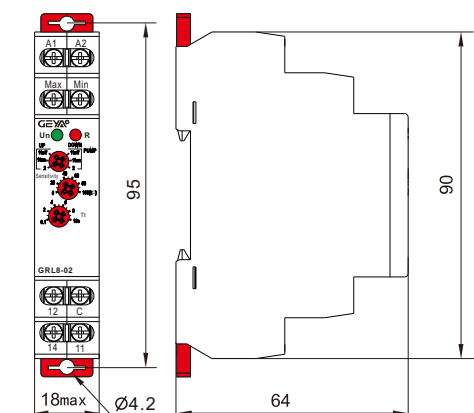
Wiring Diagram



Panel Diagram



Dimensions(mm)





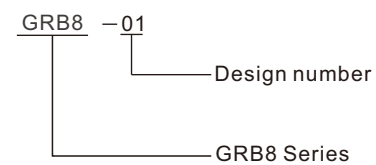
Applications

-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.

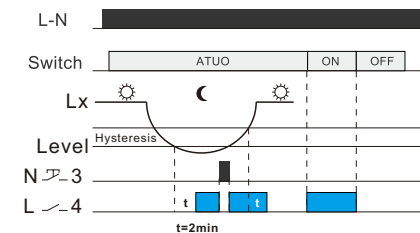
Model and connotation



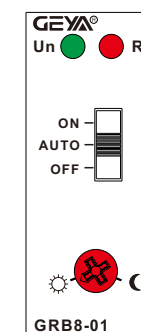
Technical parameters

	GRB8-01
Function	Twilight switch
Supply terminals	L-N
Rated supply voltage	AC 110V-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	1×SPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity DC	500mW
Output indication	red LED
Mechanical life	1×10 ⁷
Electrical life(AC1)	1×10 ⁵
Operating temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-35°C to +75°C (-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overtoltage cathegory	III.
Pollution degree	2
Max.cable size(mm ²)	solid wire max.1×2. 5or 2×1. 5/with sleeve max.1×2. 5(AWG 12)
Dimensions	90×18×64mm
Weight	62g
Standards	EN 60255-1

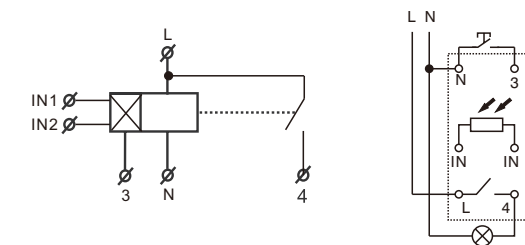
Functions Diagram



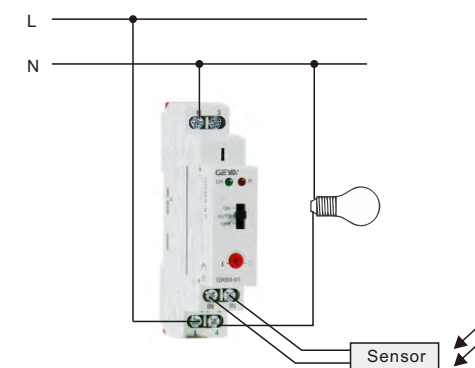
Panel Diagram



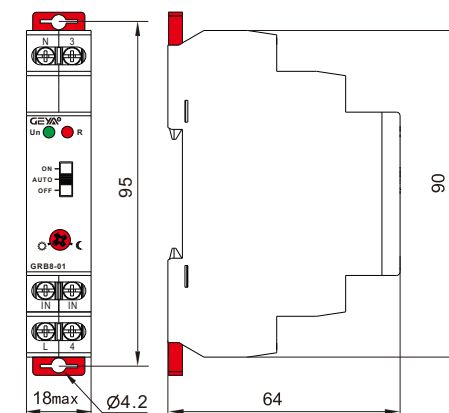
Wiring Diagram



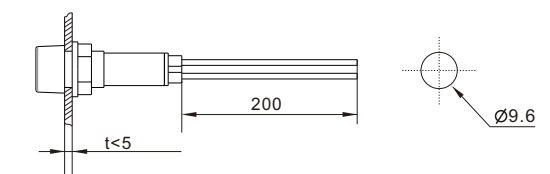
Example



Dimensions(mm)



Sensor PLS-01-0.2m



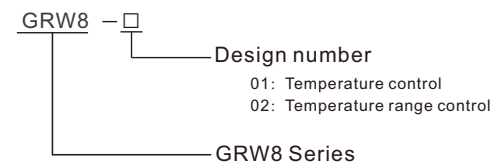
Applications

-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.

