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AM3SE Protection Relay

User Manual V1.7

Acrel Co.,LTD

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1 Introduction

1.1 Product Overview

The AM3SE relay has the modular design and it can be optimized to almost all type of feeder protection applications in medium voltage distribution systems. The relay is widely used in power, water resources, transportation, petroleum, chemical, coal, and metallurgy industries.

Main characteristic

➤ **Protection Functions**

The AM5SE relay has a modular design and it can be optimized to the line, transformer and PT protection applications in medium voltage distribution systems.

➤ **Robust hardware**

Industrial-grade components with professional EMC design

High-performance CPU with large-capacity RAM, and Flash for advanced data processing, logic computation, and information storage.

➤ **User-machine interface(UMI)**

Clear LCD display display for alarms and events

Programmable functions keys and LEDs

➤ **Rich measuring resource**

- 5 current channels(AC)
- 3 voltage channels(AC)
- 11 digital inputs (AC / DC),support user define
- 5 digital outputs

➤ **Communication**

- 1 RS485 communication port
- 1 IRIG-B port
- Powerful CPU supporting Modbus-RTU/TCP,IEC 60870-5-103

➤ **Flexible and convenient wiring**

Support phase voltage, line voltage, zero-sequence voltage, or unbalanced voltage connections.

The protection current inputs can be connected to three-phase current, and the other AC current can be connected to zero sequence current or unbalance current.

1.2 Relay Function Table:

Protection functions	AM3SE-	
	I	U
Overcurrent (3 stages,IDMT)	■	
Earth fault (3 stages,IDMT)(I01/I02)	■	
Negative sequence overcurrent (2 stages,IDMT)	■	
Auto-reclose	■	
Overload (trip/alarm)	■	
Under frequency	■	
Post-accelerated overcurrent	■	
Post-accelerated overcurrent(I01/I02)	■	
Overvoltage(trip)	■	
Undervoltage (trip)	■	
Self-produced over zero-voltage (trip)	■	
Residual overvoltage (trip)	■	
FC block	■	
Trip and close circuit supervision (alarm)	■	
Non-electricity (trip/alarm)	■	
Undervoltage (alarm)	■	■
Overvoltage (alarm)	■	■
Residual overvoltage (alarm)	■	■
Over frequency	■	
Voltage phase loss protection	■	
PT supervision (alarm)	■	■
Self-produced over zero-voltage (alarm)		■
Rear ports	I	U
RS485	■	
Protocols	I	U
Modbus serial	■	
IEC 60870-5-103	■	
Measurement	I	U
Electric parameter	U,I,P,Q,PF,Fr,Ep, Eq,Es	U,Fr
Input Current	5	0
Input Voltage	3	3
Logs and Records	I	U
Fault recorder	■	
Sequence of event record	■	
Monitoring Functions	I	U
Anti-pumping circuit	Optional	
Remote control	■	

1.3 Relay Selection Table

A	M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
								With Anti-pumping 1
								Without Anti-pumping 2
								Power : 110V AC/DC 1
								220V AC/DC 2
								48/24V DC 3
								Zero sequence current input : 1A 1
								Zero sequence current input : 5A 5
								Current Input : 1A 1
								Current Input : 5A 5
								Version : Current Type I
								Voltage Type U
								Serial number : 3SE
								Product series:
								Manufacturer : Acrel

2 Technical Characteristics

2.1 Rated Characteristics

Version	AM3SE
Characteristics	
Power Supply	
Rated voltage	AC/DC 110V or AC/DC 220V or DC 48V or DC 24V
Range	Rated voltage × (1±20%)
Burden	≤10W (DC)
PT Inputs	
Rated value	AC 100V or $100/\sqrt{3}$ V
PT rated secondary range	0.1V~120V
Accuracy	0.5S
Burden	≤0.5VA (each phase)
Voltage withstand	Continuous: 1.2 Un 10s: 2 Un
Phase CT Inputs (Protection Current)	
CT rated secondary range	AC 5A or 1A
Dynamic	15 × CT rated current
Accuracy	0.5S
Burden	≤0.5VA (each phase)
Thermal withstand	Continuous: 2 In 1s: 40 In
Frequency	
Rated frequency	50Hz or 60Hz
Frequency range	45 ~ 55Hz or 60Hz
Accuracy	±0.1Hz
Digital Inputs	
Operating nominal voltage	AC/DC 110V or AC/DC 220V or DC48V or DC24V
Voltage threshold	70% of nominal voltage
Reset threshold	55% of nominal voltage
Burden	≤ 1W (each phase) (DC220V)
Digital Outputs	
Make and carry	≥ 10000 operations
Making capacity	≥ 1000W, L / R = 40ms

Continuous current	$\geq 5A$
Short duration carry current	$\geq 30A$ for 200ms
Breaking capacity	$\geq 30W$, L/R = 40ms

2.2 Protection Characteristics

Characteristics	Accuracy	Resolution	Disengaging ratio
Voltage	$\pm 3\%$	0.001V	0.95 and 1.05
Current	$\pm 3\%$	0.001A	0.95 and 1.05
Frequency	$\pm 0.02\text{Hz}$	0.001Hz	
Inverse Time Element Operation delay $t >$ (IDMT)	40ms or $\pm 5\%$ setting value	0.001s	
Time Element Operation delay $t >$ (DT)	$\leq 40\text{ms}$ [delay time within 2 seconds] $\leq 40\text{ms} \pm 1\%$ setting value [delay time larger than 2 seconds]	0.001s	

2.3 Environmental Characteristics

Characteristics	Description/Value
Operating Temperature	$-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Storage	$-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$
Humidity	5% ~ 95% (No condensation and freeze inside)
Altitude	$\leq 2500\text{m}$

2.4 Product Safety

Characteristics	Description/Value
Insulation Resistance	$> 100\text{M}\Omega$, 500Vdc
Dielectric Strength	Between circuits and ground, and between independent circuits: Power frequency withstand voltage 2kV
Impulse Voltage	$\pm 5\text{kV}$ (1.2/50 μs , 0.5J)

2.5 EMC [Electromagnetic Compatibility]

Characteristics	Standard	Level/Class
Radiated emission	IEC-60255-26:2023——5.1	A
Conducted emission	IEC-60255-26:2023——5.2	A
Radiated radio frequency fields	IEC-60255-26:2023	A

Electrostatic discharge	IEC-60255-26:2023—6.1	B
Conducted radio frequency disturbance	IEC-60255-26:2023—6.2-6.5	A
Fast transient bursts	IEC-60255-26:2023—6.2-6.5	B
Slow damped oscillatory waves	IEC-60255-26:2023—6.2-6.4	B
Surges	IEC-60255-26:2023—6.2-6.4	B
Voltage dips and short interruptions test (AC or DC)	IEC-60255-26:2023—6.2	A/C ¹
Magnetic field at power frequency	IEC-60255-26:2023—6.1	B

¹ AC and DC voltage dips meet the criteria A/C of the IEC60255-26:2023—6.2. AC and DC voltage interruptions meet the criteria C of the IEC60255-26:2023—6.2. Ripple on DC input power port immunity meet the criteria A of the IEC60255-26:2023—6.2. DC auxiliary power supply ports gradually shutdown/start-up meet the criteria C of the IEC60255-26:2023—6.2.

