

AMC16Z series precision power distribution system

Installation Manual V1.0

Declaration

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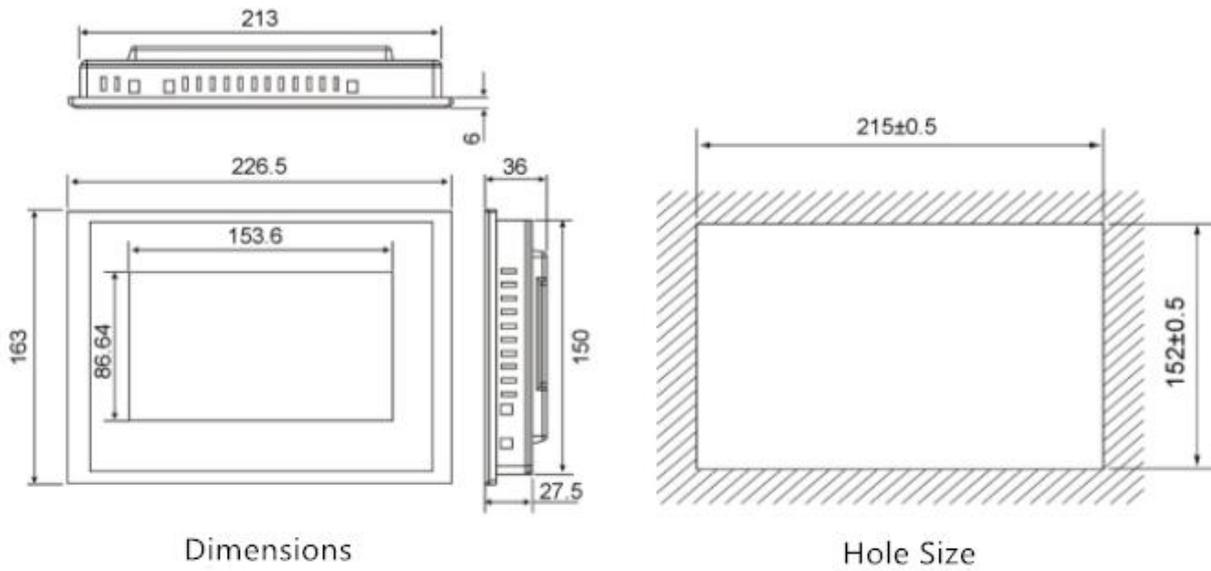
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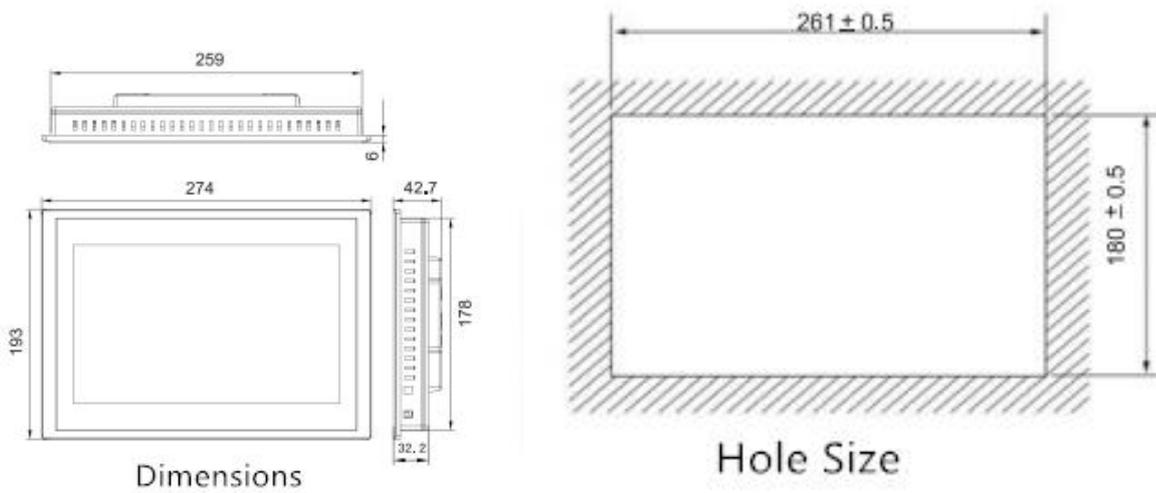
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First, Installation of touch screen

1.1 7-inch touch screen appearance and installation

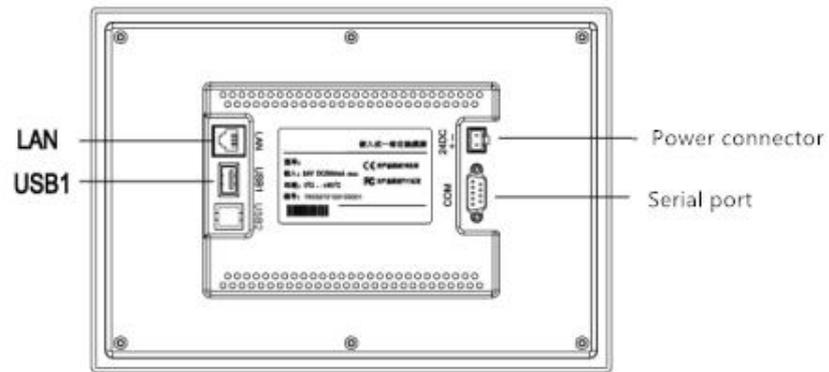


1.2 10 inch touch screen appearance and installation



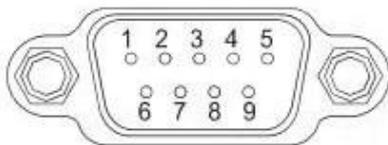
Second, touch screen interface description

Serial port (DB9) pin definition



Serial port (DB9)	2 × RS485
USB1	Main port, compatible with USB2.0 standard
LAN (RJ45)	Ethernet interface
Power connector	24V DC ±20%

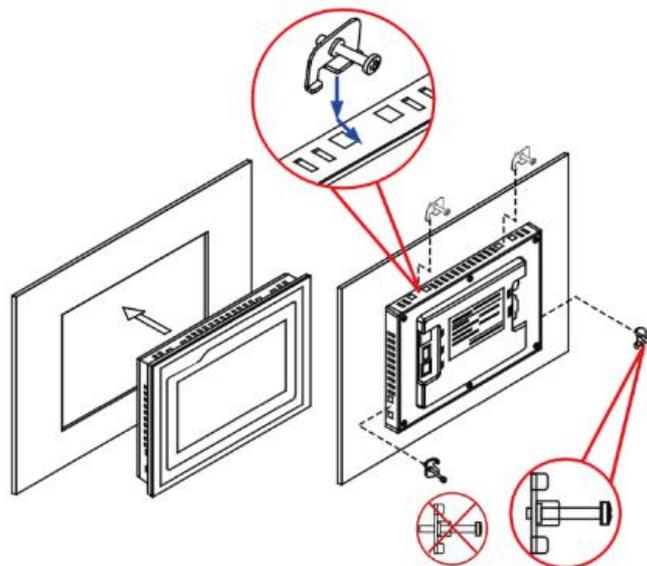
Serial port pin definition



Serial port pin definition

interface	PIN	pin definition
COM1	2	RS232 RXD
	3	RS232 TXD
	5	GND
COM2	7	RS485 +
	8	RS485 -
COM3	4	RS485 +
	9	RS485 -

Third 、 Installation

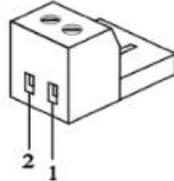


Fourth、 Wiring

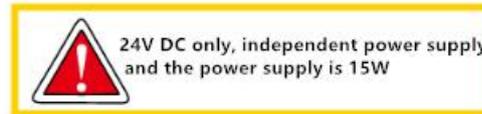
4.1 Power wiring

- Step 1: Strip the 24V power cord and insert it into the power plug terminal
- Step 2: Use a flat-blade screwdriver to tighten the power plug screws
- Step 3: Insert the power plug into the power socket of the product

schematic diagram and pin definition of the power plug are as follows

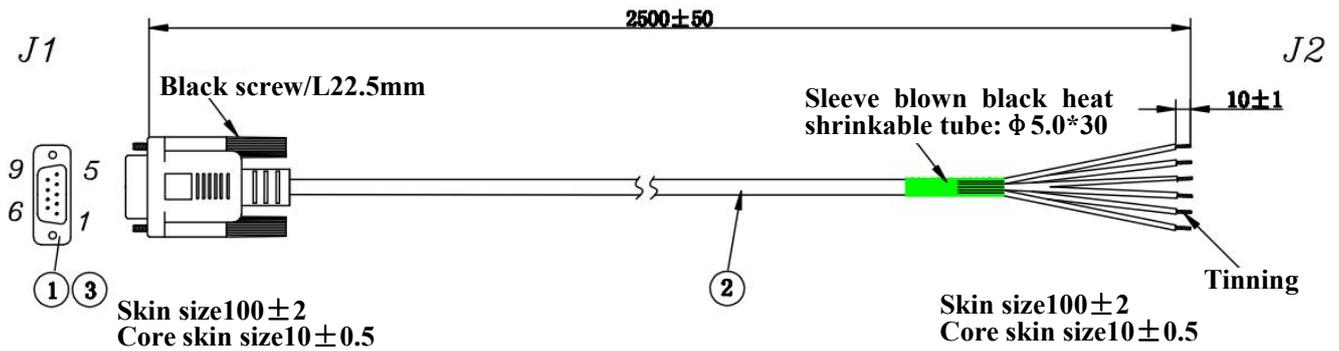


PIN	definition
1	+
2	-

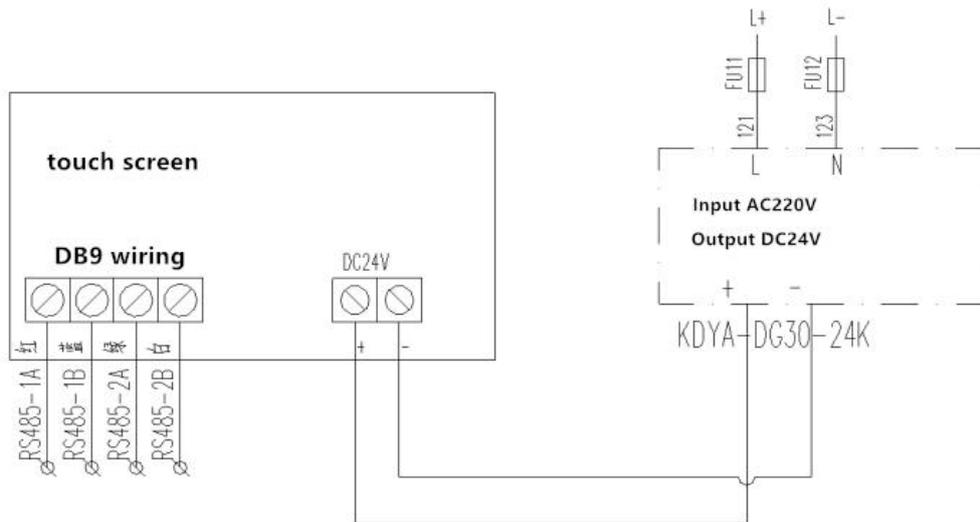


4.2 Communication wiring

There is a patch cord in the factory configuration, among which the red and blue (7-8) are downstream, which are connected to the 485 of the module, and the green and white (4-9) are upstream, and are used for rotating the ring.



Green	4	RS485+
White	9	RS485-
Red	7	RS485+
Blue	8	RS485-



Fifth、 Installation of the touch screen program

- 1、 After the application is decompressed, copy the tpcbackup folder inside to the root directory of the U disk (note that it must be the root directory).
- 2、 Power on the touch screen, and after the touch screen is started, insert the U disk into the USB port of the touch screen.
- 3、 Click "Yes".
- 4、 After clicking "Yes", click "User Project Update".
- 5、 Then a dialog box will appear, click "Start Download".
- 6、 After clicking to start downloading, the program will start to download. After it is completed, it will prompt that the download is successful. Please pull out the U disk and restart the touch screen. The program update was successful.

Sixth、 Precautions

- 1、 The output power of the switching power supply for the touch screen should be redundant. It is recommended that the output power of DC24 be above 15W;
- 2、 Separate the upstream and downstream of the communication wiring adapter;
- 3、 When users update the touch screen program by themselves, they must strictly follow the operation steps and don't mess around;
- 4、 After the program is downloaded, unplug the U disk containing the update package in time;
- 5、 The format of the U disk used by the update program must be FAT32.

Touch screen program instruction manual AC part

1. parameters, functions, and operations

1.1 Main circuit parameters

The screenshot shows the 'A-Main' parameter interface. At the top left is the 'Acrel' logo. To its right is a title bar with 'A-Main' in a white box. Further right are 'Date' (2021-05-25 14:10:27) and 'Week' (—) fields. Below this is a table of parameters with columns for Phase A/AB, Phase B/BC, Phase C/CA, and All/Imbalance%. The table contains 20 rows of data. Below the table is a row of navigation buttons: Outlet, Alarm, Switch, Login, B-Main Data, MAX demand, Harmonic, Month.Ep, Settings, and a User: field.

