IoT Miniature Circuit Breaker

GRD9S-F100



GRD9S-F100 IoT circuit breaker is mainly suitable for circuits with AC rated frequency of 50Hz, rated voltage not exceeding 440V, rated current not exceeding 100A, and short-circuit current not exceeding 10KA.

It can be installed in smart meter measurement systems, photovoltaic grid connection、 industrial control、 equipment、 homes, office buildings、 street lamp control systems, nursing homes. cultural relics protection units、 schools、 hospitals、 agriculture、 gardens、 gas stations、 oil fields、 railway stations、 complete sets of equipment and other distribution circuits. It has functions such as remote control, manual opening and closing、 over temperature protection, over/under voltage、 over power energy measurement、 overload、 short circuit、 ground fault protection, leakage protection etc.





Product Main Features of The Product

1.Maintenance safety lock: Effectively ensures the safety of personnel during maintenance;
2.Independent power supply: Prevents system crashes and operational failures;
3.Modular design: Offers customizable combinations for flexible applications;
4.High precision: Voltage and current detection accuracy Class 0.5; power accuracy Class 1.0.
5.Retains miniature circuit breaker (MCB) characteristics in all functions;
6.Flexible communication options: RS485 (default), with optional Wi-Fi, 4G, RJ45, Zigbee, etc.
7.Configurable protection actions: shutdown, alarm, or trip;
8.Multiple remote upgrade modes enable maintenance without inconvenience;
9.Power outage protection: Data storage and upload are maintained after main circuit power-off;
10.Neutral-fault protection: Triggers immediate power loss and alarms upon neutral line disconnection;
11.Automatic fault analysis: Identifies causes and events, with logs displayed for troubleshooting;
12.Timer switch: Controls equipment on/off schedules to reduce energy consumption;
13.Protection functions (load imbalance, phase loss, phase reversal, overtemperature) extend equipment and line lifespan while ensuring electrical safety;

Product Model Explanation

GR D 9S -F100 W L
① ② ③ ④ ⑤ ⑥

Serial Number	Meaning	Serial Number	Meaning
①	Enterprise code	⑤	None: Without WiFi W: With WiFi
②	Circuit breaker	⑥	None: No leakageL: With leakageR: Equipped with leakage and power display
③	Design serial number		
④	Shell level		

Major function

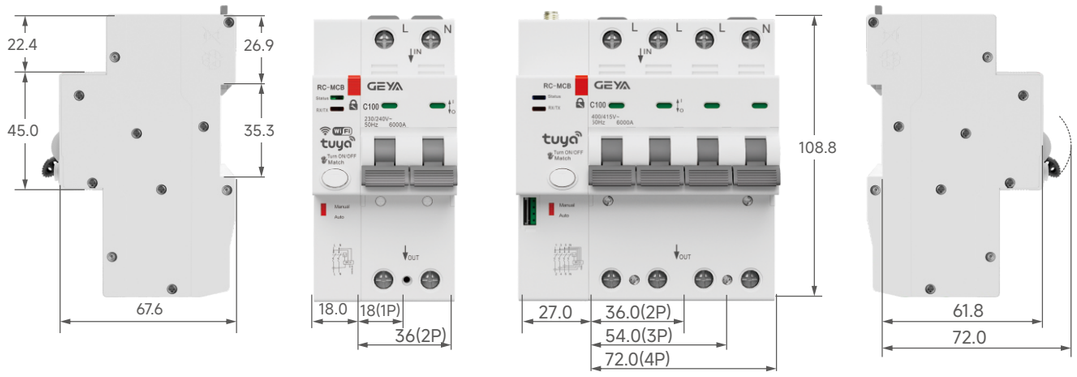
NO.	Protection function	Protection function	GRD9S-F100 1P	GRD9S-F100 2P	GRD9S-F100 3P	GRD9S-F100 4P	Parameter settings	Set value	Factory Default
1	Overvoltage protection	Close/Alarm/Trip	Trip	Trip	Trip	Trip	Overvoltage setting	250~300V	280V
							Overvoltage delay	0~10s	3s
2	Undervoltage protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Alarm	Undervoltage setting	110~200V	185V
							Undervoltage delay	0~10s	3s
3	Lack of phase protection	Close/Alarm/Trip	-	-	Trip	Trip	Lack of phase setting	10~100V	35V
							Lack of phase delay	0~10s	3s
4	Overload protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Alarm	Overyload setting	0.5~1.0 In	In
							Overload delay	0~10s	3s
5	Underload protection	Close/Alarm/Trip	Close	Close	Close	Close	Underload ratio	1~90%	5%
							Underload delay	0~10s	5s
6	Temperature protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Alarm	Temperature setting	60~120°C	85°C
							Temperature delay	0~10s	3s
7	Over power protection	Close/Alarm/Trip	Close	Close	Close	Close	Overpower value	50~50000W	5000W
							Overpower delay	0~10s	3s
8	Under power protection	Close/Alarm/Trip	Close	Close	Close	Close	Undepower value	50~50000W	5000W
							Underpower delay	0~10s	3s
9	Power-off protection	Close/Alarm/Trip	Close	Close	Close	Close	Power-off value	0~100V	35V
							Power-off delay	0~10s	3s
10	Voltage imbalance protection	Close/Alarm/Trip	-	-	Close	Close	Voltage imbalance degree	5~30%	15%
							Voltage imbalance delay	0~10s	3s
11	Current imbalance protection	Close/Alarm/Trip	-	-	Close	Close	Current imbalance degree	5~30%	15%
							Current imbalance delay	0~10s	3s
12	Warning function	Open/Close	Close	Close	Close	Close	Warning ratio	80~100%	90%
13	N Disconnect protection	Open/Close	Open	Open	Open	Open	Power-off delay	0~3s	1s
14	Arc protection	Close/Alarm/Trip	Alarm	Alarm	-	-			
15	Wrong phase protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Alarm	Wrong phase delay	0~10s	3s
16	Timing control	Open/Close	Close	Close	Close	Close	Month/Week/Day /Hour/Minute		
17	Automatic closing	Open/Close	Close	Close	Close	Close			
18	Remote control allowed	Open/Close	Close	Close	Close	Close			
19	Power ON delay	Open/Close	Close	Close	Close	Close	Delay time	3~20s	3s
20	Harmonic detection	Close/Alarm/Trip	Close	Close	Close	Close	Harmonic quantity THD	10~50%	15%