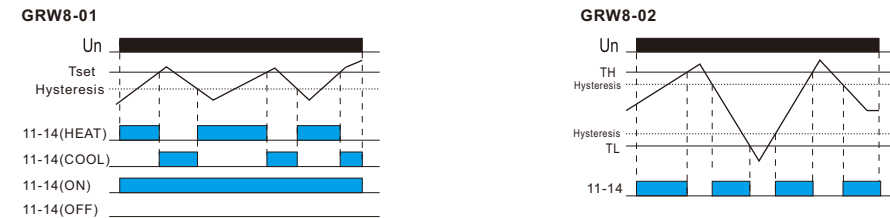
Model and connotation



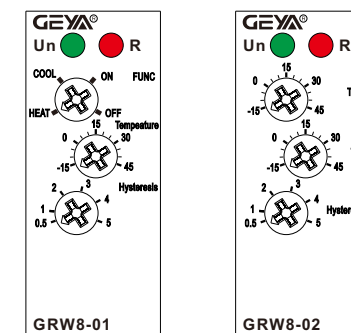
Technical parameters

	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	1×SPST	
Current rating	16A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III.	
Pollution degree	2	
Max.cable size(mm ²)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90×18×64mm	
Weight	62g	
Standards	EN 60255-1	

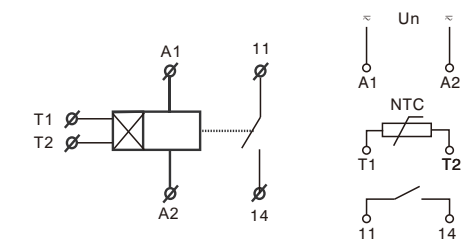
Functions Diagram



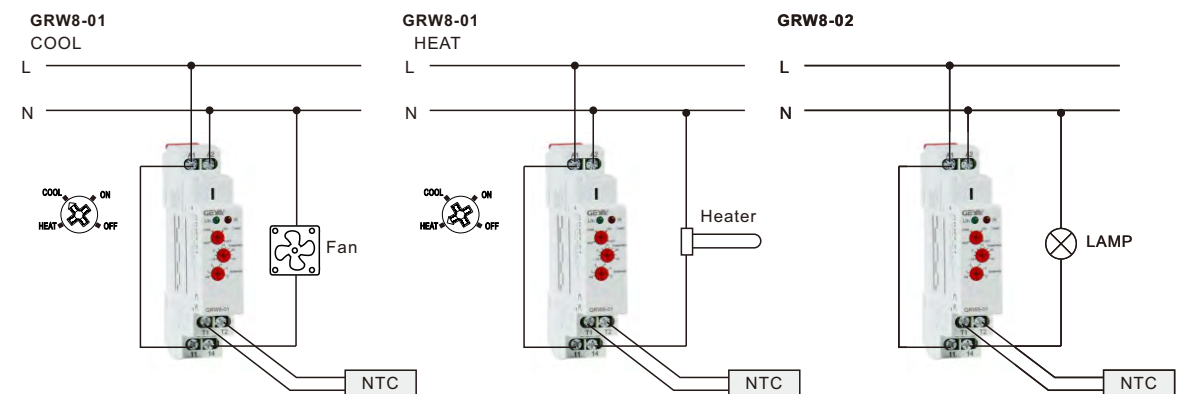
Panel Diagram



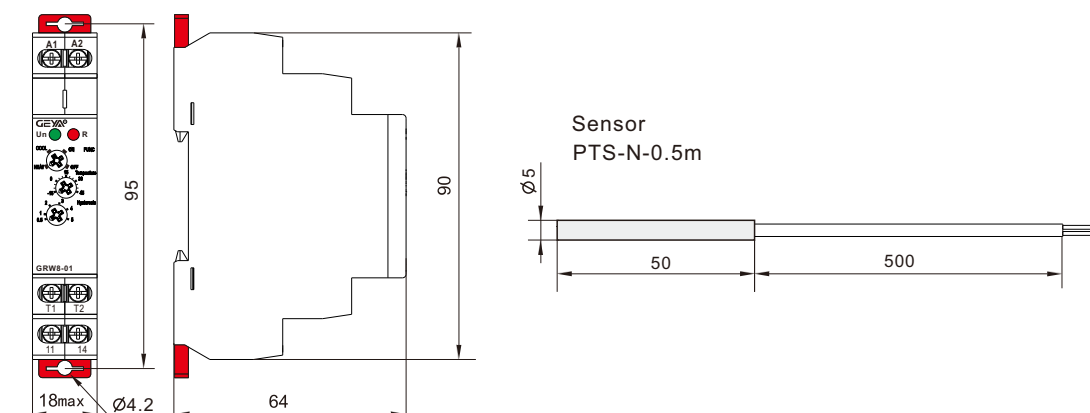
Wiring Diagram



Example



Dimensions(mm)



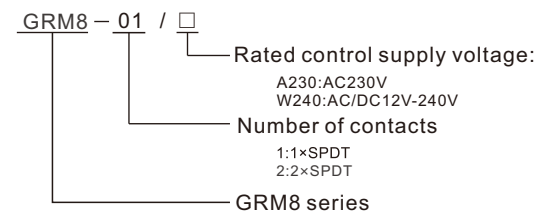
Applications

-latching relay, controlled by buttons from several loacations can replace three way switches or cross bar switches thanks to control by buttons(un-limited number,connected inparallel 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.

