Note: Geya Electric reserves the right to make technical changes or modifications to the content of this document without prior hotice. For purchase orders, the agreed details shall prevail. Geya Electric shall not be responsible for any errors or missing information that may exist in this document.

smart for life

GEYA®

ZHEJIANG GEYA ELECTRICAL CO.LTD.

ADD:Wenzhou Bridge Industrial Zone,Beibaixiang Town,Yueqing,Zhejiang,China 325603

Tel:0086-577-62926966
E-mail:sale@cngeya.com

Tel:0086-13567770207
Web:www.geya.net

GEYA®

Intelligent circuit breaker, dual power supply, reclosing, timed relay, intelligent switch

Intelligent Electricity Solution



01

Company Profile

Zhejiang GEYA Electrical Co., Ltd. was established in February 2007 and is located in Wenzhou, Zhejiang. It is a high-tech enterprise specializing in independent research and development, production, sales, and supporting services of new energy electrical and automation control products. The company has the ability to operate the entire industry chain, relying on standardized management and continuous technological innovation. Its comprehensive strength has steadily improved, and its annual revenue has exceeded 200 million yuan. Its comprehensive production capacity and industry strength rank among the top in the region and industry.

The company specializes in a full range of core categories including low-voltage electrical components and industrial automation control components. It can provide customized solutions for low-voltage distribution systems, automation control systems, and new intelligent power systems, and can connect with various government and enterprise projects, industrial and trade enterprises, cross-border projects, and deliver one-stop full process supporting services. The product is suitable for various industrial, infrastructure, and new energy application scenarios, with stable performance and high compliance rate, and has received unanimous recognition and long-term praise from customers at home and abroad. The company is deeply rooted in the global market layout, with a sales network covering six continents worldwide, serving more than 10000 overseas cooperative enterprises, and a mature and complete channel system. We are now open to diverse cooperation models such as regional agency, bulk procurement, and joint construction of special projects worldwide, working together to build a win-win ecosystem for the electrical industry.

Since its establishment, the company has adhered to the corporate philosophy of "knowing what to do, and the Asian Development Bank is the world", adhering to the core development principles of quality first and innovation empowerment, and strictly controlling the three core checkpoints of high product standards, high cost-effectiveness, and high quality. At present, we have obtained multiple national practical invention patents and completed the GEYA brand's multi country and comprehensive compliance layout. All products in the series strictly adhere to international industry access standards and have successfully obtained a full set of authoritative qualifications such as CCC, CE, SAA, SEMKO, TUV, EN, etc., fully complying with quality verification standards in multiple countries such as Europe and the Middle East. Cross border supply is compliant without barriers. The company can officially undertake customized OEM and ODM research and development services for global customers, and has established long-term and stable strategic cooperation with multiple internationally renowned electrical brands. Our professional and practical marketing service team collaborates across all domains, steadily expanding our brand market presence both domestically and internationally, and continuously strengthening our brand's core competitiveness.

GEYA Electric cordially invites high-quality agents, distributors, and engineering partners from home and abroad to join hands in expanding the market and sharing the dividends of industry development. We will provide reliable original products, efficient 24/7 exclusive supporting services, and highly competitive cooperation support policies to comprehensively safeguard our partners' stable revenue generation and long-term operation.



GEYA

GEYA Electric is dedicated to quality, science and technology innovation, and sincere cooperation. We look forward to working together with global customers to create a new future of high-quality development in the electrical industry!

Established in
2007 Year

Annual turnover
200 million

Number of employees
300 +



Catalogue



01
GWS9
WIFI circuit breaker



03
GWS9-W1
WIFI circuit breaker



05
GWS10
WiFi rail switch



07
GRD9S-F100
IoT MCB



17
GRD9L-W
Automatic Reclosing



21
GYAR9-NV-X
Smart Auto
Recloser Module



27
GYDZT
Wi-Fi Over-Under
Voltage Protector
Energy Meter



29
GRT8-WS
WiFi timer relay



31
GTS8-W
WIFI intelligent switch



33
G2R-W
PC level Smart ATS



35
W2R-WiFi
Smart ATS

GEYA®

GEYA®

Remote Intelligence
Safety Assured

From industrial power distribution to smart home,
one-stop solution to meet your electricity needs



Remote intelligent control

Safe and reliable

Green Energy Saving

Easy installation

TUYA wifi
Communication methods

WIFI circuit breaker

IEC/EN 61009-1、GB/T 16917.1

GWS9



GWS9 intelligent WIFI circuit breaker is suitable for real-time monitoring of voltage, current, power rate, temperature, etc. in lines with a rated working voltage range of 90-240V and a rated current up to 40A. It has metering function, remote control, timing control, prepayment, as well as overvoltage, undervoltage, overload, overtemperature, and overpower protection functions. Suitable for various places such as industry, commerce, high-rise buildings, and residential buildings

- Mobile remote control Tuya APP Operation.
- High quality materials such as copper connectors, flame-retardant PA66 shells, and high-performance chip modules are durable and reliable.
- Silicone rubber button, comfortable to operate, stylish design.





Product Model And Implication

GWS9	□
Product Model	Product Type
WIFI MCB	W: Button DW: LCD display

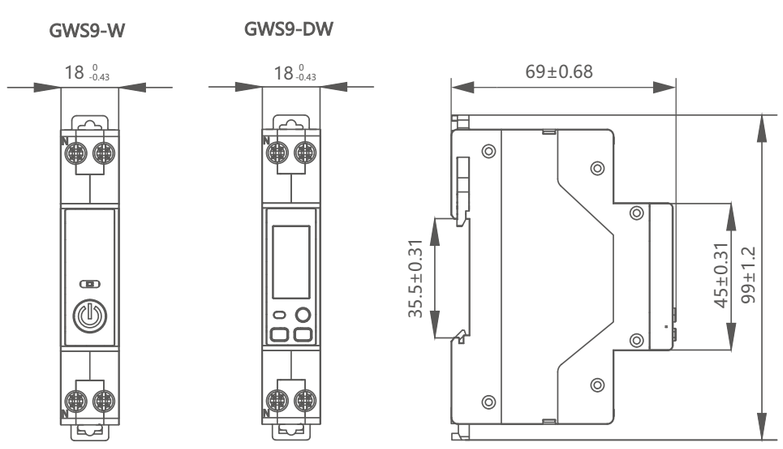
Technical Specification

Project	Product model	
	GWS9-W	GWS9-DW
Rated working voltage range	90V~240V	90V~240V
Number of poles	1P+N	1P+N
Max over current	63A(3~10)s	63A(3~10)s
Rated current	1~40A current adjustable	1~40A current adjustable
Communication methods	TUYA wifi	TUYA wifi
Operating ambient temperature	-25°C~70°C	-25°C~70°C
Ultimate short-circuit capacity	500A	500A
Electrical lifespan	≥10000	≥10000
Mechanical lifespan	≥100000	≥100000
Closing time	<20ms	<20ms
Opening time	<20ms	<20ms
Display screen	/	LCD

Functional parameters

No.	Protection function	trip type	Parameter settings	Settings	factory default
1	Overvoltage protection	Turn off/ Alarm/Trip	Overvoltage adjustment	250~300V	280V
			Overvoltage delay	0~10s	
2	Undervoltage protection	Turn off/ Alarm/Trip	Undervoltage adjustment	80~200V	165V
			Under voltage delay	0~10s	
3	Overload protection	Turn off/ Alarm/Trip	Overload adjustment	1~63A	50A
			Overload delay	3~10s	
4	High temperature protection	Turn off/ Alarm/Trip	high temperature adjustment	0~120°C	80°C
			High temperature delay	0~10s	
5	Over power protection	Turn off/ Alarm/Trip	Overpower value	50W~11Kw	off
			Over power delay	0~10s	

Outline Overall And Installing Dimensions



TUYA wifi
Communication methods

WIFI circuit breaker

IEC/EN 61009-1、GB/T 16917.1

GWS9-W1



GWS9-W1 intelligent WIFI circuit breaker is suitable for circuits with a rated working voltage range of 90~240V and a rated current of 40A. It can remotely control the circuit switch and has functions such as timing control, countdown closing, cycle timing, sunrise timing, and sunset timing Suitable for various places such as industry, commerce, high-rise buildings, and residential buildings.

- Mobile remote control Tuya APP Operation.
- High quality materials such as copper connectors, flame-retardant PA66 shells, and high-performance chip modules are durable and reliable.
- Silicone rubber button, comfortable to operate, stylish design.





Product Model And Implication

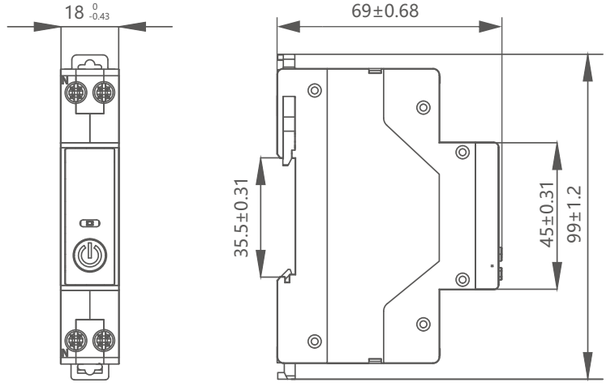
GWS9	W1
Product Model	Product Type
WIFI MCB	Button on/off switching

Technical Specification

Project	Product model
	GWS9-W1
Rated working voltage range	90V~240V
Number of poles	1P+N
Max over current	63A(3~10)s
Rated current	1~40A current adjustable
Communication methods	TUYA wifi
Operating ambient temperature	-25°C~70°C
Ultimate short-circuit capacity	500A
Electrical lifespan	≥10000
Mechanical lifespan	≥100000
Closing time	<20ms
Opening time	<20ms
Display screen	/

Outline Overall And Installing Dimensions

GWS9-W



WiFi Din Rail Switch

GWS10



- Protocol：WiFi(Default)
- Rated operating voltage range：100V-240V
- Control Type：Remote control, Manual
- Poles description：1P+N (N Pole Pass-through)
- Customization：SigMesh/ZigBee
- Model selection：Non-metering Type Metering Type

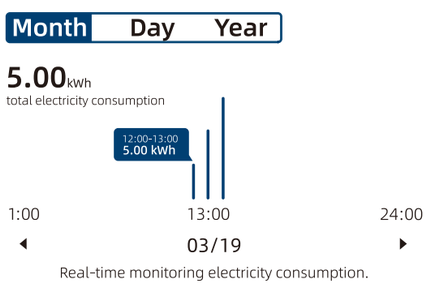


Non-metering Type

LED Indicator Description

The LED indicator show a steady blue light to indicate that the switch in ON status.
The LED indicator show a light out to indicate that the switch in OFF status.
The LED indicator show blue flashing to indicate that switch in paring model.





Real-time monitoring electricity consumption.

Metering Type

LED Indicator Description

The LED indicator shows a steady blue light to indicate that the network connectionis successful.
The LED indicator shows blue flashing slowly, indicating that the product inpairing model.
The LED indicator shows a light out, indicating that the device is off-grid model.
The Button indicator shows a light up to indicate that the switch is OFF
The Button indicator shows a light out to indicate that the switch is ON.

Live View

Can monitor the current, voltage, and power of the load equipment in real time, and can also record the power consumption of the year, month, day, hour, and different time neriods, helping users to check the power consumption of load equipment more clearly. Setting the switch status of the equipment in different scenarios, and remotely monitor the real-time situation of the load electrical appliances.

Configuration Steps

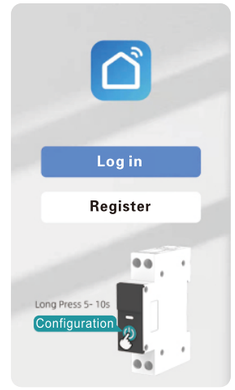
First Step:

To connect the wire from the upper of the WiFi Din Rail Switch ,the live wire connect to the L pole, and the neutral wire connect to the N pole, please make sure that the wiring is correct and strong WiFi signal.



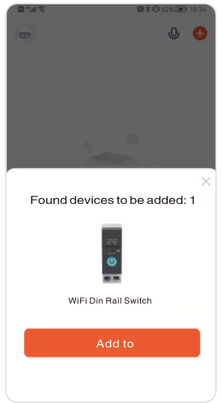
Second step:

Turn on the Bluetooth and WiFi of the mobile phone, open the APP and then long press the "power" button, wait for about 5-10 seconds, the LED indicator will flash blue light slowly.



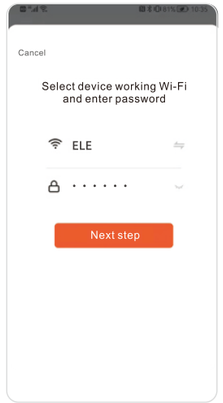
Third Step:

Third Step:
Waiting for a while after graphics is displayed the APP, or click the "+" in the upper right corner, then choose the "Add Device" button to wait discovering devices, then click "Add" button.



Fourth step:

Fourth step:
Enter the wifi account password and click next step, wait for the switch to connect the network.



