



AMC100 AC Precision power distribution monitoring device

Installation instruction V1. 4

Acrel Co., Ltd

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1 General



With the rapid development of data centers, the energy consumption of data centers has become more and more prominent. Energy management and power supply and distribution design of data centers have become hot issues. An efficient and reliable data center power distribution system solution is to improve data centers. Electric energy use efficiency, an effective way to reduce equipment energy consumption. To achieve energy saving in the data center, it is first necessary to monitor each electrical load, and there are many load loops in the data center. Traditional measuring instruments cannot meet the requirements of cost, volume, installation, construction and other aspects. Therefore, it is necessary to adopt suitable data Multi-loop monitoring device required by central centralized monitoring.

Acrel AMC100 series AC precision power distribution monitoring device is a measuring device designed specifically for power management of data center servers. The device is compact in design and can monitor the full electrical parameters, input and output switches and the status of the lightning arrester of A+B two incoming lines and 192 outgoing lines in real time. The alarm thresholds of all measurement channels can be set individually, and the outgoing line The limited event immediately triggers the system's sound and light alarms, and the high integration of the monitoring loop is realized in the volume of the traditional instrument.

2 Product Model

Model	Function Description
AMC100-ZA	Monitoring the full power parameters of the A+B dual three-phase AC incoming circuit, 8 switching status inputs, 4 switching status outputs, 2 leakage monitoring, 1 temperature and humidity detection, 3 RS485 communications
AMC100-FAK30	Monitor the full power parameters and switch status of a total of 30branches of A+B dual AC outlets, and 1 RS485 communication
AMC100-FAK48	Monitor the full power parameters and switch status of a total of 48branches of A+B dual AC outlets, and 1 RS485 communication
AMC100-FA30	Monitor the full power parameters of a total of 30branches of A+B dual AC outlets, and 1 RS485 communication
AMC100-FA48	Monitor the full power parameters of a total of48branches of A+B dual AC outlets, and 1 RS485 communication
AMC100-KA30	Wet contact, monitor the switching status of 30branches A+B, 1 RS485 communication
AMC100-KA48	Wet contact, monitor the switching status of 48branches A+B, 1 RS485 communication
AMC100-KD30	Dry contact, monitor the switching status of 30branches A+B, 1 RS485 communication

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AMC100-KD48	Dry contact, monitor the switching status of 48branches A+B, 1 RS485 communication
AMC100-FT30	1 way RS485 communication, 30 way temperature measurement
AMC100-FT48	1 way RS485 communication, 48 way temperature measurement

Technical Parameters

AC incoming line

1	nstrument model	AMC100-ZA	
Measurement parameters		Voltage, current, frequency, active power, reactive power, power factor, active energy, reactive energy, Zero-to-ground voltage, leakage current and zero sequence current, total harmonic content (THD), 2-63 harmonics, current and voltage unbalance, ambient temperature and humidity	
	Rated	220VAC	
Bus voltage	Measuring range	±20%	
	Overload	Instantaneous voltage 2 times/sec	
	Rated	Secondary 5A	
Current	Range	$0 \sim 6 \mathrm{A}$	
incoming circuit	Overload	Continuous 1.2 times, instantaneous 10 times/sec	
Temperature	Temperature Range	-40°C~+99°C	
and humidity	Humidity Range	20%~90%	
Input	frequency	AC45~65Hz	
	Incoming line	Voltage/current level 0.2, active power/energy level 0.5, reactive power/energy level 1	
Measurement	Temperature	± 1°C	
accuracy	Humidity	±5%	
Auxil	iary power	AMC100-ZA: signal to take power (≤15W) AMC100-ZA-P220: 220V independent power supply AMC100-ZA-P24: DC 12-24V independent power supply	
	Temperature	Work: -20°C~150°C Storage: -25°C~70°C	
Environment	Humidity	Relative humidity≤93%	
Environment	elevation	≤2500m	
Swit	ch output	4 channels 3A 250VAC/3A 30VDC	
Swi	tch input	8 dry nodes	
Com	nunication	1 isolated RS485/Modbus-RTU to the background system 1 RS485/Modbus-RTU to touch screen 1 RS485/Modbus-RTU connection downstream module Optional 1-channel Ethernet communication function	
Installa	tion Method	DIN35mm rail or bottom plate installation	
Protection level		IP20	
Pollu	tion level	2	
	Insulation	The insulation resistance between all terminals and the conductive parts of the shell is not less than $100M\Omega$	
Security	Withstand voltage	A voltage and current signal//B voltage and current signal//switch output//isolated communication port//between other ports meet AC2kV 1min, switch input and other ports should meet AC0.5kV 1min, leakage current Should be less than 2mA, no breakdown or flashover phenomenon.	
Electromagnet	Anti- static	Level 4	

ic compatibility	interference	
	Anti- electric fast transient burst	Level 3
	Anti- surge interference	Level 4
	Resistance to radio	
	frequency	
	electromagnetic	Level 3
	field radiation	

AC outlet

Instrume	ent model	AMC100-FA30	AMC100-FA48
Measuremen	nt parameters	Voltage, current, frequency, active power, reactive power, pow factor, active energy, reactive energy, 2-31 times total curren harmonic content	
	Rated	220VAC	
Bus voltage	Measuring range	±20%	
	Overload	Instantaneous	voltage 2 times/sec
	Rated		50mA
Current outlet	Range	0. 12	25~60mA
loop	Overload	Continuous 1.2 times,	instantaneous 10 times/sec
Input f	requency	AC4	5~65Hz
Measure	Outlet	Voltage/current/active powe power/react	r/active energy level 0.5, reactive ive energy level 1
Auxilia	ry power	Powered by AMC100-ZA; DC 1	2-24V power supply when used alone
	Temperature	Work: - 15°C~55°C Storage: -25°C~70°C	
Environment	Humidity	Relative humidity≤93%	
	elevation	≤	2500m
Communication		RS485/	Modbus-RTU
Installation Method		DIN35mm rail or	bottom plate installation
Protection level			IP20
Polluti	on level		2
	Insulation	The insulation resistance between a the shell is no	all terminals and the conductive parts of t less than $100M\Omega$
Security	Withstand voltage	The voltage and current signals of of B//other ports meet AC2kV for 1 than 2mA, and there is	circuit A//the voltage and current signals f circuit min, the leakage current should be less no breakdown or flashover.
Electromagnet	Anti- static interference	Ι	level 4
ic compatibility	Resistance to radio frequency electromagnetic field radiation	I	Level 3

Note: The rated input current of the secondary side of the AC outlet module is 50mA, and the default value of the primary side current is 100A. If the current transformer is different, the customer can set the transformation ratio through the touch screen or the host computer according to the actual use.

Instrument model		AMC100-FAK30	AMC100-FAK48	
Measurement parameters		Voltage, current, frequency, active power, reactive power, power factor, active energy, reactive energy, 2-31 times total current harmonic content		
Rated		22	20VAC	
Bus voltage	Measuring range	±20%		
	Overload	Instantaneous	voltage 2 times/sec	
	Rated		50mA	
loop	Range	0.12	25~60mA	
loop	Overload	Continuous 1.2 times,	instantaneous 10 times/sec	
Input	frequency	AC4	5~65 Hz	
Measure	Outlet	Voltage/current/active power/ power/reactive	active energy level 0.5, reactive ve energy level 1	
Auxilia	ary power	Powered by AMC100-ZA; DC 1	2-24V power supply when used alone	
	Temperature	Work: - 15°C~55°C Storage: -25°C~70°C		
Environment	Humidity	Relative ł	Relative humidity≤93%	
	elevation	<u> </u>	2500m	
Comm	unication	RS485/1	Modbus-RTU	
Installati	on Method	DIN35mm rail or	bottom plate installation	
Protection level		IP20		
Pollut	ion level		2	
	Insulation	The insulation resistance between a the shell is not	Ill terminals and the conductive parts of t less than $100M\Omega$	
Security	Withstand voltage	The voltage and current signals signals of circuit B/ / other ports current should be less than 2 m fla	of circuit A// the voltage and current meet AC2 kV for 1 min, the leakage mA, and there is no breakdown or shover.	
	Anti-static interference	L	evel 4	
Electromagnetic compatibility	Resistance to radio frequency electromagnetic	L	evel 3	
	field radiation			

Note: The rated input current of the secondary side of the AMC100-FAK module is 50mA, and the default value of the primary side current is 100 A. If the current transformer is different, the customer can set the transformation ratio through the touch screen or the host computer according to the actual use.

