

AESP 100 Series of terminal multi-loop intelligent electricity online monitoring device

Installation and Instructions Manual V1.1

Declare

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Catalogue

1. Overview.....	1
2. Product model number.....	错误！未定义书签。
3. Technical parameters.....	2
4. Installation and wiring.....	4
4.1. Appearance and installation dimensions.....	4
4.2. Description of the wiring terminal.....	5
4.3. Wiring schematic diagram.....	6
4.4., Installation method.....	6
5. Use the operation guide.....	8
5.1. Description of the device indicator light.....	8
5.2. Description of intelligent gateway key panel and indicator light.....	8
5.3. Interface operation.....	9
5.3.1. Current device status display.....	9
5.3.2. Display of the electrical parameter data of the current equipment....	9
5.3.3. Display and setting of the current equipment protection parameters	10
5.3.4. Query of the current device event record.....	10
5.3.5. Display of the current device network information.....	10
6. Communication protocol.....	11
6.1 Introduction of the function code.....	11
6.1.1 Function code 03H: Read the register.....	11
6.1.2 Function code 10H: Write the register.....	12
6.2 Real-time data address table.....	13
6.3 Address table of the parameters related to the system setting information	17
6.4 Address table for the setting of electrical alarm parameters.....	18
7. Precautions.....	20

1. Overview

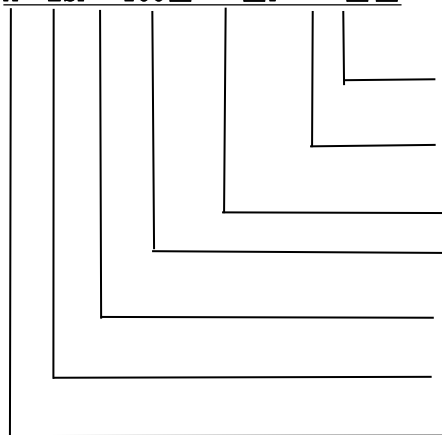
AESP100 Series terminal multi-loop intelligent electricity online monitoring device (hereinafter referred to as the device) is applied to the low-voltage terminal distribution network in industrial, commercial, civil buildings and infrastructure and other fields in residential buildings and similar places. This device is used with the circuit breaker to conduct real-time monitoring of the key electrical factors of the power line, such as voltage, current, power, temperature, energy consumption, etc., and has the functions of early warning and alarm and electric energy measurement statistics.

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

2. Product model number

- AESP100 Series of terminal multi-loop intelligent electricity online monitoring device

A ESP 100□ - □P - □□



W: Access with lead wire;

None: Direct access

D: When the pole is 3P, use three single phases;

Pole number: 2 / 3

LE: with leakage of electricity;

None: without leakage of electricity;

Development code: 100

Product code name: ESP Electric Safe Protector

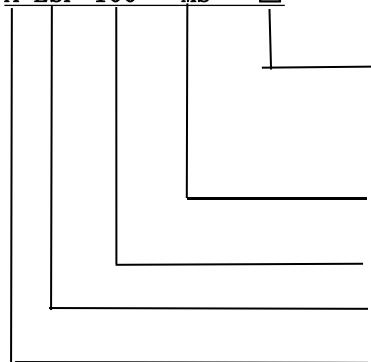
Company code: A Acrel

Table 1. Device Function Description Table

Type	functional description
AESP100-2P	It can monitor parameters such as voltage, current, power, electric energy and temperature in real time; it has various alarm functions such as overvoltage, undervoltage, overload, overcurrent, and overtemperature; the pole number is 2P; standard RS-485 (MODBUS) communication.
AESP100LE -2P	It can monitor voltage, current, power, electric energy, temperature and leakage in real time; has various alarm functions such as over voltage, under voltage, overload, over current, and over temperature; pole number is 2P; standard RS-485 (MODBUS) communication.
AESP100-3P	It can monitor parameters such as voltage, current, power, electric energy and temperature in real time; it has various alarm functions such as overvoltage, undervoltage, overload, overcurrent, and overtemperature; the pole number is 3P; standard RS-485 (MODBUS) communication.

● Smart Gateway

A ESP 100 - MS - □



Communication mode: None RS485 communication
CE Ethernet communication
4G 4G communication
WF WiFi Communication

Product category: Gateway

Development code: 100

Product code name: ESP Electric Safe Protector

Enterprise code name: A Acrel

Table 2. Description table of the intelligent gateway function

A ESP 100-MS	It can connect up to 16 circuits; view real-time data of voltage, current, power, power, temperature, leakage; view the fault, alarm and split of each circuit; set parameters of each circuit; switch input and switch output, guide rail installation, LCD display; support event recording and support RS485 communication;
A ESP 100-MS-CE	It can connect up to 16 circuits; view real-time data of voltage, current, power, power, temperature, and leakage; view the fault, alarm and split status of each circuit; set parameters for each circuit; guide installation, LCD LCD; support event recording; support RS485 communication; and support Ethernet communication.
A ESP 100-M S -4G	It can connect up to 16 circuits; view the real-time data of voltage, current, power, power, temperature and leakage of each circuit; view the fault, alarm and split status of each circuit; set parameters for each circuit; guide rail installation, LCD LCD display; support event recording; support RS485 communication; support 4G network communication
A ESP 100-M S -WF	It can connect up to 16 circuits; view the real-time data of voltage, current, power, power, temperature and leakage of each circuit; view the fault, alarm and split status of each circuit; set parameters of each circuit; rail installation, LCD display; support event recording; support RS485 communication; support WiFi, network communication

3. Technical parameter

Table 3. Technical parameters of the device

Type	AESP100 (LE) -2P	AESP100-3P
Number of poles	2P	3P
Aperture	6.6mm	
Number of loops	One single phase loop	One three-phase circuit or three single-phase circuits
Rated voltage	AC 220V	