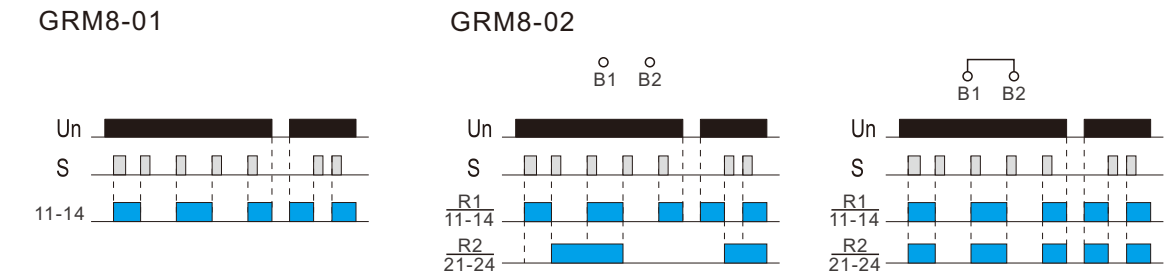
Model and connotation



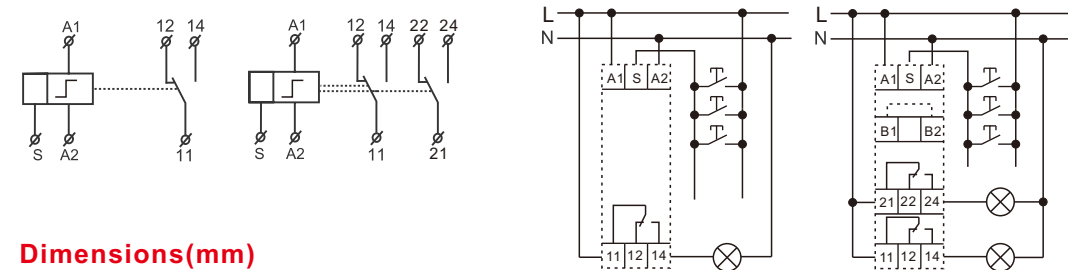
Technical parameters

	GRM8-01	GRM8-02
Number of function	1	2
Supply terminals	A1-A2	
Voltage range	AC/DC 12-240V(50-60Hz)	
Burden	AC 0.09-3VA/DC 0.05-1.2W	
Voltage range	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	1×SPDT	2×SPDT
Current rating	16A/ AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 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 cathegory	III.	
Pollution degree	2	
Max. cable size(mm ²)	solid wire max.1×2. 5or 2×1. 5/with sleeve max.1×2. 5(AWG 12)	
Dimensions	90×18×64mm	
Weight	1×SPDT: W240-58g, A230-57g	2×SPDT: W240-79g, A230-77g
Standards	EN 61810-1	