3 Devices Operation Instruction

3.1 Front Panel Introduction








The AM3SE relay is equipped with a user friendly local panel which is shown in Figure 3.1



Fig. 3.1 AM3SE Front Panel



3.2 Push buttons

Table 3.1 AM3SE push buttons

Keypad	Usage	Keypad	Usage
	Reset key to release latches and reset LED status.		Up navigation push-button for moving up in the menu or increasing a numerical value.
	Enter push-button for activating or confirming a function.		Down navigation push-button for moving down in the menu or decreasing a numerical value.
	Esc key to return to the previous view.		Left navigation push-button for moving back across a menu or selecting a digit in a numerical value.
			Right navigation push-button for moving forwards across a menu or selecting a digit in a

			numerical value.
--	--	--	------------------

3.3 Menu Description

The relay is powered on to enter the main screen(Mimic screen), and can take turns display Measurement, Remote Signal by pushing the  or the  key.

In the single-line simulation diagram of the operation interface in Figure 3.2, the single-line diagram displays the on/off status of the circuit breaker. Users can configure the "CB On/Off Position Acquisition" parameter in the settings:

- **If set to "Dual-Point (Open/Close)":**

- When neither the open nor close position input has a signal, it is displayed as " ?0 ".
- When the close position input has a signal, it is displayed as " ⌈ ".
- When the open position input has a signal, it is displayed as " ⌋ ".

- **If set to "Single-Point (Close Position)":**

- When the close position input has no signal, it is displayed as " ⌋ ".
- When the close position input has a signal, it is displayed as " ⌈ ".

- **If set to "Single-Point (Open Position)":**

- When the open position input has no signal, it is displayed as " ⌈ ".
- When the open position input has a signal, it is displayed as " ⌋ ".

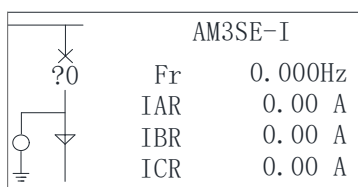


Fig 3.2 Mimic screen


Name	Value	Unit
Ia	0.000	A
Ib	0.000	A
Ic	0.000	A
I01	0.000	A



Fig 3.3 Measurement

Name	State
CCB ON (YX_01)	OFF
CCB OFF (YX_02)	OFF

Fig 3.4 Remote Signal

3.3.1 Navigation

The menu of relay is multi-level menu; Press the  key to enter the main menu. There are 8 submenus in the main menu, as shown as figure 3.4, which is composed of names and icons of submenus.

Press the  key to enter either submenu in the main menu, and press the  key to return to the superior menu. Figure 3.5 shows the navigation diagram of the relay, which can be used to find relevant parameters quickly.

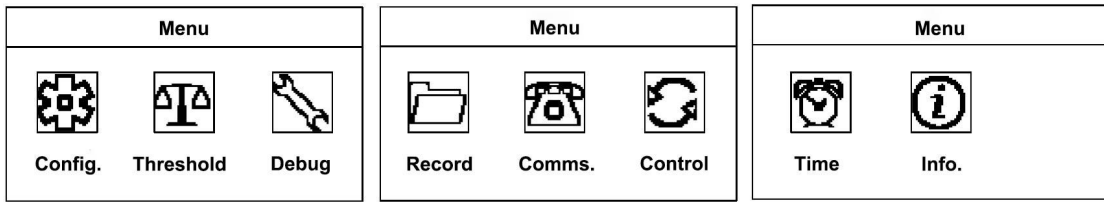


Fig 3.5 Main Menu

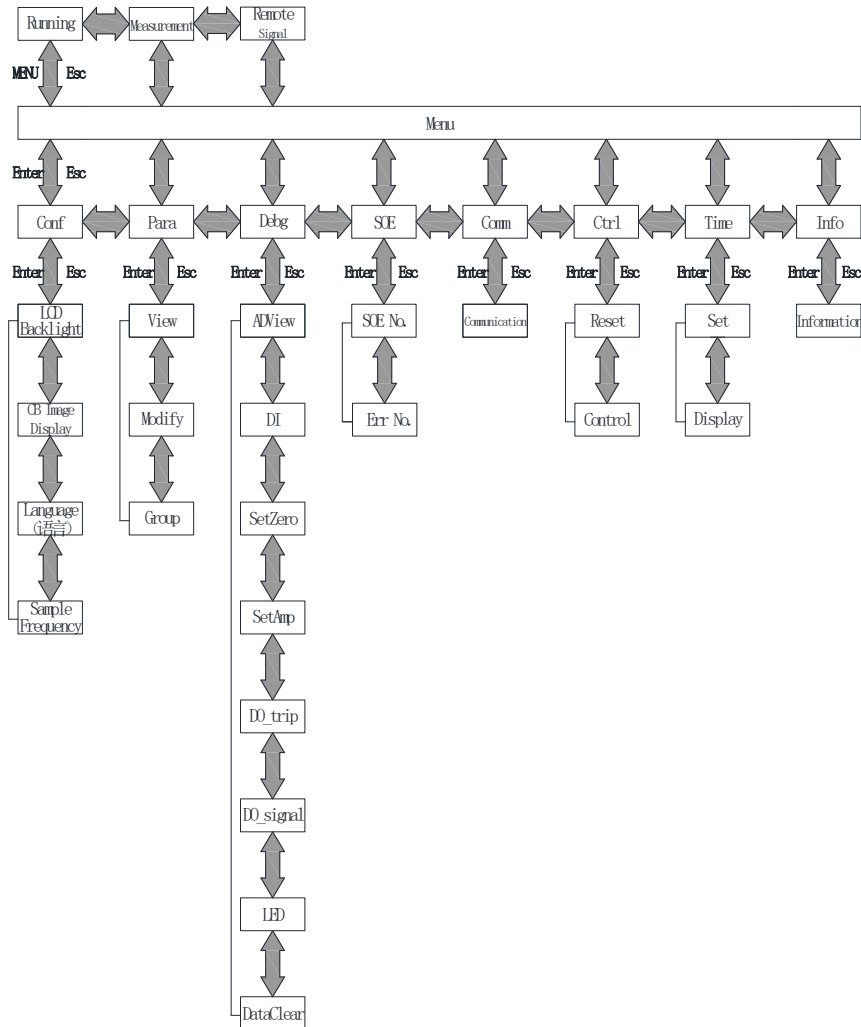






Fig 3.6 Navigation diagram

3.3.2 Configuration

The "Conf" menu can set the LCD backlight time, as shown in Figure 3.7. After modification, press the  key to confirm the modification and press the  to return to main menu. The data saving interface will pop up, as shown in Figure 3.8. Press the  key to save the modification and return to the main menu, or press the  key to return to the main menu directly without saving the modification.