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Main technical parameters

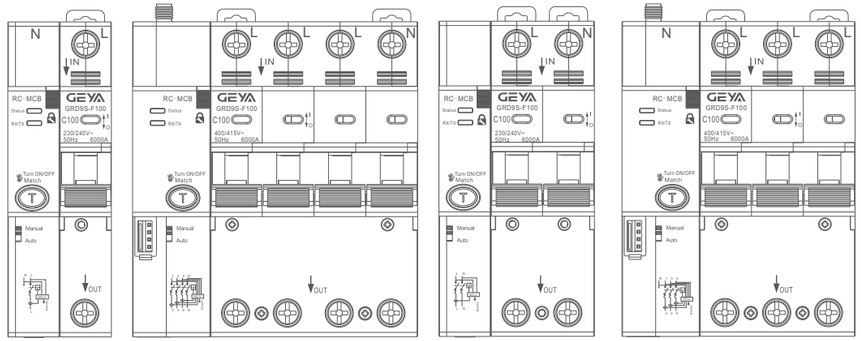
Project	GRD9S-F100 IoT Miniature Circuit Breaker
Compliantwith standards	GB 10963 NBT42149/IEC60898 EC63024
Number of product poles	1P 2P 3P 4P
Rated voltage	1P/2P:230V 3P/4P:400V
Release type	B C D
Short circuit breaking capacity	GYD9S-F100:Icn=Ics=6KA; GYD9S-F100H:Icn=10KA Ics=7.5KA
Mechanical Life	>6000 times
Electrical life	>15000 times
Close/Open time	<3.0s / <1.0s
Electricity metering accuracy	1.0
Using the working environment temperature	-25~70℃
protection grade	IP20
Installation method	35mm Standard guide rail
Wiring ability	35mm²
Closing and opening method	Manual or remote opening and closing
Function parameter setting method	App PC PDA etc
Communication method	RS485、TUYA wifi、ESP wifi、Zigbee、Lora、4G、RJ45 etc