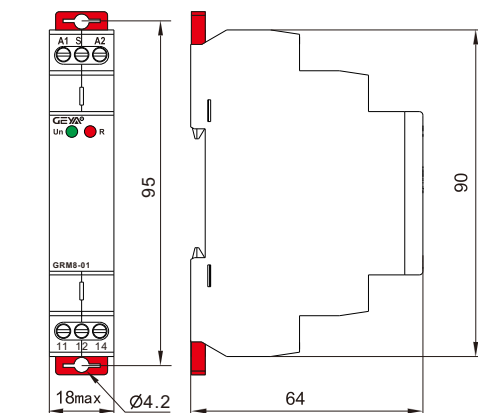
Functions Diagram



Wiring Diagram

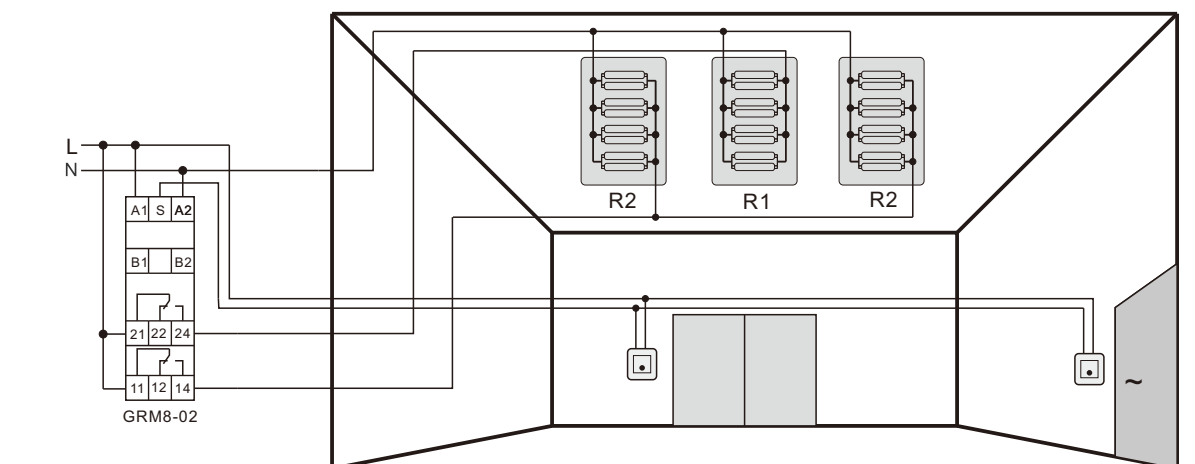


Dimensions(mm)



Example

Example of lighting system which allows control of light intensity by actuating one of the sections R1 and R2 from any location in the room.



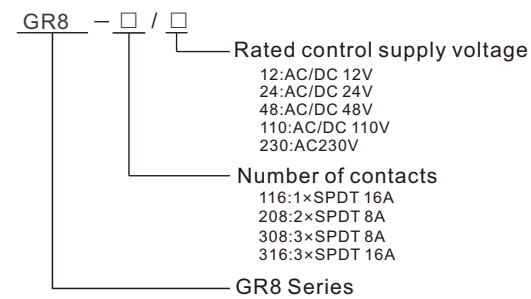
Applications

-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.