Parameter	Phase A/AB	Phase B/BC	Phase C/CA	All/Imbalance%
Phase U/V	0.0	0.0	0.0	----
Line U/V	0.0	0.0	0.0	nan
Phase I/A	0.0	0.0	0.0	nan
Load Percentage/%	0	0	0	----
Active P/kW	0.00	0.00	0.00	0.00
Reactive P/kVar	0.00	0.00	0.00	0.00
Apparent P/kVA	0.00	0.00	0.00	0.00
Power Factor/φ	0.000	0.000	0.000	0.000
Active E/kWh	0.00	0.00	0.00	0.00
Reactive E/kVarh	0.00	0.00	0.00	0.00
Fre/Hz	0.00	Leakage I/mA	0	----
Zero to Ground U/V	0.0	Temperature/°C	0.0	----
Zero Sequence I/A	0.0	Humidity	0.0	----
Fundamental P/kW	0.00	0.00	0.00	0.00
Harmonic P/kW	0.00	0.00	0.00	0.00
Fundamental Ep/kWh	0.00	0.00	0.00	0.00

Navigation buttons: Outlet, Alarm, Switch, Login, B-Main Data, MAX demand, Harmonic, Month.Ep, Settings, User: _____

As shown in the figure, the first interface after the touch screen is turned on is the main line parameter interface. If there are multiple incoming lines, you can click the button in the lower right corner to switch to view other incoming line parameters.

1.2 Branch parameters

In the main road parameter interface, click "branch road parameter" to enter.

If there are multiple discharge lines, first enter the corresponding main circuit in the main circuit parameter interface, and then click "branch parameter".

L	Load	I/A	P/kW	Q/kVar	S/kVA	PF	EP/kWh	EQ/kVarh	U/V	Load	Limits
01	L01	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
02	L02	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
03	L03	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
04	L04	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
05	L05	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
06	L06	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
07	L07	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
08	L08	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
09	L09	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
10	L10	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
11	L11	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
12	L12	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
13	L13	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
14	L14	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
15	L15	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
16	L16	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
17	L17	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A
18	L18	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.0	0.0%	60A

Main data

Next

The meaning of the title from left to right are:

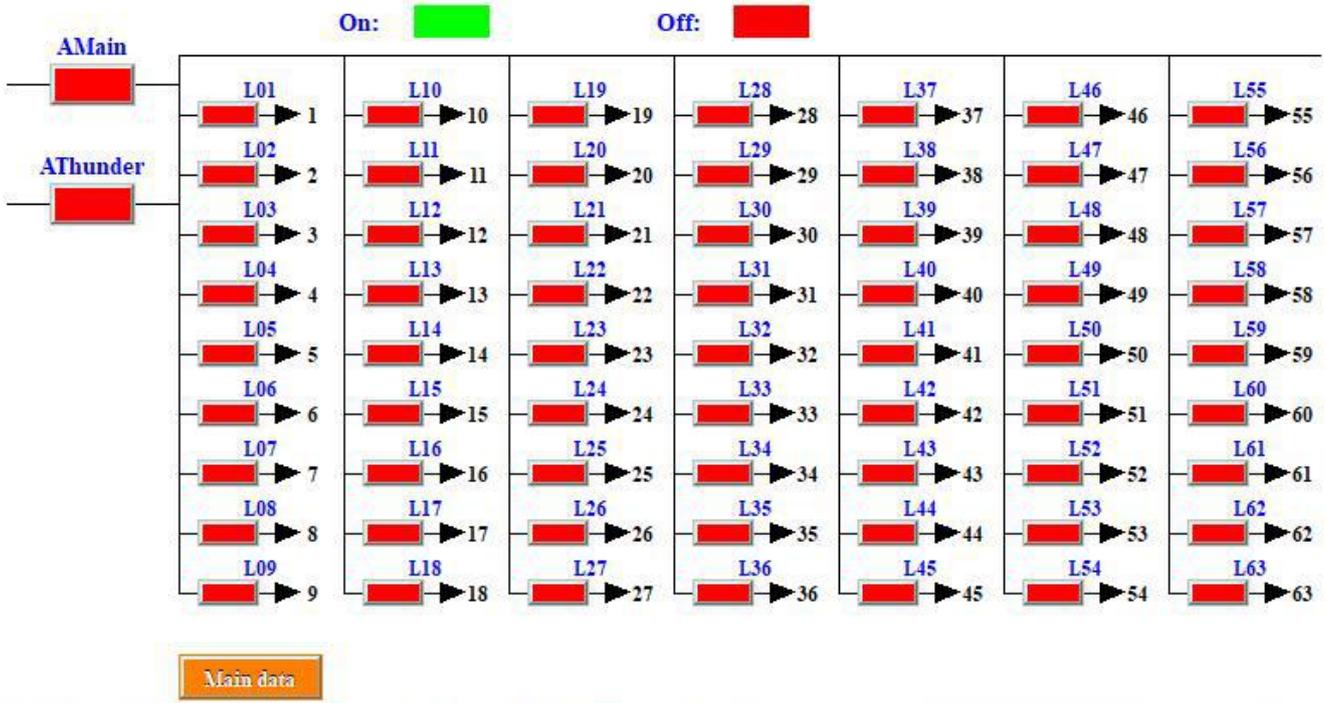
Branch number, circuit name/load name, current, active power, reactive power, apparent power, power factor, active energy, reactive energy, voltage, load rate, a section of overload current alarm limit value.

Among them, a section of the overload current alarm limit value can be modified by the user according to their own needs. For the modification method, please refer to the "parameter setting" section below.

1.3 switch status

The switch status interface is the intuitive switch display system diagram of the main branch. Click "Switch Status" on the main circuit parameter interface to enter.

If there are multiple discharge lines, first enter the corresponding main circuit in the main circuit parameter interface, and then click "Switch Status".



1.3.1 Main circuit switch status

The leftmost column is the main circuit switch status. The main circuit switch status is collected by the main module (AMC16Z-ZA). The ones with the words "main circuit" and "standby circuit" are OF+SD points, the auxiliary contacts of the main circuit. The word "lightning protection" is the switch state of the lightning protection device. SD/switch opening status is not displayed.

The different user field wiring will cause the required fault status to correspond to the different module acquisition status. The main switch status displayed on this interface is unified as "fault display is red, normal display is green". If the user does not meet the test results, you need to check whether the switch alarm settings are set correctly according to the needs based on the alarm information.

1.3.2 Branch switch status

The switch status of the main circuit is the branch switch status, which is collected by AMC16Z-FAK. Green means closed, and red means separated.

1.4 User login

Some functions require different permissions. If you need to set alarm parameters, you can log in to the person in charge or Admin;

If you need to view the content management interface to view order information such as the software number, you need to log in to Admin. The login method is as shown below.

Acrel A-Main Date 2021-05-25 14:12:02

Parameter	Phase A/AB
PhaseU/V	0.0
LineU/V	0.0
Phase I/A	
Load Percentage/%	
ActiveP/kW	
ReactiveP/kVar	
Apparent P/kVA	
Power Factor/φ	
ActiveE/kWh	
ReactiveE/kVarh	
Fre/Hz	
Zero to Ground U/V	
Zero Sequence I/A	
Fundamental P/kW	0.00
Harmonic P/kW	0.00
Fundamental Ep/kWh	0.00

User login

User login

- 负责人 (3)
- 工程师
- 技术员
- Admin
- 万能用户

User password: 密码 123

Logout way: Online timeout

Online time: 0

User description: Administrator

USB login Login (5)

Outlet Alarm Switch Login (1) B-Main Data

MAX demand Harmonic Month Ep Settings User:

Acrel A-Main Date 2021-05-25 14:12:33

Parameter	Phase A/AB
PhaseU/V	0.0
LineU/V	0.0
Phase I/A	
Load Percentage/%	
ActiveP/kW	
ReactiveP/kVar	
Apparent P/kVA	
Power Factor/φ	
ActiveE/kWh	
ReactiveE/kVarh	
Fre/Hz	
Zero to Ground U/V	
Zero Sequence I/A	
Fundamental P/kW	0.00
Harmonic P/kW	0.00
Fundamental Ep/kWh	0.00

User login

User login

- 负责人
- 工程师
- 技术员
- Admin (3)
- 万能用户

User password: 10000

Logout way: Online timeout

Online time: 0

User description:

USB login Login (5)

Outlet Alarm Switch Login (1) B-Main Data

MAX demand Harmonic Month Ep Settings User:

1.5 Maximum demand

The maximum demand is the maximum value of the historical average value of the incoming current and power.

	I/A	Year	Month	Day	Hour	Minute	Second
A-A	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-B	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-C	<input type="text" value="0.00"/>	<input type="text" value="0"/>					

	P/KWh	Year	Month	Day	Hour	Minute	Second
A-A	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-B	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-C	<input type="text" value="0.00"/>	<input type="text" value="0"/>					

Main data

Demand Time Set

Value Cur

Minute

Demand Clear

Save

You can set the "demand time setting" to adjust the frequency of average statistics.

1.6 Harmonic parameters

Click "Harmonic Parameters" on the main circuit parameter interface to enter. You can view the main circuit voltage, current total harmonics, and each branch current total harmonics. Click "Incoming Harmonic Components" to view the voltage and current subharmonics of the main circuit up to 2~63 times.

Main Harmonic total(%)

UaH	<input type="text" value="0%"/>	IaH	<input type="text" value="0%"/>
UbH	<input type="text" value="0%"/>	IbH	<input type="text" value="0%"/>
UcH	<input type="text" value="0%"/>	IcH	<input type="text" value="0%"/>

Outlet Harmonic total(%)

L01	L02	L03	L04	L05	L06	L07	L08	L09	L10	L11	L12
0	0	0	0	0	0	0	0	0	0	0	0
L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24
0	0	0	0	0	0	0	0	0	0	0	0
L25	L26	L27	L28	L29	L30	L31	L32	L33	L34	L35	L36
0	0	0	0	0	0	0	0	0	0	0	0
L37	L38	L39	L40	L41	L42	L43	L44	L45	L46	L47	L48
0	0	0	0	0	0	0	0	0	0	0	0

Main data

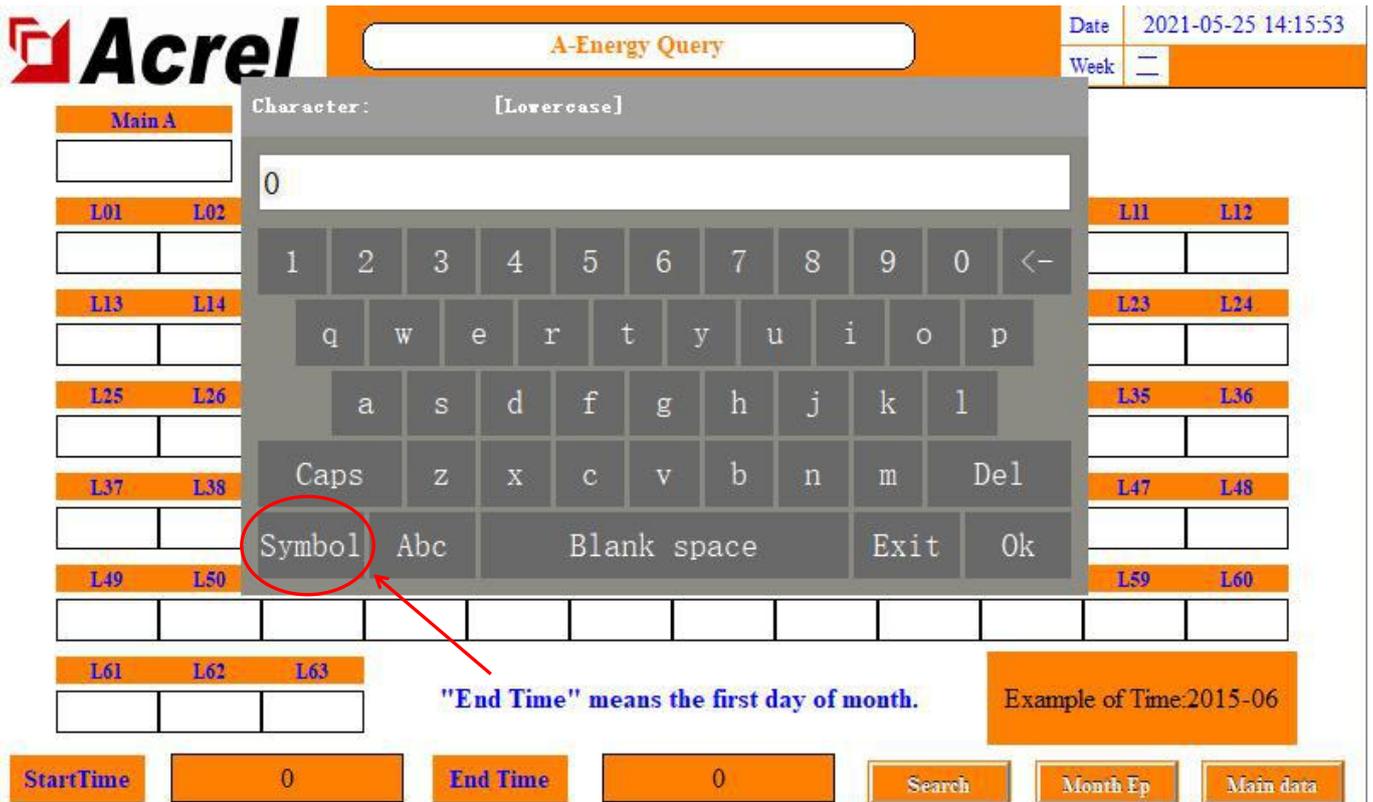
Main harmonic component

Next

1.7 Monthly electric energy

Click "Monthly Energy" in the main circuit parameter interface to enter. You can view the monthly energy of each phase and branch of the main circuit. Drag the progress bar or click "Previous" or "Next" to view further. The displayed electrical energy is the electrical energy of the previous month. For example, 2015-05 represents the electrical energy before May 1, 2015, that is, the electrical energy in April.