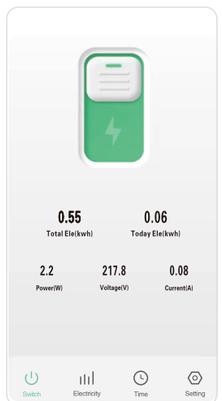
Fifth Step:

The switch is connected to the network.



Sixth step:

After the successful connection, the LED indicator will be changed from blue slow flashing to blue steady light.



IoT Miniature Circuit Breaker

GRD9S-F100









The GRD9S-F100 IoT circuit breaker combines magnetic modulation technology with microcontroller-based digital processing, offering a wide frequency range, compact detection unit, strong anti-interference capability, high detection sensitivity, and consistent operating characteristics. Built upon traditional circuit breaker design, it integrates built-in sensor technology, remote on/off control technology, and meter-class metrology into a single unit, forming a new-generation intelligent IoT circuit breaker with advanced protection features. It can collect data on current, voltage, temperature, electrical energy, circuit breaker switching status, faults, and alarms.

This series is designed for low-voltage terminal distribution networks in indoor buildings and similar settings, including industrial, commercial, residential buildings, and infrastructure applications. When used with a smart gateway or independently, the IoT earth-leakage circuit breaker provides real-time monitoring of key electrical parameters of the power line, such as voltage, current, power, temperature, leakage, and energy consumption. It also supports remote control, manual switching, arcing protection, abnormal warnings, trip alerts for fault events, energy metering and statistics, and fault location.

Product Main Features of The Product

- Controlled by a high-performance 32-bit MCU for real-time signal processing and intelligent control.
  Integrated manual/automatic control – supports both remote and local switching operations.
- Built-in timer function allows free setting of the opening and closing times for each circuit.
  Residual current (earth leakage) protection with online adjustable leakage current levels and auto-reclosing capability.
- Continuously monitors and tracks line residual current to ensure high commissioning reliability and operational availability.
  Provides over-voltage, under-voltage, phase-loss, phase-sequence, unbalance, and over-power protection.
- Real-time monitoring of line residual current, three-phase supply voltage, and load current.
  All protection functions and parameters can be set and modified online.
- Trip cause identification (including residual current, lockout, overload, under-voltage, over-voltage, phase-loss, neutral-loss, over-power, short-circuit, arcing/sparking, voltage THD, current THD) with storage, query, and deletion capabilities.
- Real-time measurement of active power, reactive power, apparent power, power factor, and voltage-current phase angle.
  Cumulative three-phase active energy, reactive energy, and apparent energy with Class 1 accuracy.
- Real-time temperature monitoring of the outgoing terminal busbars.
  Total Harmonic Distortion (THD) statistics for both voltage and current.
- Equipped with a mechanical maintenance lock – when pulled, the device trips immediately and disables both remote and local closing to ensure the safety of maintenance personnel.
  Integrated arc fault detection (sparking detection).
  Versatile communication options: standard RS485, with optional 4G/Wi-Fi modules.

Product Model Explanation

GRD9S - F 100 W L 2P 63A - TUYA
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

NO.	Meaning	NO.	Meaning
①	GEYA high-end recloser	⑤	None: without leakage; L: With leakage; N: With zero line current monitoring R: with leakage+with zero line current monitoring
②	Code		
③	Shell level	⑥	Pole
④	None: RS485 ; W: WiFi+RS485 ; G: 4G +RS485 ; Z: Zigbee+RS485	⑦	Rated Current
		⑧	ESP / TUYA IOT

Table 1: IoT Circuit Breaker Functional Specifications

NO.	Model	Basic Model Functional Description
1	GRD9S-F100 (Basic Model)	This model provides real-time monitoring of voltage, current, power, power factor, energy, and temperature. It offers comprehensive protection against overvoltage, undervoltage, overload, short circuit, and overcurrent. Control options include local manual/electric operation, remote control, and timed scheduling. The device is designed for DIN-rail mounting and is available in 1P, 2P, 3P, or 4P versions. Trip curves B, C, and D are optional. It comes standard with an RS-485 communication port supporting the MODBUS protocol.
2	GRD9S-F100W	Basic model + WiFi communication
3	GRD9S-F100G	Basic model + 4G (LTE) full-network communication
4	GRD9S-F100Z	Basic model + Zigbee communication
5	GRD9S-F100N	Basic model + neutral current detection
6	GRD9S-F100WN	Basic model + WiFi + neutral current detection
7	GRD9S-F100GN	Basic model + 4G (LTE) + neutral current detection

NO.	Model	Leakage Model Functional Description
1	GRD9S-F100L (Leakage Model)	This model provides real-time monitoring of voltage, current, power, power factor, energy, and temperature. It offers comprehensive protection against overvoltage, undervoltage, overload, short circuit, and overcurrent. Control options include local manual/electric operation, remote control, timed scheduling, residual current detection, and leakage protection. The device is designed for DIN-rail mounting and is available in 2P, 3P, or 4P versions. Trip curves B, C, and D are optional. It comes standard with an RS-485 communication port supporting the MODBUS protocol.
2	GRD9S-F100WL	Leakage model + WiFi communication
3	GRD9S-F100GL	Leakage model + 4G (LTE) full-network communication
4	GRD9S-100ZL	Leakage model + Zigbee communication
5	GRD9S-F100R	Leakage model + neutral current detection
6	GRD9S-F100WR	Leakage model + WiFi + neutral current detection
7	GRD9S-F100GR	Leakage model + 4G (LTE) + neutral current detection

Neutral current detection – Real-time monitoring of the current on the neutral (N) line, with alarm and trip protection triggered by user-set thresholds.

Table 1 – Functional Description of Smart Communication Functions

NO.	Commu -nication Type	Functional description	Concrete operations
1	RS485	Equipped with RS485 communication capabilities, it enables real-time monitoring of operational data including voltage, current, power, energy consumption, temperature, and leakage current across circuits. The system displays real-time fault status and alarms for each circuit while supporting remote control of switch states (RS485/switching signals). It allows parameter configuration for individual circuits and features rail-mounted installation with event logging functionality.(Industrial-grade wired communication offering strong anti-interference performance and up to 1200-meter transmission range, ideal for stable data transfer in fixed equipment rooms. However, requires wiring installation and has limited scalability.)	Connect all A and B communication lines of the circuit breakers in parallel (refer to the wiring diagram on page 11) and connect them to the concentrator/touchscreen/computer/back-end host. View voltage, current, leakage current, temperature, faults, alarms, and switch status in the backend software; perform remote switching and parameter settings (local operation only, no remote mobile phone control).
2	4G	Building upon the existing RS485 protocol, the system incorporates 4G functionality:4G: Wireless, full-network remote access, available with any mobile signal(Based on cellular networks, it offers wide coverage and supports mobile devices, making it suitable for remote monitoring and big data transmission. However, it has higher power consumption and requires continuous data traffic costs.)	A SIM card must be inserted into the device; the cloud platform/App can be accessed via mobile phone or computer in areas with cellular signal; remote data viewing, remote circuit switching, and alarm reception are directly available; no wiring required and no distance restrictions.
3	Wifi	Building upon the existing Rs485 protocol, the system incorporates WiFi functionality:WiFi: Wireless, remote access across the entire network, available with any mobile signal (Wireless communication offers high speed and low cost, making it suitable for short-range, high-speed scenarios (e.g., smart homes). However, it relies on network coverage and is prone to environmental interference, leading to unstable performance.)	The product/phone connects to the on-site router via WiFi (2.4GHz). Within the same network, the graffiti version can be paired using the graffiti app. Successful pairing enables data viewing and remote control (operations remain possible even when the phone is not connected to the same WiFi network).
4	Zigbee	Building upon the existing RS485 protocol, the system incorporates Zigbee functionality: Zigbee: Wireless, low-power, and short-range networking, ideal for small devices (extremely low power consumption ensures long battery life, unlike WiFi's high power consumption; strong anti-interference capability and high stability make it suitable for environments with multiple electrical devices and high interference, such as distribution boxes. A single gateway can support dozens of devices, offering low centralized networking costs and minimal cabling requirements.)	The product itself does not connect directly to the phone and requires gateway control: First configure a Zigbee gateway as a relay station; The product establishes a network through closerange wireless pairing with a Zigbee gateway. The Zigbee gateway then connects to the internet and cloud servers via WiFi or Ethernet cables. Finally, the product is monitored and controlled via cloud servers on mobile devices or computers.

Selection recommendations: RS-485 is recommended for industrial fixed equipment; WiFi for short-range high-speed applications like smart homes; 4G for remote mobility or wide-area coverage; and Zigbee for low-power, short-range networking with multiple nodes.

Technical Parameter

NO.	Project	Basic Model	Leakage current type
1	Meet a criterion	GB/T 10963	GB/T 16917.1 CQC1149
2	Rated voltage	AC230V(1P/2P) AC400V(3P/4P) 50/60Hz	AC230V(1P/2P) AC400V(3P/4P) 50/60Hz
3	Number of poles	1P/2P/3P/4P	2P/3P/4P
4	Rated current	Preferred models include 20A,32A, and 63A; other shell frames are available for customization.	
5	Tripping type	Type B, Type C, Type D	Type B, Type C, Type D
6	Ambient temperature	-5℃~70℃	-5℃~70℃
7	Short circuit breaking capacity	Standard type: Icu=Ics=6000A	Standard type: Icu=Ics=6000A, H type
8	Mechanical life	More than 15,000 times	More than 15,000 times
9	Electrical life	More than 6000 times	More than 6000 times
10	Closing time	<1.5s	<1.5s
11	Opening time	<1.0s	<1.0s
12	Measuring accuracy	1	1
13	Communication mode	RS485/4G/Wifi/Zigbee optional	RS485/4G/Wifi/Zigbee optional
14	Way to install	Guide rail installation	Guide rail installation
15	Leakage current threshold	/	Adjustable range: 30mA to 500mA

Functional Parameter

No.	Defencive function	Trip type	Basic type	Leakage current type	Parameter setting	Set value	Windows default
1	Overvoltage crowbar	Close/Alarm/Trip	Trip	Trip	Overvoltage setting	250-350V	280V
					Over rolling delay	0-10S	3s
2	Undervoltage protection	Close/Alarm/Trip	Alarm	Alarm	Under-voltage setting	110-200V	165V
					Undervoltage delay	0-10S	3s
3	Overload protection	Close/Alarm/Trip	Trip	Trip	Overload setting	0.6In-In	In
					Overload delay	0-10s	3s
4	High-temperature protection	Close/Alarm/Trip	Trip	Trip	High temperature setting	60-100°C	80°C
					High temperature delay	0-10s	5s
5	Overpower protection	Close/Alarm/Trip	Close	Close	Overpower value	50W-50Kw	2Kw
					Overpower delay	0-10s	5s
6	Phase loss protection (3 P/4P)	Close/Alarm/Trip	Close	Close	Phase lag tuning	10-100V	30V
					Phase lag delay	0-10s	5s
7	Earth leakage protection	Close/Alarm/Trip	—	Trip	Leakage current level	30~500mA	100mA
					Leakage current delay	Non-delay 0.06/0.1/0.2	Non-delay
8	Allow alarm	Turn off/turn on	Open	Open	---	---	---
9	Automatic closing	Turn off/turn on	Close	Close	---	---	---
10	On state	Opening/closing/memory	Memory	Memory	---	---	---
11	Power outage trip	Turn off/turn on	Close	Close	---	---	---
12	Zero loss protection	Close/Alarm/Trip	Close	Close	---	---	---
13	Manual and Automatic Integrated Control	/	Have	Have	---	---	---
14	Mechanical maintenance lock	/	Have	Have	---	---	---

Note: "-----" indicates no such parameter
Trip type annotation:
Off: Disable this feature. When the real-time value reaches the protection threshold, the product will not provide protection. Alarm: When the real-time value reaches the protection threshold, the product will only trigger an alarm without taking any action.
Trip: When the real-time value reaches the protection action threshold, the device trips.

GRD9S-F100
IoT Miniature Circuit Breaker

Tripping characteristics

NO.	Tripping type	Test current	Start stare	Trip/Non-trip Time Limit	Result
1	B、C、D	1.13In	Cold position	t≤1h（In≤63A）t≤2h（In＞63A）	No tripping
2	B、C、D	1.45In	Next test	t≤1h（In≤63A）t≤2h（In＞63A）	Trip
3	B、C、D	2.55In	Cold position	1＜t＜60s（In≤32A）1＜t＜120s（In＞32A）	Trip
4	B、C、D	3In/5In/10In	Cold position	t≤0.1s	No tripping
5	B、C、D	5In/10In/20In	Cold position	t＜0.1s	Trip

Residual Current Operation Characteristics

Parameter	Characteristic			
Rated non-operating current	0.7 IΔn			
Rated operating current	≥0.8 IΔn			
Performance characteristic	Break-time			
	IΔn	2 IΔn	5 IΔn	10 IΔn
	≤0.1s	≤0.1s	≤0.04s	≤0.04s

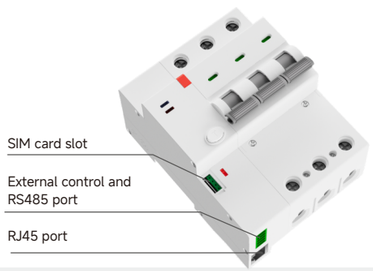
Overvoltage/Undervoltage Protection Characteristics

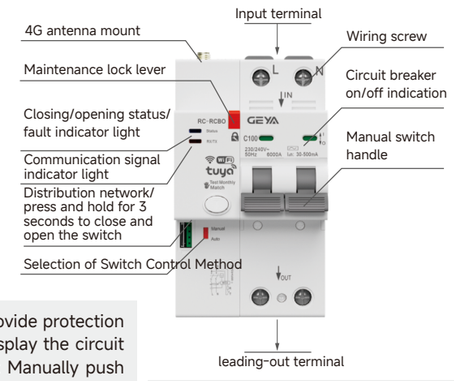
When the line phase voltage exceeds the overvoltage protection set value, the circuit breaker protection trips. Once the line voltage returns to normal levels, the circuit breaker can automatically close and resume operation. The overvoltage protection set value ranges from 253V to 300V, with a factory default setting of 280V. Users may configure or disable the protection as needed.
When the line phase voltage falls below the undervoltage protection set point, the circuit breaker protection trips. Once the line voltage recovers to normal levels, the circuit breaker can automatically close and resume operation. The undervoltage protection set point ranges from 110V to 200V, with a factory default setting of 165V. Users may configure or disable the protection as needed.