Rated current		10(63)A
Alarm function	Overflow alarm	Default 100% rated current warning, 110% rated current alarm, adjustable threshold
	Overload alarm	Default 100% rated power warning, 110% rated power alarm, adjustable threshold value
	Overpressure alarm	Default 110% rated voltage warning, 120% rated voltage alarm, adjustable threshold value
	Underpressure alarm	Default 90% rated voltage warning, 80% rated voltage alarm, adjustable threshold
	Overtemperature alarm	Default 80°C warning, 100°C alarm, the threshold is adjustable
Levels of protection		IP 30
Elevation requirements		2000m
Ambient temperature		-10°C ~55°C, the average temperature at 24h was not higher than 40°C
Environmental requirements		No explosion hazard, no conductive dust, no sufficient corrosion of metal and damage to insulation, no significant vibration
Relative humidity		At + 40°C, the relative humidity of the air is 50%, which can have a high relative humidity at lower temperatures
Storage Temperature		-20°C~70°C
Way to install		Cooperate with the circuit breaker for direct installation or lead installation

Table 4. Technical parameters of AESP100 series intelligent gateway

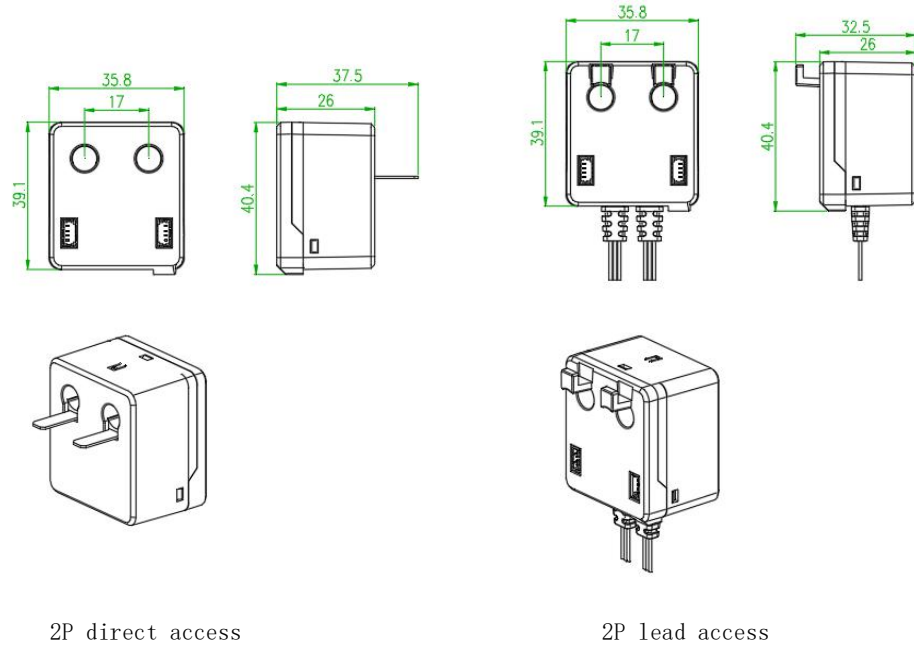
Type	AESP100-MS	AESP100-MS -4G	AESP100-MS -CE	AESP100-MS -WF
Working power supply	AC 220V			
Power dissipation	≤30W			
Communication mode	RS485	4G	Ethernet	W iFi
Display mode	The LCD dot-matrix liquid crystal display			
Incident record	Alarm, fault, action record up to 20			
Protocol	ModbusRTU, MQTT, ModbusTCP, et al			
Elevation requirements	2000m			
Ambient temperature	-10°C -45°C, the average temperature at 24h was not higher than 35°C			
Environmental requirements	No explosion hazard, no conductive dust, no sufficient corrosion of metal and damage to insulation, no significant vibration			
Relative humidity	At + 40°C, the relative humidity of the air is 50%, which can have a high relative humidity at lower temperatures			
Storage temperature	-20°C~70°C			

