

ASCB1系列智能微型断路器

ASCB1 series intelligent smart circuit breakers

安装使用说明书 V1.0

installation and operation manual

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申 明

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1. Summarize

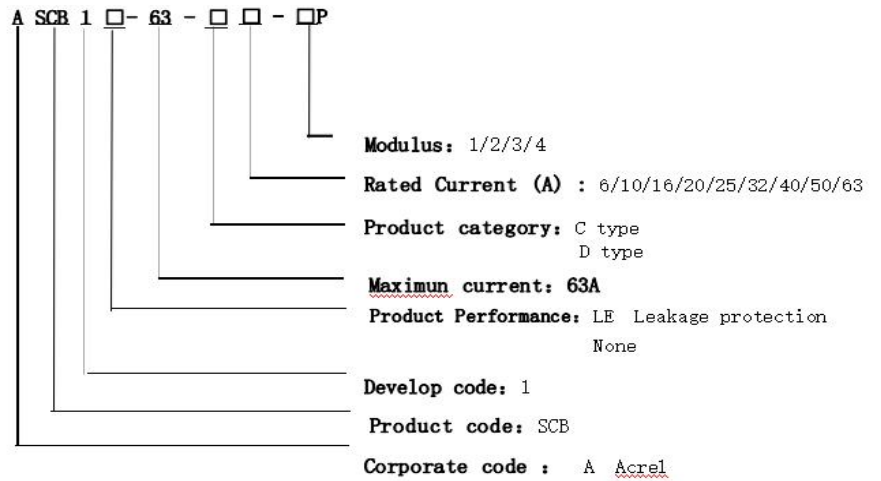
ASCB1 series of intelligent miniature circuit breakers are used for low-voltage terminal distribution network in industrial, commercial, civil buildings and infrastructure fields in indoor buildings and similar places. The intelligent circuit breaker is used with the intelligent gateway to monitor the key electrical elements of the power line, such as voltage, current, power, temperature, leakage, energy consumption and so on. It has the functions of remote control, early warning

protection, short circuit protection, energy metering statistics, fault location and so on.

This series of products are suitable for single phase, double live wire, three phase three wire, three phase four wire neutral point direct grounding (TT) low voltage power grid system.

2. Product Model

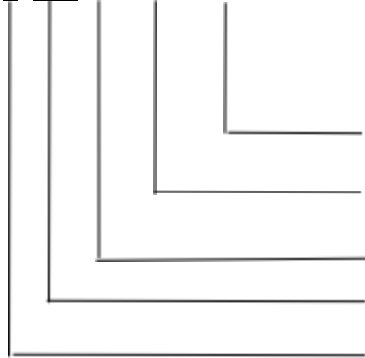
- Smart circuit breaker



Type	Function
ASCBI-63	Real-time monitoring of voltage, current, power, electric energy and temperature parameters, standard rS-485 (MODBUS) communication.
ASCB1LE-63	Real-time monitoring of voltage, current, power, electric energy, temperature and leakage parameters, standard rS-485 (MODBUS) communication.

● Smart Gateway

A SCB 1 - M - □



**Communication: CE Ethernet
4G**
Category: Gateway
Develop mode : 1
Product code : SCB
Corporate : A Acrel

Function

ASCB1-M-CE	Up to 18 intelligent circuit breakers can be connected; View the real-time data of voltage, current, power, electric energy, temperature and leakage of each intelligent circuit breaker
ASCB1-M-4G	Up to 18 intelligent circuit breakers can be connected; View the real-time data of voltage, current, power, electric energy, temperature and leakage of each intelligent circuit breaker