Other protective features

Phase loss protection: When a phase is lost at the line power supply terminal, the circuit breaker trips. Upon restoration of normal voltage to the line, automatic reclosing and operation can be initiated. Users may configure or disable the protection as needed.
Overpower protection: The circuit breaker trips when the single-phase power on the line exceeds the set value of overpower protection. The set value range for overpower protection is 50W to 50kW, with a factory default setting of 2000W. Users may adjust or disable the protection as needed.
High-temperature protection: When the line temperature exceeds the over-power protection set point, the circuit breaker protection trips. The high-temperature protection set point range is 60°C to 100°C, with a factory default setting of 80°C. Users may adjust or disable the protection as needed.
Zero-line loss protection: The circuit breaker will trip when the neutral line is absent. Users can configure or disable this protection function. 4 P products are equipped with this feature.
Power failure protection: When a power outage occurs on the supply side, the circuit breaker protection trips. Users can configure or disable the protection as needed.

Operation Chart





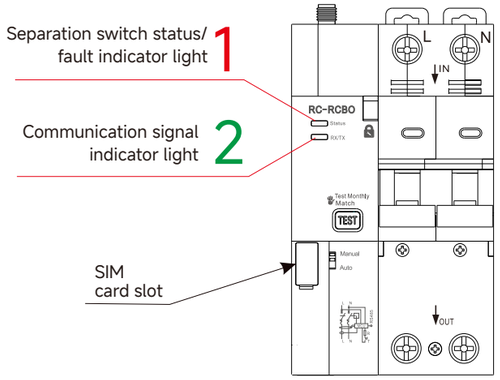
Circuit breaker body: serves to interrupt current flow and provide protection against short circuits and overloads;Operation indicators: Display the circuit breaker status. Red: Closed; Green: Open.Operating handle: Manually push the handle to control the circuit breaker's on/off status.4G gain antenna: Enhances 4G signal strength to ensure stable network connectivity for devices; Manual/automatic switching: Auto mode allows remote or local button operation for automatic power on/off.Manual: Manual mode, only manual operation for switching on/off; SIM card and programming port: Port for SIM card installation and replacement, as well as program programming; RS485/ external control interface: RS485 communication interface and external control switch interface

Action button:
Click to check if the leakage current detection function is disabled. It is recommended to perform self-inspection once per month.
Double-click: Perform open/close operation;
Long press: Wi-Fi device enters distribution network mode.



Action button:

Click to check if the leakage current detection function is disabled.
It is recommended to perform self-inspection once per month.
Double-click: Perform open/close operation;
Long press: Wi-Fi device enters distribution network mode.



Status indicator light:
- Persistent blue light: Product tripping;
- Red light always on: Product closed

Signal indicator light:

Communi-cation mode	Product status	Status Light 2
RS485	No communication	Not bright
	Communication	The blue light is blinking

Communi-cation mode	Product status	Status Light 2
Wifi Zigbee	Unconnected network	Red light flashing slowly
	In the distribution network	Red light flashing fast
	Distribution network completed	The blue light is blinking
	485 Communication	Purple light flashing

Communication mode	Product status	Status Light 1
RS485 Wifi 4G Zigbee	Tripping	Blue light on steady
	Closing	Red light on steady
	Maintenance Lock	Purple light on steady
	Hardware Fault485	Purple light blinking
	RS485 Address Configuration*	Blue light blinking

Communi-cation mode	Product status	Status Light 2
4G	No SIM card	Purple light on steady
	No service	Red light blinking
	Failed to connect to service	Red light fast blinking
	Platform connected successfully	Blue light blinking
	RS485 communication	Purple light blinking

*Red light stays on after configuration.

Product Installation

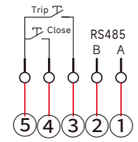
1.This device is designed for standard 35mm rail-mounted installation. During installation, simply insert the device into the rail and secure it with the snap-fit mechanism.
2.Select and use IoT modules and electrical cabinet specifications that meet actual distribution management and line installation design requirements, and install them according to the diagrams.
3.The circuit breaker shall be installed vertically. When the handle is in the "OFF" position, the contacts are in an open state. As the handle moves upward, the contacts move toward the closed position.
4.The nominal cross-sectional area of connecting copper wires matching the circuit breaker's rated current is listed in the table below:

Rated current（A）	10	16~20	25	32	40~50	63	80	100
Wire cross-sectional area(mm²)	1.5	2.5	4	6	10	16	25	35
Torque(N.m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

Card Installation Instructions (4G Communication Products)

1.Locate the SIM card slot
Locate the SIM card installation position on the front of the circuit breaker and remove the adhesive label from the installation area.
2.Confirm SIM card orientation
Place the SIM card with its metal chip side facing left and the angled edge facing the inside of the slot.
3.Insert SIM card
Gently push it into the card slot until you hear a 'click' sound indicating proper installation.
4.Check installation status
Ensure the SIM card is fully inserted without any protrusion, then reinsert the card slot sticker.
5.Matters need attention：
Disconnect the circuit breaker power supply before installation.
Use a standard Nano SIM card.
Avoid excessive force to prevent damage to the card slot contacts.
If the device cannot recognize the SIM card, check whether the SIM card orientation is correct.
If the network connection fails, check if the SIM card is functioning properly and contact your local carrier to determine if APN settings are required.

6、External control port:



Ports 1 and 2 are RS485 communication interfaces.
Shorting Ports 3 and 5 will trip the circuit breaker; these are passive nodes.
Shorting Ports 4 and 5 will trip the circuit breaker; these are passive nodes.
Note: Long-term shorting of Ports 5 and 3 will keep the device in a tripped state continuously.

7. Product Usage and Precautions:

1)This product is equipped with a standard RS485 communication port, which can be connected to a computer and various other communication devices via an RS485 to USB converter to realize information exchange and control.
2)The default baud rate of the device is 9600 bps. The required baud rate can be viewed and set through a PC.
3)Installation and commissioning of the product must be carried out by a professional electrician.
4)After the product is put into normal operation, a test shall be performed monthly with proper test records kept.
5)This product can be customized according to user requirements. Please contact relevant technical personnel for details.
6)For overseas use of 4G products, communication shall be made in advance, and local carrier APN information shall be provided; otherwise, network connection failure may occur.
7)The device supports Tuya API docking service. Please contact Tuya staff or our sales personnel for specific costs.
8)In addition to the Tuya platform, the product can be connected to third-party platforms via the MQTT protocol. Please consult our sales staff before purchase for details.

Connection Note:

1.Wi-Fi Product Networking Instructions
Note: Before configuring the network, turn on Bluetooth on your phone and connect it to Wi-Fi on the 2.4 GHz band.

01 Product wiring



Connect the power cord properly to the product's incoming terminal and power on. Press and hold the network configuration button for 5 seconds, then release. Wait for the red light to flash rapidly to enter network configuration mode.

02 Install Graffiti Intelligence

1. For Android phones, search for the "Tuya Smart" app in major app stores and click to download and install.
2. For iPhones, search for the "Tuya Smart" app in the App Store and click to download and install. (Open the app after downloading completes.)



03 Sign in to Graffiti AI

Please operate in the following order:
1.Register an account
2.Enter the registered account
3.Enter the registered password
4.Login successful



04 Add device

Click “+” to add a device.After the device is found, tap “Add”.Enter the current Wi-Fi password.Wait for the device to be added successfully.



05 Control Equipment

After the device has been successfully added, enter the control interface. You can control the device to trip or close, view real-time device data, and perform parameter settings.



06 Schedule Settings

Enter cloud timing, you can freely set the device turn-on and turn-off time.



2 4. Product Networking Guide for 4G Devices

Note: Before configuring the network, ensure the SIM card is inserted and the device has a stable network connection.

01 Product wiring



Connect the power cord properly to the product's incoming terminal and power on. Press and hold the network configuration button for 5 seconds, then release. Wait for the red light to flash rapidly to enter network configuration mode.

02 Install Graffiti Intelligence

1. For Android phones, search for the "Tuya Smart" app in major app stores and click to download and install.
2. For iPhones, search for the "Tuya Smart" app in the App Store and click to download and install. (Open the app after downloading completes.)



03 Sign in to Graffiti AI

Please operate in the following order:
1.Register an account
2.Enter the registered account
3.Enter the registered password
4.Login successful



04 Add device

Click “+”, select "Scan",and scan the networking QR code on the device.



05 Control Equipment

After the device has been successfully added, enter the control interface. You can control the device to trip or close, view real-time device data, and perform parameter settings.



06 Schedule Settings

Enter cloud timing, you can freely set the device turn-on and turn-off time.



Graffiti APP Interface Operation Guide

1 Main interface



Main operation interface

Trip/Close Control Button
Total Electricity Statistics
Fault Event Log
Voltage, Current & Power Display
Menu Options

2 Power Usage Interface



Data Statistics Function

Hourly, Daily, Monthly and Yearly Electricity Statistics & Electricity Data Export

3 Delay parameter settings interface



Delay parameter configuration

Overvoltage Delay, Undervoltage Delay, Overpower Delay, and Overtemperature Delay Time Settings

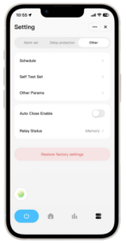
4 Function threshold settings interface



Protection feature configuration

Residual current, over-temperature protection, over-power protection, overload protection and other functions as well as threshold setting.

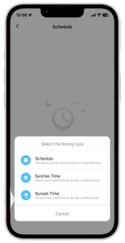
5 Other settings interface



System Settings

Timer setting, leakage self-test setting, automatic closing function setting, and restore factory parameters.

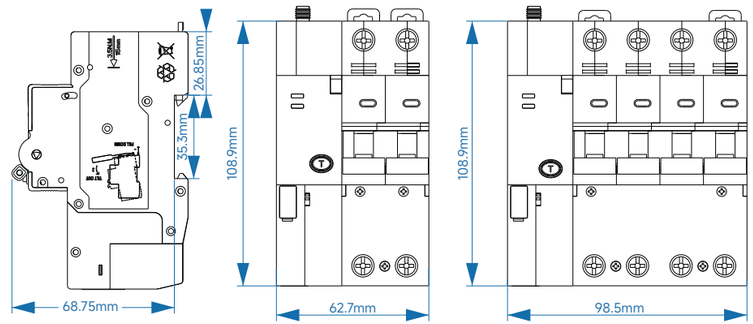
6 Timer settings interface



Schedule Task Configuration

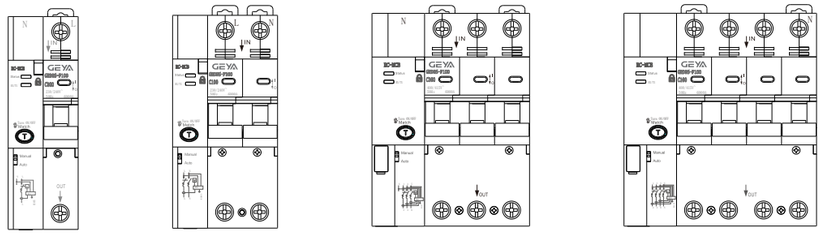
Timer control function setting

Product Dimensions and Shape Diagram (unit: mm)