Levels of protection	IP20
Way to install	Standard 35mm guide rail installation

4. Installation and wiring

4.1. Appearance and installation dimensions (in mm)

- 2P



- 3P

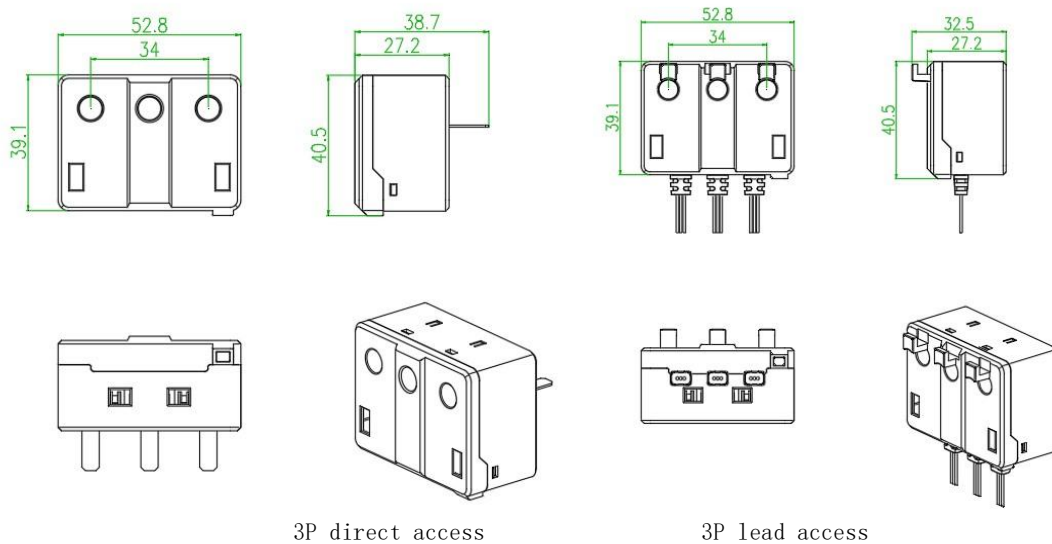


Figure 1. Outline dimensions of the device

- Smart gateway

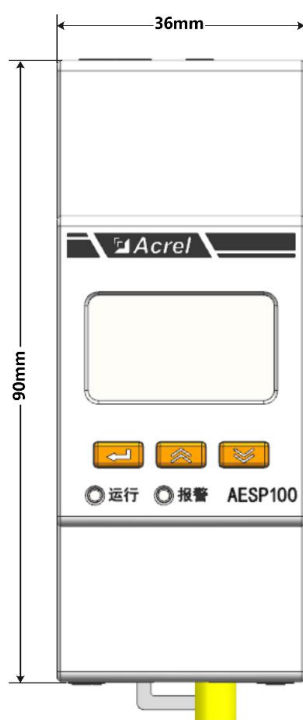
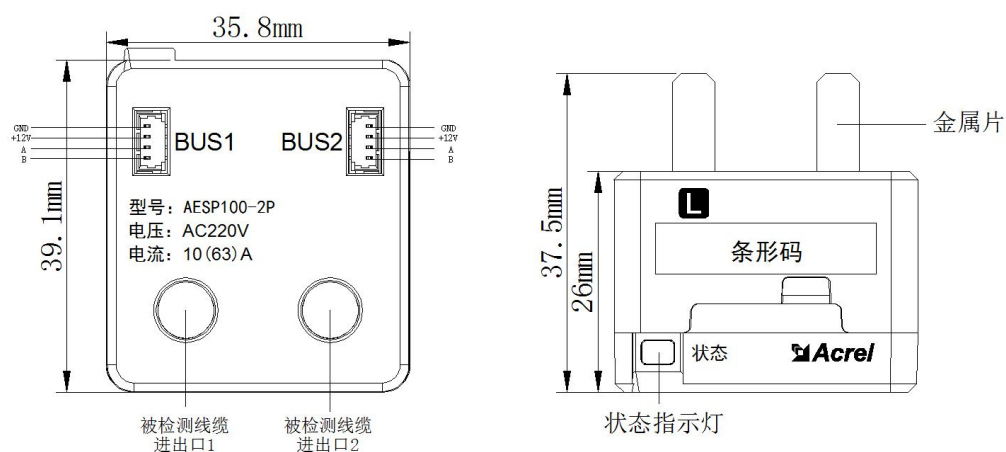