Active switch module

Instrument model		AMC100-KA30 AMC100-KA48	
Input frequency		45-65Hz AC45-65Hz	
Auxiliary power Powered by AMC100-ZA, DC 12-24V power supply when us		12-24V power supply when used alone	
	Temperature	Work: - 15°C~55	°C Storage: -25°C~70°C
Environment	Humidity	Relative humidity≤93%	
	elevation	≤2500m	
Switch input		30 wet nodes (AC 220V)	48 wet nodes (AC 220V)
Communication		RS485/Modbus-RTU	
Installation Method DIN35mm rail or bottom		bottom plate installation	

Prote	ction level	IP20
Pollu	ition level	2
	Insulation	The insulation resistance between all terminals and the conductive parts of the shell is not less than $100 \text{ M}\Omega$
Security Withstand voltage	A switch value input signal/ / B switch value input signal/ / other ports meet AC2 kV 1 min between two, the leakage current should be less than 2 mA, no breakdown or flashover phenomenon.	
	Anti- static interference	Level 4
Electromagnetic compatibility	Resistance to radio frequency electromagnetic field radiation	Level 3

Passive switch module

Instrum	nent model	AMC100-KD30	AMC100-KD48
Auxiliary power		Powered by AMC100-ZA, DC 12-24V power supply when used alone	
Temperature		Work: - 15°C~55°C Storage: -25°C~70°C	
Environment	Humidity	Relative humidity≤93%	
	elevation	≤2500m	
Swi	tch input	30-way trunk node	48-way trunk node
Comr	nunication	RS485/	Modbus-RTU
Installation Method		DIN35mm rail or bottom plate installation	
Protection level		IP20	
Pollution level		2	
	Insulation	The insulation resistance between of the shell is r	all terminals and the conductive parts not less than $100 \text{M}\Omega$
Security	Withstand voltage	A switch value input signal//B meet AC2 kV 1 min between two than 2 mA, no breakdow	switch value input signal//other ports o, the leakage current should be less wn or flashover phenomenon.
Electromagnet	Anti- static interference	I	evel 4
ic compatibility	Resistance to radio frequency electromagnetic field radiation	I	level 3

Temperature measurement module

Instrum	ent model	AMC100-FT30	AMC100-FT48
Number of me	easuring channels	30 channels	48 channels
Auxilia	ary power	Powered by AMC100-ZA, DC 12-24V power supply when used	
			alone
Function	Temperature Range	-20	°C~150°C
	Communication	RS485.	/Modbus-RTU
Installati	on Method	DIN35mm rail or	bottom plate installation
Protection level		IP20	
Pollution level		2	

		Working temperature: -20°C~60°C
Environment	Temperature/humidity	Storage temperature: $-25 ^{\circ}\text{C} \sim 70 ^{\circ}\text{C}$
	/ elevation	Relative humidity: $\leq 93\%$
		Altitude: $\leq 2500 \mathrm{m}$
	Insulation	The insulation resistance between all terminals and the conductive
Security	moulation	parts of the shell is not less than $100 M\Omega$
	Withstand voltage	AC2 kV 1 min between auxiliary power supply and temperature
		measurement, leakage current should be less than 2 mA, no
		breakdown or flashover phenomenon
	Anti- static	Level 4
Electromagnetic	interference	
compatibility	Resistance to radio	
	frequency	Level 3
	electromagnetic	
	Field radiation	

4 Appearance and structure

unit:mm

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AMC100 series AC precision power distribution monitoring device

AMC100-ZA, AMC100-FA 48, AMC100-K 48, AMC100-FT48





AMC100-FA□30、AMC100-K□30、AMC100-FT30







5 Wiring Terminals

5.1 AMC100-ZA Series AMC100-ZA

	Voltage Input A Cu	urrent Input(A) Voltage Input B	Current Input(B)
AMC100-ZA	5 6 7 8 PG 9 10 UA UB UC UN PG IA+ IA- I	11 12 13 14 15 16 IB+ IB- IC+ IC- I+ I- UA UB UC UN PG	21 22 23 24 25 26 27 28 IA+ IA+ IB+ IB- IC+ IC- I+ I-
00			
Run Comm			
		InputA SPD Reserve InputB SPD Reserve COM	
A1 B1 A2 B2 V+ V	V- V- A3 VSS DATA CLK VDD	OF SD A 1 OF SD B 2 00m	D01 D02 D03 D04
30 31 32 33 35	36 V+ B3 81 82 83 84	61 62 63 64 65 66 67 68 69 70	50 51 52 53 54 55 56 57
RS485(1)RS485(2) Voutp	put to N the second sec	Digital Input	Indicator Light Buzzer Reserve1 Reserve2

AMC100-ZA/CE-P220



AMC100-ZA/CE-P24

LAN	Voltage Input A Cu	rrent Input(A) Voltage Input B	Current Input(B)
Amc100-ZA	5 6 7 8 PG 9 10 9 UA UB UC UN PG IA+ IA- I IA+ IA- I	11 12 13 14 15 16 IB+ IC+ IC+ I+ I- IA UB UC UN PG	21 22 23 24 25 26 27 28 IA+ IA- IB+ IC+ IC- I+ I-
Run Comm			
A1 B1 A2 B2 V+ V- 30 31 32 33 35 36	- V- A3 VSS DATA CLK VDD 6 V+ B3 81 82 83 84	InputA SPD Reserve InputB SPD Reserve COM 0F SD A 1 0F SD B 2 61 62 63 64 65 66 67 68 69 70	D01 D02 D03 D04 50 51 52 53 54 55 56 57
RS485 (1) RS485 (2) VInput	t Temperature&Humidity	Digital Input	Indicator Light Buzzer Reserve1 Reserve2

Terminal number	Definition	Description	Remark
1	L(+)	Auviliary power	P220 used not connected by default
2	N(-)	Auxiliary power	1220 used, not connected by default
5	UA	AC voltage Phase A	
6	UB	AC voltage Phase B	
7	UC	AC voltage Phase C	incoming line
8	UN	AC voltage neutral line	
	PG	Ground	
9	IA+	Current input phase A	
10	IA-	Current input phase A	Three along surment input of singuit A
11	IB+	Current input phase B	incoming line
12	IB-	Current input phase D	
13	IC+	Current input phase C	
14	IC-		
15	I+	A channel leakage current input	
16	I-	A channel leakage current input	
17	UA	AC voltage Phase A	
18	UB	AC voltage Phase B	Three share valtage insut of sizewit D
19	UC	AC voltage Phase C	incoming line
20	UN	voltage neutral line	
	PG	Ground	
21	IA+	Current input phase A	
22	IA-		
23	IB+	Current input phase B	Three-phase current input of circuit B
24	IB-		incoming line
25	IC+	Current input phase C	
26	IC-	Current input phase C	
27	I+	B channel leakage current input	
28	I-		
30	Al		The first isolated communication interface,
31	B1	RS485(1)	connected to the background system
32	A2	RS485(2)	The second channel is connected to the touch