To query the electric energy for a period of time, you can click the "Energy Query" button on this interface, enter the beginning and ending months according to the format example, and enter the "-" in the symbol.



It should be noted that the end time refers to the first day of the input month. For example, inputting 2015-05 means May 1, 2015, that is, the energy statistics in April and before.

1.8 parameter settings

Click "Parameter Setting" to enter from the main road parameter interface.

1.8.1 Main circuit parameter setting

If there are multiple incoming lines, you can click the button in the lower right corner to switch and set the parameters of other incoming lines. The parameters common to multiple incoming lines can only be set in the first interface.

Voltage Alarm Set				MainOverLoad Set				0-GND U	
	Loss	Under	Over		First	Second	Limit		Value
Main A	10V	187V	242V	Main A	192A	256A	320A	IA-IO	300A
Main B	10V	187V	242V	Main B	192A	256A	320A	Temp.	60°C
Main C	10V	187V	242V	Main C	192A	256A	320A	Humidity	90RH
								LeakageI	300mA

CT Ratio		Over Power		Phase unbalance		Fre. Alarm		Hmi Address
	Value		Value		Value	Under	Over	Value
CT A	50	Main A	42.24kW	U	33%	47Hz	53Hz	1
CT B	50	Main B	42.24kW	I	330%			
CT C	50	Main C	42.24kW					

Overload Settings	60%
Second Overload Settings	80%

Device add
Load Num
Clear E
Chinese

B-Settings

Main data
TimeSet
Load Set

CT Ratio
PhaseSet
SwitchAlm
Save

You can selectively use the alarm function according to your own needs. If an unnecessary alarm is triggered, you can modify the alarm value to make the alarm disappear. The specific modification method can refer to the following description.

After the parameter setting is completed, you must click "Save Settings" before normal use and power-off save.

1.8.1.1 Voltage alarm setting

This part can set the voltage alarm value of each phase of the main line incoming line. The system has default values, which can be modified according to your own needs.

Phase loss means that when the phase voltage is lower than the set parameter, the phase loss alarm will be triggered.

Undervoltage means that when the voltage of this phase is higher than the parameter set by the lack of phase, and lower than the parameter set by the undervoltage, the phase voltage undervoltage alarm will be triggered.

Overvoltage means that when the phase voltage is higher than the set parameter, the phase voltage overvoltage alarm will be triggered.

1.8.1.2 Incoming line overload alarm setting

This part can set the load alarm value of each phase of the main line incoming line, divided into one and two levels.

The rated value has been preset according to the drawing when leaving the factory. The first-stage alarm value and the second-stage alarm value have been preset by the rated value algorithm. The first-stage alarm value=rated value*60%, and the second-stage alarm value=rated value*80%. If the drawing is not clear or the actual application changes, you can modify it yourself.

When the current of this phase is greater than the set value, it will trigger the first/second stage overload alarm. It should be noted that when the second stage overload is triggered, the first stage alarm will not be triggered.

1.8.1.3 Current ratio setting

In this part, the CT value of the current transformation ratio can be set. Set the parameters of this part according to the value of the transformer. Take the 50A/5A transformer as the standard value and set the value to 10. If it is a 400A/5A transformer, the set value is 80 (5A on the outlet side).

It has been preset according to the drawings when leaving the factory, and there should be changes in the actual, you can modify it according to the above rules.

1.8.1.4 Power overload setting

This part can set the power alarm value. The system will get a default value according to the preset load and voltage, which can be modified according to its own needs.

When the power of this phase is greater than the set parameter, it will trigger the frequency overrun alarm.

1.8.1.5 Three-phase unbalanced setting

This part can set the incoming line current and voltage three-phase unbalance alarm value.

When the current/voltage unbalance is greater than the set parameters, the current/voltage three-phase unbalance alarm will be triggered

1.8.1.6 Frequency alarm setting

This part can set the frequency alarm value. The system has default values, which can be modified according to your own needs.

Under frequency means that when the frequency is less than the set parameter, the under frequency alarm will be triggered.

Over frequency means that when the frequency is greater than the set parameter, it will trigger the frequency over limit alarm.

1.8.1.7 Zero-ground voltage

In this part of the setting, when the zero-ground voltage is greater than the set parameter, the zero-ground voltage over-limit alarm will be triggered.

1.8.1.8 Zero sequence current

In this part of the setting, when the zero sequence current is greater than the set parameter, the zero sequence current over limit alarm will be triggered.

1.8.1.9 temperature

This part of the setting, when the cabinet temperature is greater than the set parameters, it will trigger the temperature over-limit alarm.

1.8.1.10 humidity

This part of the settings, when the humidity is greater than the set parameters, it will trigger the humidity over-limit alarm.

1.8.1.11 Leakage

In this part of the setting, when the leakage current is greater than the set parameter, the leakage current over-limit alarm will be triggered.

1.8.1.12 Outgoing overload alarm setting

This part is set as the load alarm percentage on the outgoing side, and it is classified into one and two stages, similar to 1.8.1.2. The default is 60% and 80%, and the overload alarm value is calculated with the outgoing load rating, that is, the overload of the first stage of the outgoing line = the rated value of the outgoing load * 60%, the overload of the second stage of the outgoing line = the rated value of the outgoing load * 80%, according to your needs modify.

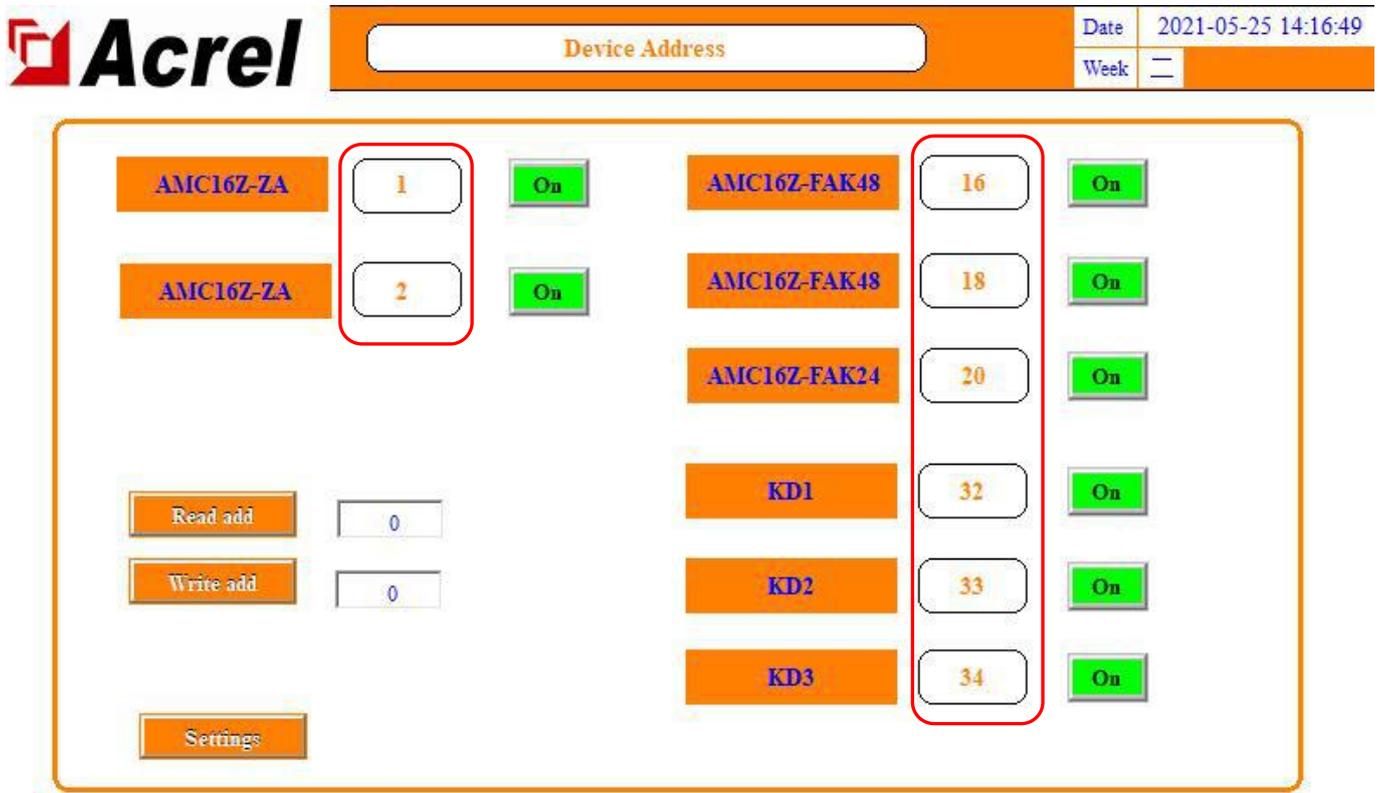
1.8.1.13 Forwarding data address

This part involves data forwarding, you can modify the forwarding data address by yourself, please refer to the following for details.

1.8.2 Instrument address

The internal address of the instrument has been defaulted before leaving the factory. If there is a problem that cannot communicate, and the reason for the connection is eliminated, this function can be used to view and modify the address of the instrument.

Click "Instrument Address" in the parameter setting interface to enter.



As shown in the figure, this part is the correct address of the instrument. If the address of the instrument is not the address marked, or if the address of the instrument is repeated, it will cause an error.

View the actual instrument address: first disconnect all module communications, connect only the target instrument that needs to view the address, click "read address", and the address of the instrument is displayed on the right. (If it is not possible to read the address of the instrument under the premise that all module communications have been disconnected and there is no problem with the wiring, further investigation is required.)

Modify the actual instrument address: Disconnect the communication of all modules, connect only the target instrument that needs to view the address, enter the communication address of the instrument on the right side, and click "write address" to complete.



If there is a module in the actual application that does not need to be used but cannot shield the communication alarm, you can click the green switch button on this interface to stop the module. If you want to put it into use later, you can click again to enable the module.

1.8.3 Circuit of outgoing lines

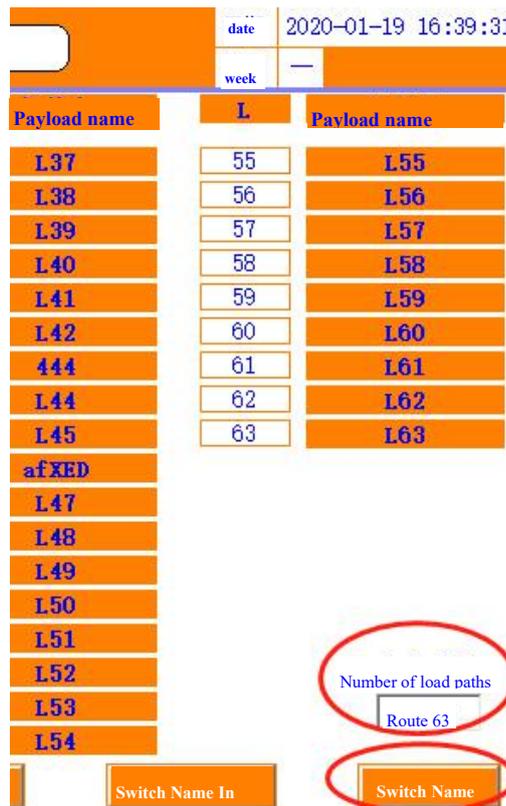
Click "Number of Outgoing Lines" in the parameter setting interface to enter. (If there are multiple outgoing lines, you need to go to the corresponding incoming line parameter setting interface and click "outgoing lines" to enter.)

The function of this part is to adjust the number of lines, the number of switches, the name of the switch, and the name of the load.

1.8.3.1 Adjust the circuit of lines and switches.

In the lower right corner of this interface, there is "load circuit number", enter the number in the input box below, and the corresponding circuit number will be displayed in the "branch circuit parameter" interface. After modification, you need to go back to the "Parameter Settings" interface and click "Save Settings" to save after power-off.

Click the "switch name" in the lower right corner to modify the number of switches, and the corresponding number of switches will be displayed in the "switch status" interface after modification. After modification, you need to go back to the "Parameter Settings" interface and click "Save Settings" to save after power-off.