3. Technical parameters

Type	ASCB1-63	ASCB1LE-63
Modulus	1P/2P/3P/4P	2P/4P
Shell frame level	63A	
Rated Voltage	230V (1P/2P) 、 400V(3P/4P)	
Rated Current	6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A	
Instantaneous trip type	C/D	
Rated short circuit breaking capacity	6000A	
Protect Function	Overcurrent	100% Rated Current warning, 110% trip
	Short Circuit	5-10A Rated current 0.04S
	Overload	100% Rated power warning, 110% trip
	Overvoltage	100% Rated voltage warning, 110% trip
	Undervoltage	90% Rated voltage warning, 80% trip
	Overtemperature	80°C warning, 100°C trip

	Leakage	/	20mA warning, 30mA trip
leakage self-inspection		/	Manual button self-test
Mechanical life		20000 times	
Electrical life		6000 times	
Protection Class		IP20	
Cable		1-35 mm ²	
Elevation		2000m	
Environment Temp		-10℃~45℃	
Storage Temp		-20℃-70℃	
Installation		35mm Din rail installation	

Smart Gateway technical parameters

Type	ASCBI-M-4G	ASCBI-M-CE
Power supply	AC 220V	
Energy	≤30W	
Communication	4G	Ethernet
Display	LCD	
Incident Record	20	
Protocol	Modbus、MQTT	
Elevation	2000m	
Environment Temp	-10℃-45℃	
Storage Temp	-20℃-70℃	
Protection Class	IP20	
Installation	35mm Din rail installation	