Setting	
LCD Backlight	060 s
CB Image	YES
Language (语言)	English
Rated Frequency	50HZ

Fig 3.7 LCD Backlight Time Setting

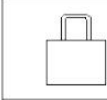



Setting	
LCD Backlight 060 s	
C	 Ente: Save Esc: Exit
L	
R	

Fig 3.8 Data Saving

3.3.3 Parameter

The "Para" menu includes 3 sub-menus: Value View, Value Modify and Switch Group, as shown in Figure 3.9.

A) Value View

The "Value View" menu contains two submenus: "Selected" and "Running". There are 4 groups of valid value in the "Selected", which are 00, 01, 02, and 03 areas. After selecting the corresponding area, as shown in Figure 3.10, press the  key to enter the "Value View" menu. All values can be viewed page by page by the  and  key, as shown as figure 3.11. The "Running" shows the current running area of the relay.

Para
Check
Modify
Group

Fig 3.9 Parameter

PARAM AREA
Selected: 00
Running: 00










Fig 3.10 Selection Area




Values[00]	(001)
In_PT Select	No
CT	10.000

Fig 3.11 View

B) Modify

The "Modify" menu includes two submenus: "Selected" and "Running". The initial password of this menu is "0008".

Set the group code in the "Selected", and enter the "Modify" by the  key. All the values are showed page by page, and select the values which need to be modified by the , ,  and  keys. The values can be selected by the  key, and be modified by the  and  key, as shown as figure 3.13. After the modification, press the  key to confirm the modification, and then set the next value as the same way.

After all modifications, press the  key to quit the "Modify". If value has been changed, the data saving interface will pop up, as shown in figure 3.8. Press the  key to save the modification and return to the "Menu". If press the  key, relay will return to the "Menu" directly without saving the modification.

The "Running" interface only shows the current running area of the relay, and no modification is made here.

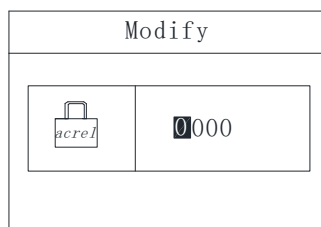


Fig 3.12 Enter Password

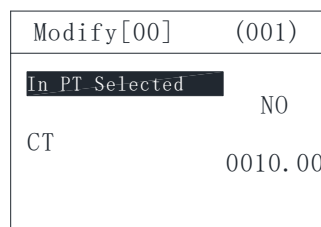


Fig 3.13 Modity

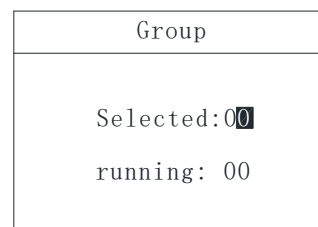


Fig 3.14 Group

C) Group

The "Group" menu includes two submenus: "Selected" and "Running". The initial password of this menu is "0008". There are four valid groups from 00 to 03 in the "Group". After setting, the modification can be confirmed by the "Enter" key, and then return to the main menu by the "Esc" key. The running value area will display the current running value area of the relay, as shown in Figure 3.14.

3.3.4 Digital Input Configuration

Users can customize the digital input configuration of the device according to their requirements. Using the Remote Signaling Name Mapping Table in Appendix B, the corresponding digital inputs can be set in the threshold menu.

For purely digital input definitions, the actual remote signaling name needs to be set. For example, to change the third digital input to "Isolating Switch Close Position", locate the corresponding code 1085 in Appendix B. Then, in the threshold menu, change the "Actual Remote Signaling 03 Name Configuration" to 00001085. After the modification, the updated input can be viewed in the remote signaling interface, as shown in Figure 3.15.

Modify[00] (170)	Modify[00] (170)	Name	State
Name02. C 00000000	Name02. C 00000000	ISO. Switch On (YX_03)	Off
Name03. C 00000000	Name03. C 00001085	Discharge (YX_04)	Off

Fig 3.15 Pure Digital Input Configuration

For functional digital input definitions (e.g., CB On, CB Off, remote, manual trip, manual close, reclosing lockout, spring not charged, maintenance status, over temperature, and other non-electrical inputs), both the actual remote signaling name and the digital input configuration need to be set.

For example, to change the fifth digital input to "CB On", locate the corresponding code 1079 in Appendix B. Then the "Name05.C" should be modified to 00001079. Next, the "CB On.C" in the "Modify" should be configured to 5. After the modification, it can be viewed in the digital inputs interface, as shown in figure 3.16.

Modify[00] (172)	Modify[00] (009)	Name	Stata
Name04.C 00000000	CB On.C 00000005	CB On (YX_05)	Off
Name05.C 00001079	CB Off.C 00000002	GroundSwitch (YX_06)	Off

Fig. 3.16 Functional Digital Input Configuration

3.3.5 Debug

The "Debug" menu is used to test before delivery. The function includes zero adjustment, amplitude adjustment, relay output test, LED test, LED color configuration, and relay output configuration.

When use the "Debug" menu, please contact the manufacturer first!

3.3.6 Record

The "REC" includes 2 types of record: Event Records and Error Records.

A) Event Record

The "SOE" menu shows the event sequence, total number of events, event code, event time, event name, action type (trip or alarm), and other information. It can also record the action values and time of the protection event, as shown in Figure 3.17. The relay can save more than 200 event records.

B) Error Record

The "Err" menu shows the error sequence, error counts, error time, error name, error code and so on, as shown in Figure 3.17. The relay can save more than 200 error records.

Fig 3.17 Event Record

Err No.	[001/013]
19-11-14	09:44:05.000
Hardware Init	
ErrNo. :	0x000006

Fig 3.18 Error Record

3.3.7 Communication

As shown in Figure 3.19, the "Comm" menu can set the communication address of relay and baud rate. Communication parameters can be configured based on the options in Table 3.2. After setting the parameters,




press the  key to exit, then press the  key to save and then press the  key to return to the main menu.

Table 3.2 Communication Parameter Settings

Item	Parameters
Comms. Address	0~255
Baud Rate	4800、9600、19200、57600、115200
Data Bit	8、9
Stop Bit	1、1.5、2
Parity	None, Even, Odd
Protocol	MODBUS、IEC103

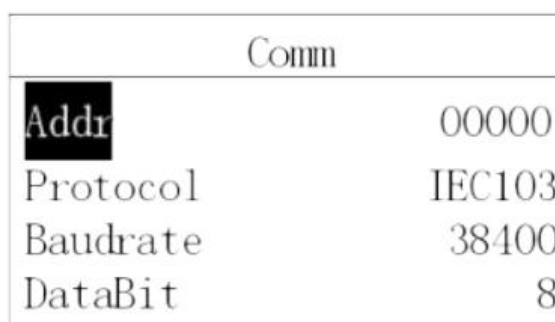




Fig 3.19 Communication Configuration

3.3.8 Control

The "Control" menu is used to test before delivery. The function in this menu includes remote trip、 remote close and signal reset.