1.8.3.2 Modify the switch name and load name.

There are two ways to modify: you can directly click on the label to modify, or you can use a U disk to modify in batches.

Batch Edit:

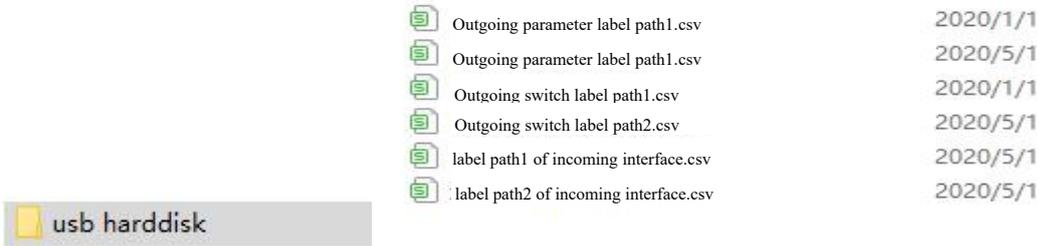
First insert the U disk behind the touch screen and click "Export Switch Name".

L	Load	L	Load	L	Load	L	Load
01	L01	19	L19	37	L37	55	L55
02	L02	20	L20	38	L38	56	L56
03	L03	21	L21	39	L39	57	L57
04	L04	22	L22	40	L40	58	L58
05	L05	23	L23	41	L41	59	L59
06	L06	24	L24	42	L42	60	L60
07	L07	25	L25	43	L43	61	L61
08	L08	26	L26	44	L44	62	L62
09	L09	27	L27	45	L45	63	L63
10	L10	28	L28	46	L46		
11	L11	29	L29	47	L47		
12	L12	30	L30	48	L48		
13	L13	31	L31	49	L49		
14	L14	32	L32	50	L50		
15	L15	33	L33	51	L51		
16	L16	34	L34	52	L52		
17	L17	35	L35	53	L53		
18	L18	36	L36	54	L54		

Buttons: Settings, LoadName ToSwitchName, SwitchNameOut, SwitchNameIn, SwitchName

LoadNum: 63

Open the U disk information on the computer and find the usb harddisk folder in the root directory. Find the content you want to change, and open the name corresponding to the modified serial number.



Then insert the U disk into the back of the touch screen and click "Import Switch Name". At this time, the names of each channel displayed on the "Branch Parameters" and "Switch Status" interfaces are already the modified names.

1.8.4 Power zero

In the "Parameter Setting" interface, click "Energy Clear", the energy of ZA and FAK will be cleared. Note that the modules that do not need to be cleared are disconnected from the communication line.

1.8.5 Set time

Click "Set Time" in the "Parameter Setting" interface to modify the current time.

1.8.6 Load rating

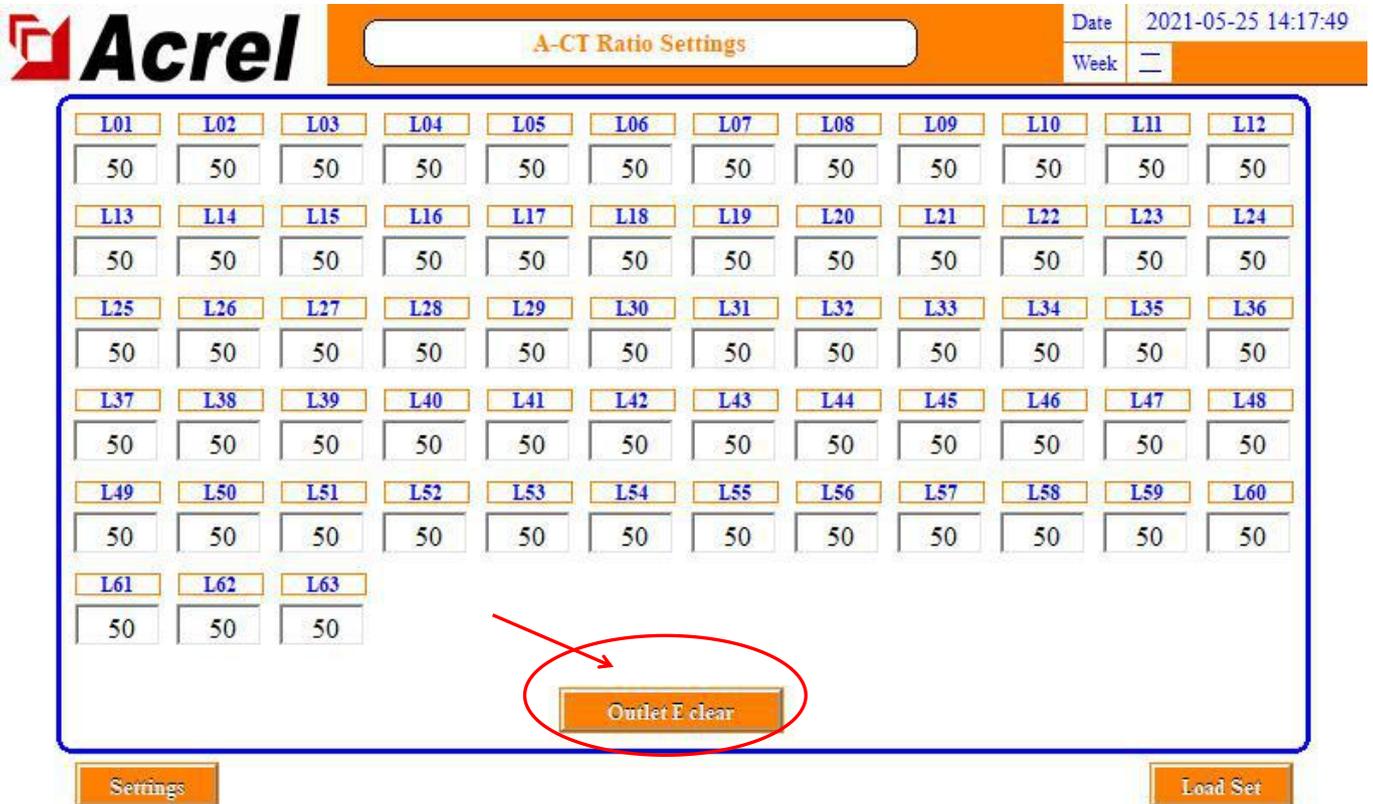
Click "Load Rating" in the "Parameter Setting" interface to modify the load rating of each line of the outgoing line. It has been preset according to the drawing when it leaves the factory. If there are changes in the actual application, you can modify it by yourself. After modification, you need to go back to the "Parameter Settings" interface and click "Save Settings".

This data is used to calculate the alarm value with the percentage of the load alarm value of the first-stage and second-stage load on the "Parameter Setting" interface. A segment of alarm value will be displayed in the "branch parameter" interface.

1.8.7 CT rating

Click "CT Rated" in the "Parameter Setting" interface to modify the CT ratio of each channel of the outgoing line, and set it according to the primary value of the configured sensor. If the configured sensor is 100A/50mA, it should be set to 100. If the outlet value is 20mA, the primary value should be multiplied by 2.5.

It has been preset according to the drawings when leaving the factory, and there should be changes in the actual, you can modify it according to the above rules.



On the "CT Rated" interface, the branch electrical energy is cleared. Click to reset the energy data of each branch with one key.

1.8.8 English version

Click "English" in the "Parameter Setting" interface to switch the interface to the English version, and then click "Chinese" to switch back to the Chinese version.

1.8.9 Switch alarm setting

Regarding the switch alarm, you can click "Switch alarm setting" in the "Parameter setting" interface to go to the switch alarm setting interface.

1.8.9.1 Branch switch alarm setting (active)

L01	L02	L03	L04	L05	L06	L07	L08
on							
L09	L10	L11	L12	L13	L14	L15	L16
on							
L17	L18	L19	L20	L21	L22	L23	L24
on							
L25	L26	L27	L28	L29	L30	L31	L32
on							

Restart after SwitchAlarmSet

-

This part refers to the active detection switch status collected by AMC16Z-FAK, which is a jump alarm, that is, it needs to detect that the switch is normal and then disconnect to trigger the alarm. If there is a switch that is not enabled but there is an alarm, you can click on that channel The switch alarm setting of the switch, make "open" change to "close", and then if you need to enable it, you can click to open it again.

Click "Save Switch Settings" after setting.

1.8.9.2 Branch SD alarm setting (passive)

Click the next page in the "switch alarm setting" interface, to the last page, you can set "normally open" and "normally closed" for "outgoing SD".

This part refers to the passive detection switch status collected by AMC16Z-KD, which is a jump alarm. The SD of the branch can be controlled by this button.

Normally closed: alarm when the loop changes from a path to an open circuit.

Normally open: alarm when the loop changes from open to open.

The user selects normally open or normally closed according to the actual application, and the factory defaults to normally closed. If the user does not need to use the SD alarm, the default is normally closed and no alarm is required.

If there is any change, click "SD dedicated save settings" on the right after setting, or click "Save settings" on the "Parameter Settings" interface.

AMain **AThunder**

on on

BMain **BThunder**

on on

Outlet SD OFF

SD setting save

	Set	AlmState
AMain	<input type="checkbox"/> On	<input type="checkbox"/> ON
AMain SD	<input type="checkbox"/> On	<input type="checkbox"/> OFF
AThunder	<input type="checkbox"/> On	<input type="checkbox"/> OFF
ASpare	<input type="checkbox"/> Off	<input type="checkbox"/> ON
ASpare SD	<input type="checkbox"/> Off	<input type="checkbox"/> OFF
ASpare Thunder	<input type="checkbox"/> Off	<input type="checkbox"/> OFF

	Set	AlmState
BMain	<input type="checkbox"/> On	<input type="checkbox"/> ON
BMain SD	<input type="checkbox"/> On	<input type="checkbox"/> OFF
BThunder	<input type="checkbox"/> On	<input type="checkbox"/> OFF
BSpare	<input type="checkbox"/> Off	<input type="checkbox"/> ON
BSpare SD	<input type="checkbox"/> Off	<input type="checkbox"/> OFF
BSpare Thunder	<input type="checkbox"/> Off	<input type="checkbox"/> OFF

Restart after SwitchAlarmSet

1.8.9.3 Main circuit switch alarm setting (passive)

Click the next page in the "switch alarm setting" interface, to the last page, you can set the switch point of ZA collection.

Labels with the words "main circuit" and "standby circuit" are generally used as auxiliary contacts, and the rest are as shown on the label. "Main Road", "Backup Road", "Main Road Lightning Protection" and "Backup Road Lightning Protection" involve the display of the "Switch Status" interface.

	Set	AlmState
AMain	<input type="checkbox"/> Off	<input type="checkbox"/> ON
AMain SD	<input type="checkbox"/> On	<input type="checkbox"/> OFF
AThunder	<input type="checkbox"/> On	<input type="checkbox"/> OFF

The column of buttons under "Use" controls whether the switch is in use and displays. If it is "Off", no alarm will be triggered and the "Switch Status" interface will shield the display of the switch status. (The number of incoming lines required by the user is all turned on by factory default)

AMain **AThunder** **ASpare** **BMain** **BThunder** **BSpare** **Spare Thund** **Spare Thund**

off

on

on

on

on

on

on

on

The button at the top of the interface controls whether the switch enables the alarm. If you need to display only the switch status, but not enable the switch alarm, you can click here to turn off the alarm function.

	Set	AlmState
OFF		
AMain	On	ON
AMain SD	On	OFF
AThunder	On	OFF
ASpare	Off	ON
ASpare SD	Off	OFF
ASpare Thunder	Off	OFF

A column of buttons under "Alarm Status" control the alarm logic as normally open or normally closed. "Main circuit" and "Alternate circuit" are generally used as auxiliary contacts. "Normally closed" means that the circuit changes from open to open and alarms. "Normally open" "When the loop changes from a path to an open circuit, it will alarm. The logic of SD "trip" and "lightning protection" is opposite to the logic of the main circuit switch. "Normally open" means that the circuit changes from open to open and alarms, and "normally closed" means that the circuit changes from open to open and alarms. The setting of normally open and normally closed involves the color identification displayed on the "switch status" interface.

The factory setting defaults that all switch points are: an alarm occurs when the loop changes from open to open. The user can change the logic used according to the actual situation. After the change is complete, click "Save Switch Settings" to save.

1.8.10 Internal management

In the internal management interface, the module information, order information, software number, user information, etc. of the current system can be queried. At the same time related to the forwarding content, please refer to the forwarding section below.

Follow the steps in 1.4 to log in to Admin. Click "Parameter Setting" and click "Internal Management" on the parameter setting interface to enter.