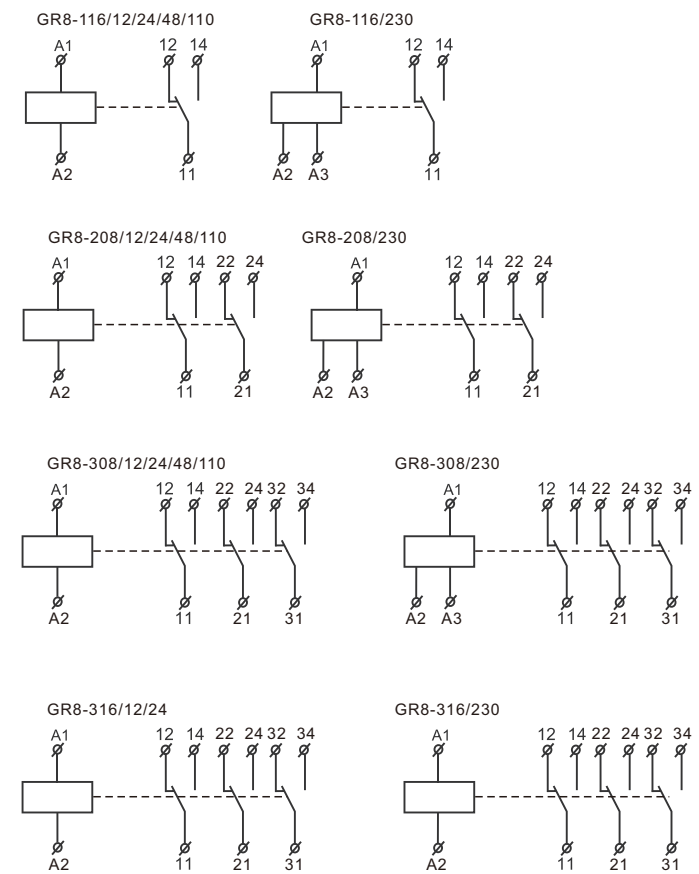
Model and connotation



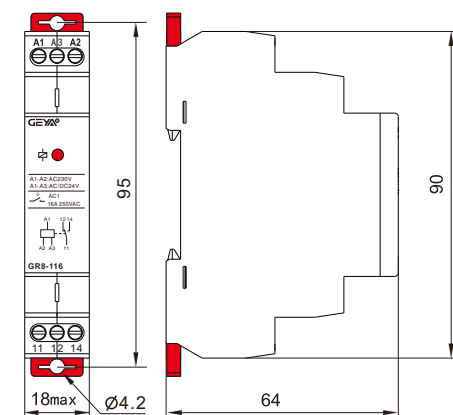
Technical parameters

	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	
Output				
Number of contact	1×SPDT	2×SPDT	3×SPDT	3×SPDT
Current rating	16A/AC1		8A/AC1	16A/AC1
Switching voltage		250VAC/24VDC		
Min.breaking capacity DC		500mW		
Output indication		Red LED		
Mechanical life		1×10 ⁷		
Electrical life(AC1)		1×10 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.1×2.5 or 2×1.5/with sleeve max.1×2.5 (AWG 12)		
Dimensions		90×18×64mm		
Weight	44g/54g	50g/60g	72g/82g	86g/96g

Wiring Diagram



Dimensions(mm)



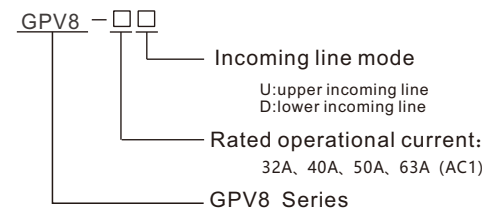
Applications

-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.

Model and connotation

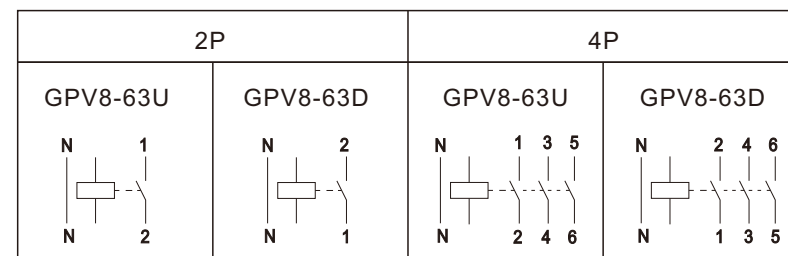


Note:4P products such as the need to phase protection function can be customized.

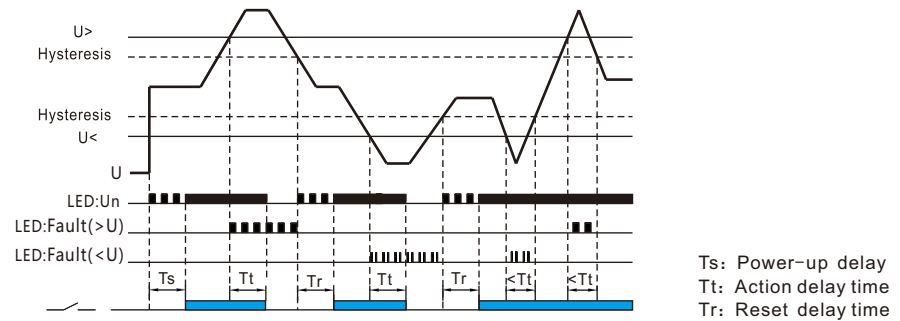
Technical parameters

	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 cathogory	III.	
Pollution degree	2	
Dimensions	82×36×68mm	82×72×68mm
Weight	120g	250g