When use the “Ctrl” menu, please contact the manufacturer first!

3.3.9 Time

The "Time" menu is used to modify the clock. As shown in Figure 3.20, press the  key after the time setting is completed, then press the  key to return to the main menu.

3.3.10 Information

The "Information" menu can display the basic information includes relay’s name、 version、 check code、 hardware、 software、 logic、 logic version and so on, as shown in Figure 3.21.

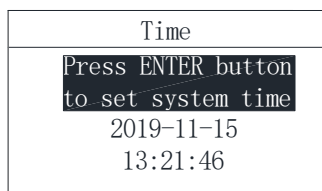


Fig 3.20 Time Setting

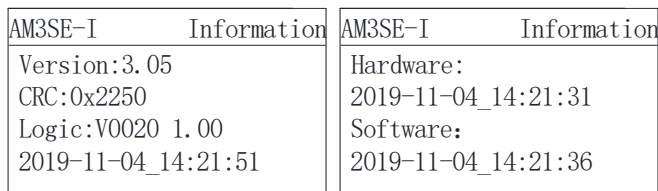


Fig 3.21 Information

4 Dimension & Installation

4.1 Dimensions and Cut-out dimensions

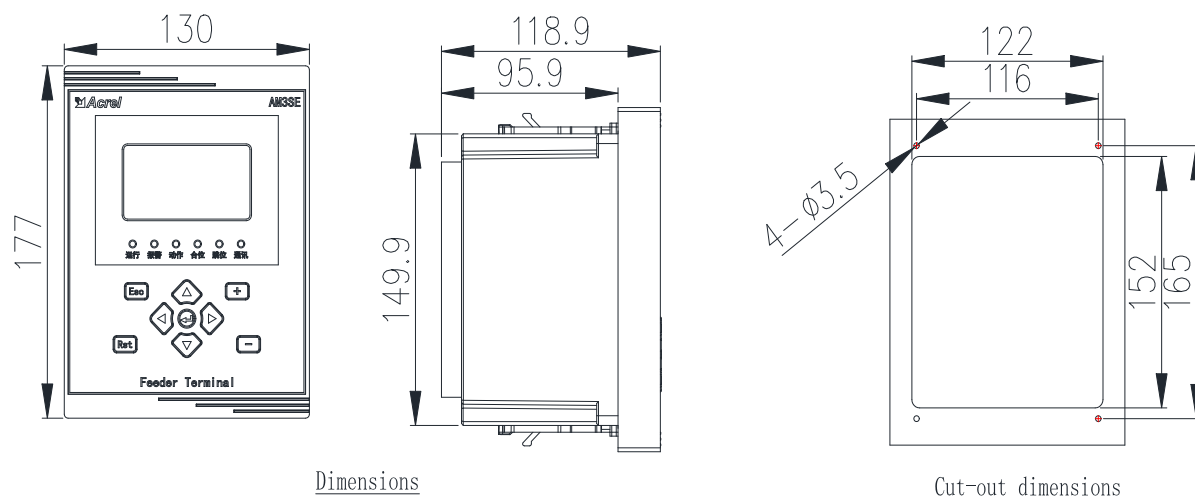


Figure 4.1 Dimensions and cut-out dimensions

Note:

- 1.The square cutout size is 152 x 122 mm.
- 2.All cutout dimensions are in millimeters (mm).

4.2 Installation procedure

- 1.Create a cutout on the panel according to the specified dimensions, as shown in Figure 4.2.
- 2.Place the relay into the cutout, as shown in Figure 4.3, until the front panel of the relay rests against the cabinet panel.
- 3.Place the brackets inside the cabinet panel (one at the top and one at the bottom) to securely fix the relay to the cabinet panel.