The screenshot displays the 'A-Settings' interface with the following sections:

- Voltage Alarm Set:**

	Loss	Under	Over
Main A	10V	187V	242V
Main B	10V	187V	242V
Main C	10V	187V	242V
- MainOverLoad Set:**

	First	Second	Limit
Main A	192A	256A	320A
Main B	192A	256A	320A
Main C	192A	256A	320A
- 0-GND U:** 20V
- IA-IO:** 300A
- Temp.:** 60°C
- Humidity:** 90RH
- LeakageI:** 300mA
- CT Ratio:**

	Value
CT A	50
CT B	50
CT C	50
- Over Power:**

	Value
Main A	42.24kW
Main B	42.24kW
Main C	42.24kW
- Phase unbalance:**

	Value
U	33%
I	330%
- Fre. Alarm:**

Under	Over
47Hz	53Hz
- Hmi Address:** 1
- Overload Settings:** 60%
- Second Overload Settings:** 80%

Navigation buttons at the bottom include: Device add, Load Num, Clear E, 中文, B-Settings, Main data, TimeSet, Load Set, CT Ratio, PhaseSet, SwitchAlm, and Save.

Project Name	<input type="text"/>
User:	<input type="text"/>
Cabinet Model	<input type="text"/>
Software Version	V1.00
Order Number	<input type="text"/>
Cabinet Number	1
Device name&number	<input type="text"/>
Inlet&Outlet Num	Two three phase main incoming lines +120 outgoing lines in total
Device add	<input type="text"/>
Modification	<input type="text"/>

IP Address

. . .

Save

Port:502



Main data

If there is a problem during use, you need to provide the information on this page when contacting.

1.9 Alarm information

1.9.1 Current alarm information

Click "Alarm Information" on the "Main Road Parameters" interface to view the current alarms. Click "Alarm Silence" to confirm the current alarm to stop the buzzer, and the alarm message will not disappear. If a new alarm is generated at this time, even if the new alarm disappears, as long as there are alarm entries in the current alarm information, the buzzer will not stop.

When an alarm is generated and all repairs disappear afterwards, the system will automatically mute the sound.



Date	Time	Alarm type	Alarm value	Alarm description	Response time
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Thunder Alarm	2021/05/25 14:20:59
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Tripped	2021/05/25 14:20:59
2021/05/25	14:19:43	Negative jump alarm	0	Spare-B Switch Alarm	2021/05/25 14:20:59
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Thunder Alarm	2021/05/25 14:20:59
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Tripped	2021/05/25 14:20:59
2021/05/25	14:19:41	Negative jump alarm	0	Spare-A Switch Alarm	2021/05/25 14:20:59
2021/05/25	14:09:52	Switch variable alarm	1006	KD1#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:51	Switch variable alarm	1006	FAK48-2#AMC16Z Communication Alar	2021/05/25 14:20:59
2021/05/25	14:09:50	Switch variable alarm	1006	FAK48-1#AMC16Z Communication Alar	2021/05/25 14:20:59
2021/05/25	14:09:50	Switch variable alarm	1006	FAK24#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:48	Switch variable alarm	1006	ZA2#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:45	Switch variable alarm	1006	KD3#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:45	Switch variable alarm	1006	KD2#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:45	Switch variable alarm	1006	ZA1#AMC16Z Communication Alarm	2021/05/25 14:20:59

1.9.2 Historical alarm information

Click "History Alarm" on the "Current Alarm" interface to view historical alarms. Click "Clear Alarm" to clear all historical alarm entries. "Clear Alarms" has permission restrictions, and you need to log in to the person in charge or Admin to clear historical alarms.



Date	Time	Alarm type	Alarm value	Alarm description	End time
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Thunder Alarm	
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Tripped	
2021/05/25	14:19:43	Negative jump alarm	0	Spare-B Thunder Alarm	2021/05/25 14:19:44
2021/05/25	14:19:43	Negative jump alarm	0	Spare-B Switch Alarm	
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Thunder Alarm	
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Tripped	
2021/05/25	14:19:41	Negative jump alarm	0	Spare-A Switch Alarm	
2021/05/25	14:19:26	Negative jump alarm	0	A-Main Switch Alarm	2021/05/25 14:19:27
2021/05/25	14:09:52	Switch variable alarm	1006	KD1#AMC16Z Communication Alarm	
2021/05/25	14:09:51	Switch variable alarm	1006	FAK48-2#AMC16Z Communication Alar	
2021/05/25	14:09:50	Switch variable alarm	1006	FAK48-1#AMC16Z Communication Alar	
2021/05/25	14:09:50	Switch variable alarm	1006	FAK24#AMC16Z Communication Alarm	
2021/05/25	14:09:48	Switch variable alarm	1006	ZA2#AMC16Z Communication Alarm	
2021/05/25	14:09:45	Switch variable alarm	1006	KD3#AMC16Z Communication Alarm	
2021/05/25	14:09:45	Switch variable alarm	1006	KD2#AMC16Z Communication Alarm	

DC part

1 Parameters, functions, and operations

1.1 Main road parameters

The screenshot displays the 'A-Main' interface with two panels, A and B, each showing a table of electrical parameters. The parameters and their values are as follows:

Parameter	Value
U/V	0.0
Current/A	0.0
Load Percentage/%	0
P/kW	0.00
E/kWh	0.00
Temperature/°C	0.0
Humidity	0.0

Below the panels, there are several navigation buttons: Outlet A, Alarm, Switching A, Switching B, Outlet B, MAX demand, Month Ep, Settings, Login, and a user status bar 'User: Administrator'.

As shown in the figure (the figure shows 2 lines in), the first interface after the touch screen is turned on is the main line parameter interface. If there is 1 line out, the incoming line is greater than 1 line, you can click the button in the lower right corner to switch to view other The parameters of the incoming line. If there are 2 routes out, the incoming route is greater than 2 routes, you can click the button in the lower right corner to switch to view the parameters of other incoming routes.

1.2 Branch parameters

In the main circuit parameter interface, click the button with the word "branch parameter" to enter. If there are 2 outgoing lines, it corresponds to "branch parameter A" and "branch parameter B".

L	Load	I/A	P/kW	EP/kWh	U/V	Load	Limits	Insulation/k Ω	Insulation/k Ω
01	L01	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
02	L02	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
03	L03	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
04	L04	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
05	L05	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
06	L06	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
07	L07	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
08	L08	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
09	L09	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
10	L10	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
11	L11	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
12	L12	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
13	L13	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
14	L14	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
15	L15	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
16	L16	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
17	L17	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0
18	L18	0.00	0.00	0.00	0.0	0.0%	60A	500.0	500.0

Main data

Next

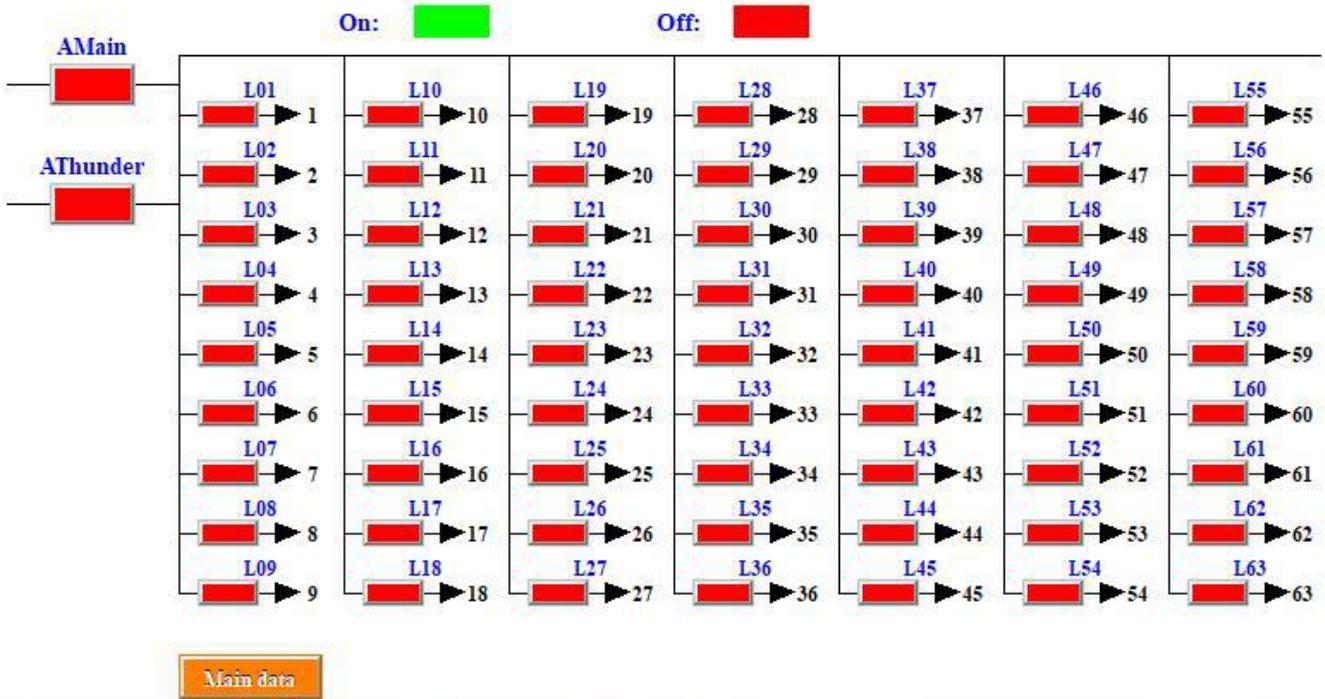
The meaning of the title from left to right are:

Branch number, circuit name/load name, current, power, electric energy, voltage, load rate, a section of overload current alarm limit value. Positive-to-ground insulation and negative-to-ground insulation are displayed after the insulation function is turned on. If the insulation function is stopped, it will not be displayed.

Among them, a section of the overload current alarm limit value can be modified by the user according to their own needs. For the modification method, please refer to the "parameter setting" section below.

1.3 switch status

The switch status interface is the intuitive switch display system diagram of the main branch. Click the button with the word "switch status" in the main circuit parameter interface to enter. If there are 2 outlets, it corresponds to "switch state A" and "switch state B".



1.3.1 Main circuit switch status

The leftmost column is the main circuit switch status. The main circuit switch status is collected by the main module (AMC16Z-ZD). The ones with the words "main circuit" and "standby circuit" are OF+SD points, the auxiliary contacts of the main circuit. The word "lightning protection" is the switch state of the lightning protection device. SD/switch opening status is not displayed.

Different user field wiring will cause the required fault status to correspond to different module acquisition status. The main switch status displayed on this interface is unified as "fault display is red, normal display is green". If the user does not meet the test results, you need to check whether the switch alarm settings are set correctly according to the needs based on the alarm information.

1.3.2 Branch switch status

The switch status of the main circuit is the branch switch status, which is collected by AMC16Z-FDK. Green means closed, and red means separated.

1.4 User login

Some functions require different permissions. If you need to set alarm parameters, you can log in to the person in charge or Admin;

If you need to view the content management interface to view order information such as the software number, you need to log in to Admin. The login method is as shown below.

Acrel A-Main Date 2021-05-25 14:12:02

Parameter	Phase A/AB
PhaseU/V	0.0
LineU/V	0.0
Phase I/A	
Load Percentage/%	
ActiveP/kW	
ReactiveP/kVar	
Apparent P/kVA	
Power Factor/φ	
ActiveE/kWh	
ReactiveE/kVarh	
Fre/Hz	
Zero to Ground U/V	
Zero Sequence I/A	
Fundamental P/kW	0.00
Harmonic P/kW	0.00
Fundamental Ep/kWh	0.00

User login dialog:

- User list: 负责人 (3), 工程师, 技术员, Admin, 万能用户
- User password: 密码 123
- Logout way: Online timeout
- Online time: 0
- User description: Administrator
- Buttons: USB login, Login (5)

Main interface buttons: Outlet, Alarm, Switch, Login (1), B-Main Data, MAX demand, Harmonic, Month Ep, Settings, User:

Acrel A-Main Date 2021-05-25 14:12:33

Parameter	Phase A/AB
PhaseU/V	0.0
LineU/V	0.0
Phase I/A	
Load Percentage/%	
ActiveP/kW	
ReactiveP/kVar	
Apparent P/kVA	
Power Factor/φ	
ActiveE/kWh	
ReactiveE/kVarh	
Fre/Hz	
Zero to Ground U/V	
Zero Sequence I/A	
Fundamental P/kW	0.00
Harmonic P/kW	0.00
Fundamental Ep/kWh	0.00

User login dialog:

- User list: 负责人, 工程师, 技术员, Admin (3), 万能用户
- User password: 10000
- Logout way: Online timeout
- Online time: 0
- User description:
- Buttons: USB login, Login (5)

Main interface buttons: Outlet, Alarm, Switch, Login (1), B-Main Data, MAX demand, Harmonic, Month Ep, Settings, User:

1.5 Maximum demand

The maximum demand is the maximum value of the historical average value of the incoming current and power.

	I/A	Year	Month	Day	Hour	Minute	Second
A-A	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-B	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-C	<input type="text" value="0.00"/>	<input type="text" value="0"/>					

	P/KWh	Year	Month	Day	Hour	Minute	Second
A-A	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-B	<input type="text" value="0.00"/>	<input type="text" value="0"/>					
A-C	<input type="text" value="0.00"/>	<input type="text" value="0"/>					

Demand Time Set

Value Cur

Minute

You can set the "demand time setting" to adjust the frequency of average statistics. You can click on the bottom left to view other incoming lines.