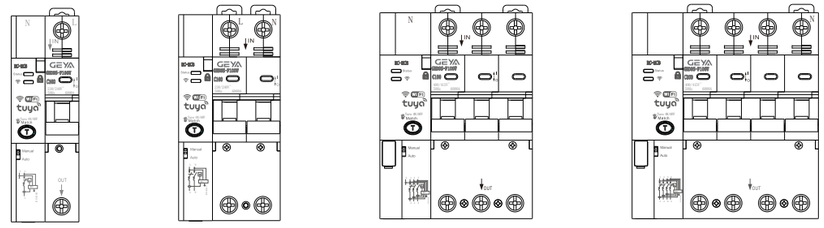
Standard Version

RS485 GRD9S-F100



1P 2P 3P 4P

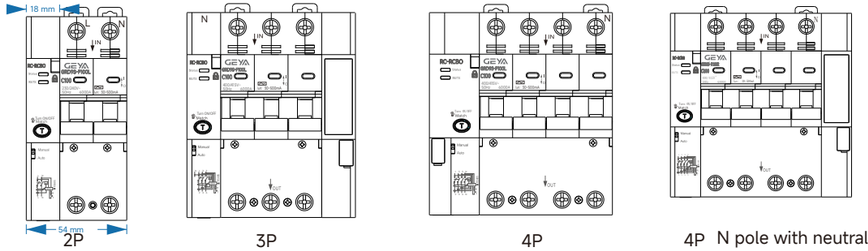
WIFI+RS485 GRD9S-F100W



1P 2P 3P 4P

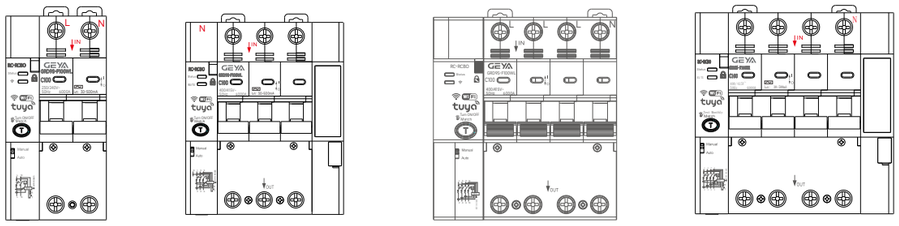
Leakage Protection Version

RS485 GRD9S-F100L



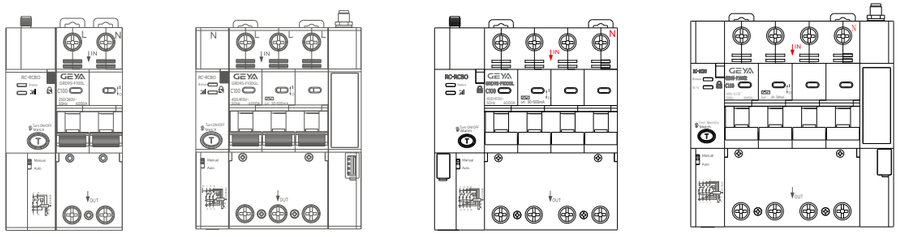
2P 3P 4P 4P N pole with neutral current monitoring

WIFI+RS485 GRD9S-F100WL



2P 3P 4P 4P N pole with neutral current monitoring

4G+RS485 GRD9S-F100GL



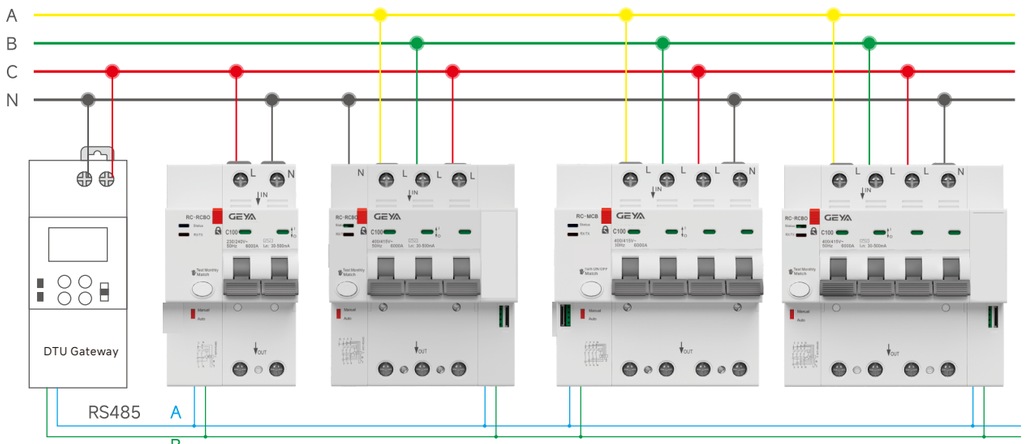
2P 3P 4P 4P N pole with neutral current monitoring

Note: Other communication methods such as Zigbee, RJ45, LoRa, etc. can be customized. The actual appearance shall be subject to the final design.

Product Installation Wiring and Distribution Network Instructions

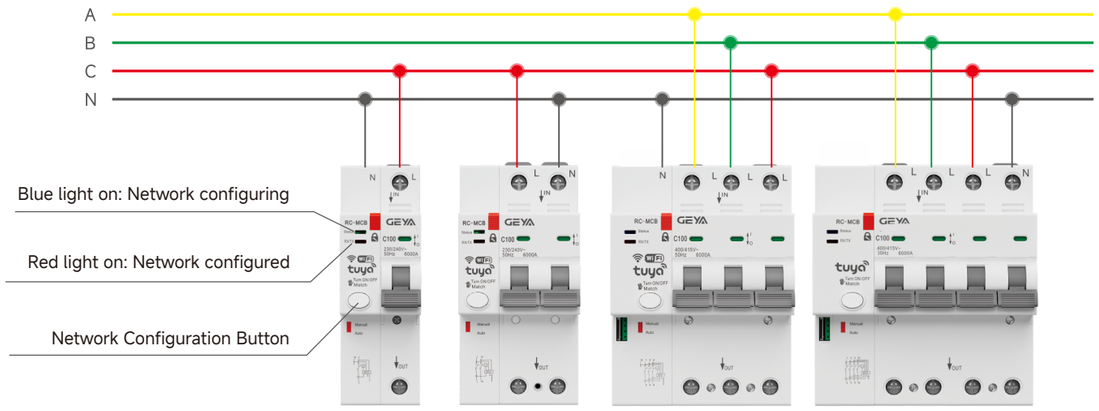
Wire Harnessing and Distribution Network for RS485 Products

⚠ Note: The gateway can pair up to 16 sub-devices!



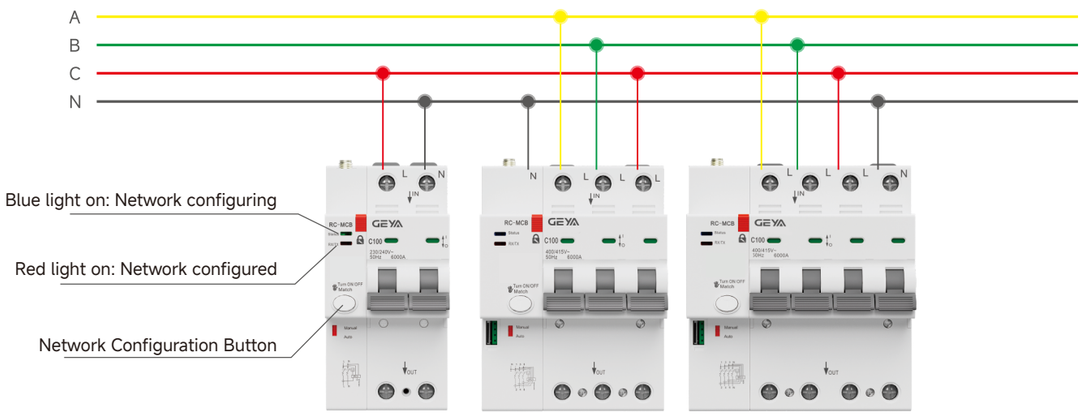
1.When entering gateway distribution mode (host mode), the RX/TX indicator light of the sub-device remains blue, signaling the device has entered distribution mode.
2.Select the sub-device pairing network button to configure the network. The sub-device RX/ TX indicator light remains red after successful pairing.
3.Pair sub-devices sequentially;
4.After all subdevices are paired, press the "Menu" button on the gateway to confirm, exit the pairing mode, and complete the network configuration.
5.Scan the QR code to add a device

WIFI Product Wiring and Network Configuration



Note: Do not connect more than 20 devices on the same router network, as this may cause disconnections.
1.Hold the distribution network button for 3 seconds until the RX/TX indicator light turns blue and remains on, indicating the device has entered distribution network mode.
2.Turn on Bluetooth on your phone, then open the app to search for devices. Once you find the current device, tap Connect.
3.After successful connection, the device's RX/TX indicator light remains red, indicating successful network pairing.
4.Access the APP menu to control the device or view its parameters.

4G Product Wiring and Distribution Network



1.Open the mobile app, scan the QR code on the device, and add the device;
2.After successful connection, the device's RX/TX indicator light stays red, confirming network connectivity.
3.Access the APP menu to control the device or view its parameters.

WIFI Control mode

MCB/RCCB/RCBO Controlled by WiFi

GRD9L-W



-It can be used for intelligent household electricity management and photovoltaic distribution systems.
-It can be matched with MCB/RCCB/RCBO and remotely controlled for closing and opening through the APP.
-RCCB/MCB/RCBO (timing switch function) can be set to be turned ON/OFF at any time through the APP.
-With manual / automatic selector switch.
-With mechanical / electronic double locking function.
-The shaft transmission mode is more stable and reliable.
-Can match other accessories.
- Work status is indicated by LED.
- 1-MODULE(RD).





Product model and definition

GRD9L	—	W	/	□
	Function		Rated control supply voltage	
	Control through WiFi		A220:AC220V	

Note: The matching MCB /RCCB /RCBO specification and model shall be indicated when ordering.
Example 1: GRD9L-W +GYM9 2P C40
Example 2:GRD9L-W +GYL9 2P 40A 30mA

Technical Specification

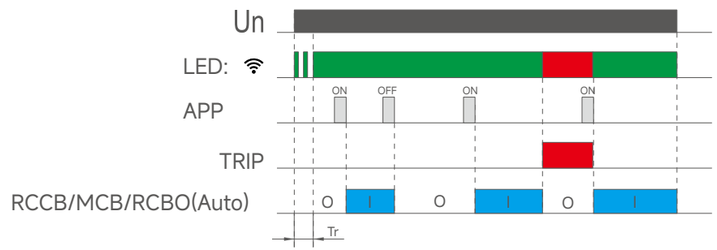
	GRD9L-W
Control mode	WIFI
Supply terminals	A1-A2
Voltage range	AC 220V(50/60Hz)
Power input	AC max.1VA(standby) max.20VA(action)
Supply voltage tolerance	-10%; +10%
Supply indication	red LED
Action time	≤1s
WIFI connectivity	802.11 b/g/n 2.4GHz
Mechanical life	10000
Electrical life(AC1)	Refer to MCB / RCCB /RCBO catalogue
Operating temperature	-20℃ to +55℃
Storage temperature	-35℃ to +75℃
Max.cable size(mm^2)	Solid wire max 1x2.5 or 2x1.5/ with sleeve max.1x2.5(Awg 12)

	GRD9L-W
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP20
Operating position	any
Overvoltage cathegory	III.
Pollution degree	2
Dimensions	82X18X78mm
Weight	80g

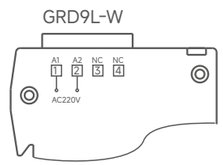
Combination with accessories

	GRD9L-W
Auxillary contact	Yes
Alarm contact	Yes
Shunt release	Yes
Under voltage release	Yes

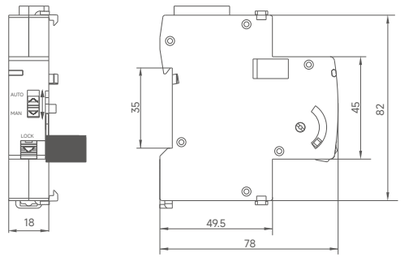
Functions Diagram



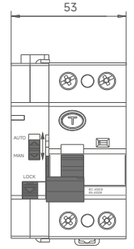
Tr:Power up delay=2s.