33	B2		screen or RS485 hub
	A3		The third way is connected to the
	B3	RS485(3)	downstream module
	LAN	Ethernet	CE with Ethernet communication
35	V+		Power supply to AMC100-FA30/48,
36	V_	Power Output (auxiliary power input when use p24)	AMC100-FAK30/48,AMC100- KA30/48,AMC100-KD30/48,AMC100- FT30/FT48 and touch screen, this power supply prohibits external external devices (such as indicator lights, buzzers)
50	DO1		Connect the buzzer
52			
53	DO2		Connection indicator
54	DOI	Switch output	December 1
55	D03		Reserved 1
56			Reserved 2
57	DOT		
61	Incoming line A		OF
62			SD
63	Lightning protection A		Determine the SPD status of route A
64	Reserve		Reserved 1
65	- Incoming line B		OF+ SD
66		Switch input	SD
67	Lightning protection B		Determine the SPD status of route B
68	Reserve		Reserved 2
69	Common port		Switch common
70	Common port		Switch common
81	VSS		
82	DATA	Temperature and humidity	Connect WH-3 temperature and humidity
83	CLK	remperature and numberly	sensor
84	VDD		

5.2 AMC100-FA30/FA48

AMC100-FA30



Definition	Illustrate	Remark
V+	Auviliary power	Powered by AMC100-ZA
V_	Auxiliary power	Or powered by DC12-24V power supply
A1	R S485(1)	Connect the pre-module
B1	K5405(1)	connect the pre-module
A2	RS485(2)	Connect the subsequent sub-module
B2	10405(2)	Connect the subsequent sub-module
UNA		
UA1	Route A voltage input	Three-phase voltage input of circuit A outgoing line
UA2	Route A voltage input	
UA3		
UNB		
UB1	Route B voltage input	Three phase voltage input of circuit B outgoing line
UB2	Koule B voltage input	Thee-phase voltage input of circuit B outgoing fine
UB3		
A1-A15	Route A current input	circuit A outgoing line AC current input(15 channels)
B1-B15	Route B current input	circuit A outgoing line AC current input(15 channels)

AMC100-FA48



UB+	- Route B voltage input	Three phase voltage input of circuit B outgoing line
UB-		Thee-phase voltage input of circuit B outgoing line
A1-A24	Route A current input	circuit A outgoing line AC current input(24 channels)
B1-B24	Route B current input	circuit A outgoing line AC current input(24 channels)

5.3 AMC100-FAK30/FAK48

AMC100-FAK30



Definition	Illustrate	Remark	
V+		Powered by AMC100-ZA	
V	Auxiliary power	Or powered by DC12-24V power supply	
A1	DC 405(1)		
B1	RS485(1)	Connect the pre-module	
A2	R\$485(2)	Connect the subsequent sub-module	
B2	10403(2)	Connect the subsequent sub-module	
UA1-UA15	Route A voltage input	Route A switch input (15 channels)	
UNA	Route II voltage input	Route in switch input (15 chambers)	
UB1-UB15	Route B voltage input	Route B switch input (15 channels)	
UNB	Route D voltage input	Koue D switch input (15 chamels)	
A1-A15	Route A current input	circuit A outgoing line AC current input(15 channels)	
B1-B15	Route B current input	circuit A outgoing line AC current input(15 channels)	

AMC100-FAK48

1				
			Voltage Input A	
	-			
	Ľ	JNA 0A 1 0A2 0A3 0A4 0A3 0A0 0A7 0A8	0 A 9 DA 10 DA 1 2 DA 1 3 DA 14 DA 13 DA 10 DA 17 DA 10 DA 17 DA 20 DA 21 DA 22 DA 23 DA 24	
F4 A aral				
AMC100-FAK48				
	A1 A2 A3	A4 A5 A6 A7 A8 A9 A10 A	11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24	
			Current Input A	
Run Comm				
	Amust Inc. D			
	B1 B2 B3	B4 B5 B6 B7 B8 B9 B10 B	11 B12 B13 B14 B15 B16 B17 B18 B19 B20 B21 B22 B23 B24	
		<u> </u>		
5 V- A1 🕀	[±] V- A2 🖸		UB9 UB10UB11UB12 UB13 UB14UB15UB16UB17UB18UB19UB20UB21UB22UB23UB24	
Defi	nition	Illustrate	Remark	

Deminion	indstrate	Kemark	
V+	Auxiliary power	Powered by AMC100-ZA	
V_		Or powered by DC12-24V power supply	
A1	DC405(1)	~	
B1	KS485(1)	Connect the pre-module	
A2	R\$485(2)	Connect the subsequent sub module	
B2	10403(2)	Connect the subsequent sub-module	
UA1-UA24	Route A voltage input	Route A switch input (24 channels)	
UNA	Route II voltage input	Route A switch input (24 channels)	
UB1-UB24	Route B voltage input	Route B switch input (24 channels)	
UNB	Route D voltage input	Route D switch input (24 channels)	
A1-A24	Route A current input	circuit A outgoing line AC current input(24 channels)	
B1-B24	Route B current input	circuit A outgoing line AC current input(24 channels)	

5.4 AMC100-KA30/KA48

AMC100-KA30



Definition	Description	Remark	
V+	A	Powered by AMC100-ZA	
V	Auxiliary suppry	Or powered by DC12-24V power supply	
Al	RS485(1)	Connect the pre-module	
B1	100405(1)		
A2	RS485(2)	Connect the subsequent sub-module	
B2	10405(2)	Connect the subsequent sub-module	
KA1-KA15	A channel switch input	A channel active switch input (15 channels)	
UNA	A channel switch input	A channel active switch input (15 channels)	
KB1-KB15	B channel switch input	B channel active switch input (15 channels)	
UNB	B chamer switch input	b channel active switch input (15 channels)	

AMC100-KA48



Definition	Description	Remark	
V+	Auviliary supply	Powered by AMC100-ZA	
V_	Auxinary suppry	Or powered by DC12-24V power supply	
A1	DC 405(1)		
B1	KS485(1)	Connect the pre-module	
A2	RS485(2)	Connect the subsequent sub-module	
B2	10405(2)		
KA1-KA24	A channel switch input	A channel active switch input (24 channels)	
UNA	r enamer switch input	remainer active switch input (24 chamlers)	
KB1-KB24	B channel switch input	B channel active switch input (24 channels)	
UNB	b enamer switch input	B channel active switch input (24 channels)	



Definition	Description	Remark
V+	Auviliary supply	Powered by AMC100-ZA
V-	Auxinary suppry	Or powered by DC12-24V power supply
A1	DC405(1)	
B1	R5485(1)	Connect the pre-module
A2	RS485(2)	Connect the subsequent sub-module
B2	105405(2)	
KA1-KA15	A channel switch	A passive switch input (15 channels)
СОМА	input	ri passive switch input (15 chamleis)
KB1-KB15	B channel switch	B passive switch input (15 channels)
СОМВ	input	b passive switch input (15 chamlers)

AMC100-KD48



Definition	Description	Remark				
V+	Auviliary supply	Powered by AMC100-ZA				
V	Auxinary suppry	Or powered by DC12-24V power supply				
A1	DC 405(1)					
B1	RS485(1)	Connect the pre-module				
A2	R\$485(2)	Connect the subsequent sub-module				
B2	K5+05(2)					
KA1-KA24	A channel switch input	A naggive gwitch input (24 shennels)				
СОМА	A channel switch input	A passive switch input (24 channels)				
KB1-KB24	B channel switch input	B passive switch input (24 channels)				
COMB	B channel switch input					