1.6 Monthly electric energy

Click "Monthly Energy" in the main circuit parameter interface to enter. You can view the monthly electrical energy of the main and branch circuits. Drag the progress bar or click "Previous" or "Next" to view further. The displayed electrical energy is the electrical energy of the previous month. For example, 2015-05 represents the electrical energy before May 1, 2015, that is, the electrical energy in April.

To query the electric energy for a period of time, you can click the "Energy Query" button on this interface, enter the beginning and ending months according to the format example, and enter the "-" in the symbol.

Main	Character: [Lowercase]										L11	L12		
L01	L02	0												
L13	L14	1	2	3	4	5	6	7	8	9	0	<-	L23	L24
L25	L26	q	w	e	r	t	y	u	i	o	p		L35	L36
L37	L38	a	s	d	f	g	h	j	k	l			L47	L48
L49	L50	Caps	z	x	c	v	b	n	m	Del			L59	L60
L61	L62	L63	Symbol	Abc	Blank space					Exit	Ok			
"End Time" means the first day of month.														
Example of Time:2015-06														
StartTime	0		EndTime	0		Search	Month Ep	Main Data						

It should be noted that the end time refers to the first day of the input month. For example, inputting 2015-05 means May 1, 2015, that is, the energy statistics in April and before.

1.7 parameter settings

Click "Parameter Setting" to enter from the main road parameter interface. (Login is required, refer to the permissions described in the "User Login" section above.)

1.7.1 Main road parameter setting

If there are multiple incoming lines, you can click the button in the lower right corner to switch and set the parameters of other incoming lines. The parameters common to multiple incoming lines can only be set in the first interface.

<p>Voltage Alarm Set</p> <table style="width: 100%;"> <tr> <td style="text-align: center;">Under</td> <td style="text-align: center;">Over</td> </tr> <tr> <td style="text-align: center;">43.2V</td> <td style="text-align: center;">52.8V</td> </tr> </table>	Under	Over	43.2V	52.8V	<p>MainOverLoad Set</p> <table style="width: 100%;"> <tr> <td style="text-align: center;">First</td> <td style="text-align: center;">Second</td> <td style="text-align: center;">Limit</td> </tr> <tr> <td style="text-align: center;">192A</td> <td style="text-align: center;">256A</td> <td style="text-align: center;">320A</td> </tr> </table>	First	Second	Limit	192A	256A	320A	<p>Current System</p> <p>48V <input type="button" value="v"/></p> <table style="width: 100%;"> <tr> <td style="text-align: center;">Temp.</td> <td style="text-align: center;">60°C</td> </tr> <tr> <td style="text-align: center;">Humidity</td> <td style="text-align: center;">90%</td> </tr> </table>	Temp.	60°C	Humidity	90%
Under	Over															
43.2V	52.8V															
First	Second	Limit														
192A	256A	320A														
Temp.	60°C															
Humidity	90%															
<p>CT Ratio</p> <table style="width: 100%;"> <tr> <td style="text-align: center;">Value</td> </tr> <tr> <td style="text-align: center;">50</td> </tr> </table>	Value	50	<p>OverPower Set</p> <table style="width: 100%;"> <tr> <td style="text-align: center;">Value</td> </tr> <tr> <td style="text-align: center;">9.216kW</td> </tr> </table>	Value	9.216kW	<p>Inlet Insulation Set</p> <table style="width: 100%;"> <tr> <td style="text-align: center;">Value</td> <td style="text-align: center;">ON-OFF</td> </tr> <tr> <td style="text-align: center;">15</td> <td style="text-align: center;"><input type="button" value="Off"/></td> </tr> </table>	Value	ON-OFF	15	<input type="button" value="Off"/>	<p>Hmi Address</p> <table style="width: 100%;"> <tr> <td style="text-align: center;">1</td> </tr> </table>	1				
Value																
50																
Value																
9.216kW																
Value	ON-OFF															
15	<input type="button" value="Off"/>															
1																

Overload Settings	<input type="text" value="60%"/>	Second Overload Settings	<input type="text" value="80%"/>	<input type="button" value="English"/>
<input type="button" value="Clear I @Main A"/>	<input type="button" value="Clear F"/>	<input type="button" value="Address"/>	<input type="button" value="Admin"/>	<input type="button" value="B-Settings"/>
<input type="button" value="Main Data"/>	<input type="button" value="TimeSet"/>	<input type="button" value="Load Set"/>	<input type="button" value="CT Ratio"/>	<input type="button" value="Outlet Num"/>
			<input type="button" value="SwitchAlm"/>	<input type="button" value="Save"/>

You can selectively use the alarm function according to your own needs. If an unnecessary alarm is triggered, you can modify the alarm value to make the alarm disappear. The specific modification method can refer to the following description.

After the parameter setting is completed, you must click "Save Settings" before normal use and power-off save.

1.7.1.1 Voltage alarm setting

This part can set the voltage alarm value of each phase of the main line incoming line. The system has default values, which can be modified according to your own needs.

Undervoltage means that when the incoming line voltage of this route is lower than the parameter set by undervoltage, the voltage undervoltage alarm of this route will be triggered.

Overvoltage means that when the incoming line voltage of this road is higher than the set parameter, the voltage overvoltage alarm of this road will be triggered.

1.7.1.2 Incoming line overload alarm setting

This part can set the load alarm value of the incoming line of the main road, divided into one and two levels.

The rated value has been preset according to the drawing when leaving the factory. The first-stage alarm value and the second-stage alarm value have been preset by the rated value algorithm. The first-stage alarm value=rated value*60%, and the second-stage alarm value=rated value*80%. If the drawing is not clear or the actual application changes, you can modify it yourself.

When the current of this circuit is greater than the set value, it will trigger the first/second stage overload alarm. It should be noted that when the second stage overload is triggered, the first stage alarm will not be triggered.

1.7.1.3 Current ratio setting

This part can set the CT value of the current transformation ratio. Set the parameters of this part according to the value of the transformer. Take the 50A/5V Hall sensor as the standard value and set it to 1. If it is a 400A/5V Hall sensor, the setting value is 8. (The outlet side must be 5V).

It has been preset according to the drawings when leaving the factory, and there should be changes in the actual, you can modify it according to the above rules.

1.7.1.4 Power overload setting

This part can set the power alarm value. The system will get a default value according to the preset load and voltage, which can be modified according to its own needs.

When the power is greater than the set parameter, the frequency limit alarm will be triggered.

1.7.1.5 temperature

This part of the setting, when the cabinet temperature is greater than the set parameters, it will trigger the temperature over-limit alarm.

1.7.1.6 humidity

This part of the settings, when the humidity is greater than the set parameters, it will trigger the humidity over-limit alarm.

1.7.1.7 Insulation

This part sets the start and stop of the insulation function, and set the start and stop according to site needs. After the insulation function is activated, the insulation related content will be displayed. For this part, please refer to the section "Insulation" below.

1.7.1.8 Outgoing overload alarm setting

This part is set as the load alarm percentage on the outgoing side, and it is classified into 1st and 2nd stages, similar to 1.8.1.2. The default is 60% and 80%, and the overload alarm value is calculated with the outgoing load rating, that is, the overload of the first stage of the outgoing line = the rated value of the outgoing load * 60%, the overload of the second stage of the outgoing line = the rated value of the outgoing load * 80%, according to your needs modify.

1.7.1.9 System selection

Due to the various types of DC voltage systems, the voltage level can be selected under "Current System". It mainly involves the alarm limit values of incoming line voltage and power. There are 4 options in total, 336V, 240V, 48V, -48V.

Note that the voltage and power alarm values can be automatically modified synchronously and automatically when the system type is modified after 2 minutes of startup.

1.7.1.10 Forwarding data address

This part involves data forwarding, you can modify the forwarding data address by yourself, please refer to the following for details.

1.7.2 Instrument address

The internal address of the instrument has been defaulted before leaving the factory. If there is a problem that cannot communicate, and the reason for the connection is eliminated, this function can be used to view and modify the address of the instrument.

Click "Instrument Address" in the parameter setting interface to enter.

AMC16Z-ZD1	1	On	AMC16Z-FDK48	16	On	AMC16Z-FJY1	1
AMC16Z-ZD2	2	On	AMC16Z-FDK48	18	On	AMC16Z-FJY2	2
AMC16Z-ZJY	80		AMC16Z-FDK24	20	On	AMC16Z-FJY3	3
			AMC16Z-KD1	32	On	AMC16Z-FJY4	4
Read add	0		AMC16Z-KD2	33	On	AMC16Z-FJY5	5
Write add	0		AMC16Z-KD3	34	On	AMC16Z-FJY6	6
Circuit Mode	0					AMC16Z-FJY7	7
Settings						AMC16Z-FJY8	8

As shown in the figure, the figure shows all the modules, and the labels of the modules not used at the factory will not be displayed. This part is the correct address of the instrument. If the address of the instrument is not the address marked, or if the address of the instrument is repeated, it will cause an error.

View the actual instrument address: first disconnect all module communications, connect only the target instrument that needs to view the address, click "read address", and the address of the instrument is displayed on the right. (If it is not possible to read the address of the instrument under the premise that all module communications have been disconnected and there is no problem with the wiring, further investigation is required.)

Modify the actual instrument address: Disconnect the communication of all modules, connect only the target instrument that needs to view the address, enter the communication address of the instrument on the right side, and click "write address" to complete.



If there is a module in the actual application that does not need to be used but cannot shield the communication alarm, you can click the green switch button on this interface to stop the module. If you want to put it into use later, you can click again to enable the module.

1.7.3 Circuit of outgoing lines

Click "Number of Outgoing Lines" in the parameter setting interface to enter. (If there are multiple outgoing lines, you need to go to the corresponding incoming line parameter setting interface and click "outgoing lines" to enter.)

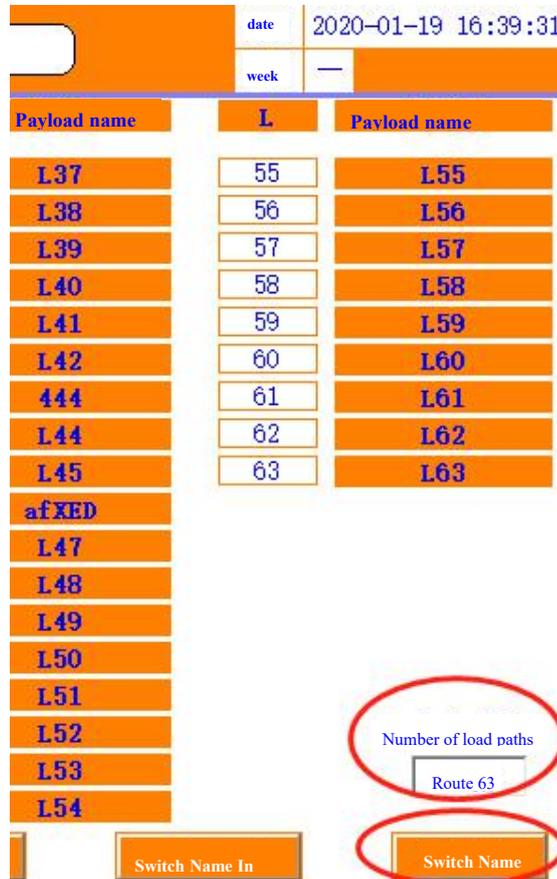
The function of this part is to adjust the number of lines, the number of switches, the name of the switch, and the name of the load.

1.7.3.1 Adjust the number of lines and switches.

In the lower right corner of this interface, there is "load circuit number", enter the number in the input box below, and the corresponding circuit number will be displayed in the "branch circuit parameter"

interface. After modification, you need to go back to the "Parameter Settings" interface and click "Save Settings" to save after power-off.

Click the "switch name" in the lower right corner to modify the number of switches, and the corresponding number of switches will be displayed in the "switch status" interface after modification. After modification, you need to go back to the "Parameter Settings" interface and click "Save Settings" to save after power off.



1.7.3.2 Modify the switch name and load name.

There are two ways to modify: you can directly click on the label to modify, or you can use a U disk to modify in batches.

Batch Edit:

First insert the U disk behind the touch screen and click "Export Switch Name".