4. Installation and wiring

4.1. Appearance and installation size (unit: mm)

- Smart Circuit Breaker

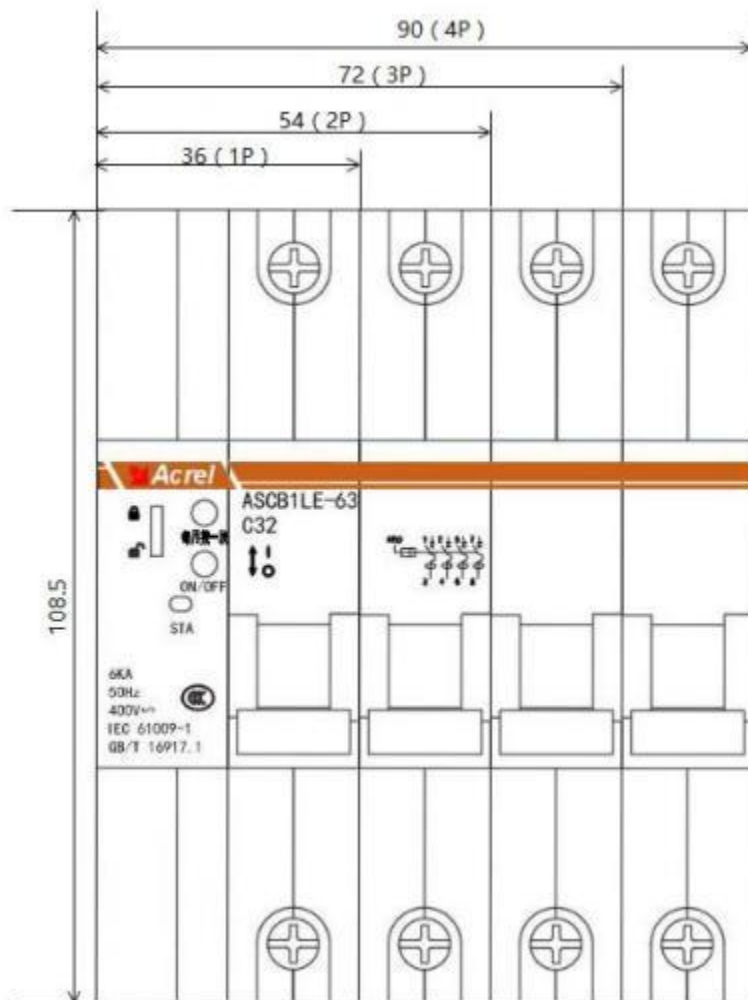


图1 SCB outline dimensional drawing

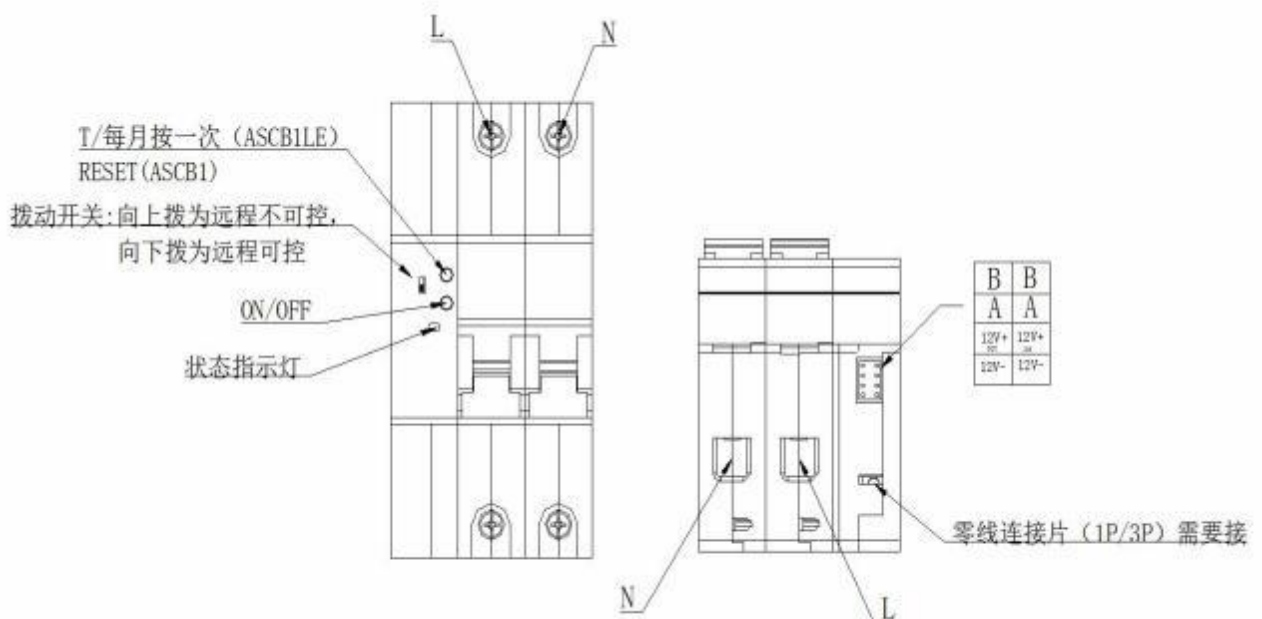


图2 Terminal diagram

● Smart gateway

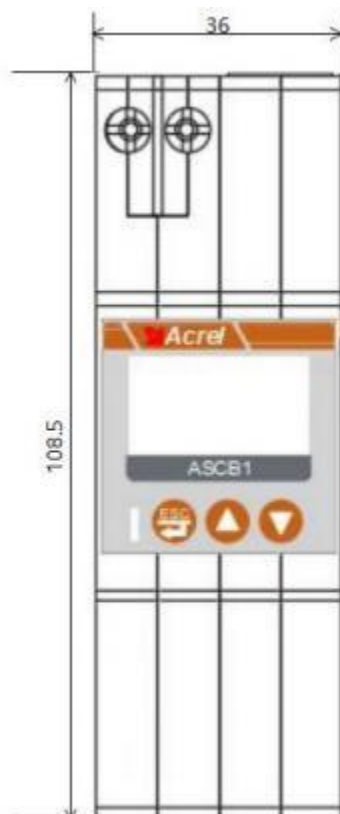


图3 Smart Gateway outline dimensional drawing

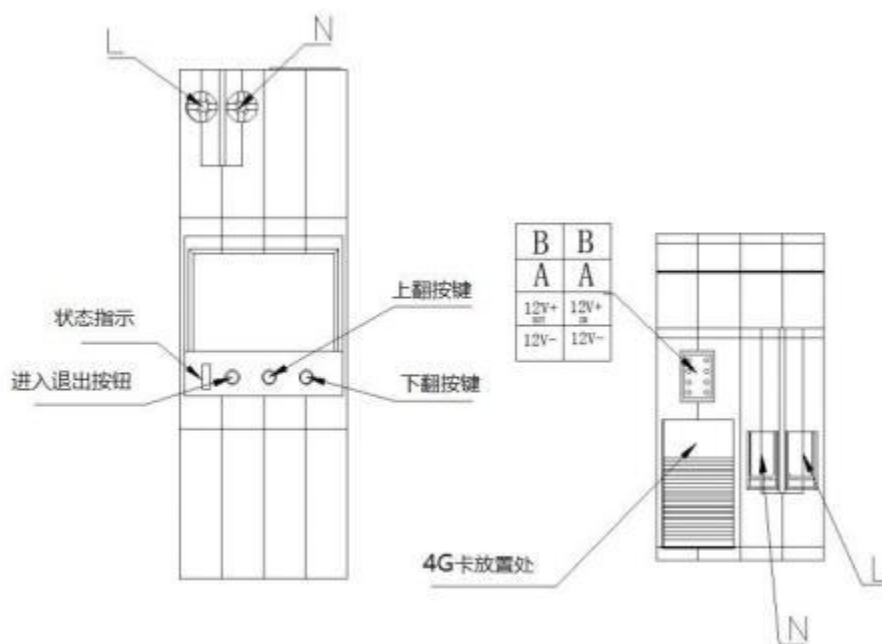


图 4 Terminal diagram

4.2. Installation method

- 1) The equipment is suitable for standard 35mm guide rail installation, installation only need to put the equipment into the track and buckle fixed.