Figure 2. Dimension diagram of the intelligent gateway

4.2. Description of the wiring terminal

- The AESP100-2P wiring terminal



- The AESP100-3P wiring terminal

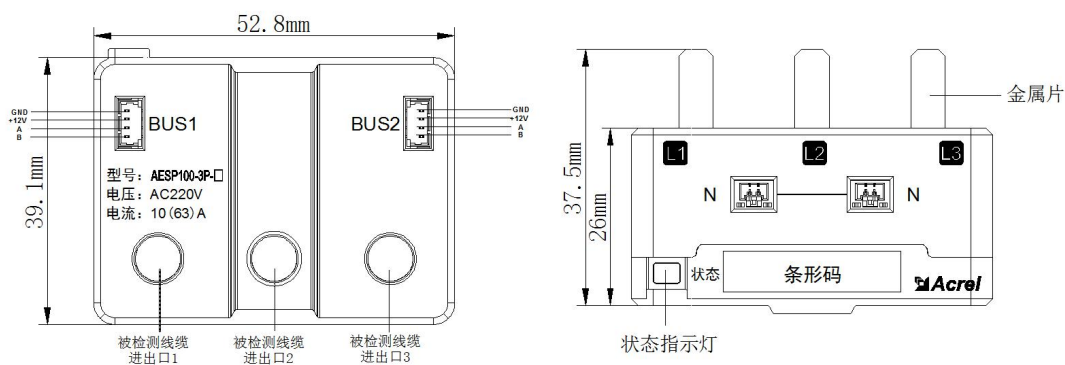


Figure 3. Schematic diagram of terminal terminal

- Intelligent gateway wiring terminal

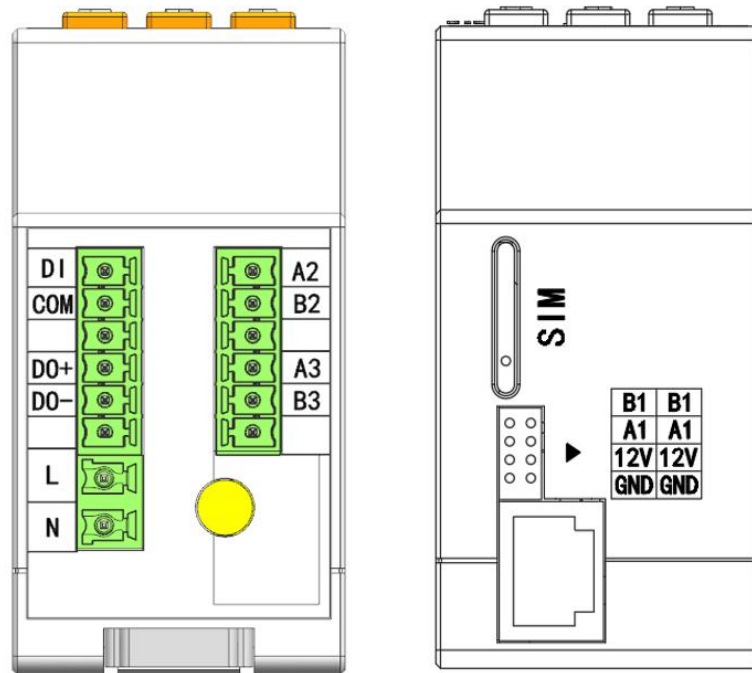


Figure 4. Schematic diagram of the intelligent gateway wiring terminal

4.3. Wiring schematic diagram

- Schematic diagram of the device wiring

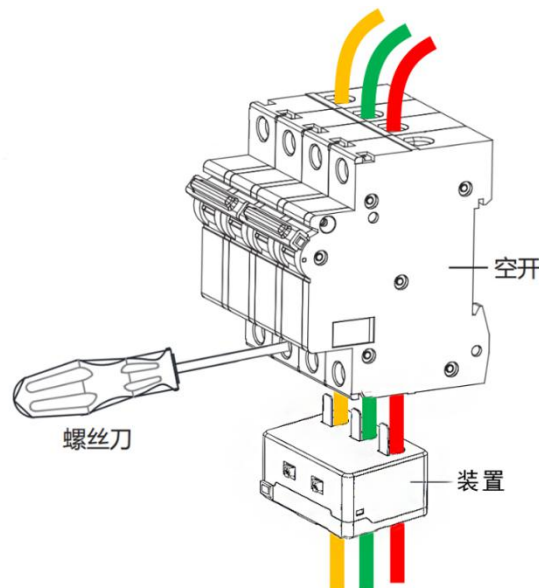


Figure 5 Device wiring diagram

4.4. Installation method

Figure 6 is an example of AESP100 series online monitoring device with circuit breaker and intelligent gateway installation wiring, for reference only.

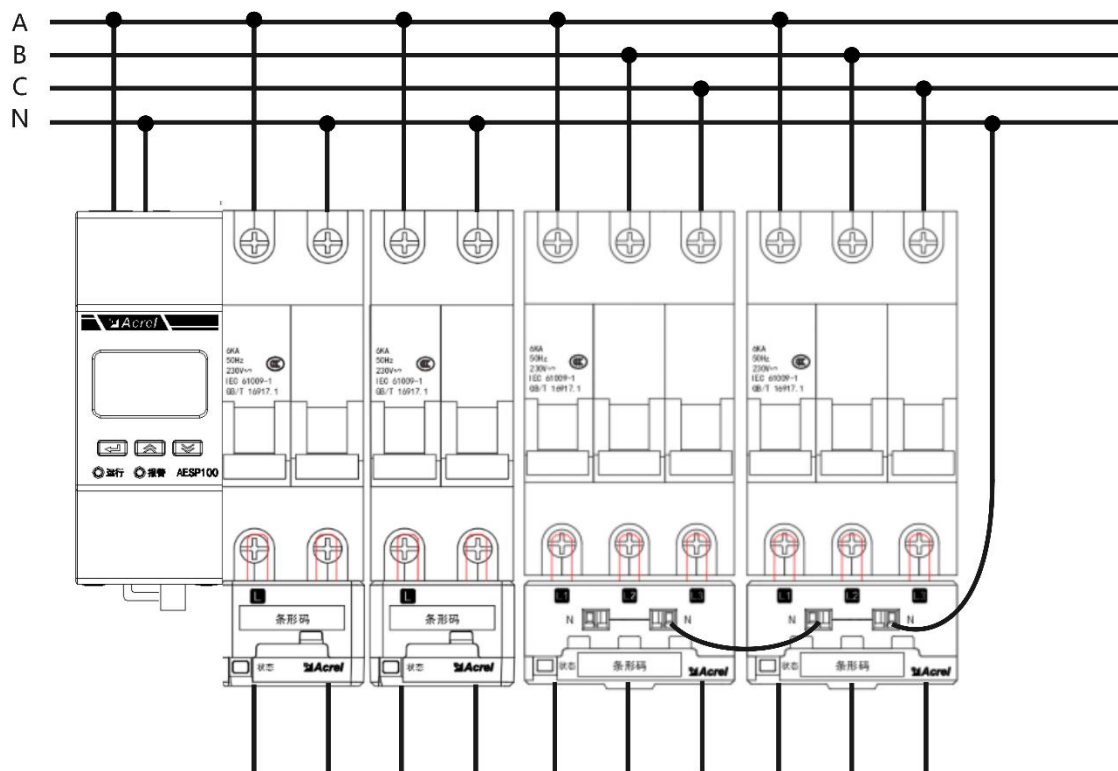


Figure 6. Device installation wiring example diagram

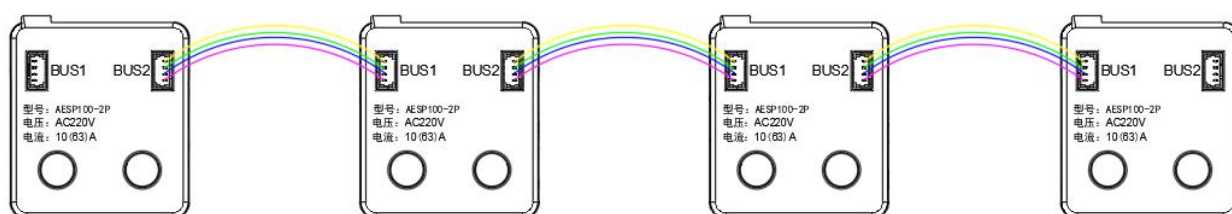


Figure 7. 4pin terminal wiring diagram

Note: Each type of device can be installed in any combination, and one gateway can connect the monitoring device with up to 16 circuits.

Figure 8 is the networking diagram of the AESP 100 series monitoring device combined with the intelligent gateway system.



Figure 8. System networking diagram

5. Use the operational guide

5.1. Description of the device indicator light

The light description:

- Green: if 2s is extinguished, 0.1s is flashing, normal operation state;
- Red: if 2s is out, 0.1s flashing, temperature failure;
- Red: if 0.5s interval flashing, alarm;
- Red: if often bright, it means that the device measures the voltage in the circuit;
- Enter the automatic allocation address, the traffic light 0.5s flashing, assign the address, according to the actual status display;

5.2. Description of intelligent gateway key panel and indicator light



Figure 9. Smart Gateway key panel diagram

Keynote:

- : Confirm or return to the key;

- ▲: Up page;
- ▼: Next page;

Instructions for indicator light:

- Green light: 2s off, 0.1s flashing, running state;
- Red: if 2s is out, 0.1s flashes, there is a loop fault;
- Red: if the 0.5s interval flashes, there is a loop alarm;

5.3. Interface operation

5.3.1. Current device status display

After the device is powered on, the device status of each device number can be checked by turning the ▲ and ▼ keys on the smart gateway panel. The device status interface is shown below.