L	Load	L	Load	L	Load	L	Load
01	L01	19	L19	37	L37	55	L55
02	L02	20	L20	38	L38	56	L56
03	L03	21	L21	39	L39	57	L57
04	L04	22	L22	40	L40	58	L58
05	L05	23	L23	41	L41	59	L59
06	L06	24	L24	42	L42	60	L60
07	L07	25	L25	43	L43	61	L61
08	L08	26	L26	44	L44	62	L62
09	L09	27	L27	45	L45	63	L63
10	L10	28	L28	46	L46		
11	L11	29	L29	47	L47		
12	L12	30	L30	48	L48		
13	L13	31	L31	49	L49		
14	L14	32	L32	50	L50		
15	L15	33	L33	51	L51		
16	L16	34	L34	52	L52		
17	L17	35	L35	53	L53		
18	L18	36	L36	54	L54		

Settings

LoadName ToSwitchName

SwitchNameOut

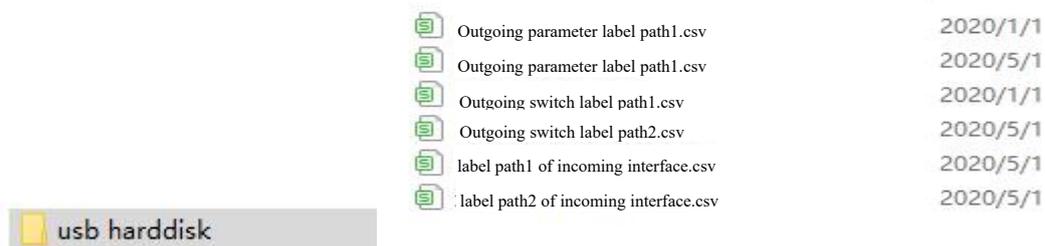
SwitchNameIn

SwitchName

LoadNum

63

Open the U disk information on the computer and find the usb harddisk folder in the root directory. Find the content you want to change, and open the name corresponding to the modified serial number.



Then insert the U disk into the back of the touch screen and click "Import Switch Name". At this time, the names of each channel displayed on the "Branch Parameters" and "Switch Status" interfaces are already the modified names.

1.7.4 Power zero

In the "Parameter Setting" interface, click "Energy Clear", the energy measured by all modules connected to the communication line will be cleared. Note that the modules that do not need to be cleared are disconnected from the communication line.

1.7.5 Main circuit current cleared

Since the Hall transformer has zero drift, this key is used to clear and calibrate the main circuit current. Click "Clear Main Circuit Current" when there is no load, and the current will return to zero after a period of time. There are multiple incoming lines, you need to enter the corresponding incoming line setting interface in the lower right corner of the "parameter setting" interface and then click the button of the corresponding circuit.

1.7.6 Set time

Click "Set Time" in the "Parameter Setting" interface to modify the current time.

1.7.7 Load rating

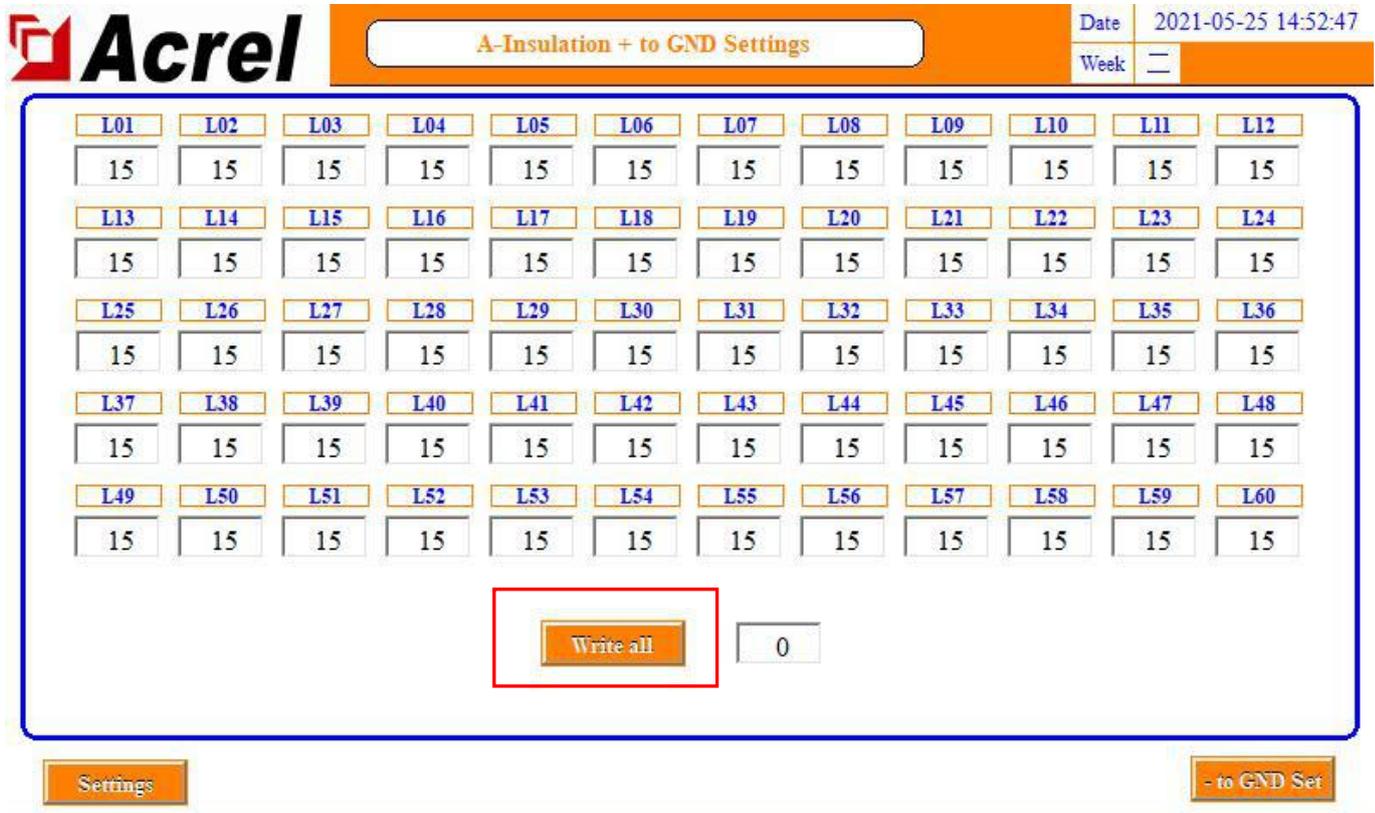
Click "Load Rating" in the "Parameter Setting" interface to modify the load rating of each line of the outgoing line. It has been preset according to the drawing at the factory. If there are changes in the actual application, you can modify it by yourself. After modification, you need to go back to the "Parameter Settings" interface and click "Save Settings".

This data is used to calculate the alarm value with the percentage of the load alarm value of the first-stage and second-stage load on the "Parameter Setting" interface. A segment of alarm value will be displayed in the "branch parameter" interface.

1.7.8 CT rating

Click "CT Rated" in the "Parameter Setting" interface to modify the CT ratio of each line of outlet. If there are 2 outlets, it needs to be set according to the primary value of the configured Hall sensor (note that the secondary input signal should be 5V) . If the configured Hall sensor is 100A/5V, it should be set to 100. If the configured Hall sensor is 100A/4V, it should be set to 125.

It has been preset according to the drawings when leaving the factory, and there should be changes in the actual, you can modify it according to the above rules.



The branch current is cleared on the "CT Rated" interface. Click to reset and calibrate the current of each branch with one key.

1.7.9 English version

Click "English" in the "Parameter Setting" interface to switch the interface to the English version, and then click "Chinese" to switch back to the Chinese version.

1.7.10 Switch alarm setting

Regarding the switch alarm, you can click "Switch alarm setting" in the "Parameter setting" interface to go to the switch alarm setting interface.

1.7.10.1 Branch switch alarm setting (active)

L01	L02	L03	L04	L05	L06	L07	L08
on							
L09	L10	L11	L12	L13	L14	L15	L16
on							
L17	L18	L19	L20	L21	L22	L23	L24
on							
L25	L26	L27	L28	L29	L30	L31	L32
on							

Restart after SwitchAlarmSet

-

This part refers to the state of the active detection switch collected by AMC16Z-FDK. It is a jump alarm, that is, it needs to detect that the switch is normal before it is disconnected to trigger the alarm. If there is a switch that is not enabled but there is an alarm, you can click on that channel The switch alarm setting of the switch, make the "on" change to "off", and then if you need to enable it, you can click to turn it on again.

Click "Save Switch Settings" after setting.

1.7.10.2 Branch SD alarm setting (passive)

Click the next page in the "switch alarm setting" interface, to the last page, you can set "normally open" and "normally closed" for "outgoing SD".

This part refers to the passive detection switch status collected by AMC16Z-KD, which is a jump alarm. The SD of the branch can be controlled by this button.

Normally closed: the loop changes from a path to an open circuit and an alarm occurs.

Normally open: alarm when the loop changes from open to open.

The user selects normally open or normally closed according to the actual application, and the factory defaults to normally closed. If the user does not need to use the SD alarm, the default is normally closed and no alarm is required.

If there is any change, click "SD dedicated save settings" on the right after setting, or click "Save settings" on the "Parameter Settings" interface.

AMain

on

ATHunder

on

BMain

on

BThunder

on

Outlet SD SD setting save

OFF

	Set	AlmState
AMain	On	ON
AMain SD	On	OFF
ATHunder	On	OFF
ASpare	Off	ON
ASpare SD	Off	OFF
ASpare Thunder	Off	OFF

	Set	AlmState
BMain	On	ON
BMain SD	On	OFF
BThunder	On	OFF
BSpare	Off	ON
BSpare SD	Off	OFF
BSpare Thunder	Off	OFF

Restart after SwitchAlarmSet

Main data

Restart Hmi

SaveSwitchSet

All On

All Off

A-Switch Settings

B-Switch Settings

1.7.10.3 Main circuit switch alarm setting (passive)

Click the next page in the "switch alarm setting" interface, to the last page, you can set the switch point of ZD collection.

Labels with the words "main circuit" and "standby circuit" are generally used as auxiliary contacts, and the rest are as shown on the label. "Main Road", "Backup Road", "Main Road Lightning Protection" and "Backup Road Lightning Protection" involve the display of the "Switch Status" interface.

A-Switch

On: Off:

	Set	AlmState
AMain	Off	ON
AMain SD	On	OFF
ATHunder	On	OFF

ATHunder

The column of buttons under "Use" controls whether the switch is in use and displays. If it is "Off", no alarm will be triggered and the "Switch Status" interface will shield the display of the switch status. (All incoming lines used by the user are turned on by default)

Main data

Restart Hmi

SaveSwitchSet

All On

All Off

A-Switch Settings

B-Switch Settings

AMain

off

ATHunder

on

ASpare

on

BMain

on

BThunder

on

BSpare

on

Spare Thund

on

Spare Thund

on

The button at the top of the interface controls whether the switch enables the alarm. If you need to display only the switch status, but do not enable the switch alarm, you can click here to turn off the alarm function.

	Set	AlmState
OFF		
AMain	On	ON
AMain SD	On	OFF
AThunder	On	OFF
ASpare	Off	ON
ASpare SD	Off	OFF
ASpare Thunder	Off	OFF

A column of buttons under "Alarm Status" control the alarm logic as normally open or normally closed. "Main circuit" and "Alternate circuit" are generally used as auxiliary contacts. "Normally closed" means that the circuit changes from open to open and alarms. "Normally open" "When the loop changes from a path to an open circuit, it will alarm. The logic of SD "trip" and "lightning protection" is opposite to the logic of the main circuit switch. "Normally open" means that the circuit changes from open to open and alarms, and "normally closed" means that the circuit changes from open to open and alarms.

The factory setting defaults that all switch points are: an alarm occurs when the loop changes from open to open. The user can change the logic used according to the actual situation. After the change is complete, click "Save Switch Settings" to save.

1.7.11 Internal management

In the internal management interface, the module information, order information, software number, user information, etc. of the current system can be queried. At the same time related to the forwarding content, please refer to the forwarding section below.

Follow the steps in 1.4 to log in to Admin. Click "Parameter Setting" and click "Internal Management" on the parameter setting interface to enter.

The screenshot displays the Acrel A-Settings interface. At the top left is the Acrel logo. The main header shows 'A-Settings' and the current date and time: 'Date 2021-05-25 14:51:30'. Below the header are several configuration panels:

- Voltage Alarm Set:** Under (43.2V), Over (52.8V)
- MainOverLoad Set:** First (192A), Second (256A), Limit (320A)
- Current System:** Temp. (60°C), Humidity (90%), 48V
- CT Ratio:** Value (50)
- OverPower Set:** Value (9.216kW)
- Inlet Insulation Set:** Value (15), ON-OFF (Off)
- Hmi Address:** 1

At the bottom, there are 'Overload Settings' (60%) and 'Second Overload Settings' (80%). A red box highlights the 'Admin' button in the bottom right area. Other buttons include 'Clear I @Main A', 'Clear E', 'Address', 'Main Data', 'TimeSet', 'Load Set', 'CT Ratio', 'Outlet Num', 'SwitchAlm', 'English', 'B-Settings', and 'Save'.

Project Name	<input type="text"/>	IP Address
User:	<input type="text"/>	<input type="text" value="0 . 0 . 0 . 0"/>
Cabinet Model	<input type="text"/>	<input type="text" value="0"/>
Software Version	V1.00	<input type="button" value="Save"/>
Order Number	<input type="text"/>	Port:502
Cabinet Number	1	
Device name&number	<input type="text"/>	<input type="button" value="Main data"/>
Inlet&Outlet Num	Two three phase main incoming lines +120 outgoing lines in total	
Device add	<input type="text"/>	
Modification	<input type="text"/>	

If there is a problem during use, you need to provide the information on this page when contacting.