- 2) According to the actual distribution management and line laying design requirements, select and use the required

Internet of Things modules and specifications of the electrical box, and install the modules in combination according to the sequence shown in the picture. Each module is connected with the manufacturer's special 8-pin data cable.

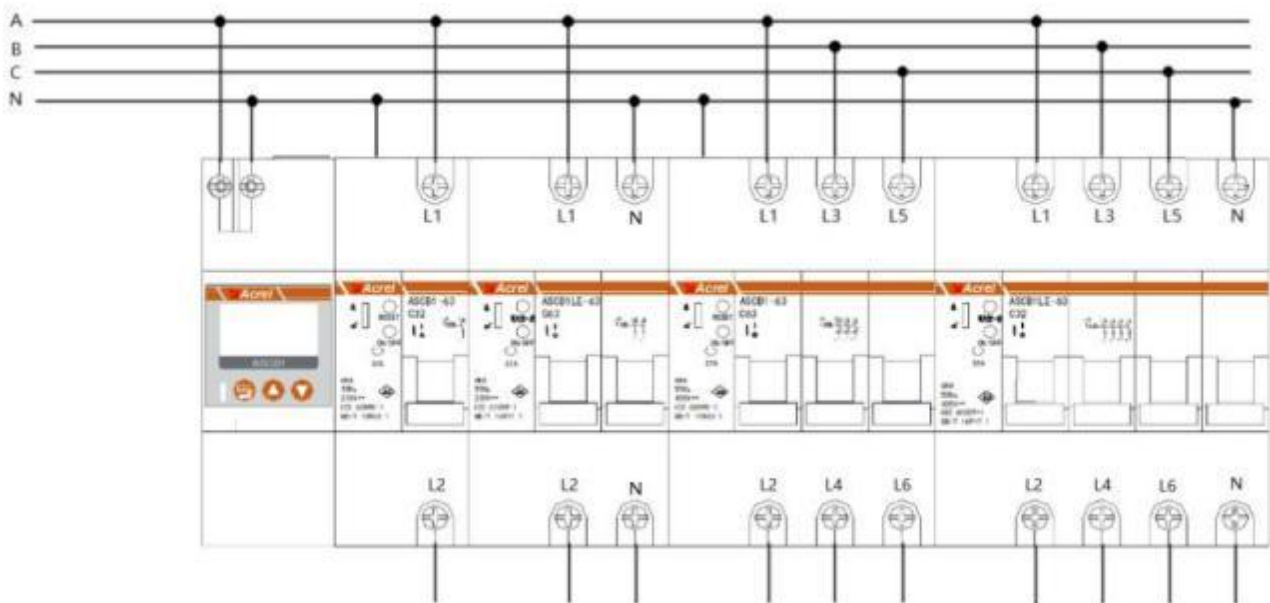
3) The circuit breaker should be installed vertically. When the handle is in the "/OFF" state, the contact is disconnected. When the handle moves upward, the contact moves in the closed direction.