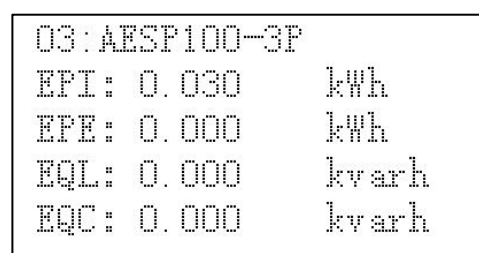


Note: The status definition table is as follows.

definition symbol		
report to the police	alarm free	Have the alarm
early warning	No early warning	Have early warning
hitch	trouble-free	out-of-order
voltage	There is no voltage in the loop	There is voltage in the loop

5.3.2. Display of the electrical parameter data of the current equipment

Press the entry key in the main interface, select "Device List", and then select the device that needs to view the data. Press the entry key, and you can turn the page through the ▲ key and the ▼ key. The following figure shows the energy parameter data display interface.

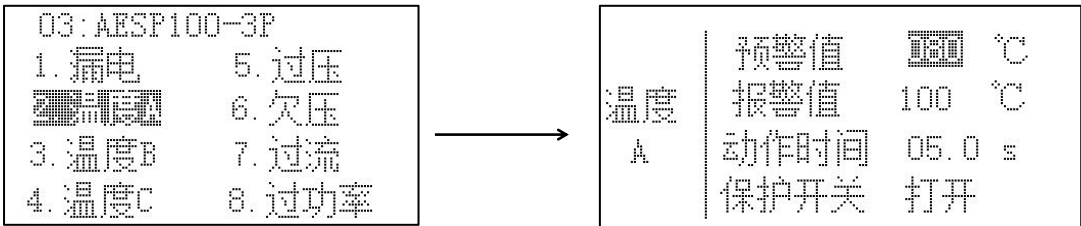


EPI represents the absorbed active energy value, EFE represents the released active

energy value, EQL represents the inductive reactive energy value, and EQC represents the capacitor reactive energy value.

5.3.3. Display and setting of the current equipment protection parameters

Press the return key in the main interface, select "Equipment List", press the Enter key, select the circuit to set the protection parameters, such as "03: AESP100-3P", press the return key twice, select "parameter setting" and press Enter key, enter the password "0001", select "protection setting", press the Enter key, you can select the protection parameters for viewing.

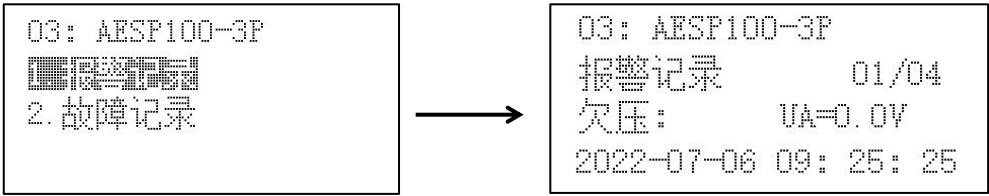


Notice:

- 1, through the ▲ key, ▼ key can be on the leakage, temperature, overvoltage, overvoltage, overcurrent, overpower modification or setting.
- 2, temperature: detect the temperature in a short time, exceed the alarm value to alarm, the time and threshold can be adjusted with the actual.
3. Leakage: detect the residual current in a short time, exceed the alarm value for alarm, the time and threshold can be adjusted with the actual.
- 4, overvoltage, undervoltage: detect the voltage in a short time, exceed the alarm value for alarm, the time and threshold value can be adjusted with the actual.
- 5, overcurrent: detect the current in a short time, exceed the alarm value to alarm, the time and threshold can be adjusted with the actual.
- 6, Overpower: detection power, exceed the alarm value to alarm, the time and threshold can be adjusted with the actual.

5.3.4. Query of the current device event record

Return to the home page of the gateway, select "Device List", select the loop to view the event record, such as "03: AESP100-3P", press the return key twice, select "Event record" and press the return key to view the alarm and fault records.



Notice:

- 1) The data "01" in the upper right corner of the alarm record indicates the first data, and the subsequent alarm record can be " 02,03.....20 "(up to 20); the number after" 01 " indicates the current number of alarm records.
- 2) The data "01" in the upper right corner of the fault record indicates the first data, and the subsequent alarm record can be " 02,03.....20 "(up to 20); the number after" 01 " indicates the number of current fault records.
- 3) For data recording, press ▲ left and ▼ right to switch the interface.

5.3.5. Display of the current device network information

Return to the home page and select "3. Network Information" as shown in the figure.

```
2022-07-06 09: 27: 25
State: 87
Tx: 38
Rx: 36
Rssi: 16
```

(1)

Under the information interface (1) interface, there are four values displayed, meaning as follows:

- Rssi: The current signal value is displayed after Rssi
- State: State shows the state of the current module, there are ten states of 0~9, among which the number corresponding to 0~9 are as follows

- ◆ 0 Initialization
- ◆ 1 and obtained the IMEI serial number
- ◆ 2 Check the SIM card to obtain the card number
- ◆ 3. Set up the network mode
- ◆ 4 Wait for the GPRS to attach
- ◆ 5 Check the signal value
- ◆ 6. Set up the networking mode
- ◆ 7 Connect to the server
- ◆ 8 The server is already connected
- ◆ 9 Close the server connection

- TX: The number of sent data is displayed after TX
- Rx: The number of received data is displayed after Rx

```
2022-07-06 09: 28: 25
域名: 101.37.151.118
端口号: 20071
```

(2)

Information interface (2) interface, the first row shows the domain name (if the domain name is not set, no display),

The second row shows the port number of the connecting server.

```
20223-02-03 11:35:55
软件编号: 2856
版本号: V101
序列号: 32028119921234
设备: AE5P100-MS-4G
```

(3)

Information interface (3) interface, display the software number, version number and serial number.