5.6 AMC100-FT30/FT48 AMC100-FT30



Definition	Description	Remark			
V+	Auviliary power	Powered by AMC100-ZA			
V-	Auxiliary power	Or powered by DC12-24V power supply			
Al	RS485(1)	Connect the pre-module			
B1	K5+65(1)	connect the pre-module			
A2	RS485(2)	Connect the subsequent sub-module			
B2	K5+65(2)	Connect the subsequent sub-module			
AT1-AT15	A channel temperature input	A temperature input(15 channels)			
BT1-BT15	B channel temperature input	A temperature input(15 channels)			

AMC100-FT48

Acrel	AT AT AT COM AT AT AT COM AT AT AT COM	Temperature Input A	AT AT AT COM AT AT AT COM AT AT AT COM
O O Run Comm	1 2 3 A1 4 5 6 A2 7 8 9 A3	10 11 12 A4 13 14 15 A5	16 17 18 A6 19 20 21 A7 22 23 24 A8
V- A1 V- A2 V+ B1 V+ B2	BT BT COM BT BT BT COM BT BT COM 1 2 3 B1 4 5 6 B2 7 8 9 B3	BT BT BT COM BT BT BT COM 10 11 12 B4 13 14 15 B5 Temperature Input B	BT BT BT COM BT BT BT COM BT BT BT COM 16 17 18 B6 19 20 21 B7 22 23 24 B8
VInput RS485(1) VOutput RS485(2)			

Definition	State	Remark				
V+	Auxiliary supply	Powered by AMC100-ZA				
V.	Auxiliary suppry	Or powered by DC12-24V power supply				
A1	DC405(1)					
B1	RS485(1)	Connect the pre-module				
A2	RS485(2)	Connect the subsequent sub-module				
B2	K5465(2)	Connect the subsequent sub-module				
AT1-AT24	A temperature input	A temperature input(24 channels)				
BT1-BT24	B temperature input	A temperature input(24 channels)				

5.7 Typical primary wiring diagram



Touch Screen



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

	Interface	PIN	Pin definition
(12345)		2	RS232 RXD
	COM1	3	RS232 TXD
6789		5	GND
	0042	7	RS485 +
Serial port pin definition	COIVIZ	8	RS485 -
	0042	4	RS485 +
	COMS	9	RS485 -

6.1 Appearance and installation

7-inch touch screen appearance and installation (ATP007KT)



Dimension

Hole Size





10-inch touch screen appearance and installation (ATP010KT)



6.2 Wiring power wiring

Step1:Strip the 24V power cord and insert it into the wiring terminal of the power plug.

Step2:Use a flat screwdriver to lock the power plug screw tightly.

Step3:Insert the power plug into the product's power outlet.

Tip:Use a power cord with a diameter of 1.25mm² (AWG18).

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



Communication wiring

The factory configuration has a green adapter board, of which (7-8) is downlink (7 docking 485A; 8 docking 485B), connected to 485 of the module, green and white (4-9) uplink (4 docking 485A; 9 docking 485B) , to rotate the ring.



Note: The following describes system interface 1 and interface 2. Interface 2 is an upgraded version based on interface 1, and it will take effect from September 2022.



7 Details of parameters, functions, and operations

As shown in the picture, the first interface after the touch screen turned on is the home page, the home page is unique. And all functions can be accessed by finding the corresponding buttons on the home page. The parameters in the homepage are taken from the first incoming line.

7.1 Incoming Line Parameters

Click "Incoming Line Parameters" on the home page to view incoming line/main circuit parameters. The main parameters are as follows:

∽ A Inlet Pa	rameter			23-08-07 11:05:34 4	③ <)» <
PhaseU			-1	1005	ia 🖬 la 📕 la
0. OV (. ov (• •v	la de la companya	0%	0.00A 0.00A
Ua General Parameter	Ub Phase A/AB	Uc Phase B/BC	Phase C/CA	All/Average	0.004
LineU/V					
P/kW	0.00				
ReactiveP/kVar	0.00				
ApparentP/kVA	0.00				
Power Factor/¢	0,000				
Load Percentage/%					
EP/kWh	0.00				Month Ep
ReactiveE/kVarh	0.00				
		1/4	>	A	В

The main parameters :voltage of different phases, current, line voltage, active power, reactive power, apparent power, power factor, load percentage, active energy, reactive energy and frequency of each phase.

The monthly electric energy is the cumulative electricity consumption of each month, and the monthly electric energy data is recorded once at the beginning of each month and displayed in the table. Click the switch button below to switch to view the monthly power of the incoming line and the monthly power of each outgoing line.

<u>ج</u> (Month Ep			-07 11:06:35 🐼 Ҁ)»	
min .		Inlet Month E			
	Date	Inlet1#PhaseA	Inlet1#PhaseB	Inlet1#PhaseC	1
E _					
- -					
≢					
<u>ا</u>					1
ź –					
7					
urm	<			>	

Click the upper left corner to return to the incoming line parameter interface. If you have more parameters to view, please click the page turning button below.

	∽ A Inlet Parameter		2023-08-07 11:09:09 🤇	› ረ» ഹ
edmin	PhaseU		1 00%	la 📕 lb 📕 lo
Inlet	0. 0V Ua Ub Uc	la Ib Ic	0% 0%	0. 00A 0. 00A 0. 00A
-	General Parameter			
Outlat				
	0-GND U/V			
	Leakage1/mA			
	U Imbalance/%			
	Temperature/'C			
19	Humidity/%			
Alarm				
	< 2/4	\mathbf{S}	A	В

The parameters on page 2 include zero-sequence current, zero-ground voltage, leakage current, voltage unbalance, current unbalance, cabinet temperature, and cabinet humidity.

	🕤 A Inlet Para	neter	2023-08-07 11:10:28 💮 📢 🎧				
edmin.	PhaseU			📕 100% 🛄 la 📕 la 📕 la			
somin 			la Ib Ic	0.00A 0.00A 0.00A 0.00A			
-#	General Parameter	Phase A/AB	Phase B/BC	Phase C/CA			
	Fundamental P/kW						
Unciec	Harmonic P/kW	0.00					
	Fundamental Ep/kWh	0.00					
	U Harmonic Total/%	0.00					
Switch	I Harmonic Total/%	0.000					
	I Subharmonic 2~63/%						
(ġ	I Subharmonic 2~63/%						
Alarm							
		3 🔇	/4 >	AB			

	5	Phas	eA	1 :	Subh	ar	mon	ic 2	2~6	3			2023	-08-0	7 11:16	21	ල }	Ц]»	$\widehat{\omega}$
admin		P	hase	A I S	ubhari	mon i														
				12	0.0		22			32		42			52			62		
÷.					0.0		23	0.0		33		43			53	0. 0		63		
Inlet				14			24			34		44			54	0.0				
-	5	0.0		15	0.0		25			35		45			55	0.0				
Outlet	6			16	0.0		26			36		46			56	0. 0				
					0.0		27	0.0		37		47	0.0		57	0. 0				
	8	0.0		18			28			38	0.0	48			58	0. 0				
		0.0		19	0.0		29			39		49			59					
<u>ش</u>	10			20	0.0		30			40		50			60					
Alarm				21	0.0		31	0.0		41		51			61	0.0				
																A				

The third page is harmonic related parameters. You can view the fundamental active power, harmonic active power, fundamental active energy, and voltage total harmonics of each phase. Click the corresponding arrow to view the 2~63rd current subharmonic and voltage subharmonic of each phase.