4) The nominal cross-sectional area of copper wire matching the rated current of circuit breaker is shown in Table 5.

Table 5

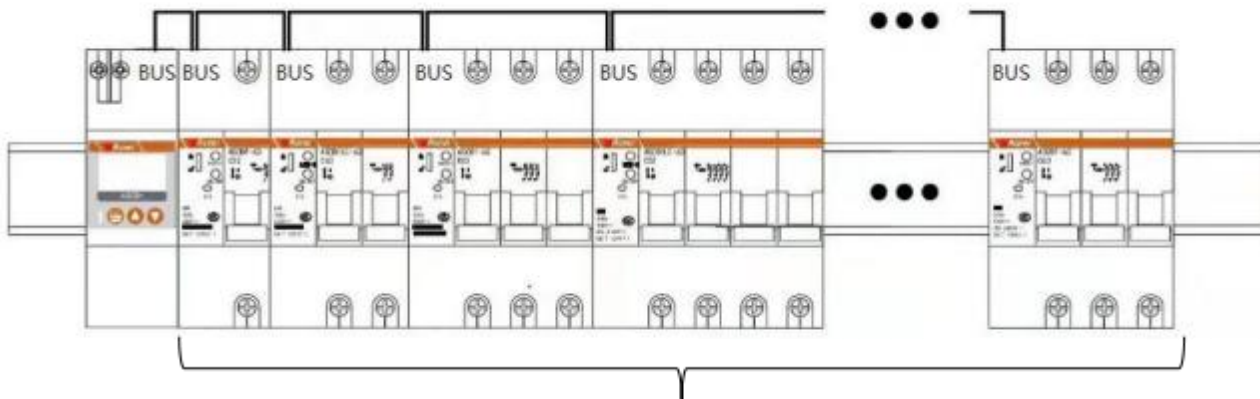
Rated Current (A)	10	16~20	25	32	40~50	63
Cable (mm ²)	1.5	2.5	4	6	10	16
Torque (N.m)	3.5	3.5	3.5	3.5	3.5	3.5

5) During installation, please tighten the copper wire with the torque specified in Table 5. After installation, check whether the copper wire is connected by shaking the wire Firm, and tighten the copper wire again with the specified torque.