1.8 Alarm information

1.8.1 Current alarm information

Click "Alarm Information" on the "Main Road Parameters" interface to view the current alarms. Click "Alarm Silence" to confirm the current alarm to stop the buzzer, and the alarm message will not disappear. If a new alarm is generated at this time, even if the new alarm disappears, as long as there are alarm entries in the current alarm information, the buzzer will not stop.

When an alarm is generated and all repairs disappear afterwards, the system will automatically mute the sound.

Date	Time	Alarm type	Alarm value	Alarm description	Response time
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Thunder Alarm	2021/05/25 14:20:59
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Tripped	2021/05/25 14:20:59
2021/05/25	14:19:43	Negative jump alarm	0	Spare-B Switch Alarm	2021/05/25 14:20:59
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Thunder Alarm	2021/05/25 14:20:59
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Tripped	2021/05/25 14:20:59
2021/05/25	14:19:41	Negative jump alarm	0	Spare-A Switch Alarm	2021/05/25 14:20:59
2021/05/25	14:09:52	Switch variable alarm	1006	KD1#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:51	Switch variable alarm	1006	FAK48-2#AMC16Z Communication Alar	2021/05/25 14:20:59
2021/05/25	14:09:50	Switch variable alarm	1006	FAK48-1#AMC16Z Communication Alar	2021/05/25 14:20:59
2021/05/25	14:09:50	Switch variable alarm	1006	FAK24#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:48	Switch variable alarm	1006	ZA2#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:45	Switch variable alarm	1006	KD3#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:45	Switch variable alarm	1006	KD2#AMC16Z Communication Alarm	2021/05/25 14:20:59
2021/05/25	14:09:45	Switch variable alarm	1006	ZA1#AMC16Z Communication Alarm	2021/05/25 14:20:59

1.8.2 Historical alarm information

Click "History Alarm" on the "Current Alarm" interface to view historical alarms. Click "Clear Alarm" to clear all historical alarm entries. "Clear Alarms" has permission restrictions, and you need to log in to the person in charge or Admin to clear historical alarms.

Date	Time	Alarm type	Alarm value	Alarm description	End time
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Thunder Alarm	
2021/05/25	14:19:46	Negative jump alarm	0	Spare-B Tripped	
2021/05/25	14:19:43	Negative jump alarm	0	Spare-B Thunder Alarm	2021/05/25 14:19:44
2021/05/25	14:19:43	Negative jump alarm	0	Spare-B Switch Alarm	
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Thunder Alarm	
2021/05/25	14:19:42	Negative jump alarm	0	Spare-A Tripped	
2021/05/25	14:19:41	Negative jump alarm	0	Spare-A Switch Alarm	
2021/05/25	14:19:26	Negative jump alarm	0	A-Main Switch Alarm	2021/05/25 14:19:27
2021/05/25	14:09:52	Switch variable alarm	1006	KD1#AMC16Z Communication Alarm	
2021/05/25	14:09:51	Switch variable alarm	1006	FAK48-2#AMC16Z Communication Alar	
2021/05/25	14:09:50	Switch variable alarm	1006	FAK48-1#AMC16Z Communication Alar	
2021/05/25	14:09:50	Switch variable alarm	1006	FAK24#AMC16Z Communication Alarm	
2021/05/25	14:09:48	Switch variable alarm	1006	ZA2#AMC16Z Communication Alarm	
2021/05/25	14:09:45	Switch variable alarm	1006	KD3#AMC16Z Communication Alarm	
2021/05/25	14:09:45	Switch variable alarm	1006	KD2#AMC16Z Communication Alarm	

1.9 Insulation function

Note: When leaving the factory, all the following parameters have been set according to the drawings, and the function is open to modify by yourself.

In the insulation start-stop part of the "Parameter Setting" interface, click to enable the insulation function.

1.9.1 Main circuit insulation information

After the insulation function is activated, there will be an additional "Insulation Information" button on the "Main circuit parameters" interface, click to view the main circuit incoming insulation parameters.

The screenshot shows the 'A-Main' interface with the Acrel logo and a date/time display (2020-02-05 10:35:15). It features two panels: '1-Insulation' and '2-Insulation'. Each panel contains a table of parameters:

1-Insulation		2-Insulation	
Bus+to Ground U/V	0.0	Bus+to Ground U/V	0.0
Bus-to Ground U/V	0.0	Bus-to Ground U/V	0.0
Bus U/V	0.0	Bus U/V	0.0
Bus+to Ground R/V	500	Bus+to Ground R/V	500
Bus-to Ground R/V	500	Bus-to Ground R/V	500

Main Data User : Admin

1.9.2 Branch circuit insulation information

After the insulation function is activated, the insulation parameters collected by the AMC16Z-FJY module will be displayed on the "branch parameter" interface.

1.9.3 Insulation related alarm settings

If there is any modification, you must click "Save Settings" after the modification to be able to alarm normally and save after power-off.

The screenshot shows the 'Insulation related alarm settings' interface with various adjustable parameters and control buttons:

- CT Ratio:** Value input field set to 50.
- OverPower Set:** Value input field set to 9.216kW.
- Inlet Insulation Set:** Value input field set to 15, and an ON-OFF toggle switch set to 'On'.
- Hmi Address:** Value input field set to 1.
- NUM of Insulation:** Value input field set to 0.
- Insulation Switching:** A red 'Off' button.
- Overload Settings:** Value input field set to 60%.
- Second Overload Settings:** Value input field set to 80%.
- Language:** 'English' button.
- Navigation Buttons:** Clear I @Main A, Clear E, Address, Insulation Set, Admin, B-Settings, Main Data, TimeSet, Load Set, CT Ratio, Outlet Num, SwitchAlm, Save.

1.9.3.1 Incoming wire insulation resistance rating

In the "Parameter Setting" interface, set the alarm limit values of the main line incoming positive-to-earth and negative-to-earth resistance. When the bus-bar positive-to-ground resistance and bus-bar negative-to-ground resistance are less than the set value, an alarm is triggered.

1.9.3.2 Number of insulation sub-modules

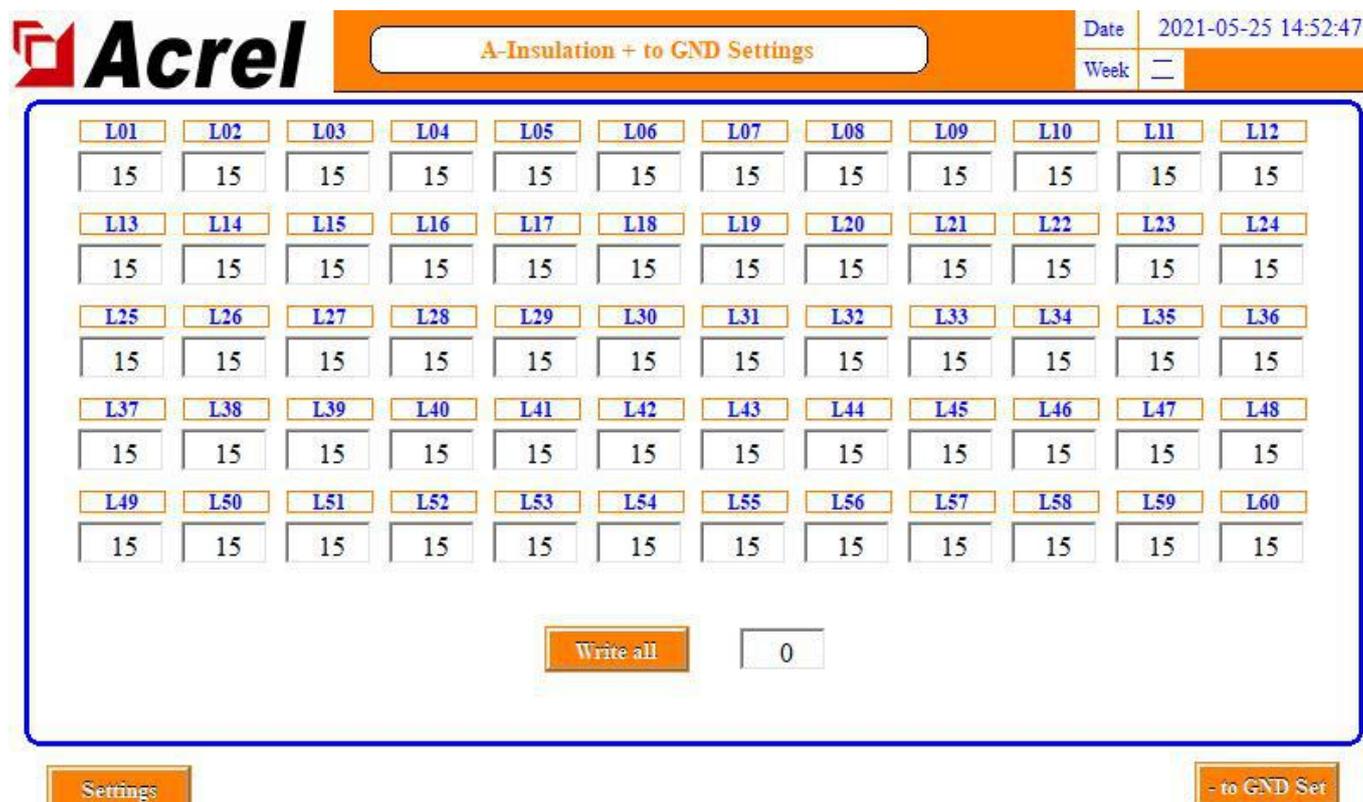
In this part, set the access quantity of the insulation sub-module AMC16Z-FJY. If the setting here is inconsistent with the actual situation, it will cause FJY communication alarm or communication failure.

1.9.3.3 Cast and cut

This part can be switched on and off.

1.9.3.4 Outgoing wire insulation resistance rating

Click "Insulation Alarm" on the "Parameter Setting" interface to enter the insulation resistance alarm setting on the outlet side. If there are 2 outgoing sides, switch to the corresponding interface in the lower right corner of the "Parameter Setting" interface and click "Insulation Alarm" to enter.



In this part, set the alarm limit value of the branch circuit's positive-to-ground and negative-to-ground resistance. When a branch circuit's positive-to-ground insulation resistance and negative-to-ground insulation resistance are less than the set value, the alarm of this road will be triggered.

2、Data forwarding

2.1 RS485 communication

To connect data to the background monitoring system through the RS485 communication interface of the touch screen, the correct communication address must be set. The default communication address is 1, and the baud rate is 9600 (not changeable). The communication address is set in the parameter setting interface. In the "forwarding data address" input box, modify it to the corresponding address, and then click to save the settings, otherwise it will be restored to the default address 1 after power failure. Note that the communication data format is 9600.n.8.1.

Voltage Alarm Set				MainOverLoad Set				0-GND U	
	Loss	Under	Over		First	Second	Limit		
Main A	10V	187V	242V	Main A	192A	256A	320A	IA-IO	300A
Main B	10V	187V	242V	Main B	192A	256A	320A	Temp.	60°C
Main C	10V	187V	242V	Main C	192A	256A	320A	Humidity	90RH
								LeakageI	300mA

CT Ratio		Over Power		Phase unbalance		Fre. Alarm		Hmi Address	
	Value		Value		Value	Under	Over		
CT A	50	Main A	42.24kW	U	33%	47Hz	53Hz	1	
CT B	50	Main B	42.24kW	I	330%				
CT C	50	Main C	42.24kW						

Device add	Load Num	Clear E	Chinese	B-Settings
Main data	TimeSet	Load Set	CT Ratio	PhaseSet
			SwitchAlm	Save

Overload Settings	60%
Second Overload Settings	80%

2.2 Ethernet communication (optional)

To connect data to the background monitoring system through the Ethernet port communication interface of the touch screen, the network address and port number must be set correctly. Note that the network address setting of the touch screen can be set in the internal management interface of the touch screen software. The port number for network communication is 502, which cannot be changed.

Project Name	<input type="text"/>	IP Address	<input type="text"/>
User:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Cabinet Model	<input type="text"/>	<input type="text"/>	<input type="text"/>
Software Version	V1.00	<input type="text"/>	<input type="text"/>
Order Number	<input type="text"/>	<input type="text"/>	<input type="text"/>
Cabinet Number	1	<input type="text"/>	<input type="text"/>
Device name&number	<input type="text"/>	<input type="text"/>	<input type="text"/>
Inlet&Outlet Num	Two three phase main incoming lines +120 outgoing lines in total	<input type="text"/>	<input type="text"/>
Device add	<input type="text"/>	<input type="text"/>	<input type="text"/>
Modification	<input type="text"/>	<input type="text"/>	<input type="text"/>

0

Save

Port:502

Main data

It is recommended that the background software collect the touch screen interval more than 500ms.

Note: The software interface and setting parameters will be adjusted according to different items, please operate according to the actual situation.

Attachment 1: Address table (double-click to open the attachment to view)



Single side exchange forwarding
address table.csv



Two side exchange forwarding
address table.csv



Single side DC forwarding
address table.csv



Two side DC forwarding
address table.csv

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