	∽ A Inlet Para	meter	2023-08-07 11:17:14	(종 다) 슈
		MAX Demand	Time	
edmin	PhaseA Demand			
	PhaseB Demand			
	PhaseC Demand			
Inlet	PhaseA P Demand			
	PhaseB P Demand			
-	PhaseC P Demand			
Outlet Switch			15 mir	Time Set Clear All
Атагш		< 4/4	» <u> </u>	АВ

Page 4 is the maximum demand for incoming line current and power. The maximum demand is the maximum value of the average value generated by the current and power history of the incoming line during the set time. Click the back button in the upper left corner to return to the home page.

7.2 Outgoing parameters

On the home page, click "Outgoing Parameters" to enter or click on the Outgoing Parameter icon in any parameter viewing interface to enter.

	5 🗛	Outlet	Parameter	2023-4	08-07 11 18 42	چ ⊲»	$\widehat{\omega}$		
admin		Load		U/Y	1/A	P/k∎	EP/k w h	PF	
		A1		0. 0	0.00	0. 000	0.00	0.000	
-#E	2	A2		0.0	0.00	0.000	0.00	0, 000	
		A3		0.0	0.00	0.000	0.00	0.000	
		A4		0.0	0.00	0.000	0.00	0, 000	
-#	5	A5		0. 0	0.00	0.000	0.00	0.000	
	6	A6		0.0	0.00	0.000	0.00	0, 000	
outlet		A7		0.0	0.00	0.000	0.00	0.000	
	8	A8		0.0	0.00	0.000	0.00	0,000	
	9	A9		0. 0	0.00	0.000	0.00	0.000	
	10	A10		0.0	0.00	0.000	0.00	0,000	
(iai)	11	A11		0. 0	0.00	0.000	0.00	0.000	
	12	A12		0.0	0.00	0.000	0.00	0.000	
Alarm								_	
	OFF	 0	N	<	1/2	>	A	В	

Outgoing parameters mainly include voltage, current, active power, active energy, and power factor. If you need other parameter information, click the small arrow on the right to view the specific parameters of the road.

	\leq A	Outlet	Parameter			2023-0	8-07 11:19:30	ବ୍ର ଏ _୬	$\widehat{\mathbf{w}}$
edmin		Load		A1			EP/k Wh	PF	
		A1			0. OV		0.00	0.000	
-%E	2	A2			0. 00A		0. 00	0.000	
		A3			0. 00kW		0.00	0.000	
		A4			0.00kVar		0. 00	0.000	
	5	A5			0. 00kVA		0.00	0.000	
Outlet	6	A6		EP	0. 00kWh		0. 00	0.000	
oucreci		A7		EQ	0.00kVarh		0.00	0.000	
-#	8	A8		PF	0.000		0.00	0.000	
	9	A9		Load	0.0%		0.00	0.000	
	10	A10		Limits	30A		0. 00	0.000	
	11	A11		IH	0.00%		0.00	0.000	
	12	A12		Temp	0.0°C		0. 00	0.000	
	OFF		ON E		Close		A	В	

After clicking to close the window, you can view other circuit information.

The name of the circuit can be modified. For the modification method, see Modifying name of the circuit below.

7.3 Switch state

Click "Switch Status" on the home page to enter or click on the Switch Status icon in any parameter viewing interface to enter.



7.3.1 Main switch state

7.3.1.1 The leftmost column defaults to the main road switch status, main road trip SD status, main road lightning protection switch status, and main road lightning protection fault point status. The default is passive detection point. Open is red and closed is green.

7.3.1.2 The switch state of the main circuit can be set and modified to active detection mode.

7.3.1.3 The name can be modified for detection of other switching points.

7.3.1.4 You can set normally open and normally closed to modify the alarm logic.

7.3.1.5 If there is no such detection requirement, it can be set to hide.

Refer to the following "Alarm Settings" for the above setting methods.

If the user finds that the switch state is inconsistent with the actual situation during actual use, it is necessary to check the active and passive selection and normally open and normally closed selection in the "alarm settings".

It should be noted that if the number of circuits exceeds 2,the default wiring method is to connect incoming wires 1 and 2 to the first AMC100-ZA, and incoming wires 3 and 4 to the second AMC100-ZA. The default display method is that incoming lines 1 and 3 are on the same interface, sharing one outgoing line, while incoming lines 2 and 4 are on the same interface, sharing one outgoing line.

7.3.2 Branch switch state

The right side of the switch state of the main circuit is the switch state of the branch circuit, and the default is the active detection point. The Open one is red and the closed one is green.

The name of the switch can be modified. For the modification method, see Modifying the circuit name below. It can be modified to passive detection mode. For setting, refer to "Alarm Setting" below.

7.4 Alarm query

7.4.1 Current alarms

Click "Alarm Query" on the home page or click on the Alarm Query icon in any parameter viewing interface to enter.to view the current alarm.

•	∽ Alarm			2023-08-07	13:05:54 🐼 🖏 🤸
		Curi	ent Alarm		
	Date	Time	Object name	Alarm description	Response time 🔨
E	2023/06/07	13:05:00	AL 191200081-014	Hintes Meter Communication Alarm	
	-				
æ	a				
E					
F					
		_			_
গ্র 📗					
arm		a la constante de la constante			
	Restart HMI	Fresh Swi	itch Alars Alar	m Count Alarm Value	Mute

When an alarm occurs, the relay output of the buzzer and indicator light will act, and the screen will beep at the same time. The buzzer and buzzer relay output can be eliminated by clicking the Acknowledge Alarm button.

To solve the current alarm, it is necessary to clarify the content of the current alarm, and the alarm description shall prevail. When there is a communication failure, the communication failure shall be solved first, and then the corresponding problem shall be found according to the alarm description.

When the current alarms are all restored, the relay output of the buzzer and the indicator light will automatically restore.

7.4.2 History alarm

Click "Historical Alarm" on the current alarm page to view historical alarms.

			Alarm Hist	ory
Date	Time	Alarm description	End time	Duratio
2023/08/07	13:05:00	1#Inlet Meter Communication Alarm		-
2023/08/07	11:00:42	1#Inlet Meter Communication Alarm		T
				Î .
				2
				<u></u>
-				

Click "Clear Historical Alarms" to clear historical alarms. This button requires user login on the home page to obtain permission.

7.4.3 Alarm Count

If there is a need for alarm counting, you can click on the alarm counting button in the current alarm interface to view

it.			-				
	🕤 Alarm Count		2923-08-07		తి	⊲ »	$\widehat{\omega}$
	Current Alar						
(etc)	Alniet Alarm Count	0	Binlet Alarm Cou	unt		0	
	AOutlet Overload Alarm Count	0	BOutlet Overload	d Alarm Co	unt	0	
Inlet	Alnlet Switch Alarm Count	0	Binlet Switch Al	larm Count		0	
-=	AOutlet Switch Alarm Count	0	BOutlet Switch A	larm Coun	t	0	
Outlet							
Switch							
(a)	Communication Alarm						
Alarm							
Atarm							

7.4.4 Alarm Value Query

Click on the alarm value query in the current alarm interface, and when an incoming and outing line overload alarm occurs, the specific current value corresponding to teh alarm generation will be displayed.

Date	Alarm value	Alarm description	End tim

7.5 User login

After the user logs in, the setting operation can be performed.

2023-08-07 13:11.56	Pr	ecision Power Management System
Inlet	Out lot Switch	Alarm Sve Settinge Alarm Settinge Clear
1/A	User login	A
la	ይ 负责人	User password:
lb	🧕 admin	Logout way: Online timeout Idle timeout
Ic	😧 其它配置	Online time: 0 Minutes
PhaseU/V		User description:
0. OV		USB login Login Cancel
Ua		12:11:44 13:11:44



7.6 Time setting

Refers to the time setting of the touch screen. After logging in as a user, click the time to enter the time modification interface.