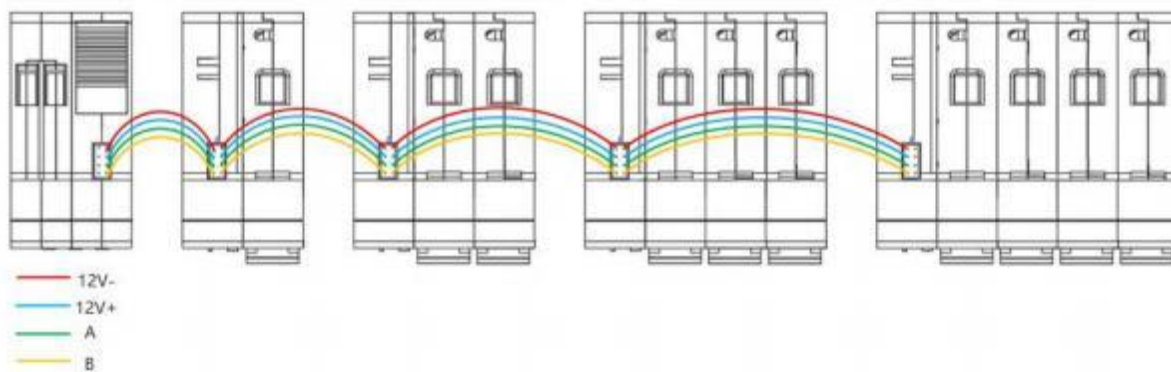


Wiring

4.3. Wiring diagram



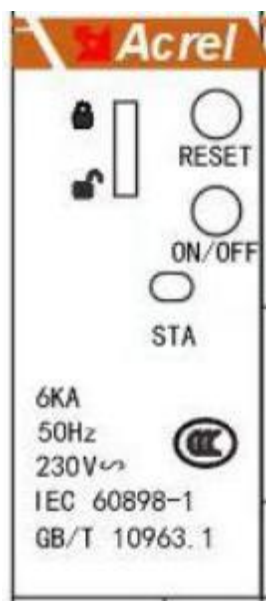
Maximun number 18



Terminal wiring diagram

5. Operation Guide

5.1. Intelligent circuit breaker button panel and indicators



Panel

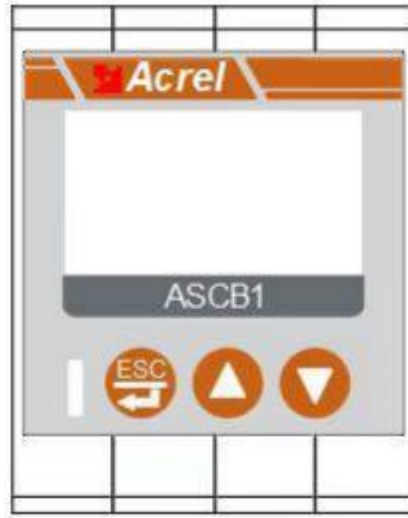
button instruction:

- ON/OFF: Short press: On/off brake, Long press 3S: State of repair;
- T/ Press once a month or RESET: short press the leakage test button, long press 3S: alarm RESET and reclosing times return to zero;
- Lock: Local lock on and off;

Indicator description:

- Green: if 2s off, 0.1s flashing, normal operating status;
- Green: If it blinks at an interval of 0.5 seconds, it indicates that the circuit breaker is in maintenance state (local and remote closing cannot be performed) ;
- Red: If it is steady on, the circuit breaker is closed;
- Red: If 2s off, 0.1s flashing, circuit breaker fault;
- Red: if the blink interval is 0.5s, the circuit breaker alarms;
- Enter automatic address assignment, the traffic light blinks for 0.5s, the address assignment is finished, and the address is displayed according to the actual status ;

5.2. Intelligent gateway key panel and indicator description



Panel

button instruction :

- ESC/← : Confirm or return button;
- ▲ : up the page;
- ▼ : Down the page;

Indicator description :

- Green: 2S off, 0.1s flashing, running status;
- Red: If 2s off, 0.1s flashing, circuit breaker fault;
- Red: If the blink interval is 0.5s, there is a circuit breaker alarm;

5.3. Interface

5.3.1. The current device status is displayed

You can query the device status of each device by pressing ▲ and ▼. The device status page is displayed as follows .



Note: The status definition table is as follows.

Symbol	○	●
Definition		
Warning	None	Have
early warning	None	Have
malfunction	None	Have
Recondition	None	Have
Brake	Off	ON

Lock	Can remote	Locked can' t remote
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