Product Outline Dimensional Drawing

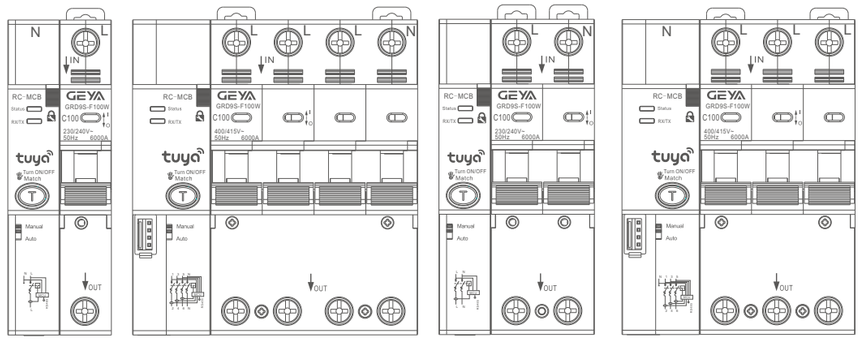


Product diagram by communication method

RS485 Communication Method



WIFI+RS485 Communication Method

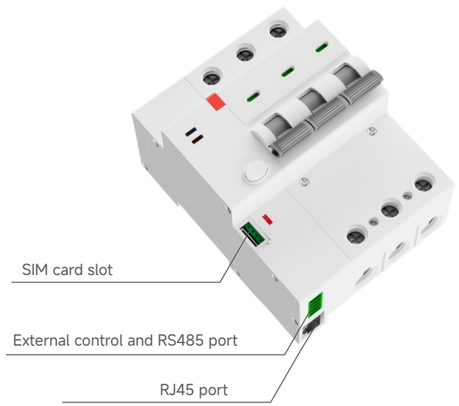


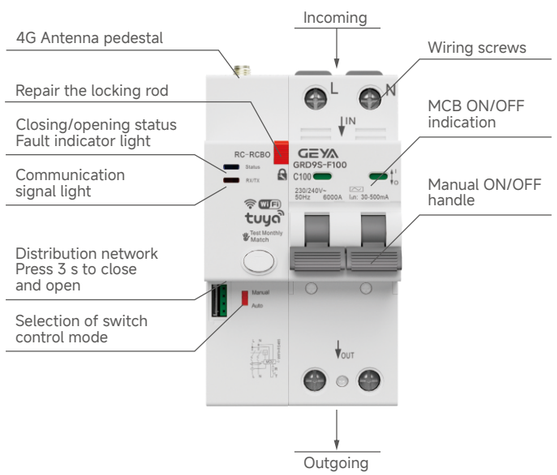
Note: Other communication methods, such as Zigbee, RJ45, Loora, etc., can be customized according to the actual design。

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GRD9S-F100
WIFI circuit breaker

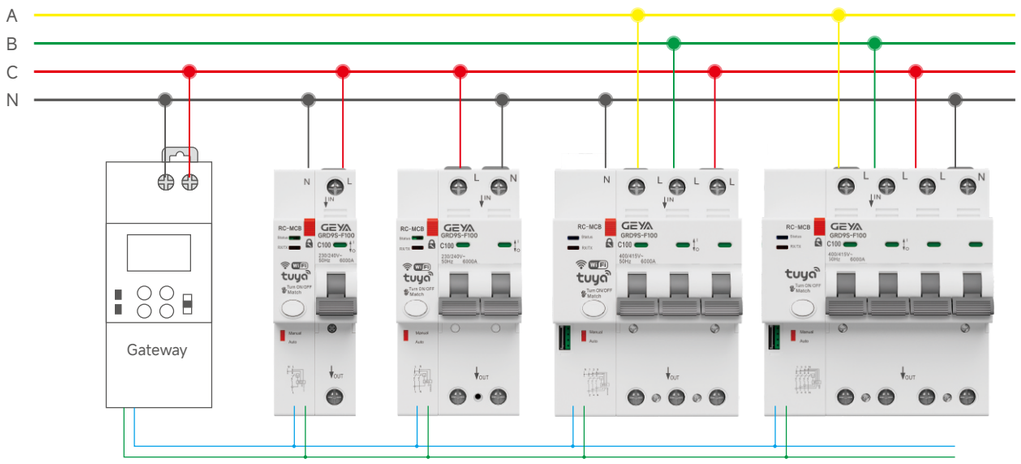
Product Description Diagram





Product installation wiring and distribution network instructions

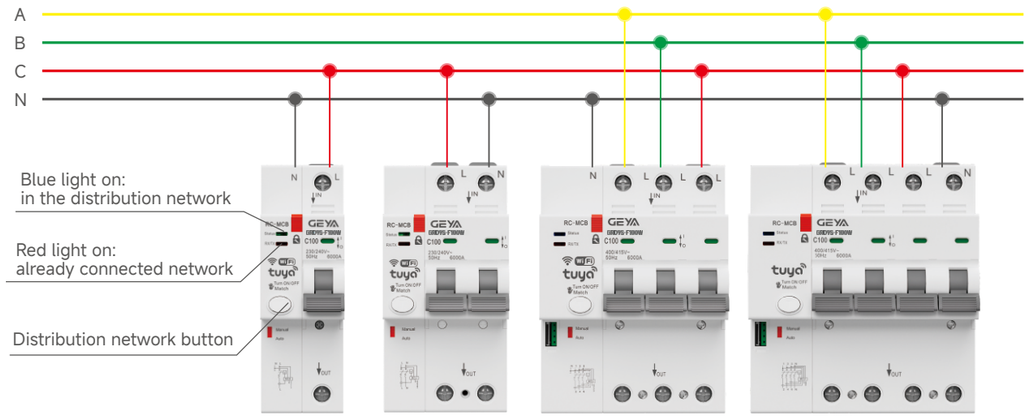
RS485 product wiring and distribution network