Ś	Time Set						(전) (J) (J)
	Year	Month	Day	Hour	Minute	Second	
	2020	1	1	1	1	1	Set

7.7 System Settings

Click "System Settings" on the home page to enter the settings.

The system settings are personalized for each system, that is, according to the number of loops and parameters of each application scenario, the settings are made to match the current system.

System settings include outgoing line mode, number of circuits, number of switching circuits, incoming line switch load rating, incoming line CT ratio, outgoing line switch load rating, outgoing line CT transformation ratio, and name setting for each outgoing line circuit.

Any changes to this section must be done by clicking the "Save Settings" button.

7.7.1 Number of loops Setting

After clicking to enter "System Settings", set the type of incoming and outgoing lines and the number of circuits in the first interface.

	🕤 Sys Settings		2023-08-0		<⊉	⊲»	$\widehat{\mathbf{w}}$
admin	Language	中文					
Sys Setting:	Inlet LoadNum	2 Outle	t Mode		Doub I	8	
Inlet Load	First Outlet LoadNum			15			
Outlet Load				15			
Outist Cl				15			
Outlet Loadf				15			
				C			
				C			
	Save	🔇 1 / 2 📎					



Determine how many incoming and outgoing lines there are based on the system drawings. It should be noted that if the system is not a one in one out or two in two out system, refer to the display pattern described in the parameter display section and switch status interface above.

The detailed configuration of the outgoing mode requires entering a password and is not open. When the wiring is special.please contact our company to change the settings here.

Modify the number of circuits and switch circuits according to the drawing and actual application. The range of the number of outgoing line 1 circuits is $0\sim192$, the range of the number of outgoing line 2 circuits is $0\sim100$, the range of the number of outgoing line 1 switches is $0\sim192$, and the range of the number of outgoing line 2 switches is $0\sim100$.

Virtual summary function: This function can be enabled on page 2 of the system circuit settings. If necessary, after opening it, you can enter the configuration interface to select and group each circuit. Click on the "Virtual Summary Table" in the outlet parameter interface to view the current, power, and energy data of each group. The data of each group i the total data of the circuits set into that group.

	🕤 Sys Settings	2023-08-07 13.24.20 🐼 📢 🖓
edmin	Virtual Group Open	Set Virtual Group Set OGroups
	DO Function	
	Save	2/2 >

	∽ A0utlet		Parameter	rameter			18-07 13:25:33 🔾	≩ <\»	$\widehat{\mathbf{w}}$
admin		Load		U/Y	1/A	P/k∎	EP/kWh	PF	
		A1		0. 0	0.00	0.000	0.00	0.000	
-÷⊟	2	A2		0.0	0.00	0.000	0.00	0.000	
	3	A3		0.0	0.00	0.000	0.00	0.000	
Intec		A4		0.0	0.00	0.000	0.00	0.000	
-	5	A5		0. 0	0.00	0.000	0.00	0.000	
	6	A6		0.0	0. 00	0.000	0.00	0.000	
Outlet		A7		0. 0	0.00	0.000	0.00	0.000	
Æ	8	A8		0.0	0. 00	0.000	0.00	0.000	
	9	A9		0. 0	0.00	0.000	0.00	0.000	
Switch	10	A10		0.0	0. 00	0.000	0.00	0.000	
	11	A11		0. 0	0.00	0.000	0.00	0.000	
	12	A12		0.0	0. 00	0.000	. 00	0.000	
Alarm									
	OFF		ON 💽 💓 🖬	<	1/2	> Virtual G	roup A		

DO Configuration: If two incoming and outgoing lines need to use DO for Alarm output, enter the second page of the system circuit settings to set the DO configuration to two channels.

7.7.2 Line load related

Click the switch button "Incoming line load related" left to modify the incoming line switch load rated value and incoming line CT ratio.



The load rating of the incoming switch is the indicated load current of the switch actually used. It is used to automatically calculate the overload limit value of incoming line load.Please refer to the alarm settings below to modify the load rating here.The default overload limit for the first section is 60% of the rated value here,and for the second section, it is 80%.

The incoming line CT transformation ratio is obtained according to the incoming line transformer used, which is the ratio of the transformer value, for example: if the transformer model is 100A/5A, then the CT is set to 20.

7.7.3 Outgoing switch rating

Click the toggle button "Outgoing Switch Rating" below to modify the load rating of the outgoing switch.

	5 A O	utlet N	lax Load	l						⊲»	$\widehat{\omega}$
admin		A1	50		A11	50					
		A2	50		A12	50					
		A3	50	13.	A13	50					
		A4	50	14.	A14	50					
		A5	50	15.	A15	50					
		A6	50								
		A7	50								
		A8	50								
		A9	50								
	10.	A10	50								
		N	0.0	\sim NO.	0	set	0	Set	Lot		
							0	Set	ALL		
		Save		<) 1 / 1	>		A		В	

The load rating of the outlet switch is the indicated load current of the switch actually used.

Set to automatically calculate the line overload limit value.

It can be set for a single channel, or you can specify a segment of the loop number to set, or you can set all of them to the specified value with one key.

7.7.4 Outgoing current transformation ratio

Click the switch button "Outgoing Current Transformation Ratio" left to modify the outgoing CT transformation ratio.

	S A	Outlet	Current	СТ			2023-08-07	13:34:40	ģ	⊲»	$\widehat{\omega}$
admin		A1	10		A11	10					
		A2	10	12.	A12	10					
		A3	10		A13	10					
		A4	10	14.	A14	10					
		A5	10		A15	10					
		A6	10								
		A7	10								
		A8	10								
		A9	10								
	10.	A10	10								
			NO. 0	\sim NO.	0	set	0	Set	Lot		
						or/5	0	Set	ATT		
		Save			<) 1 / 1						

The load rating of the outgoing line switch is obtained according to the outgoing line transformer used, which is the primary value of the transformer/5. For example: if the transformer model is 100A/50mA, then the CT is set to 20, that is 100/5.

7.7.5 Outlet name

The circuit name can be personalized set to meet the needs of various application scenarios.

Click the switch button "Outgoing Line Name" left to modify the load name of the outgoing circuit.



Click directly on the circuit box to modify the circuit name. Click on the load name modification interface to synchronize the name to the load name and switch name.

The switch name and load name are set independently. Click "Switch Name" on the current interface to enter and modify the switch name.

	≦ ∧ ○	utlet S	witch Nam	ne		2023-08-07	13:38:26	$\langle \widetilde{\mathbb{C}} \rangle$	⊲»	\bigcirc
admin						Swite	ch Name	e)		
	1.	A1	10.	A10						
	2.	A2	11.	A11						
	3.	A3	12.	A12						
	4.	A4	13.	A13						
	5.	A5	14.	A14						
	6.	A6	15.	A15						
	7.	A7								
	8.	A8								
	9.	A9								
		ĺ	Name Sync	Der	rive by USB	Input from	USB			
		Save		<	1/1 >			A D		

Click directly on the circuit box to modify the switch name. Click "Name Synchronization" to synchronize the load name to the switch name.

After inserting the U disk behind the touch screen, click "Export name" on the name modification interface, and an EXCEL form will be generated in the U disk. You can use the computer to edit the name of each circuit. After the modification is completed, insert the U disk behind the touch screen and click "Import Name" has been modified. If there are multiple touch screens and the application scenario is the same system, if you want to configure the same circuit name, you can use the same EXCEL file to import multiple touch screens.

The modified load name can be displayed as the modified name for each circuit on the outgoing line parameter interface. And when a relevant alarm is generated, the alarm information is also the corresponding modified name.

Modifying the switch name can display the modified name for each switch circuit on the switch status interface. And when a relevant alarm is generated, the alarm information is also the corresponding modified name.