6. Communication protocol

6.1 Introduction of the function code

6.1.1 Function code 03H: Read the register

This function allows the user to obtain the data collected and recorded by the device and the system parameters. There is no limit to the number of data requested by the host at a time, but it cannot exceed the defined address range.

The following example is the reading of A, B, three-phase voltages of C (each address in the data frame represents 1 register, occupying 2 bytes) from the device of address 01, where the address of phase A voltage is 0032H ~0033H (voltage value 219.9V), the address of phase B voltage is 0034H ~0035H (voltage value 220.0V), and the address of phase C voltage is 0036H ~0037H (voltage value 220.1V).

Host sent		transmitted information transmitted data
address code		01H
FC		03H
start address	high byte	00H
	lower byte	32H
Number of registers	high byte	00H
	lower byte	06H
CRC, check code	lower byte	64H
	high byte	07H

Return from the machine		return information
address code		01H
FC		03H
Byte number		0C H
0032H Register data	high byte	66H
	lower byte	E6H
0033H Register data	high byte	5B H
	lower byte	43H
0034H Register data	high byte	00H
	lower byte	00H
0035H Register data	high byte	5C H
	lower byte	43H
0036H Register data	high byte	99H
	lower byte	19H
0037H Register data	high byte	5C H
	lower byte	43H
CRC check code	lower byte	CB H
	high byte	DD H

6.1.2 Function code 10H: Write the register

The function code 10H allows the user to change the contents of the multiple registers.

The following example is to set the leakage protection parameter of the device with address 01, the protection switch is opened and the switch is connected, the warning value is set to 20 mA, the alarm value is set to 30 mA, and the alarm time is set to 5s. The address of leakage alarm type is 0208H, the address of leakage warning value is 0209H, the address of leakage alarm value is 020 AH, and the address of leakage alarm time is 020 BH. (Each address in the data frame represents 1 register, occupying 2 bytes)

Host sent		transmitted information transmitted
-----------	--	-------------------------------------

Return from the machine		return information
-------------------------	--	--------------------

		er data
address code		01H
FC		10H
start address	high byte	02H
	lower byte	08H
Number of registers	high byte	00H
	lower byte	04H
Byte number		08H
0208H To be written to the data	high byte	00H
	lower byte	03H
0209H To be written to the data	high byte	00H
	lower byte	14H
020A H To be written to the data	high byte	00H
	lower byte	1E H
020B H To be written to the data	high byte	00H
	lower byte	32H
CRC check code	lower byte	B2H
	high byte	37H

address code		01H
FC		10H
start address	high byte	02H
	lower byte	08H
Number of registers	high byte	00H
	lower byte	04H
CRC check code	lower byte	41H
	high byte	B0H

6.2 Real-time data address table

Data type description: Byte: unsigned 8-bit data, char: character type 8-bit data, Word: unsigned 16-bit data, ushort: unsigned 16-bit data, float: floating point type 32-bit data.

order number	address	parameter	r e a d - w r i t e	description	type
1	0x0000	year	R	0-99 (actual need + 2000)	Byte
		moon	R	1-12	Byte
2	0x0001	sun	R	1-31	Byte
		time	R	0-23	Byte
3	0x0002	component	R	00-59	Byte

		second	R	00-59	Byte
4-10	0x0003~0x0009	Serial Number (14 bytes)	R	The 14 characters form the product number	char
11	0x000A	obligate	R		ushort
12	0x000B	Leakage temperature forecast warning sign position	R	Bit 0: electric leakage channel; Bit 1-Bit 4: Temperature channel 1-4; 1: Alert; 0: Normal	ushort
13	0x000C	Power forecast alarm sign position	R	Bit 0: Overpower state bit; 1: Alert; 0: Normal	ushort
14	0x000D	Voltage forecast alarm position	R	Bit 0: Overvoltage state position; 1: Alert; 0: Normal	ushort
15	0x000E	Current forecast alarm position	R	Bit 0: Overcurrent state bit; 1: Alert; 0: Normal	ushort
16-17	0x000F~0x0010	obligate	R		
18	0x0011	Current signal value	R	Values of 0 - 99. 99 or 0 indicates no current signal; In other cases, larger values indicate a better signal	ushort
19	0x0012	The current model	R	High Bytes: 2:2P 3:3P lower byte:	ushort
20	0x0013	Leakage temperature wiring fault marker position	R	Bit 0: leakage channel state position (hardware); Bit 1-Bit 4: temperature channel 1-4 state position; 1: Abnormal; 0: Normal	ushort
21	0x0014	Leakage temperature alarm sign position	R	Bit 0: electric leakage channel; Bit 1-Bit 4: Temperature channel 1-4; 1: Alert; 0: Normal	ushort
22	0x0015	Power alarm sign position	R	Bit 0: Overpower state bit; 1: Alert; 0: Normal	ushort
23	0x0016	Voltage alarm sign position	R	Bit 0: Overvoltage state position; Bit 8: undervoltage state position; 1: Alert; 0: Normal	ushort
24	0x0017	Current alarm sign position	R	Bit 0: Overcurrent state bit; 1: Alert; 0: Normal	ushort
25	0x0018	current state	R	Bit 0:1: upper end closing; 0: The upper end of the gate	ushort
26	0x0019	obligate	R/ W		ushort
27-28	0x001A~0x001B	Residual current measurements	R	The units are mA	float
29-30	0x001C~0x001D	Temperature 1 measurement	R	The unit is ℃	float