Note: The gateway can pair up to 24 sub devices!

1. Enter the gateway distribution network mode (host mode), the RX/TX indicator light of the sub device is always blue, and enter the distribution network state;
2. Press the sub device distribution button to proceed with the distribution network; The current sub device is successfully paired, and the red RX/TX indicator light of the sub device is constantly on;
3. Install sub devices in sequence;
4. After all sub devices are paired, press the "Menu" button on the gateway to confirm and exit the distribution network mode. The distribution network is complete;
5. Scan the code on the app to add a device;

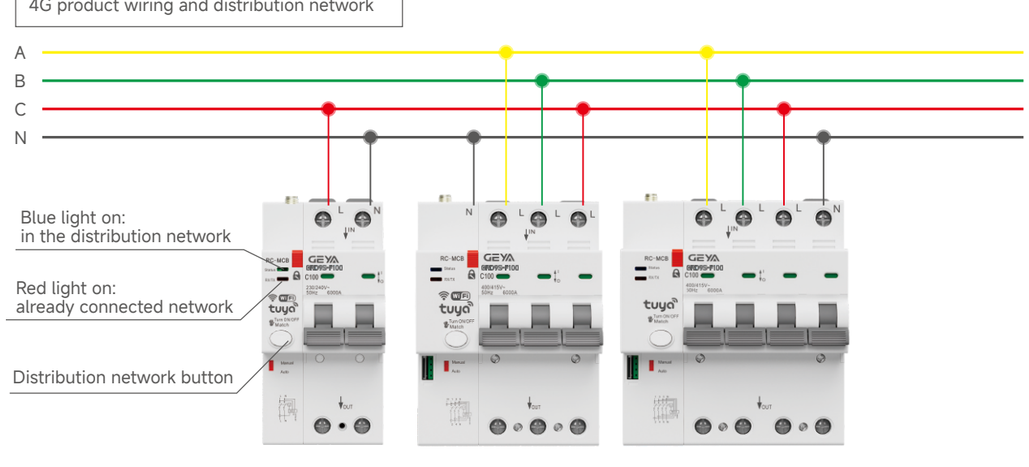
WIFI product wiring and distribution network



Attention: It is best not to connect more than 20 devices in the same router network, otherwise it is easy to disconnect!!

1. Press and hold the distribution network button for 3 seconds, wait for the blue light of the RX/TX indicator light to remain on, and enter the distribution network state;
2. After turning on Bluetooth on your phone, open the mobile app to search for devices; After searching for the current device configuration, click on connect;
3. After successful connection, the red light of the RX/TX indicator on the device remains on, indicating successful distribution of power to the device;
4. Enter the APP menu to operate the device or view device parameters;

4G product wiring and distribution network



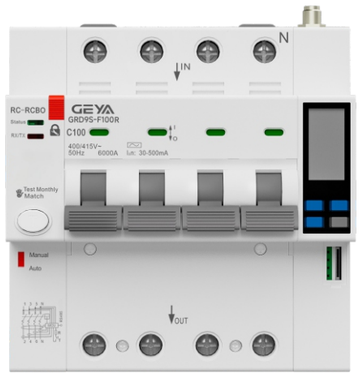
1. Open the mobile app and scan the QR code on the device to add the device
2. After successful connection, the red light of the RX/TX indicator on the device remains on, indicating successful distribution of power to the device:
3. Enter the APP menu to operate the device or view device parameters;

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GRD9S-F100L
WIFI circuit breaker

IoT Miniature Circuit Breaker

GRD9S-F100L



GRD9S-F100L IoT Leakage circuit breaker is mainly suitable for circuits with AC rated frequency of 50Hz, rated voltage not exceeding 440V, rated current not exceeding 100A, and short-circuit current not exceeding 10KA.