7.8 Alarm settings

Click "Alarm Settings" on the home page to enter into the settings.

This interface can modify all alarm-related settings.

Any changes to this section must be done by clicking the "Save Settings" button.

7.8.1 Incoming line alarm setting

	∽ A Alarm S	ettings		2023-08-	07 13:39:23	? <) 心
admin	Alarm Type	Alarm Value	Alarm	Alarm Type	Alarm Value	Alarm
Inlet Alarn		10	0pen	Over Power/kW	46. 464	0pen
Outlet Alarm		187	0pen		47	0pen
	OverVoltage/V	242	0pen		53	Open
Communication		20	Close	U Unbalance	33	0pen
Operation Log		10	Close	I Unbalance	330	Close
		192	Open	O−GND U∕V	80	Open
		256	Open		256	Open
	Save		S 17	3 🔊	A	В

The "alarm switch" column is used to set whether the alarm is put into use, and unnecessary or unselected alarms can be turned off to prevent false alarms.

Click the page turning button to view other incoming line alarm settings.

7.8.1.1 Phase loss alarm: When the incoming line voltage is lower than the set alarm value, a phase loss alarm will be generated.

7.8.1.2 Under-voltage alarm: When the incoming line voltage is lower than the set alarm value and higher than the alarm value set for phase loss alarm, an under-voltage alarm will be generated.

7.8.1.3 Over-voltage alarm: When the incoming line voltage is higher than the set alarm value, an over-voltage alarm will be generated.

7.8.1.4 First-Stage undercurrent alarm: When the incoming line current is lower than the set alarm value, an undercurrent alarm will be generated.

7.8.1.5 Second-stage undercurrent alarm: When the incoming line current is lower than the set alarm value, a second-stage undercurrent alarm will be generated.

7.8.1.6 First-stage over-current alarm: When the incoming line current is higher than the set alarm value, a one-stage over-current alarm will be generated.

7.8.1.7 Second-stage over-current alarm: When the incoming line current is higher than the set alarm value, a second-stage over-current alarm will be generated.

7.8.1.8 Power over-limit alarm: When the incoming line power is higher than the set alarm value, a power over-limit alarm will be generated.

7.8.1.9 Under-frequency alarm: When the frequency is lower than the set alarm value, an under-frequency alarm will be generated.

7.8.1.10 Over-frequency alarm: When the frequency is higher than the set alarm value, an over-frequency alarm will be generated.

7.8.1.11 Voltage three-phase unbalance alarm: When the three-phase unbalance of incoming line voltage is higher than the set alarm value, a voltage three-phase unbalance alarm will be generated.

7.8.1.12 Current three-phase unbalanced alarm: When the incoming line current three-phase unevenness is higher than the set alarm value, a current three-phase unbalanced alarm will be generated.

7.8.1.13 Zero-ground voltage alarm: When the neutral-ground voltage is higher than the set alarm value, a zero-ground voltage alarm will be generated.

7.8.1.14 Zero-sequence current alarm: When the zero-sequence current is higher than the set alarm value, a zero-sequence current alarm will be generated.

7.8.1.15 Leakage current alarm: When the leakage current is higher than the set alarm value, a leakage current alarm will be generated. If the leakage current is not measured, that is, there is no leakage current transformer and related wiring, the value of the leakage current is 0 by default. At this time, it is lower than the set alarm value, and the alarm switch can not be turned off and no false alarm will be generated. The same is as below.

7.8.1.16 Cabinet temperature alarm: When the cabinet temperature is higher than the set alarm value, an over-temperature alarm will be generated.

7.8.1.17 Cabinet humidity alarm: When the humidity of the cabinet is higher than the set alarm value, a humidity alarm will be generated.

7.8.1.18 Incoming line passive switch alarm:

The alarm of the passive switch can customize the name, purpose, alarm logic, and whether it is put into use. The following is the initial default usage.



Main circuit switch status: If you select "Passive" in the "Collection Mode" column, you can directly collect the auxiliary contact switch signal,DI points taken from the AMC100-ZA module, and if you choose "Active", you can directly collect the voltage to judge. If you select "Normally Open" in the "Wiring Type" column, the AMC acquisition module terminal detection status is green when it is closed, and red when it is disconnected, and the main circuit switch alarm will be generated from closed to open. If you select "Normally Closed", the terminal detection status of the module is closed. It is red, and it is green when it is disconnected, and the main circuit switch alarm will be generated from disconnected, and the main circuit switch alarm will be generated from Switch status interface. If you only need to display no alarm, you can select "Close" in the "Alarm Switch", and the main switch will only display no alarm.

Main circuit trip status: If "Normal Closed" is selected in the "Connection Type" column, the terminal detection status of the AMC acquisition module will generate main circuit trip alarm from close to open.If "Normally Open" is selected, the module terminal detection status will generate a main circuit trip alarm from open to close.If this function is not used, you can select "Hide"in the "Display" column to cancel the display of the switch in the switch status interface.If you only need to display and do not need an alarm, you can select "off" in the "alarm switch" to display only the main circuit trip without an alarm.

Main road lightning protection switch: select "Normally Closed" in the "Connection Type" column, the AMC acquisition module terminal detection status will be green when it is closed, and red when it is disconnected, and the main road lightning protection alarm will be generated from closed to disconnection. Then the module terminal detection status is red when it is closed, and green when it is disconnected, and the main road lightning protection alarm will be generated from closed to disconnection. Then the module terminal detection status is red when it is closed, and green when it is disconnected, and the main road lightning protection alarm will be generated from disconnection to closure. If this function is not used, you can select "Hide" in the "Display" column to cancel the display of the switch on the switch status interface. If you only need to display and do not need to alarm, you can select "Close" in the "Alarm Switch", and the main road lightning protection will only display and not alarm.

Reserved switch acquisition: If "Normally Closed" is selected in the "Wiring Type" column, the AMC acquisition module terminal detection status wil be closed in green and open in red, and an alarm will be closed in green and open in red, and an alarm will be generated from close to open. If "Normally Open" is selected, the module terminal detection status will be closed in green, and an alarm will be generated from open to close.

It should be noted that all four switch legends are fixed.In the theory,one AMC100-ZA has a total of 8 DI input points that can measure any switch input,not limited to the main circuit switch status,tripping,and lighting protection.The name can be modified to match the actual tested switch value,but the display style of the switch is fixed.If the tripping point type and lighting protection grounding style do not match the current detected switch,the reserved switch can be opened,the style is consistent with the main circuit switch,and the detection position on the module is at the 4th DI point.



7.8.2 Outgoing Line alarm setting

Click the switch button "Outgoing Line Alarm Setting" below to set the relevant alarm for the outgoing line.

7.8.2.1 Outgoing Line switch alarm:

Switch opening alarm: Select "Active" in the "Acquisition Mode" column to directly collect the voltage to judge. If you select "Passive", use the KD module to collect passive switch signals. Select "Normally Open" in the "Wiring Type" column, and the switch status detected on the module terminal is green for closing and red for opening, and an alarm for switch opening will be generated from closing to opening. The module terminal detection status is red when it is closed, and green when it is disconnected, and a switch opening alarm will be generated from disconnection to closure. If no alarm is required, select "Off" in the "Alarm Switch" column. You can click the arrow in the "Individual Settings" column to set whether the alarm of each channel is enabled or not. The default switch alarm start and stop is based on the number of switch circuits currently set,The switch alarms within the range of the number of channels are all turned on, and the switch alarms exceeding the number of channels are all turned off.