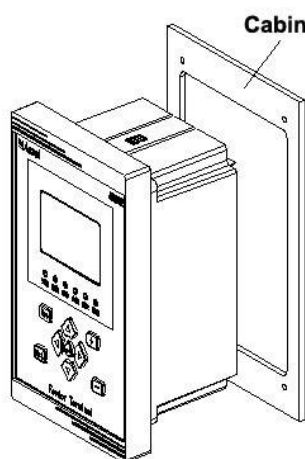


Fig 4.2

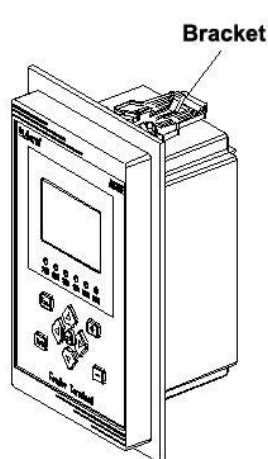


Fig 4.3

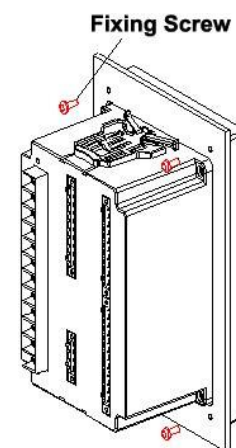


Fig 4.4

5 Wiring

5.1 AM3SE rear panel

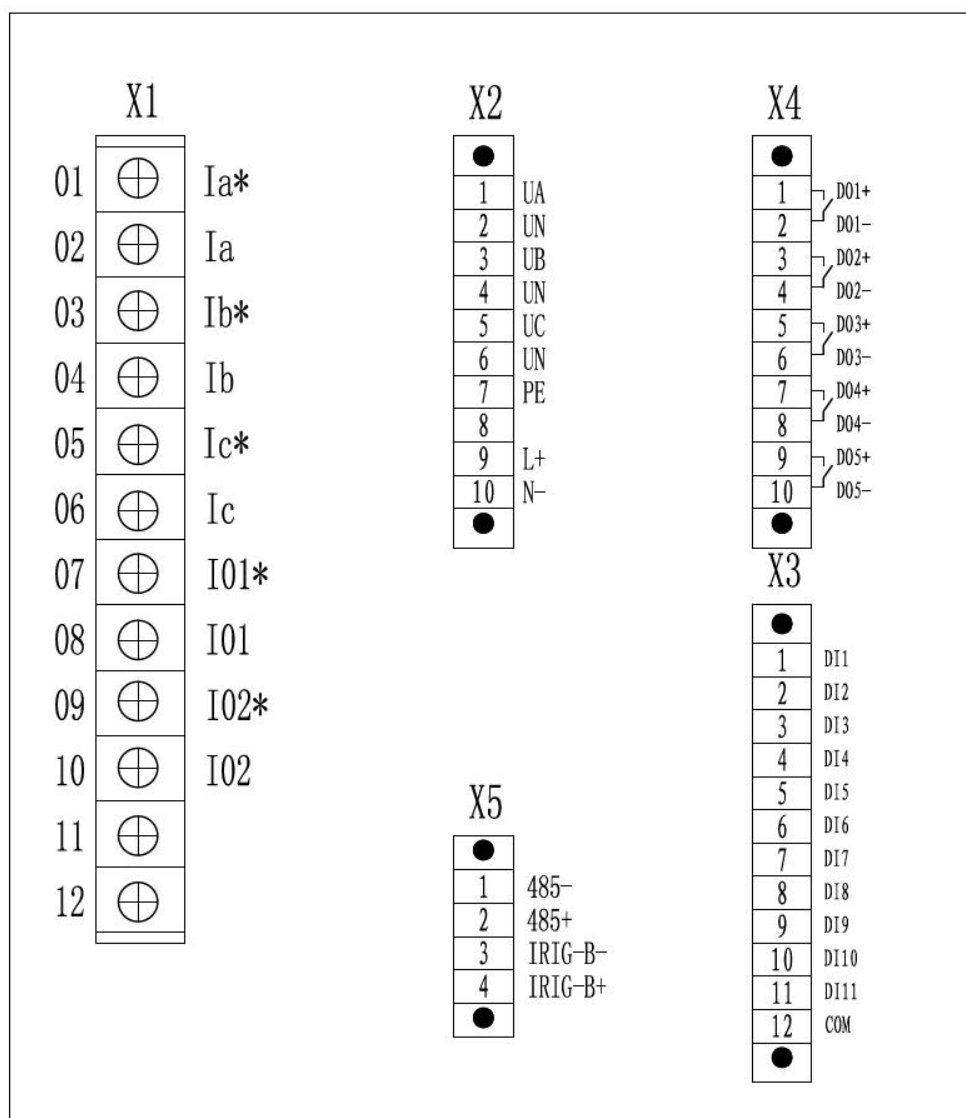


Fig 5.1 AM3SE

X1	1-12	Current
X2	1-6	Voltage
X2	7-10	Power supply
X3	1-12	Digital inputs
X4	1-10	Digital outputs
X5	1-4	RS-485 and IRIG-B

5.2 Typical application

The following describe typical application diagrams. 3CTs and residual current, 3PTs and residual voltage have been showed in the diagrams.