It can be installed in smart meter measurement systems, photovoltaic grid connection、 industrial control、 equipment、 homes、 office buildings、 street lamp control systems、 nursing homes、 cultural relics protection units, schools, hospitals, agriculture, gardens, gas stations, oil fields, railway complete sets of equipment and other distribution circuits. It has functions such as remote stations、 control. manual opening and closing、 over temperature protection、 over/under voltage、 over power. energy measurement、 overload、 short circuit、 ground fault protection、 leakage protection etc。







Product Main Features of The Product

1.Maintenance safety lock: Effectively ensures the safety of personnel during maintenance;
2.Independent power supply: Prevents system crashes and operational failures;
3.Modular design: Offers customizable combinations for flexible applications;
4.High precision: Voltage and current detection accuracy Class 0.5; power accuracy Class 1.0.
5.Retains miniature circuit breaker (MCB) characteristics in all functions;
6.Flexible communication options: RS485 (default), with optional Wi-Fi, 4G, RJ45, Zigbee, etc.
7.Configurable protection actions: shutdown, alarm, or trip;
8.Multiple remote upgrade modes enable maintenance without inconvenience;
9.Power outage protection: Data storage and upload are maintained after main circuit power-off;
10.Neutral-fault protection: Triggers immediate power loss and alarms upon neutral line disconnection;
11.Automatic fault analysis: Identifies causes and events, with logs displayed for troubleshooting;
12.Timer switch: Controls equipment on/off schedules to reduce energy consumption;
13.Protection functions (load imbalance, phase loss, phase reversal, overtemperature) extend equipment and line lifespan while ensuring electrical safety;
14.The leakage action protection is sensitive, and different leakage protection values can be set according to the usage environment.

Product Model Explanation

GR D 9S -F100 W L
① ② ③ ④ ⑤ ⑥

Serial Number	Meaning	Serial Number	Meaning
①	Enterprise code	⑤	None: Without WiFi W: With WiFi
②	Circuit breaker	⑥	None: No leakageL: With leakageR: Equipped with leakage and power display
③	Design serial number		
④	Shell level		

Major function

NO.	Protection function	Protection function	GRD9S-F100L			Parameter settings	Set value	Factory Default
			2P	3P	4P			
1	Overvoltage protection	Close/Alarm/Trip	Trip	Trip	Trip	Overvoltage setting	250~300V	280V
						Overvoltage delay	0~10s	3s
2	Undervoltage protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Undervoltage setting	110~200V	185V
						Undervoltage delay	0~10s	3s
3	Lack of phase protection	Close/Alarm/Trip	-	Trip	Trip	Lack of phase setting	10~100V	35V
						Lack of phase delay	0~10s	3s
4	Overload protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Overyload setting	0.5~1.0 In	In
						Overload delay	0~10s	3s
5	Underload protection	Close/Alarm/Trip	Close	Close	Close	Underload ratio	1~90%	5%
						Underload delay	0~10s	5s
6	Temperature protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Temperature setting	60~120°C	85°C
						Temperature delay	0~10s	3s
7	Over power protection	Close/Alarm/Trip	Close	Close	Close	Overpower value	50~50000W	5000W
						Overpower delay	0~10s	3s
8	Under power protection	Close/Alarm/Trip	Close	Close	Close	Undepower value	50~50000W	5000W
						Underpower delay	0~10s	3s
9	Power-off protection	Close/Alarm/Trip	Close	Close	Close	Power-off value	0~100V	35V
						Power-off delay	0~10s	3s
10	Voltage imbalance protection	Close/Alarm/Trip	-	Close	Close	Voltage imbalance degree	5~30%	15%
						Voltage imbalance delay	0~10s	3s
11	Current imbalance protection	Close/Alarm/Trip	-	Close	Close	Current imbalance degree	5~30%	15%
						Current imbalance delay	0~10s	3s
12	Warning function	Open/Close	Close	Close	Close	Warning ratio	80~100%	90%
13	N Disconnect protection	Open/Close	Open	Open	Open	Power-off delay	0~3s	1s
14	Arc protection	Close/Alarm/Trip	Alarm	-	-			
15	Wrong phase protection	Close/Alarm/Trip	Alarm	Alarm	Alarm	Wrong phase delay	0~10s	3s
16	Timing control	Open/Close	Close	Close	Close	Month/Week/Day /Hour/Minute		
17	Automatic closing	Open/Close	Close	Close	Close			
18	Remote control allowed	Open/Close	Close	Close	Close			
19	Power ON delay	Open/Close	Close	Close	Close	Delay time	3~20s	3s
20	Harmonic detection	Close/Alarm/Trip	Close	Close	Close	Harmonic quantity THD	10~50%	15%
21	Leakage protection	Close/Alarm/Trip	Trip	Trip	Trip	Leakage setting	10~500mA	30mA
						Not driving time	-/0.06/0.1/0.2	-
22	Leakage mutation protection	Close/Alarm/Trip	Trip	Trip	Trip	Leakage mutation	30~100mA	30mA
23	Leakage coincidence	Open/Close	Close	Close	Close	Number of times	0~9	3
24	Leakage self check	Open/Close	Close	Close	Close	Daily/Monthly	00:00~24:00	24:00