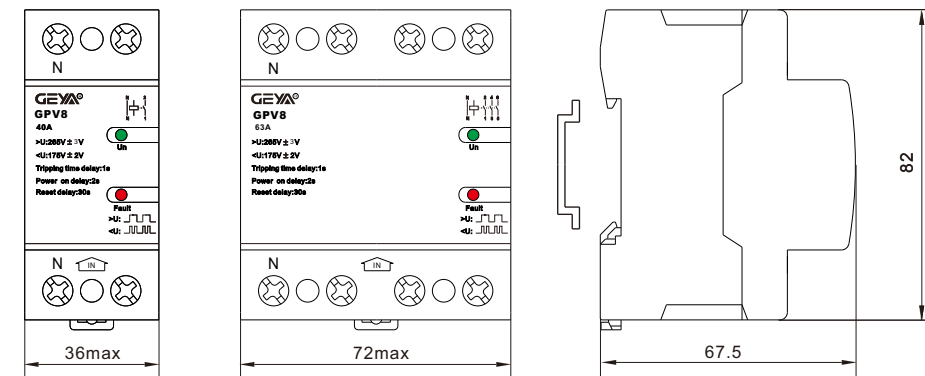
Wiring Diagram



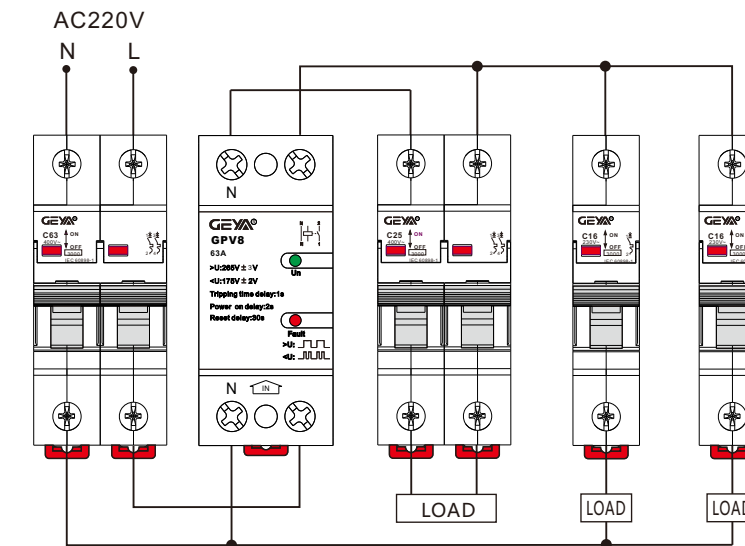
Functions Diagram



Dimensions(mm)



Example



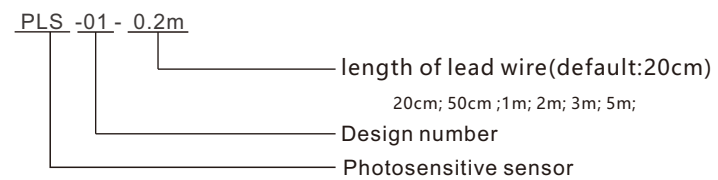
Photosensitive sensor



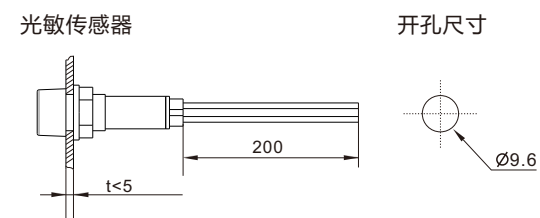
Applications

-The probe for detecting light intensity can be used with light control switch GRB8.

Model and connotation



Dimensions(mm)



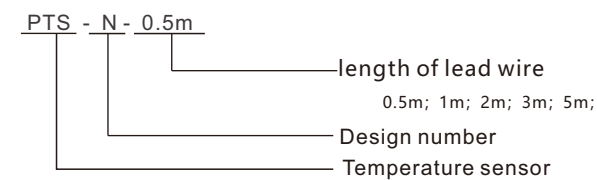
Temperature sensor



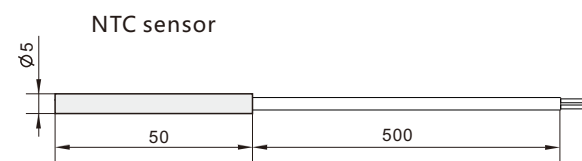
Applications

-The probe for detecting temperature can be used with temperature relay GRW8.

Model and connotation



Dimensions(mm)



Liquid level sensor



Applications

-The probe for detecting liquid level can be used with liquid level relay GRL8.

Model and connotation