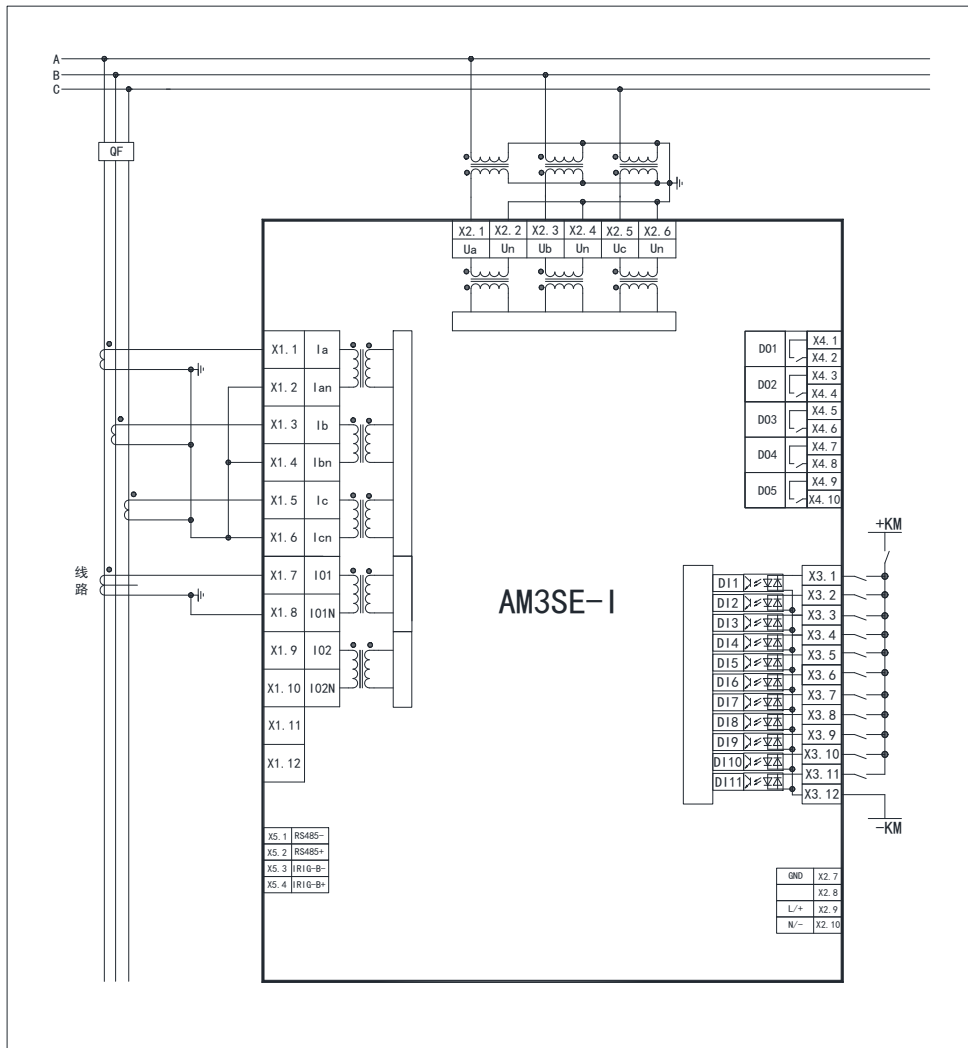


Fig 5.2 Typical application diagrams

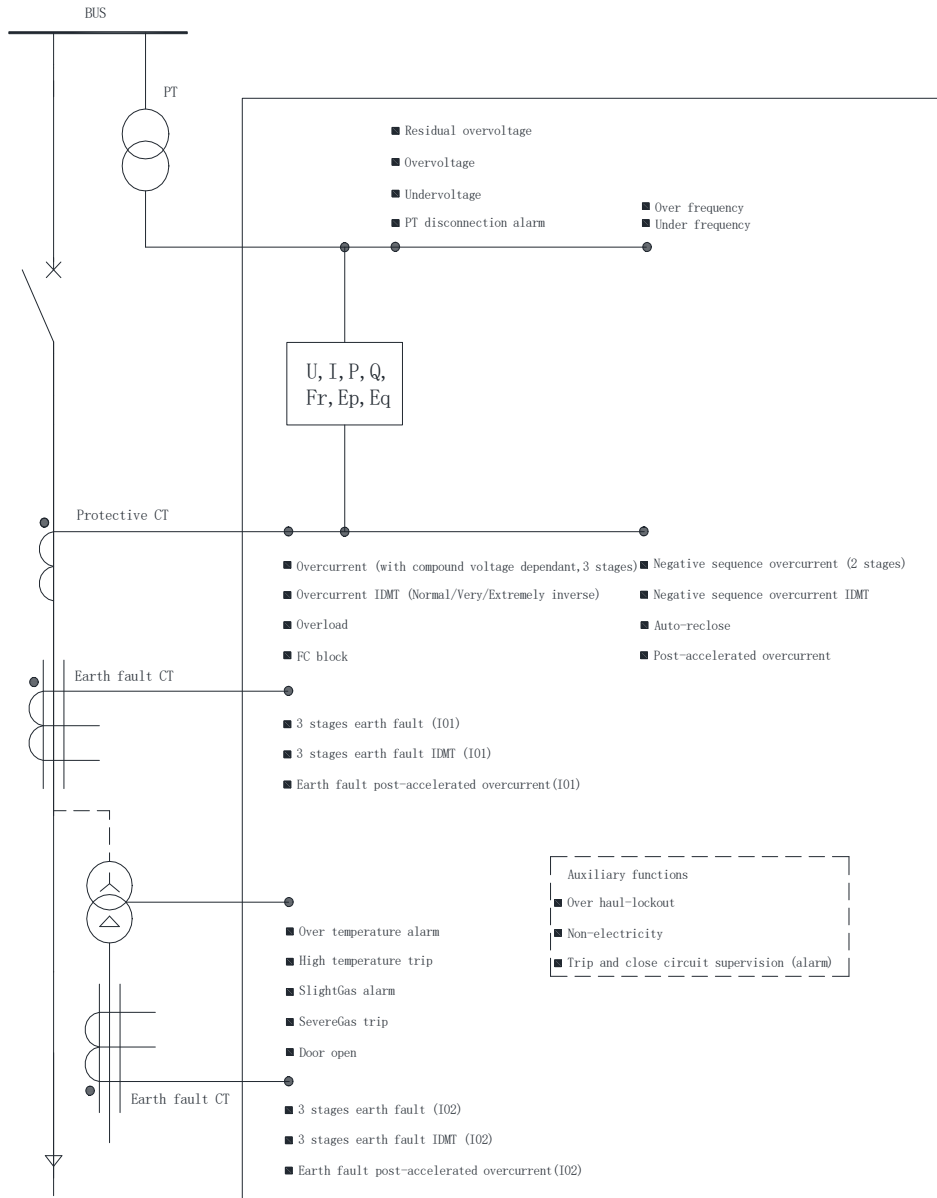


Fig 5.3 AM3SE-I function diagram

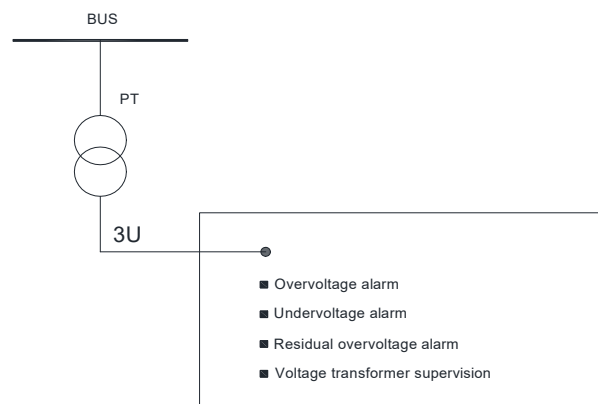


Figure 5.4 AM3SE-U function diagram

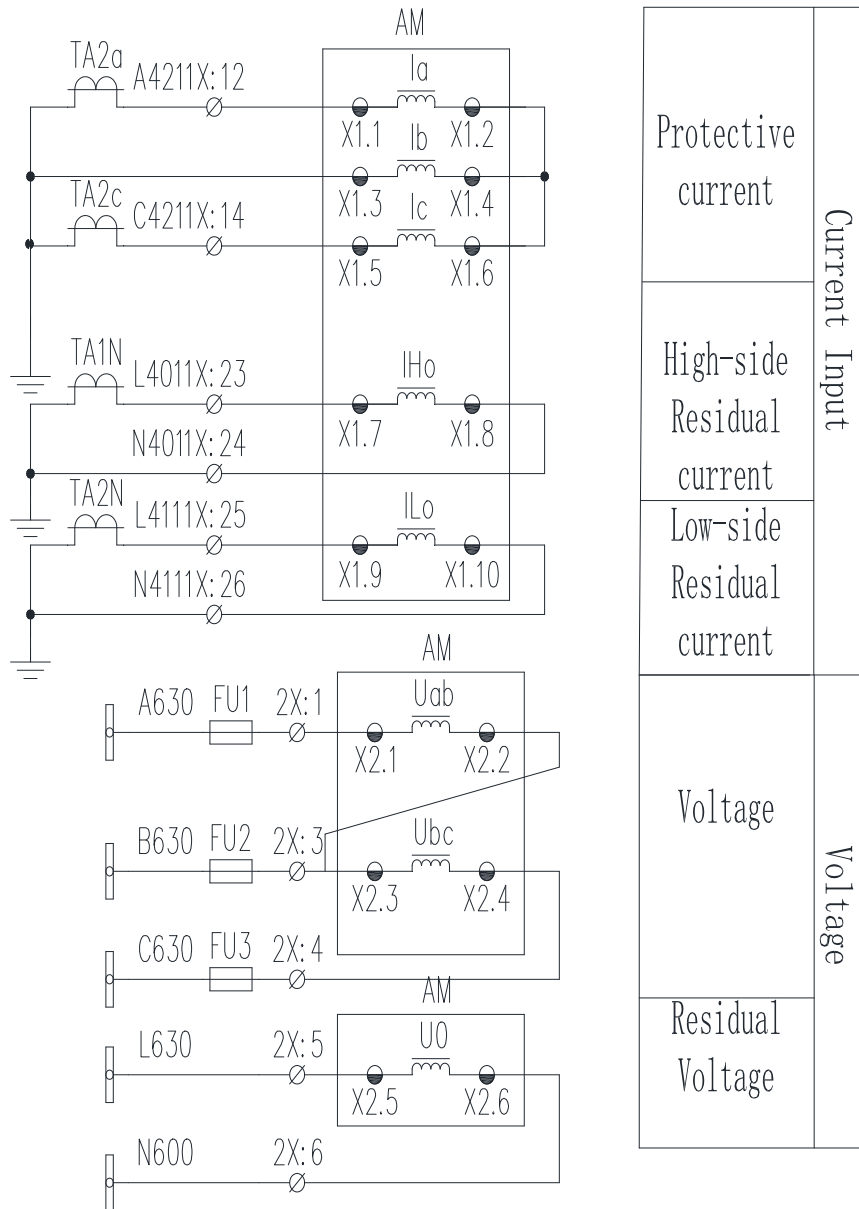


Fig 5.5 2PT 2CT Wiring

6 Product maintenance

The following table shows the common problems and treatment methods of the AM3SE during use.