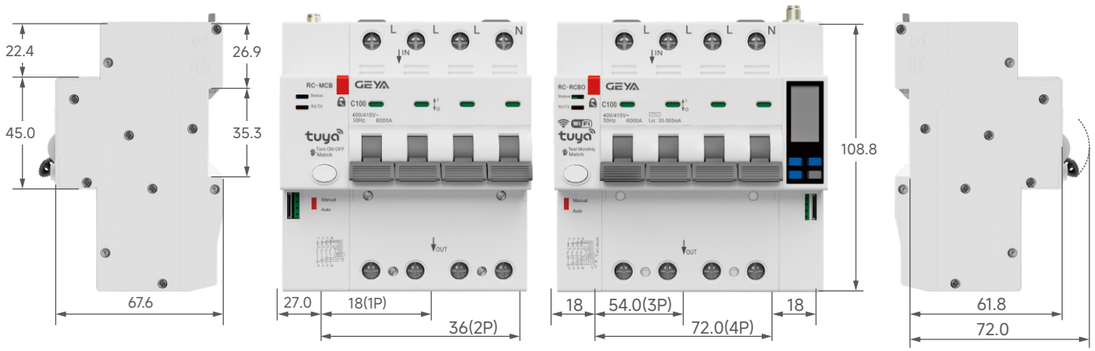
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GRD9S-F100L
WIFI circuit breaker

Main technical parameters

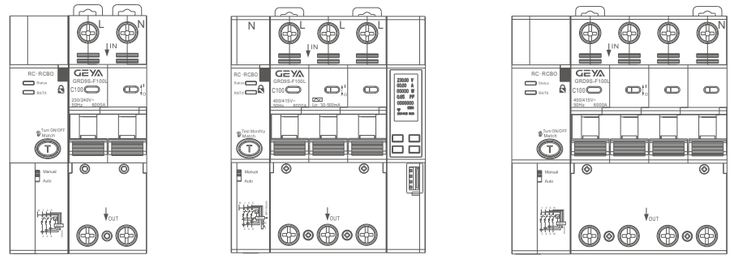
Project	GYCB9L-100 IoT Miniature Circuit Breaker
Compliantwith standards	GB 16917 CQC 1149 / IEC61009 IEC 63024
Number of product poles	2P 3P 4P
Rated voltage	2P:230V 3P/4P:400V
Release type	B C D
Short circuit breaking capacity	GYCB9L-100:Icn=Ics=6KA; GYCB9L-100H:Icn=10KA Ics=7.5KA
Mechanical Life	>6000 times
Electrical life	>15000 times
Close/Open time	<3.0s / <1.0s
Leakage protection setting value	10/30/50/100/200/300/500mA (Can be set)
Leakage action time	40ms
Electricity metering accuracy	1.0
Using the working environment temperature	-25~70°C
protection grade	IP20
Installation method	35mm Standard guide rail
Wiring ability	35mm²
Closing and opening method	Manual or remote opening and closing
Function parameter setting method	App PC PDA etc
Communication method	RS485、TUYA wifi、ESP wifi、Zigbee、Lora、4G、RJ45 etc