31-32	0x001E~0x001F	Temperature 2 measurements	R	The unit is °C	float
33-34	0x0020~0x0021	Temperature 3 measurements	R	The unit is °C	float
35-36	0x0022~0x0023	Temperature 4 measurements	R	The unit is °C	float
37-38	0x0024~0x0025	Measure the value during the residual current alarm	R	The units are mA	float
39-40	0x0026~0x0027	Measure the value when the temperature 1 alarms	R	The unit is °C	float
41-42	0x0028~0x0029	Measure the value when the temperature 2 alarms	R	The unit is °C	float
43-44	0x002A~0x002B	Measure the value when the temperature 3 alarm	R	The unit is °C	float
45-46	0x002C~0x002D	Measure the value when the temperature 4 alarm	R	The unit is °C	float
47-48	0x002E~0x002F	frequency	R	The unit is Hz	float
49-50	0x0030~0x0031	Voltage imbalance	R	The unit is%	float
51-52	0x0032~0x0033	Phase A phase voltage	R	The unit is V	float
53-54	0x0034~0x0035	Phase B phase voltage	R	The unit is V	float
55-56	0x0036~0x0037	Phase C phase voltage	R	The unit is V	float
57-58	0x0038~0x0039	The average phase voltage	R	The unit is V	float
59-60	0x003A~0x003B	residual voltage	R	The unit is V	float
51-52	0x003C~0x003D	AB phase line voltage	R	The unit is V	float
53-54	0x003E~0x003F	BC phase line voltage	R	The unit is V	float
55-56	0x0040~0x0041	CA phase line voltage	R	The unit is V	float
57-58	0x0042~0x0043	Line voltage average	R	The unit is V	float
69-70	0x0044~0x0045	A The alarm measurement value during phase overvoltage	R	The unit is V	float
71-72	0x0046~0x0047	B Alarm measurement value during phase overvoltage	R	The unit is V	float
73-74	0x0048~0x0049	C Alarm measurement during phase overvoltage	R	The unit is V	float
75-76	0x004A~0x004B	Alarm measurement in phase A	R	The unit is V	float
77-78	0x004C~0x004D	B alarm measurement during phase undervoltage	R	The unit is V	float

79-80	0x004E~0x004F	C alarm measurement during phase undervoltage	R	The unit is V	float
81-82	0x0050~0x0051	Current imbalance	R	The unit is%	float
83-84	0x0052~0x0053	Phase A current measurements	R	The unit is A	float
85-86	0x0054~0x0055	Phase B current measurements	R	The unit is A	float
87-88	0x0056~0x0057	The C-phase current measurement value	R	The unit is A	float
89-90	0x0058~0x0059	Current average	R	The unit is A	float
91-92	0x005A~0x005B	zero-sequence current	R	The unit is A	float
93-94	0x005C~0x005D	Alarm measurement value during phase A overflow	R	The unit is A	float
95-96	0x005E~0x005F	B alarm measurement during phase over@@	R	The unit is A	float
97-98	0x0060~0x0061	C. Alarm measurement value during phase overload	R	The unit is A	float
99-100	0x0062~0x0063	Phase A active power	R	The units are kW	float
101-102	0x0064~0x0065	Phase B active power	R	The units are kW	float
103-104	0x0066~0x0067	C phase active power	R	The units are kW	float
105-106	0x0068~0x0069	Total active power	R	The units are kW	float
107-108	0x006A~0x006B	Phase A reactive power	R	The unit is in kvar	float
109-110	0x006C~0x006D	Phase B reactive power	R	The unit is in kvar	float
111-112	0x006E~0x006F	Phase C reactive power	R	The unit is in kvar	float
113-114	0x0070~0x0071	Total reactive power	R	The unit is in kvar	float
115-116	0x0072~0x0073	A is looked at at the power	R	The units are kVA	float
117-118	0x0074~0x0075	B looks at each other in power	R	The units are kVA	float
119-120	0x0076~0x0077	C looks at each other in power	R	The units are kVA	float
121-122	0x0078~0x0079	Always see in power	R	The units are kVA	float
123-124	0x007A~0x007B	Phase A power factor	R		float
125-126	0x007C~0x007D	Phase B power factor	R		float
127-128	0x007E~0x007F	Phase C power factor	R		float
129-130	0x0080~0x0081	Total power factor	R		float
131-132	0x0082~0x0083	EPI measured value	R	Input active power in kWh	float
133-134	0x0084~0x0085	EPE measured value	R	Output active power in kWh	float
135-136	0x0086~0x0087	EQL measured value	R	Input the reactive electric energy in kvarh	float
137-138	0x0088~0x0089	EQC measured value	R	Output reactive power in kvarh	float

139-140	0x008A~0x008B	ES measured value	R	Power electricity in kVAh	float
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6.3 Address table of relevant parameters of the system setting information

order number	address	parameter	read - write	scale	type
1	0x1100 high	year	R/W	00-99	Byte
	0x1100 low	moon	R/W	1-12	Byte
2	0x1101 high	sun	R/W	1-31	Byte
	0x1101 is low	time	R/W	0-23	Byte
3	0x1102 high	component	R/W	00-59	Byte
	0x1102 is low	second	R/W	00-59	Byte
4	0x1103 high	The buzzer switch	R/W	0: Turn off the buzzer 1: Alarm only 2: alarm and fault	Byte
	0x1103 is low	Broken line short circuit detection switch	R/W	0: Test is off 1: Test is on	Byte
5	0x1104	Leakage transformer transformer ratio	R/W	According to the transformer ratio of the connected leakage current transformer	ushort
6	0x1105	address	R/W	1-247	ushort
7	0x1106	Baud rate	R/W	4800, 9600, 19200, 38400	ushort
8	0x1107	Address 2	R/W	1-247	ushort
9	0x1108	Porter rate 2	R/W	4800, 9600, 19200, 38400	ushort
10	0x1109	password	R/W	1-9999	ushort
11	0x110A	Backlit time	R/W	0 - 99 min 0 indicates constant liang	ushort
12	0x110B	LCD contrast	R/W	20 - 40, with the default of 30	ushort
13	0x110C	obligate			
14	0x110D	obligate			
15	0x110E	Wireless alarm or fault master report	R/W	0: Not report 1: Report	ushort
16	0x110F	Main message address segment length	R/W	0: No data is available as a heartbeat packet Even, send bytes, 0x00 start	
17	0x1110	Wireless active upload time	R/W	Unit s, step length 1s, default 120 (120 seconds)	ushort
18	0x1111	Server TCP port number	R/W		ushort
18-19	0x1112~0x1113	Server IP address	R/W	4 bytes correspond to IPV 4, and the domain name is enabled when all 0	byte
20-52	0x1114~0x1133	realm name	R/W	64 String	char
53	0x1134	Debugging mode	R/W	1: Commissioning mode (RS485 will fail), 0: Normal	ushort
54	0x1135	Server reconnection	R/W	Number, default 3 times, when the consecutive setting value is	ushort