Table 6.1 Common problems and treatment methods

Question	Potential Cause	Suggestion
The trip relay does not close.	1、 The corresponding function is not enabled. 2、 Conditions for closure.	1、 Set the corresponding protection enable on; 2、 Check the blocking condition.
Abnormal voltage display on the relay.	The “PT mode” is different from the wiring.	Reset the “PT mode” according to the wiring.
Communication failure.	1、 The polarity of communication cable is reversal. 2、 Communication parameter and protocol are inconformity.	1、 Check the wiring. 2、 Reset communication parameters and protocols.
No digital signal acquisition.	No signal input to corresponding digital input.	Measure the voltage between the corresponding digital input and the common terminal of the relay. Check whether the voltage is normal.
Digital signaling names do not match the drawing.	Digital signaling names have not been configured.	Customize the digital input configuration in the setting menu according to the drawing.
Breaker trips during energization.	Magnetic inrush current from transformer energization causes protection mis-operation.	Enable the second harmonic blocking function.
Non-electrical protection does not trip.	1、 The function is not enabled. 2、 The correct digital input sequence number is not set.	1、 Enable the corresponding protection function in the set point table. 2、 Customize the digital input configuration in the setting menu according to the drawing and set the correct digital input sequence number.

Accessories A Device Default Setting Table

AM3SE-I (电流型保护装置) 定值表 AM3SE-I(Protection Relay) Setting value				
保护名称 Protection Function	定值名称 Value Name	默认值 Default	范围 Range	备注 Notice
	进线 PT 选择 In_PT Select	0	0~1	不带; 带 No; Yes
	CT 变比 CT	10	0.1~9999	
	PT 变比 PT	100	0.1~9999	
	一次电压显示 U Unit [Primary voltage display unit]	0	0~1	kV; V
	电压接线方式 PT Mode	3PT	0~1	3PT; 2PT
	电流接线方式 CT Mode	3CT	0~1	3CT; 2CT
	跳闸展宽 Tripping pulse	0.15s	0~1	
	默认延时 Default delay	0.005s	0~0.04	
开入配置 Input.C	分合位采集 CB On/Off A. [Circuit Breaker On/Off Acquisition]	0	0~2	分合双点; 合位单点; 分位单点 CCB On/Off; CCB On; CCB Off [Circuit Breaker On/Off; Circuit Breaker On; Circuit Breaker Off]
	合位配置 CB On.C [Circuit Breaker On Configuration]	1	1~11	
	分位配置 CB Off.C [Circuit Breaker Off]	2	1~11	

	Configuration]			
	远方配置 Remote.C [Remote Configuration]	5	0~11	
	手动分闸配置 ManualTr.C [Manual Trip Configuration]	0	0~11	
	手动合闸配置 ManualCl.C [Manual Close Configuration]	0	0~11	
	接地刀位置配置 Gro.S.C [Ground Switch Configuration]	6	0~ 11	
	弹簧未储能配置 Disch.C [Discharge Configuration]	4	0~11	
	闭锁重合闸配置 Bl.Re.C [Block Auto-Reclose Configuration]	0	0~11	
	低压阈值 U.Less [Under voltage threshold]	15V	1~200	低电压判据 Low voltage criterion
	低电压定值 U.Under [Under voltage value]	70V	1~200	
	复合电压负序定值 U2	35V	1~200	
过流一段 3I>>> [50] [Instantaneous overcurrent]	过流一段投退 E.3I>>> [Enable.3I>>>]	0	0~1	退出；投入 No;Yes
	一段经低压 E.3I>>>.U [Enable.3I>>> .Voltage]	0	0~1	退出；投入 No;Yes [If enable 3I>>>.U, voltage conditions should be considered for overcurrent protection. When the

				smallest of the three line voltages is less than U.Under and greater than U.Less, the overcurrent protection DO is prepare work.]
	过流一段定值 3I>>> [3I>>> value]	10A	0.04~120	
	过流一段延时 3I>>>.T [3I>>> delay]	0s	0~60	
过流二段 3I>> [51] [Time-limited overcurrent]	过流二段投退 E.3I>> [Enable.3I>>.]	0	0~1	退出; 投入 No;Yes
	二段经低压 E.3I>>.U [Enable.3I>> .Voltage]	0	0~1	退出; 投入 No;Yes [If enable 3I>>.U, voltage conditions should be considered for overcurrent protection. When the smallest of the three line voltages is less than U.Under and greater than U.Less, the overcurrent protection DO is prepare work.]
	过流二段定值 3I>> [3I>> value]	7.5A	0.04~120	
	过流二段延时 3I>>.T [3I>> delay]	0.2s	0~60	
	过流三段投退 E.3I> [Enable.3I>]	0	0~1	退出; 投入 No;Yes
过流三段 3I> [51]	过流三段方式	0	0~1	告警; 跳闸

[Definite time overcurrent]	E.3I>.M [Enable.3I> Mode]			Alarm;Trip
	三段经低压 E.3I>.U [Enable.3I> .Voltage]	0	0~1	退出; 投入 No;Yes [If enable 3I>.U, voltage conditions should be considered for overcurrent protection. When the smallest of the three line voltages is less than U.Under and greater than U.Less, the overcurrent protection DO is prepare work.]
	过流三段定值 3I> [3I> value]	7A	0.04~120	
	过流三段延时 3I>.T [3I> delay]	0.5s	0~60	
反时限过流 I>Inv [51] [Inverse time overcurrent (IDMT)]	反时限过流投退 E.I>.Inv [Enable I> Inverse]	0	0~1	退出; 投入 No;Yes
	反时限经低压 E.I>.Inv.U [Enable I>Inverse Voltage]	0	0~1	退出; 投入 No;Yes [If enable I>.Inv.U, voltage conditions should be considered for overcurrent protection. When the smallest of the three line voltages is less than U.Under and greater than U.Less, the overcurrent protection DO is prepare work.]
	反时限启动电流	6A	0.04~120	