Product Outline Dimensional Drawing

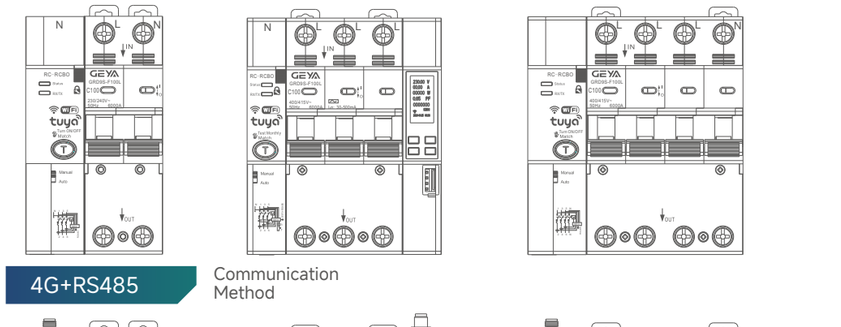


Product diagram by communication method

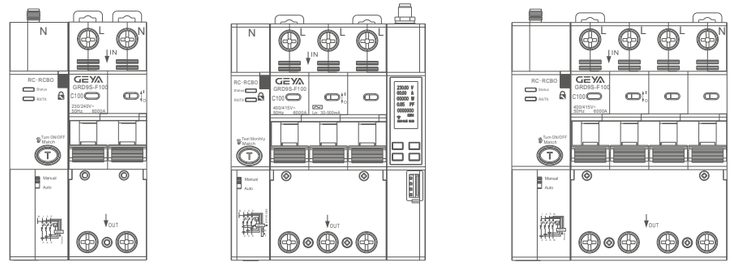
RS485 Communication Method



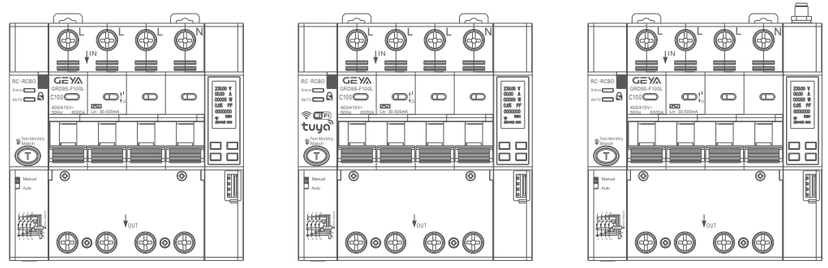
WIFI+RS485 Communication Method



4G+RS485 Communication Method



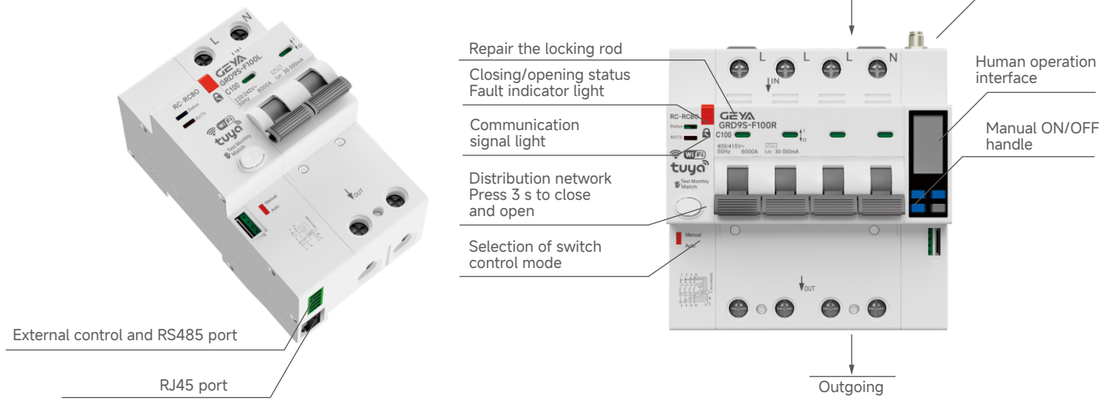
WIFI+RS485 Communication Method



Note: Other communication methods, such as Zigbee, RJ45, Loora, etc., can be customized according to the actual design。

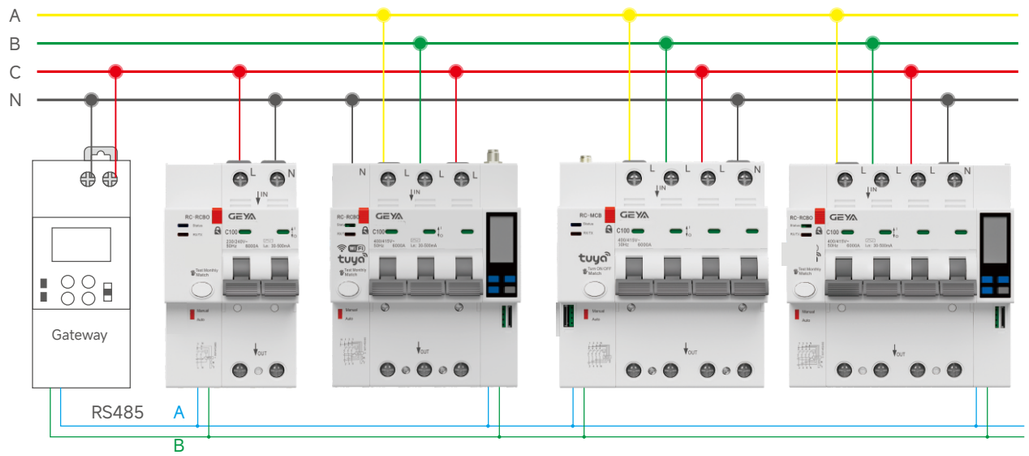
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Product Description Diagram