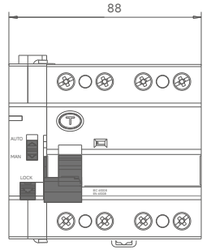
Outline Overall And Installing Dimensions



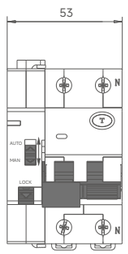
GRD9L+GYL9 2P



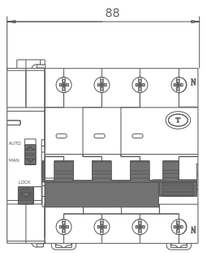
GRD9L+GYL9 4P



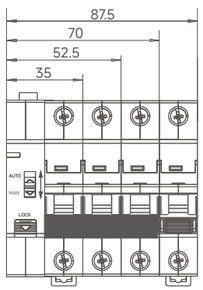
GRD9L+GYR9NM 1P+N



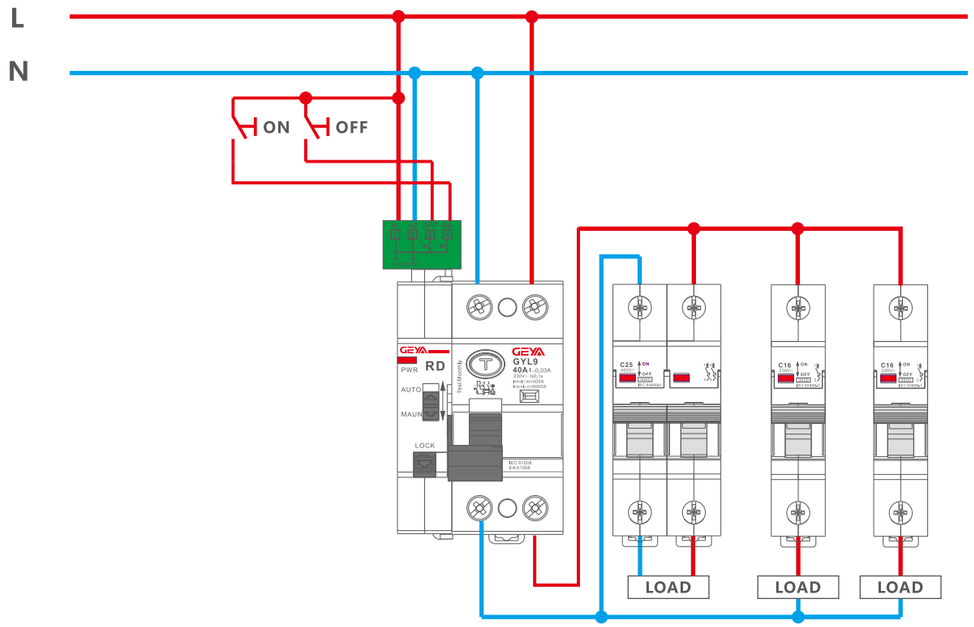
GRD9L+GYR9NM 3P+N



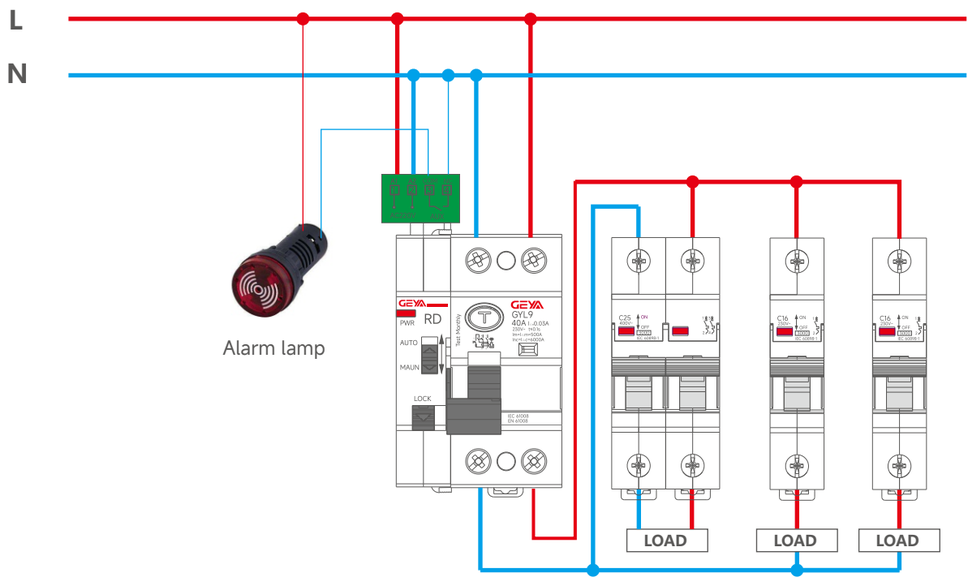
GRD9L+GYM9 1P~4P



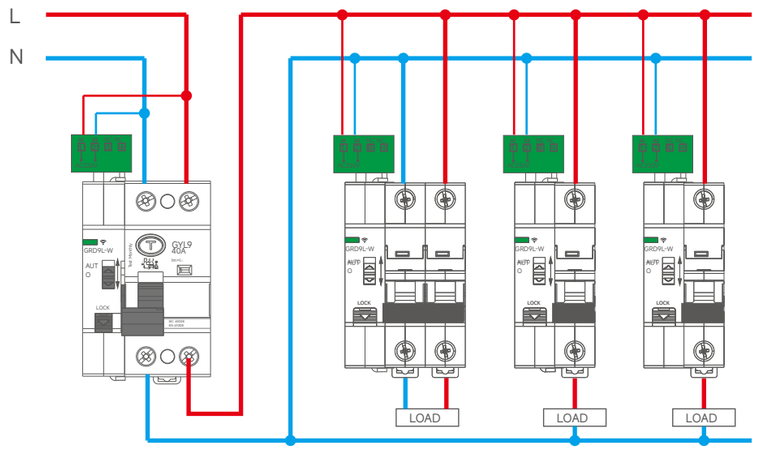
GRD9L-C



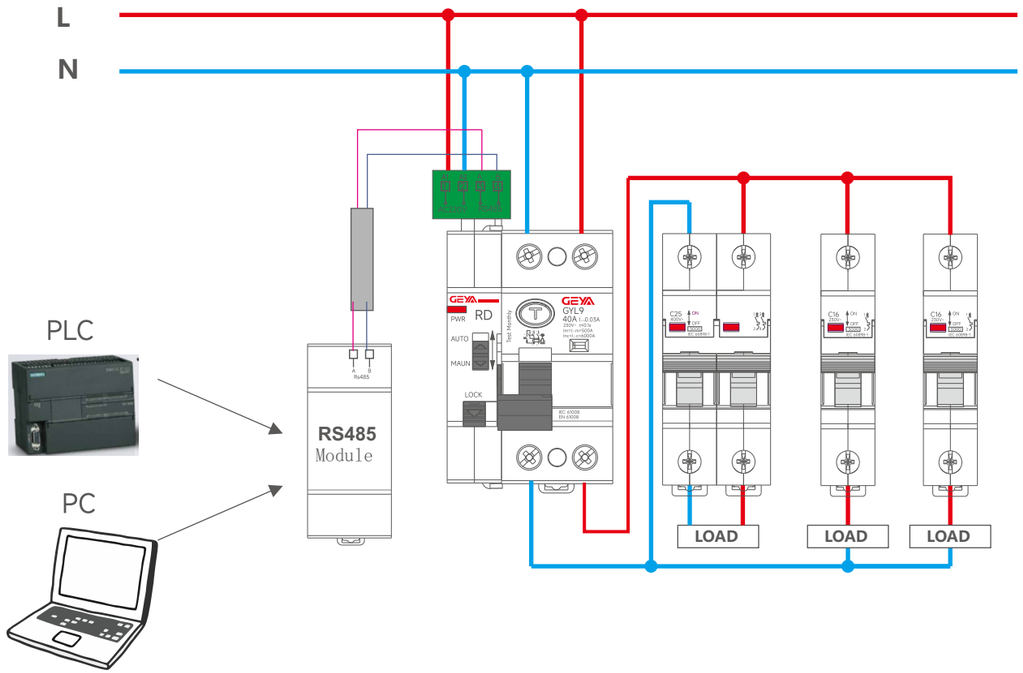
GRD9L-R



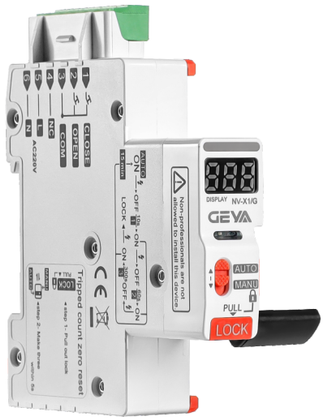
GRD9L-W



GRD9L-S



Smart Auto Recloser Module
GYAR9-NV-X









The motor operating device and auto-reclosing device improve the remote control and automation of your system through the following means:

In scenarios where continuity of service is vital, particularly in hard-to-reach installations, Motor Operating Devices (GYAR9-NV-X1) for MCBs and RCDs and Auto-Reclosing units (GYAR9-NV-X2) for RCCBs are essential, enabling remote control of the associated protective equipment. Regardless of whether the application is residential, commercial or industrial, protective devices might be affected by unwanted tripping at any time due to their high sensitivity.

This accidental interruption of the service, unlike the reasons of actual hazardous situations, can be caused by a variety of circumstances, such as atmospheric events, start-up or shut-down of industrial machinery, harmonic components due to inverters and much more. Such situations often occur only temporarily, and to reactivate the circuit it is sufficient to reset the main protection device. Unfortunately, resetting is an operation that requires on-site intervention and involves unpredictable downtime.In public areas or stores, the loss of power to lighting systems, supermarket refrigerators or freezers, alarms, elevators or electric gates can have serious consequences for people and goods, ranging from the failure of public lighting and store signage or spoilage of food, to the impossibility of using anti-theft and surveillance systems, to the efficiency of payment systems.While in factories or offices, you may notice the malfunction of production lines, manufacturing machines, security systems, computers, etc. Novalink range of motor operating and auto-reclosing devices has been designed to prevent these types of incidents.

Motor Operating Devices are particularly suitable for centralized systems (either large or difficult to access) and where multiple daily interventions are required, such as unattended electrical lines, safety lines and unmanned stations.

Auto-Reclosing units are used to automatically reclose the associated device in the event of an untimely trip, such as an overcurrent caused by lightning.

These devices are particularly suitable either in unattended systems or where continuity of service must be maintained.

Product Features

Operational continuity
Keep your systems up and running to save costs and time.

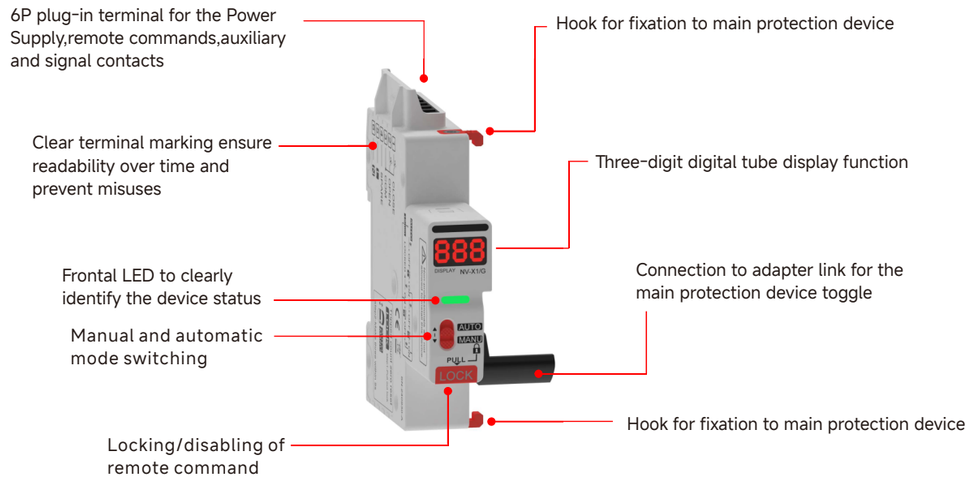
Effectiveness
A comprehensive range to cover a wide scope of applications and needs with flexibility to expand the system according to your specific needs.

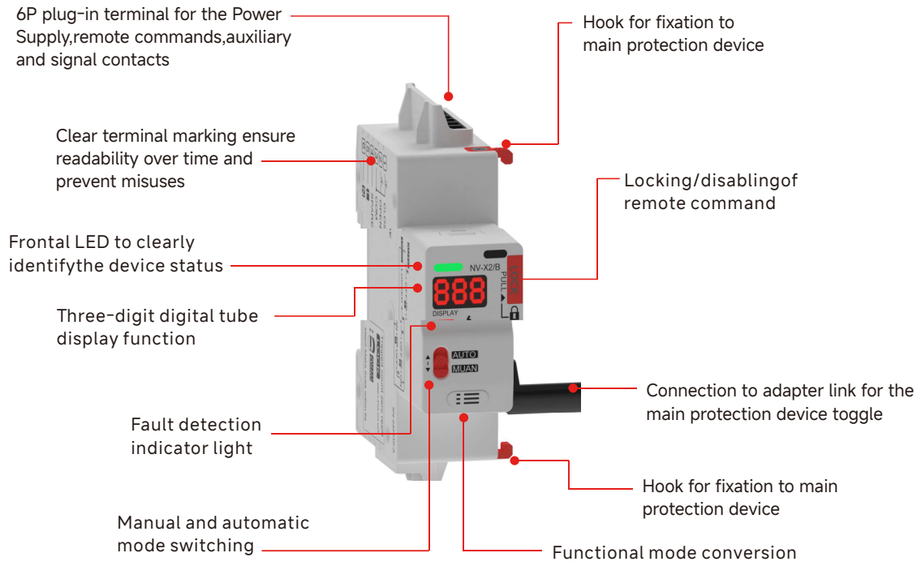
Compactness
Reduced size of installation thanks to slim product design as well as optimized performance.

Connectivity
Fully integrate the ranges within InSite energy management system with the compact communication modules*.