	5 A S	witch Off	Alarm S	ettings			2023-08-07 13:42:27	త్ర	⊲ »	$\widehat{\omega}$
edmin			Switch Ala	arm			SD Alarm			
11110000		A1	ON		A11	ON				
iniat Alarm		A2	ON		A12	ON				
Outlet Alarm		A3	ON		A13	ON				
Communication		A4	ON	14.	A14	ON				
comanneacton		A5	ON	15.	A15	Ŧ				
Operation Log		A6	ON							
		A7	ON							
		A8	ON							
		A9	ON							
	10.	A10	ON							
				9						
		Save		<	1/1	2				

7.8.2.2 Switch failure alarm: If the system requires SD alarm, enable the alarm in the "Alarm Switch" column. Select "Normally Closed" in the "Wiring Type" column, and the detection status of the KD module terminal is green when it is closed, and red when it is disconnected, and the main circuit trip alarm will be generated when it is closed to disconnected. If you select "Normally Open", the detection status of the KD module terminal is Red, open to green, and from open to closed will generate a switch trip alarm.

7.8.2.3 Undercurrent alarm for one section of outgoing line: When the current value of a certain circuit is lower than the product of the switch rating of this circuit and the value set for the undercurrent percentage of one section, an undercurrent alarm for one section of this circuit will be generated.

7.8.2.4 Second-stage undercurrent alarm of outgoing line: When the current value of a certain circuit is lower than the product of the switch rated value of this circuit and the value set by the second-stage undercurrent percentage, the second-stage undercurrent alarm of this circuit will be generated.

7.8.2.5 One-stage over-current alarm of outgoing line: When the current value of a certain circuit is higher than the product of the switch rated value of the circuit and the value set by the one-stage over-current percentage, an over-current alarm of the one-stage section of the circuit will be generated.

7.8.2.6 Second-stage over-current alarm of outgoing line: When the current value of a certain circuit is higher than the product of the switch rated value of this circuit and the value set by the second-stage over-current percentage, the second-stage over-current alarm of this circuit will be generated.

7.8.3 Communication alarm

After the module and touch screen wiring are completed, the initial debugging needs to enter this interface. fill in the actual slave module address from small to large, usually the address label affixed to the module. The default regulations are as follows:

AMC100-FAK48 10~19 AMC100-FAK30 20~29 AMC100-FDK48 10~19 AMC100-FDK30 20~29 AMC100-FDK30 20~29 AMC100-FT48 30~39 AMC100-FT30 40~49 AMC100-KD48 50~59 AMC100-KD48 50~59 AMC100-KD30 60~69 AMC100-KA48 70~79 AMC100-KA30 80~89

Example: If one AMC100-FAK48 and one AMC100-FAK30 slave modules are used, then slave address 1 is set to 10 and slave address 2 is set to 20.

After completing the above equipment, click Return. If a module communication alarm is generated, first observe what module's alarm is, and then go to the Communication Alarm interface to check the address.

edmin Inlet Meter Address Iri Inlet Alarm Outlet Meter Address Iri Outlet Alarm Communication 1. 0 2	ite addr ite addr	0	Read addr	0	
Unlet Alarm Outlet Meter Address	ite addr	0	Read addr		
Communication 1. 0 2				0	
	0	3. 0	4. 0	5. 0	
Operation Log. 6. 0 7	0	8. 0	9. 0	10. 0	
11. 0 12	0 1	3. 0	14. 0	15. 0	
16. 0 17	0 1	8. 0	19. 0	20. 0	
Explanation: 1.When Inlet Meter has Commu Behind the HMI is Plugged in 2.When First Power on, the O 3.After the Step2, if There and Change the Outlet Meter	nication Alarm. utlet Address SI is Outlet Commun Address.				

If the alarm message is "communication failure of incoming line module", check the address of the main module on this interface. The address of the main module should be 1. It is necessary to check whether the address of the main module actually used is 1. If it does not match, it needs to be changed to 1.

Click the "Read Address" button on the right side of the word "Main Module Address", and observe whether the address read in the display box is 1. If it is 0 and there is no change, you need to check the wiring. If it is not 1, you need to write the address. Enter 1 on the right side of the button and click "Write Address", then click "Read Address" to check whether the address is successfully changed to 1.

If there are words such as slave communication failure in the alarm message, it is necessary to modify the address of the slave module. If there are multiple slave communication faults, each slave module needs to modify its address separately. For example, if the slave machine uses one AMC100-FAK48, and according to the address regulations, the address of this AMC100-FAK48 should be 10 (which should be 10 instead of the actual module address being 10, that is the actual module address needs to be changed to 10), then ensure that target slave module is separately connected to the main module. If there are other slave modules, they must be disconnected and unplugged from the communication cable.

Change the position with the serial number 1 below the slave address to 0.



Write 10 in the input box to the right of the Write Address button in the slave address area, and then click Write Address.Click the read address button in the slave address area, and the box on the right displays 10, indicating successful modification.After modification, restore the address specified in the above regulations from the machine address settings.

To prevent misoperation from causing normal communication to become abnormal communication, all secondary operation passwords are written and set.

	🕤 Communic	ation						12 (Š	⊲»	$\widehat{\omega}$
admin		ess [Write a	ddr	0	Re	ad addr	0		
Inlet Alarm										
Outlet Alarm		ress2	Write a	ddr	1	Re	ad addr	0		
Gommunication	1.	0	2.	0	3. 0	4.	0	5.	0	
Operation Log	6.	0	7.	0	8. 0	9.	0	10.	0	
	11.	0	12.	0 1	3. 0	14.	0	15.	0	
	16.	0	17.	0 1	8. 0	19.	0	20.	0	
	Explanation: 1.When Inlet Met Behind the HMI i 2.When First Pow 3.After the Step and Change the C Save	er has Cor s Plugged ver on, the 2. if The Dutlet Mete	mmunicati in. e Outlet re is Out er Addres							

7.9 Data Clearing

Clear energy data generated while in use or during commissioning.

	∽ Clear		2023-08-07 13:46:09	(한 <\) (값 ()
- della				
	Inlet1 ClearE	Clear		
Clear	Inlet2 ClearE	Clear		
	Outlet1 ClearE	Clear		
	Outlet2 ClearE	Clear		
	Outlet1 0 ClearE	Clear		
	Outlet2 0 ClearE	Clear	Set Baud 485(2)	0
	Iniet183 Outlet1 ClearE Month	Clear	Read Baud 485(2)	0
	Iniet2&4 Outlet2 ClearE Month	Clear	Baud of HNI	0

Click "Data Clear" on the home page to enter and delete the corresponding energy data.

If you want to clear the data of a certain loop, fill in the serial number of the corresponding loop in the box, and click the clear button on the right.

All reset operations require a second password to prevent malicious modification.

7.10 Background communication

If the actual application scenario requires background dynamic rings, etc., click on the background communication button on the homepage to enter, you can change the forwarding address on this interface to communicate with the background system.

🕤 Background Communica	tion	2023-08-07 13:46:54	⊚	⊲"	$\widehat{\omega}$
	Write addr 0 Read addr 0				
Background Monitoring Baud	Write Baud Rate () Read Baud Rate ()	The Baud Rate shoul 0—115200 1—2400 2—4800 3—9600 4—19200 5—38400 6—57600 7—115200	d follov	v rules:	

First input in the input box, then click the button in front of the input box to completed the modification.

Manual Revision Record

Date	Old version	New version	Revision
		V1.0	1.First writing
2022.6.24	V1.0	V1.1	1.Add the overall dimension diagram of the touch screen
2022.10.20	V1.1	V1.2	1.Correcting text errors in the text
2023.8.11	V1.2	V1.3	1.Modify the image and language description of the touch screen
			interface section
2023.8.29	V1.3	V1.4	1.Modify the FDK laser printing diagram and change the switch input
			to voltage input

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