				exceeded, the server reconnects	
55	0x1136	Network school	R/W	Unit day, default 1	ushort
56-65	0x1137~0x1140	The WiFi hotspot name	R/W	20 String	byte
66-75	0x1141~0x114A	The WiFi hotspot password	R/W	20 String	ushort
76-77	0x114B~0x114C	Gateway IP address	R/W	The 4 bytes correspond to the IPV 4	byte
78-79	0x114D~0x114E	subnet mask	R/W	The 4 bytes correspond to the IPV 4	byte
80-81	0x114F~0x1150	this locality IP	R/W	The 4 bytes correspond to the IPV 4	byte
82-83	0x1151	DHCP	R/W	0: DHCP off 1: DHCP on	ushort
84-86	0x1152~0x1154	MAC address	R/W	Six bytes	byte
87	0x1155	Wireless state	R/W	Low Bytes: 0: CE, 1:4G, 2: WiFi High byte: 0: Module lost contact 1 module is normal	ushort
88	0x1156	Register port number	R/W	0~65535	ushort
89-90	0x1157~0x1158	register IP	R/W	The 4 bytes correspond to the IPV 4	byte

6.4 Address table for the setting of electrical alarm parameters

order number	address	parameter	read - write	scale	type
1	0x0200	Voltage range	R/W	Unit V, default 220 (V)	Word
2	0x0201	Current range	R/W	Unit A, default 63 (A)	Word
3	0x0202	mode of connection	R/W	Default 1, generally does not change	Word
4	0x0203	Voltage ratio	R/W	Default 1, generally does not change	Word
5	0x0204	Current change ratio	R/W	Default 1, generally does not change	Word
6	0x0205	Leakage rheology ratio	R/W	Default 1, generally does not change	Word
7	0x0206	obligate			
8	0x0207	obligate			
9	0x0208	Type of leakage alarm	R/W	Bit 0 protection switch: 1 on, 0 off;	
10	0x0209	Leakage warning value	R/W	Leakage 20-1000 in mA, step length of 1 mA	Word
11	0x020A	Leakage alarm value	R/W	Leakage 20-1000 in mA, step length of 1 mA	Word
12	0x020B	Leak alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
13	0x020C	Temperature-1 alarm type	R/W	Bit 0 protection switch: 1 on, 0 off;	Word
14	0x020D	Temperature 1 warning value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
15	0x020E	Temperature 1 alarm value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
16	0x020F	Temperature 1 alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
17	0x0210	Temperature 2 alarm type	R/W	Bit 0 protection switch: 1 on, 0 off;	Word

18	0x0211	Temperature 2 warning value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
19	0x0212	Temperature 2 alarm value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
20	0x0213	Temperature 2 alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
21	0x0214	Temperature-3 alarm type	R/W	Bit 0 protection switch: 1 on, 0 off;	Word
22	0x0215	Temperature 3 early warning value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
23	0x0216	Temperature 3 alarm value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
24	0x0217	Temperature 3 police time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
25	0x0218	Temperature 4 alarm type	R/W	Bit 0 protection switch: 1 on, 0 off;	Word
26	0x0219	Temperature 4 warning value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
27	0x021A	Temperature 4 alarm value	R/W	Temperature 45-140 in °C, with a step size of 1°C	Word
28	0x021B	Temperature 4 alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
29	0x021C	Overpressure alarm type	R/W	Bit 0 protection switch: 1 on, 0 off;	Word
30	0x021D	Overpressure warning value	R/W	Range: 1000~1400 (the decimal point is 1 decimal point, that is, 100%~140%)	Word
31	0x021E	Overpressure alarm value	R/W	Range: 1000~1400 (the decimal point is 1 decimal point, that is, 100%~140%)	Word
32	0x021F	Overpressure alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
33	0x0220	Type of under-pressure alarm	R/W	Bit 0 protection switch: 1 on, 0 off;	Word
34	0x0221	Overpressure warning value	R/W	Range: 400~1000 (the decimal point is 1 decimal point, that is, 40%~100%)	Word
35	0x0222	Overpressure alarm value	R/W	Range: 400~1000 (the decimal point is 1 decimal point, that is, 40%~100%)	Word
36	0x0223	Overpressure alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
37	0x0224	Overflow alarm type	R/W	Bit 0 protection switch: 1 on, 0 off;	Word
38	0x0225	Overflow warning value	R/W	Range: 1000~1200 (the decimal point is 1 decimal point, that is, 100%~120%)	Word
39	0x0226	Overflow alarm value	R/W	Range: 1000~1200 (the decimal point is 1 decimal point, that is, 100%~120%)	Word
40	0x0227	Overflow alarm time	R/W	Range: 1~600 (decimal point is 1 decimal point in s);	Word
41	0x0228	Overpower alarm	R/W	Bit 0 protection switch: 1 on, 0	Word

		type		off;	
42	0x0229	Overpower warning value	R/W	Range: 1000~1200 (the decimal point is 1 decimal point, that is, 100%~120%)	Word
43	0x022A	Overpower alarm value	R/W	Range: 1000~1200 (the decimal point is 1 decimal point, that is, 100%~120%)	Word

7. matters need attention

- Before using the product, please check whether the appearance is in good condition. If there is damage, find the seller for replace in time.
- Wire correctly according to the instruction manual, and carefully check after the wiring to ensure the wiring is correct.

Change the record

Revised edition	Revision time	Revised terms
V1.1	2023.03	1、Modify the gateway-related parameters; Add address table

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2023.03