Product Description

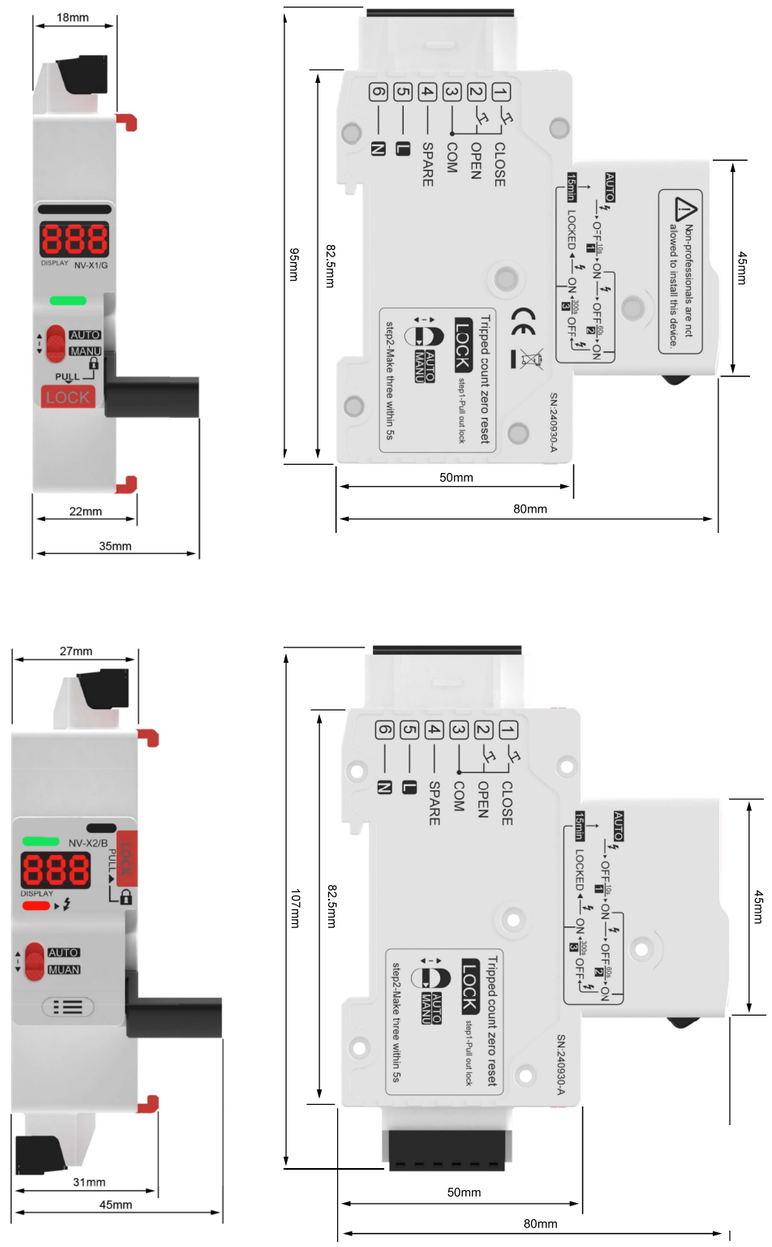




Connectivity
The ranges can be fully integrated into the InSite energy management system either via Modbus or via Wi-Fi, thanks to the compact communication modules* that can be mounted on the Motor Operating Devices and Auto-Reclosing units.

Expandability
Enhanced compatibility with main protection devices and with the wide portfolio of System pro M compact accessories, as well as the extended voltage ranges in two versions (24-48 V AC/DC and 230-240 V AC), allow more flexibility when installing.

Product dimensions



GYAR9-NV-X1 **Series** Technical features

Suitable for:	MCBs ***** and ***** series ; RCCBs *****(up to 100A) and ***** B type (up to 63A) RCBOs ***** ; Switch Disconnectors*****
Number of modules	1
Operating voltage	24...48V AC/DC -10%..+10% 230-240V AC -15%+10%
Minimum operating voltage	21.6V AC/DC 110V AC 230-240V AC -15%+10%
Power consumption during operation	<28 VA <30 VA
Power consumption at rest	<1 VA <1.5VA
Closing time	<1 s
Opening time	<1 s
Mechanical endurance	10000
Protecion degree acc. To EN 60529	IP40(housing)/IP20(terminals)
Operating temperature (with daily average s +35 °C)	-25...+60°C
Storage temperature	-40...+70°C
Overvoltage category	III
Pollution degree acc. to EN 60664	2
Shock resistance acc. to IEC/EN 60068-2-27	25g，2shocks，13ms
Vibration resistance acc. to IEC/EN 60068-2-6	1g-20 cycle at 5...150...5Hz
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	28cycle with 55°C/90-96% and 25°C/95-100%
Terminal type	plug-in
Cross-section of conductors	0，2...2，5mm²
Tightening torque	0.4 Nm
Stripping length of the cable	5 mm
Cable length of the control circuits	10m
Remote control: close contact*	Terminal 6
Remote control: open contact	Terminal 5
Auxiliary contact	Terminal 4
Signal contact	Terminal 3

GYAR9-NV-X2 **Series** Technical features

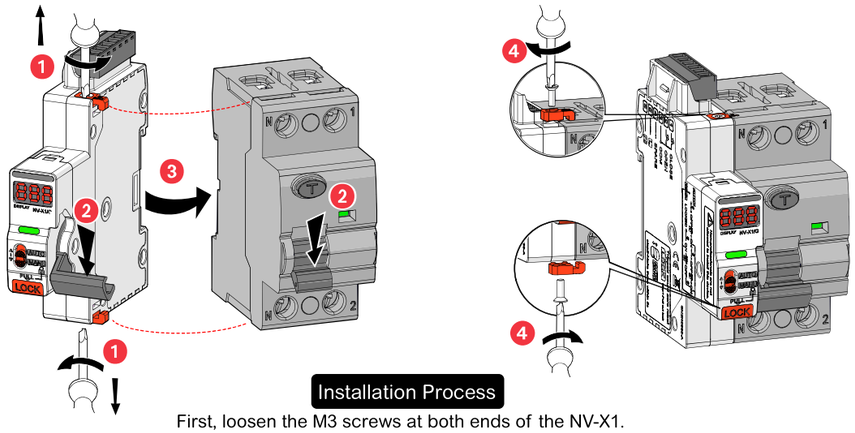
Suitable for:	MCBs NV-X1 and ***** series ; RCCBs *****(up to 100A) and ***** B type (up to 63A) RCBOs ***** ; Switch Disconnectors*****
Number of modules	1
Operating voltage	24...48V AC/DC -10%..+10% 230-240V AC -15%+10%
Minimum operating voltage	21.6V AC/DC 110V AC 230-240V AC -15%+10%
Power consumption during operation	<28 VA <30 VA
Power consumption at rest	<1 VA <1.5VA
Closing time	<1 s
Opening time	<1 s
Mechanical endurance	10000
Protecion degree acc. To EN 60529	IP40(housing)/IP20(terminals)
Operating temperature (with daily average s +35 °C)	-25...+60°C
Storage temperature	-40...+70°C
Overvoltage category	III
Pollution degree acc. to EN 60664	2
Shock resistance acc. to IEC/EN 60068-2-27	25g，2shocks，13ms
Vibration resistance acc. to IEC/EN 60068-2-6	1g-20 cycle at 5...150...5Hz
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	28cycle with 55°C/90-96% and 25°C/95-100%
Terminal type	plug-in
Cross-section of conductors	0，2...2，5mm²
Tightening torque	0.4 Nm
Stripping length of the cable	5 mm
Cable length of the control circuits	10m
Remote control: close contact*	Terminal 6
Remote control: open contact	Terminal 5
Auxiliary contact	Terminal 4
Signal contact	Terminal 3

*In case of MCB trip the remote control inputs are inhibited
** Coupling with***** or ***** allowed only in case of DC supply

⚠⚠ DANGER

Please Note:Hazard of Electric Shock, Explosion, or Arc Flash
1. Installation, maintenance, and eventual replacement of this device must be performed by a qualified electrician.
2. This device is not repairable.
3. All applicable local, regional, and national regulations must be followed during the installation, use, maintenance, and replacement of this device.
4. If the device is damaged upon unpacking, do not install it.
5. assumes no responsibility for any failure to comply with the instructions in this document and the referenced documents.
6. The service instructions must be followed throughout the life of this device.
7. Turn off all power before operating this equipment.
8. Use a properly rated voltage tester to check that all live conductors are energized.

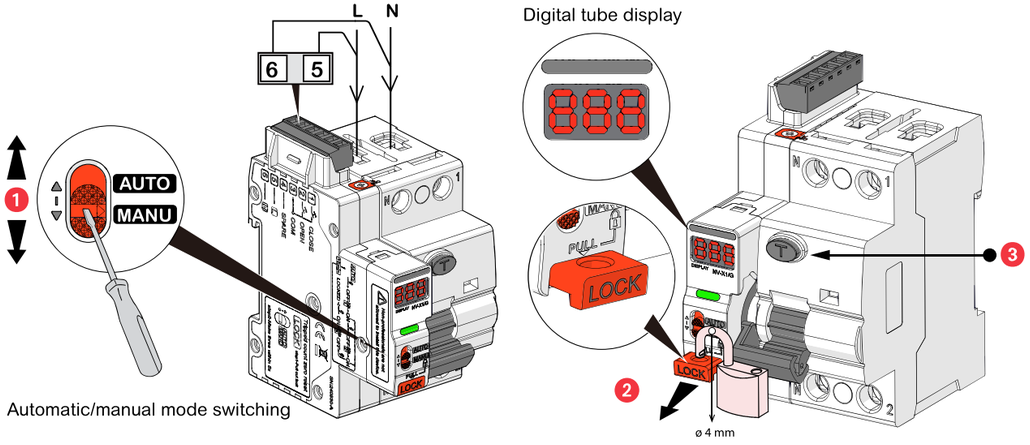
Failure to follow these instructions will result in death or serious injury.



Installation Process

First, loosen the M3 screws at both ends of the NV-X1.
Second, place the NV-X1 handle and the circuit breaker handle in the OFF position.
Third, align the NV-X1 and circuit breaker and connect them together.
Fourth, tighten the M3 screws at both ends of the NV-X1.

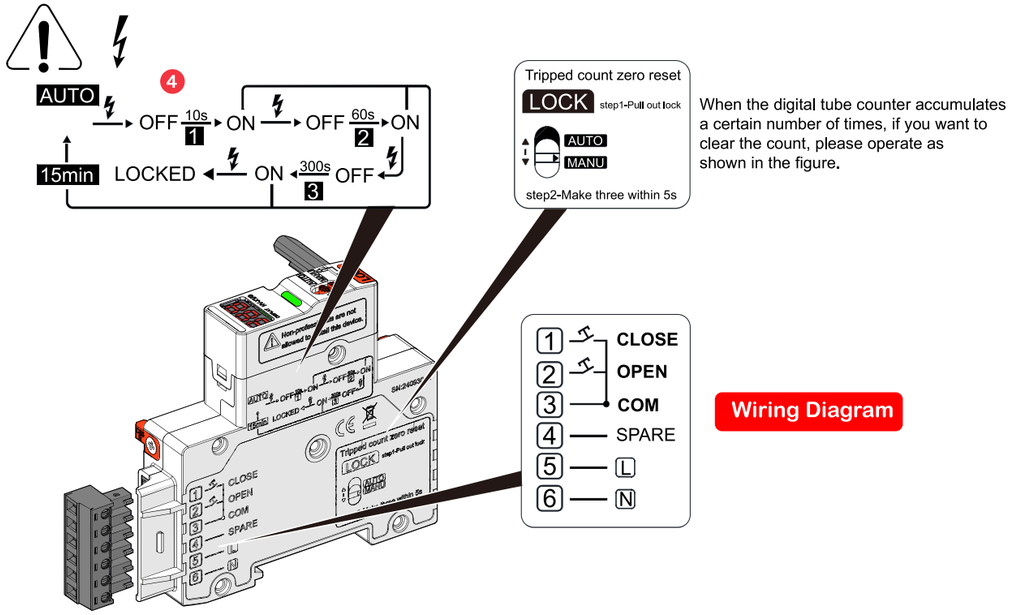
When the device requires maintenance, switch 1 to MANU.
1. Risk of electric shock, explosion, or arc burns.
2. Before maintaining the device, be sure to disconnect all power supplies.
3. Failure to follow these instructions can result in personal injury or death.



Automatic/manual mode switching

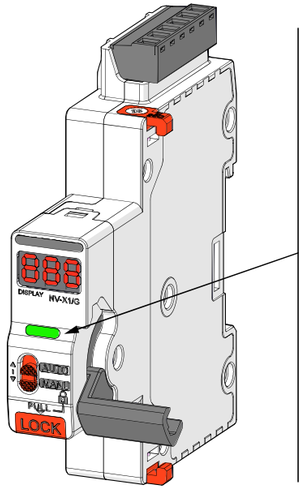
Device Operation

1) After powering up the NV-X1, turn the circuit breaker to the "ON" position and slide the NV-X1 selector switch from "MANU" to "AUTO" to enter automatic mode. (See "1" in the diagram).
2) After powering up the NV-X1, execute "TEST" (see "3" in the diagram) to activate the operating logic. After 10 seconds, the first closing attempt will be repeated. (See "4" in the diagram). The digital display will show 10, 9, 8, 7, ..., 0, and the circuit breaker will close.If this attempt fails, the circuit breaker will close again.
The digital display will show 30, 29, 28, 27, ..., 0, and the circuit breaker will close.
If this attempt fails, the circuit breaker will close again. The digital display will show 300, 299, 298, 297, ..., 0, and the circuit breaker will close. If all three attempts fail, the device will enter a locked state, requiring circuit repair by a qualified electrician.
However, if one of the three attempts succeeds, the circuit breaker will return to its original state after 15 minutes.
3) If a permanent fault occurs, switching from automatic (Figure 1) to manual (MANU) operation will be necessary for maintenance.
At the same time,remove the lock (Figure 2) and secure it with a 4 mm diameter lock.