Product installation wiring and distribution network instructions

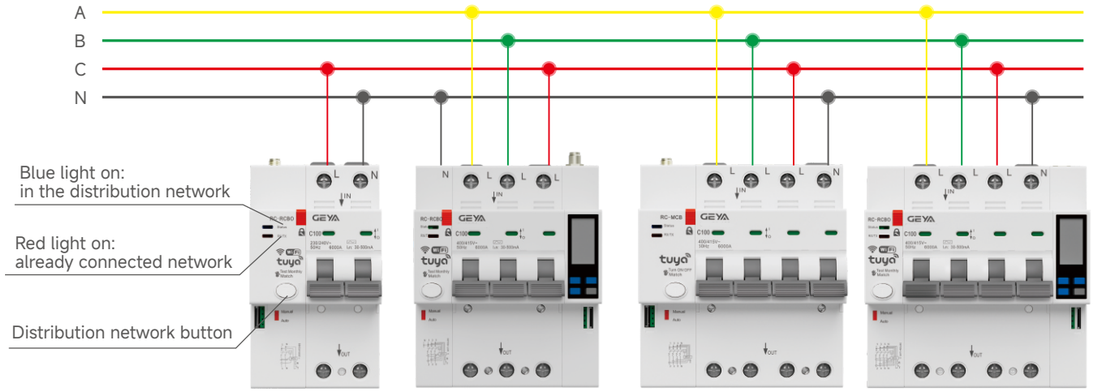
RS485 product wiring and distribution network



Note: The gateway can pair up to 24 sub devices!

1. Enter the gateway distribution network mode (host mode), the RX/TX indicator light of the sub device is always blue, and enter the distribution network state;
2. Press the sub device distribution button to proceed with the distribution network; The current sub device is successfully paired, and the red RX/TX indicator light of the sub device is constantly on;
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5. Scan the code on the app to add a device;

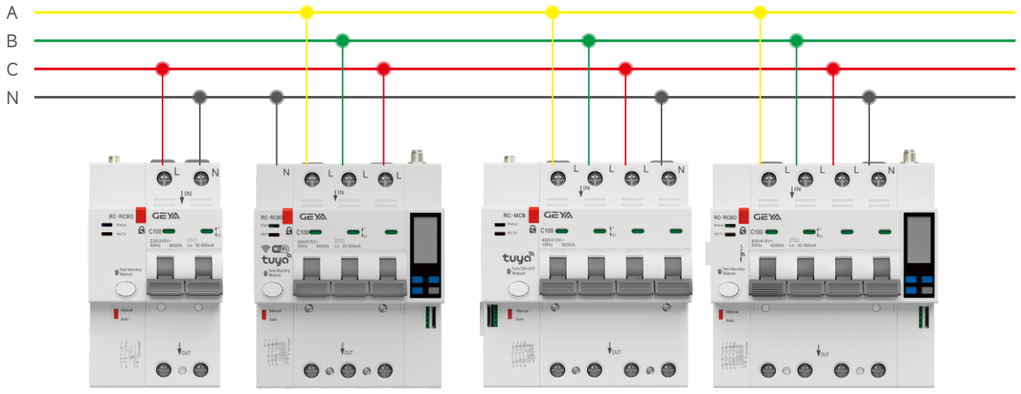
WIFI product wiring and distribution network



Attention: It is best not to connect more than 20 devices in the same router network, otherwise it is easy to disconnect!!

1. Press and hold the distribution network button for 3 seconds, wait for the blue light of the RX/TX indicator light to remain on, and enter the distribution network state;
2. After turning on Bluetooth on your phone, open the mobile app to search for devices; After searching for the current device configuration, click on connect;
3. After successful connection, the red light of the RX/TX indicator on the device remains on, indicating successful distribution of power to the device;
4. Enter the APP menu to operate the device or view device parameters;

4G product wiring and distribution network



1. Open the mobile app and scan the QR code on the device to add the device;
2. After successful connection, the red light of the RX/TX indicator on the device remains on, indicating successful distribution of power to the device;
3. Enter the APP menu to operate the device or view device parameters;

For detailed information on APP and PC operation, please refer to the user manual or operation guide!

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