When the digital tube counter accumulates a certain number of times, if you want to clear the count, please operate as shown in the figure.

Wiring Diagram



Red light on: The circuit breaker is in the open state (auxiliary control takes priority), and the NV-X1 automatic reclosing mode is invalid.

Green light on: The circuit breaker is in closed state.

Flashing green: The circuit breaker is in the 15-minute recovery reset state.

Flashing red: The circuit breaker is in the closing countdown state, and the digital tube displays synchronously.

Yellow light on: LOCK safety lock is pulled out, or MANU manual mode is valid, the circuit breaker is in locked state or maintenance manual mode.

Wi-Fi Over-Under Voltage Protector Energy Meter GYDZT



Remote control can be turned on/off by phone from anywhere at anytime.Review current, power, voltage, leakage current, temperature, number of faults, total battery capacity, and recharge capacity on your phone.You can set overvoltage/undervoltage/overcurrent/leakage current in the application, or you can set the following parameters in Protector .







Image corresponding table parameters

T	J	JT	JL	JLS	DJ
					

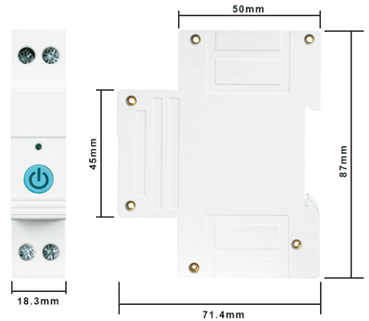
Product Description

T	J	JT	JL	JLS	DJ	Function	You can set overvoltage/undervoltage/overcurrent/leakage current in the application, or you can set thefollowing parameters in Protector
●	●	●	●	●	●	ON/OFF, Timing	Four timing modes: timing mode/countdown mode/cycle timing/jog switch (30 sets of timing settings)
○	●	●	●	●	●	Reclosing	Automatic re-closer APP (ON/OFF)
○	●	●	●	●	●	Metering	View the electricity input from photovoltaic power generation to the State Grid * The APP can view theelectricity generation input to the State Grid at the time, day, month, and year （Prepaid function）
○	○	●	●	●	●	under voltage (adjustable)	Under voltage protection 80V-210V (adjustable) (default: 175V) (this parameter is only set on the App)(ON/OFF)
○	○	●	●	●	●	Over voltage (adjustable)	Overvoltage protection 120V-300V (adjustable) (default: 275) (this parameter is only set on the App)(ON/OFF)
○	●	●	●	●	●	Over current (adjustable)	Overcurrent protection 1.0A-63A (accuracy 0.1A) (adjustable) (default: 63A) (this parameter is only set onthe App)(ON/OFF)
○	○	●	●	●	●	Reclosing time (adjustable)	Reconnection time (delay time): 10s-99s (default: 10s) (this parameter is only set on the App)(ON/OFF)
○	○	●	●	●	●	Reclosing times (adjustable)	Overcurrent and leakage protection time: 1-30 off (default value: 5) This function can be turned off (thisparameter is only set on the App)
○	○	○	○	●	●	Photovoltaic bidirectional metering	View the electricity input from photovoltaic power generation to the State Grid * The APP can view theelectricity generation input to the State Grid at the time, day, month, and year
○	○	○	●	●	●	Leakage current (adjustable)	Leakage protection: 10-99mA (default: 50mA), this function can be turned off (this parameter is only set on the App)(ON/OFF)
○	○	●	●	●	●	Temperature (adjustable)	Over temperature protection: 10-85 (this parameter is only set on the App)(ON/OFF)
○	○	○	○	○	●	Over current delay (adjustable)	Over current delay(adjustable)(delay time): 1s-15s (default: 1s) (this parameter is only set on the App)(ON/OFF)
○	○	○	○	○	●	Loss of current delay (adjustable)	Loss of current delay(adjustable)(delay time): 1s-15s (default: 1s) (this parameter is only set on the App)(ON/OFF)

Product parameters

Basic Electrical Ratings	
Rated Supply Voltage	AC 230V
Rated Frequency	50/60 Hz
Operating Voltage Range	AC 80V – 400V (single-phase)
Operating Temperature Range	–30°C to +70°C
Current & Power	
Current Setting Range	1 - 63A
Power Display Range	0 - 99999.9 kWh
Voltage Protection	
Over-Voltage Trip Setting (>U)	120 - 300V（adjustable）
Under-Voltage Trip Setting (<U)	80 - 210V（adjustable）
Over/Under-Voltage Trip Delay	0.5 s
Leakage & Over-Current Protection	
Leakage Current Setting	10–99 mA (this feature can be turned off)
Over-Current & Leakage Protection Count	1–30 times (can be set to Off)
Delay & Reset	
Reset / Start Delay	10 - 99 s

Product Size



WiFi time-control relay

GRT8-WS



Applications

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

Feature

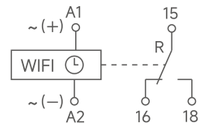
- Support access to Tuya's App Tuya smart.
- The on and off time of the load can be conveniently set through the App.
- On and off can be controlled manually.
- The cycle on / off can be set during the on time.
- DIN rail mounting.

GRT8 – WS /□
- Rated control supply voltage — N240:AC/DC110V-240V
- WiFi time-control relay
- GRT8 Series

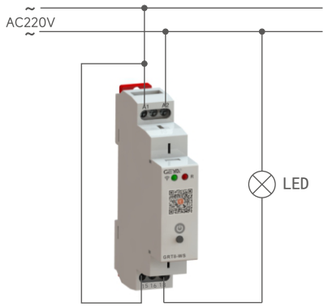
Technical parameters

	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

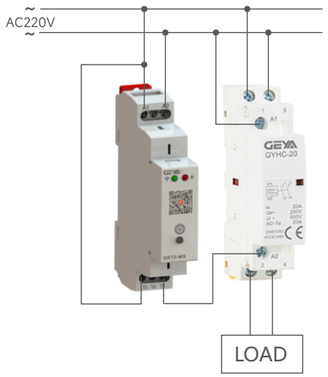
Wiring Diagram



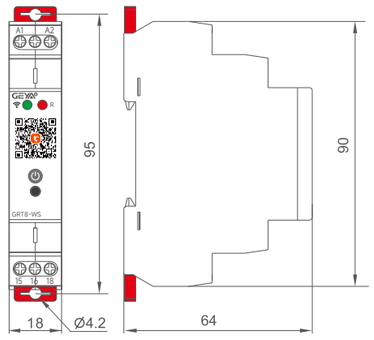
Load≤16A（AC-1）。



Load > 16A（AC-15）。



Appearance and dimensions (mm)



WIFI intelligent switch

GTS8-W



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

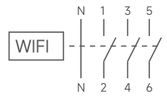
	2P	4P
Function	WiFi intelligent switch	
Rated supply voltage	AC220V	AC220V(L-N)
Rated supply frequency	45~65Hz	45~65Hz
Rated operational current	32A,40A,50A,63A,80A（AC1）	63A,80A（AC1）
Burden	AC max.3VA	
WIFI connectivity	802.11 b/g/n 2.4GHz	
Electrical life(AC1)	1×10^4	
Mechanical life	1×10^6	
Operating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

GTS8-W 2P

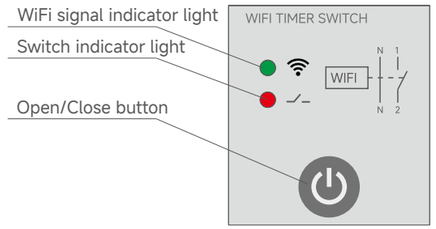


GTS8-W 4P



Panel diagram

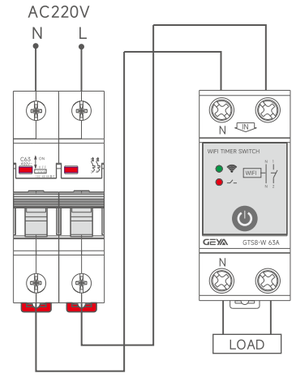
GTS8-W 2P



GTS8-W 4P

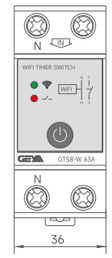


Wiring Diagram

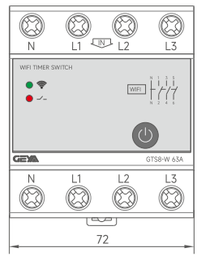


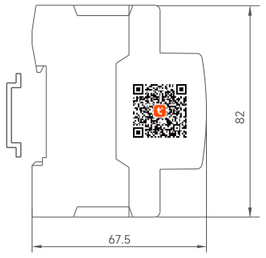
Appearance and dimensions (mm)

GTS8-W 2P



GTS8-W 4P





Intelligent Dual Power Transfer Switch

G2R-W



The G2R-W Automatic Transfer Switch is a PC-grade intelligent dual power transfer switch. When the main power supply fails (power outage or fault), the product can automatically switch to the backup power supply to prevent power loss to the load. Equipped with built-in WIFI communication functionality, it enables remote monitoring and control.
Features WIFI communication for remote device monitoring and control;
Automatic over-voltage/under-voltage protection;
Supports scheduled switching configuration;
Configurable for automatic transfer with automatic reset or automatic transfer without automatic reset;
Allows setting either power supply as the main power source.

G2R – W □ □

- Rated Operating Voltage:AC110/230/400V Rated Operating Current:63A
- Poles:2P/4P
- WIFI
- Product category: PC level automatic transfer switch electrical appliance (two station)

Technical Specification

Poles	2P / 4P	Rated Operating Current Ie	63A
Rated Operating Voltage Ue	AC 110V / AC 220V / AC 400V (50 / 60Hz)	Product Category	PC
Rated Insulation Voltage Ui	690V	Usage Category	AC-31B
Rated Impulse Withstand Voltage Uimp	8kV	Electrical Life	≥1500 timer
Rated Short-Time Withstand Current Icw	5kA	Operating Temperature	-5°C ~ 40°C
Network Type	2.4G WIFI （Not Supported 5G）		

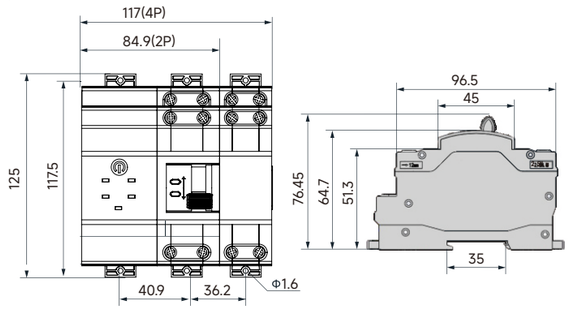
Normal working conditions

Unauthorized personnel operation in a live environment is prohibited.
The input power supply must be connected in the correct phase sequence. The ATS can share the N-line, but it must not use 1P circuit breakers to independently control the N-line and L-line. To switch the power supply, operation of both the N-line and L-line is required simultaneously; otherwise, product failure may occur.
The dual power supply is an emergency switching device, and the switching speed and frequency should not be excessive. For testing purposes, the switching interval must not be less than once per minute. The dual power switch has a built-in spring interlock mechanism. Unauthorized personnel are strictly prohibited from manually switching the switch while the device is live, as incorrect operation will cause contact wear and reduce the service life.
When connecting the power supply, please follow the marked neutral and live wire positions on the product. The input power supply must be strictly connected in the correct phase sequence.
It is mandatory to use an inverter with a power output rating of 3000W or higher (please use a sine wave. Severe electromagnetic interference may cause product failure).

Working Conditions

The operating environment temperature range is -5 °C~+40 °C, and the average temperature value within 24 hours does not exceed+35 °C.
The storage environment temperature range is -25 °C~+55 °C, and can reach+70 °C in a short period of time (within 24 hours).
The altitude of the installation site shall not exceed 2000.
The relative temperature of the air at the installation site should not exceed 50% when the surrounding air temperature is+40 °C, and there can be higher relative humidity at lower temperatures. For example, when the average lowest temperature in the wettest month is+20 °C, the average highest relative humidity in that month can reach 90%. Appropriate measures should be taken to prevent condensation caused by temperature changes.
Pollution level 3 (with conductive pollution, or dry non-conductive pollution turned into conductive due to condensation). ATS can be installed vertically or horizontally inside the cabinet. If there are special installation requirements, please contact our company. The protection level of the product shell is IP30.
Overvoltage category: Main circuit class III; Control and auxiliary circuits Class II.

Product dimensions

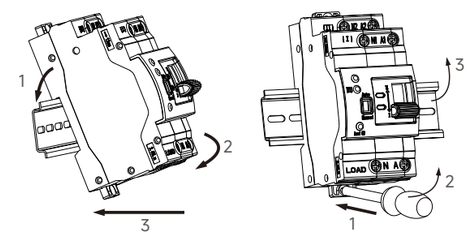


Panel Description



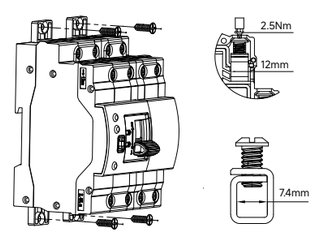
1. Network Configuration Button & WIFI IndicatorPress and hold the network configuration button for 5 seconds to enter the network configuration mode. The WIFI indicator will flash at the same time.Once successfully connected, the WIFI indicator stays lit.
2. Power IndicatorA steady light indicates normal operation; a flashing light indicates abnormal voltage of the corresponding power supply.

DIN Rail Mounting



1.Insert the upper end of the ATS base into the DIN rail.
2.Push the lower end of the ATS base onto the DIN rail until the latch securely locks into place.

Screw Mounting



1.Pull out the upper and lower latches located at the bottom of the ATS.
2.Secure the ATS to the mounting panel using screws.

All work related to the installation and commissioning of the ATS shall be performed by professionals and personnel familiar with this switching device. Appropriate protection and precautionary measures must be taken during the work. The wiring method of the main circuit of the switch must ensure that the leads are not subjected to any pressure or force. Before installation and commissioning, inspect the switch for any damage or other harmful environmental effects. Additionally, check for loose wiring terminals that may have occurred during transportation. Remove dirt, especially from the surface of insulating components, which may have penetrated through the packaging material during transport or accumulated during storage. When connecting the primary circuit, ensure that the phase sequence of both power supplies is consistent. When connecting the secondary circuit, strictly follow the wiring diagram listed in this manual and pay close attention to the control power voltage rating. The switch must be properly grounded during installation. Considering personal safety and the rapidity of switch switching, the debugging handle is for debugging purposes only. Users must never operate the switch with a load under the debugging handle. During debugging, operate the switch with the handle first. If no abnormalities are found, perform the manual button operation. If there are still no abnormalities, proceed with official operation.

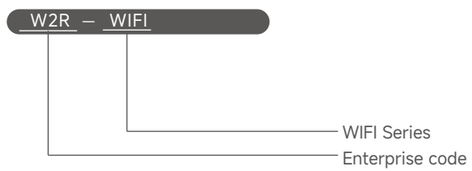
Maintenance

Maintenance and inspection shall be performed by qualified professionals. Prior to disconnecting all power supplies, to ensure optimal performance of the ATS, the initial maintenance and inspection shall be carried out within 6 months after commissioning. Thereafter, maintenance and inspection shall be conducted at least once per year. Under harsh installation conditions, the frequency of maintenance and inspection shall be increased.
If maintenance/inspection items reveal abnormalities, proceed with the following steps:
a. Clear dust accumulation.
b. Inspect the electrical contact components for deformation or damage, and remove metal particles and burns on and around the contact surfaces.
c. Corrosion, acidification, and dust on the contact surfaces may cause poor contact. Therefore, perform manual operation of the switch and measure the contact resistance as necessary.
d. If the ATS is damp or has been idle for an extended period, dry it thoroughly before powering it on. After removing dust, use a 500V megohmmeter to measure the insulation resistance of the normal power supply and AC power supply. The insulation resistance between the load side and each pole, including the insulation resistance between live parts and metal enclosures, shall not be less than 10 MΩ during operation.
The unit shall be stored in an environment consistent with normal operating conditions, with measures taken to prevent dust, moisture, and impact.

Smart ATS
W2R-WiFi



The dual power automatic transfer switch is a newly developed miniature household power transfer switch. This switch is mainly used to test whether the main or backup power supply is working properly. When the normal power supply is abnormal, the backup power supply will immediately start working to ensure the continuity, reliability, and safety of power supply. This product is designed specifically for household rail installation and is specifically used for PZ30 distribution boxes.
According to GB/t14048.11, Part 6-1: Multifunctional Equipment and Switchgear specifies that ATSE is the most compliant low-voltage switchgear and control device.



Technical Specification

model	W2R		
Rated current In	16 20 25 32 40 50 63 80 100		
Insulation voltage Ui	AC 690V		
Rated voltage Ue	AC110V/220V/230V/380V/400V,50/60Hz		
Product Category	PC level: capable of manufacturing and withstanding without generating short-circuit current		
Usage category	AC-33iB		AC-31B
Poles	2P	3P	4P
Weight (kg)	1.7	2.1	2.6
Electrical lifespan	2000 times: Mechanical life: 5000 times		
Rated Short-Circuit Breaking Capacity Iq	50kA		
Short circuit protection device (SCPD)	RT16-00-63A		
Rated impulse withstand voltage	8kV		
control circuit	Rated control voltage Us: AC220V, 50Hz Normal working conditions: 85% Us -110% Us		
Auxiliary circuit	2 relays, each with two sets of contact converter contact capacity: AC220V 50Hz Ie=5y		
Convert time	<50ms		
Return time	<50ms		
Return conversion time	<50ms		
Power off time	<50ms		

Normal operating time and installation conditions

- Surrounding air temperature: The highest temperature shall not exceed 40 , the lowest shall not be lower than -5 , and the average temperature within 24 hours shall not exceed 35
- Altitude: The sea level at the installation site should not exceed 2000m
- Atmospheric conditions: When the highest temperature reaches 40 °C, the relative humidity of the installation site should not exceed 50%; When the temperature reaches the lowest temperature of -5 °C and the relative humidity is high, for example, when the temperature is 25 °C, the relative humidity is 90%. Due to temperature changes, special measures should be taken to address occasional condensation on the surface of the product.
- Pollution level: TSE pollution level meets the specified level 3 of GB/t14048.11
- Installation category: The installation type of TSE complies with the specified category in GB/t14048.11
- Installation conditions: TSE can be vertically installed in control cabinets or distribution cabinets. Ensure that the installation distance meets the requirements in Figure 1.

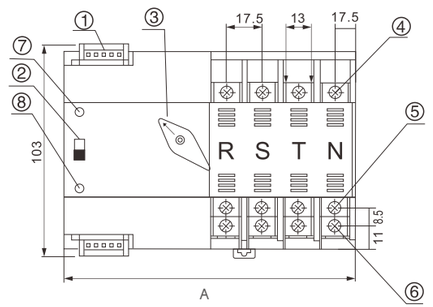
Installation and wiring

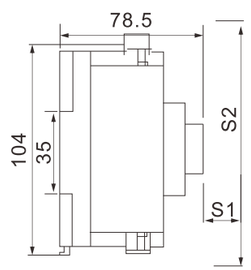
- Please check the integrity of TSE before installation. Then use the joystick to turn on and off TSE, check the flexibility of the transmission device, and detect the generation and disconnection conditions of the load at each stage of the normal and backup power supply
- Control voltage detection: AC50HZAC220V. The coil in the control circuit should not be too long. The cross-sectional area of copper wire should not exceed2.0mm^2
- According to the installation requirements of the power distribution system, please equip appropriate circuit breakers to ensure the safety of personnel and equipment.

Note

Manual/Automatic Operation
SE can ensure the performance of power generation and power-off in circuit operation, but TSE cannot guarantee the above performance for manual operation due to differences in power generation and power-off speed or operator. Excessive silver alloy loss may occur during manual power generation and power outages. Therefore, when all power is cut off to check and maintain the operating system and contacts, simply pull the selection switch to the manual position. Generally, please turn the selection switch to the automatic position. When operating manually, pull the selection switch to the manual position. After completing the manual operation, pull the selection switch from the manual position to the automatic position.
control circuit
SE will instantly become active. After the conversion is completed, the coils in the control circuit will be disconnected by the internal converter. At rated voltage of 80% to 110%, the coil can operate normally. Low voltage can cause the coil to heat up or even self ignite.

Appearance and installation dimensions



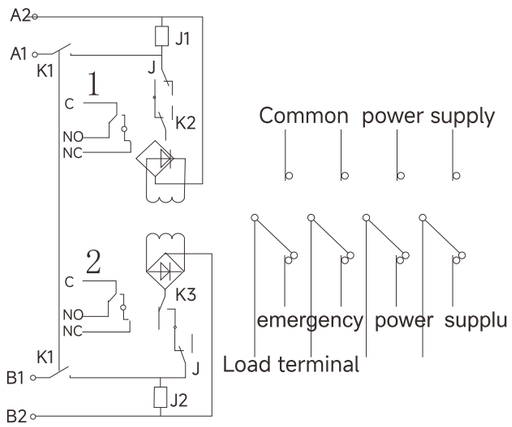


Safety distance:
S1≥30mm
S2≥203mm

Pole \ Size	A
2P	107.5
3P	125
4P	142.5

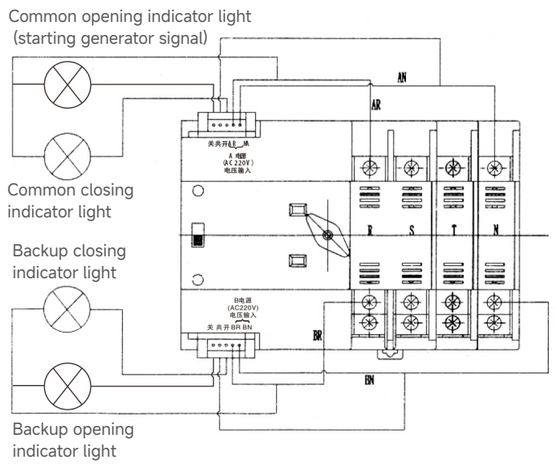
① Control power
② Selection switch(Auto/manual)
③ Manual knob
④ Normal power main circuit terminal
⑤ Altemative power main circuit terminal
⑥ Load side main circuit terminal
⑦ Power A indicator
⑧ Power B indicator

Internal wiring diagram



K1:Manual/Electric selection switch
K2、K3:Product internal position seitch
J1:Power A 220V relay
J2:Power B 220V relay
1:Power A passive signal output
2:Power B passive signal output

Controller wiring diagram

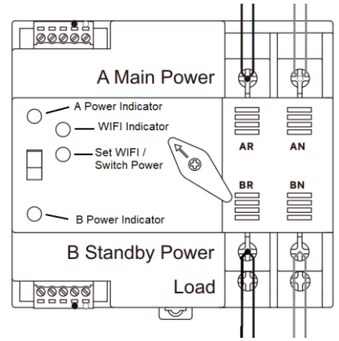


Maintenance, inspection, and storage

- Maintenance and inspection should be carried out by professional personnel, and all power sources should be cut off in advance.
- To ensure the good performance of TSE, the first maintenance and inspection should be carried out within 6 months after use, and at least once a year. In harsh installation conditions, maintenance and inspection frequency should be increased.
- TSE should be stored in an environment equivalent to normal working conditions, with dust, moisture, and anti-collision measures.
- Maintenance and inspection items
  a. Please remove dust and dirt when a malfunction occurs.
  b. Please check if the electrical contact parts are deformed or damaged, and remove any burnt metal particles attached to the surface and surroundings.
  c. Rust, acidification, and dust on the contact surface may cause poor contact. Please manually operate multiple times and measure the contact resistance if necessary.
  d. Due to prolonged exposure to moisture and being in a suspended state, please dry the TSE before use. After removing dust and dirt, use a 500V megohmmeter to measure the insulation resistance between the normal supply, alternating supply, load side pole, including the insulation resistance between live parts and metal plates. And the insulation resistance should not be less than 10M Ω.

Quick Start

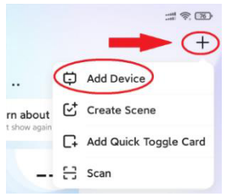
Buttons & Indicator Lights
Short press the button: Manual switch
Long press the button for 5 seconds: Enter network configuration mode.



APP Download

Adding a New Device

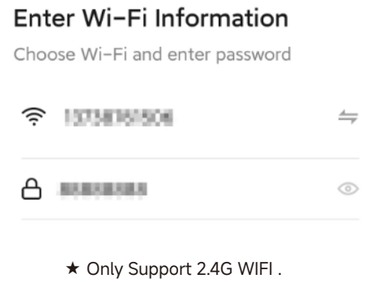
1 On the app homepage, tap the [+] in the upper right corner → [Add Device].



2 Long press the product's button for 5 seconds. A new device icon will appear in the app.



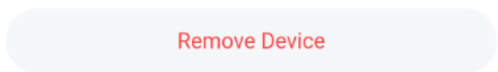
3 Enter the Wi-Fi information and wait for the process to complete.



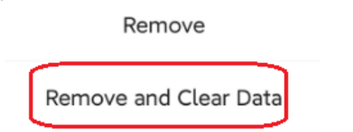
★ Only Support 2.4G WIFI .

Remove Device

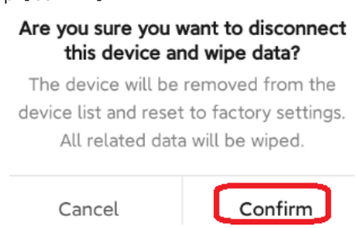
1. On the app's homepage for the device you want to remove, tap the pattern in the upper right corner
2. Tap 【Remove Device】 below. .



3. Tap [Unbind and Clear Data];



4. Tap【Confirm】



Add Timer

1. Enter the Timer interface and tap【Add】;
2. Configure parameters such as Switch, time,