	I>.Inv [Inverse starting current]			
	反时限时间系数 I>.Inv.K [Inverse time coefficient]	0.1s	0~100	
	反时限曲线类型 I>.Inv.X [Inverse curve]	0	0~2	一般; 非常; 极端 S1;S2;S3 [Normal Inverse; Very Inverse; Extremely Inverse]
过负荷 Overload [49F]	过负荷投退 E.I>Lo [Enable Overload]	0	0~1	退出; 投入 No;Yes
	过负荷方式 E.I>Lo.M [Enable Overload Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	过负荷定值 I>Lo [Overload value]	6.5A	0.04~120	
	过负荷延时 I>Lo.T [Overload Delay]	1s	0~999	
I01 过流一段 I01>>>> [50N] [Instantaneous ground fault overcurrent]	I01 一段投退 I01>>>> [Enable I01>>>>]	0	0~1	退出; 投入 No;Yes
	I01 一段定值 I01>>>> [I01>>>> value]	3A	0.04~120	
	I01 一段延时 I01>>>>.T [I01>>>> delay]	5s	0~60	
I01 过流二段 I01>>> [51N] [Time limited ground fault overcurrent]	I01 二段投退 E.I01>>> [Enable I01>>>]	0	0~1	退出; 投入 No;Yes
	I01 二段方式 E.I01>>>M [Enable I01>>> Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	I01 二段定值 I01>>> [I01>>> value]	2A	0.04~120	

	[I01>> value]			
	I01 二段延时 I01>>.T [I01>> delay]	10s	0~60	
I01 过流三段 I01> [51N] [Definite time ground fault overcurrent]	I01 三段投退 E.I01> [Enable I01>]	0	0~1	退出; 投入 No;Yes
	I01 三段方式 E.I01>M [Enable I01> Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	I01 三段定值 I01> [I01> value]	2A	0.04~120	
	I01 三段延时 I01>T [I01> delay]	10s	0~60	
I01 后加速过流 PostAccelerating I01> [PostAccelerating Ground fault overcurrent]	I01 后加速投退 E.I01>P [Enable I01>P]	0	0~1	退出; 投入 No;Yes
	I01 后加速定值 I01>P [I01>P value]	3A	0.04~120	
	I01 后加速延时 I01>P.T [I01>P delay]	5s	0~60	
I01 反时限过流 Inver.Time I01> [51N] [Inverse time ground fault]	I01 反时限投退 E.I01.Inv [Enable I01.Inverse]	0	0~1	退出; 投入 No;Yes
	I01 反时限启动值 I01.Inv [I01.Inverse starting value]	6A	0.04~120	
	I01 反时限系数 I01.Inv.K [I01.Inverse time coefficient]	0.1s	0~100	
	I01 反时限曲线 I01.Inv.X [I01.Inverse curves type]	0	0~2	一般; 非常; 极端 S1;S2;S3 [Normal Inverse; Very Inverse; Extremely Inverse]
I02 过流一段	I02 一段投退	0	0~1	退出; 投入

I02>>>> [50N] [Instantaneous ground fault overcurrent]	E.I02>>>> [Enable I02>>>>]			No;Yes
	I02 一段定值 I02>>>> [I02>>>> value]	3A	0.04~120	
	I02 一段延时 I02>>>>.T [I02>>>> delay]	5s	0~60	
I02 过流二段 I02>> [50N] [Time limited ground fault overcurrent]	I02 二段投退 E.I02>> [Enable I02>>]	0	0~1	退出; 投入 No;Yes
	I02 二段方式 E.I02>>.M [E.I02>> Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	I02 二段定值 I02>> [I02>> value]	2A	0.04~120	
	I02 二段延时 I02>>.T [I02>> delay]	10s	0~60	
I02 过流三段 I02> [Definite time ground fault overcurrent]	I02 三段投退 E.I02> [Enable I02>]	0	0~1	退出; 投入 No;Yes
	I02 三段方式 E.I02>.M [E.I02> Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	I02 三段定值 I02> [I02> value]	2A	0.04~120	
	I02 三段延时 I02>.T [I02> delay]	10s	0~60	
I02 后加速过流 PostAccelerating I02> [PostAccelerating Ground fault overcurrent]	I02 后加速投退 E.I02>P [Enable I02>P]	0	0~1	退出; 投入 No;Yes
	I02 后加速定值 I02>P [I02>P value]	3A	0.04~120	
	I02 后加速延时	5s	0~60	

	I02>P.T [I02>P delay]			
I02 反时限过流 Inver.Time I02> [51N] [Inverse time ground fault]	I02 反时限投退 E.I02.Inv [Enable I02.Inverse]	0	0~1	退出; 投入 No;Yes
	I02 反时限启动值 I02.Inv [I02.Inverse starting value]	6A	0.04~120	
	I02 反时限系数 I02.Inv.K [I02.Inverse time coefficient]	0.1s	0~100	
	I02 反时限曲线 I02.Inv.X [I02.Inverse curves type]	0	0~2	一般; 非常; 极端 S1;S2;S3 [Normal Inverse; Very Inverse; Extremely Inverse]
低电压保护 Under Voltage Protection	低电压保护投退 E.LVP [Enable Undervoltage Protection]	0	0~1	退出; 投入 No;Yes
	低电压方式 E.LVP.M [Enable Undervoltage Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	低电压保护定值 U.LVP [Undervoltage protection value]	50V	1~200	
	低电压保护延时 LVP.T [Undervoltage delay]	5s	0~60	
	无流闭锁投退 E.LVP.I.B [Enable Undervoltage Protection current block]	0	0~1	退出; 投入 No;Yes
	无流定值 I.None [Current none]	0.2A	0.04~120	
	PT 断线闭锁投退 E.PT.B [Enable PT break block]	1	0~1	退出; 投入 No;Yes
	合位允许投退	0	0~1	退出; 投入

	E.CB.On.B [Enable circuit breaker on protection block]			No;Yes
	低电压阈值投退 E.LVTHr. [Enable Undervoltage threshold]	1	0~1	退出; 投入 No;Yes
过电压保护 Over Voltage Protection [59] [Overvoltage Protection]	过电压保护投退 E.OVP [Enable overvoltage protection]	0	0~1	退出; 投入 No;Yes
	过电压方式 E.OVP.M [Enable overvoltage protection Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	过电压保护定值 U.OVP [Overvoltage protection value]	120V	1~200	
	过电压保护延时 OV.P.T [Overvoltage protection delay]	10s	0~999	
零序过压保护 U0.Over Voltage Protect [59N] [Residual overvoltage]	零序电压来源 U0 Source [Source of Residual voltage]	0	0~1	自产; 通道 3 电压 Self-produced; CH3 [Self-produced; Channel 3]
	零序过压投退 E.U0.OVP [Enable U0.OVP]	0	0~1	退出; 投入 No;Yes
	零序过压方式 E.U0.OVP.M [Enable U0.OVP Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	零序过压定值 U0.OVP [Residual over voltage value]	110V	1~200	
	零序过压延时 U0.OVP.T [Residual over voltage delay]	10s	0~999	
控故障告警	控故障告警投退	0	0~1	退出; 投入

Trip and close circuit supervision	E.CB.A [Enable Trip and close circuit supervision alarm]			No;Yes
	控故障告警延时 CB.A.T [Trip and close circuit supervision alarm delay]	10s	0~999	
PT 断线告警 PT supervision[60]	PT 断线告警投退 E.PtBr.A [Enable PT Break alarm]	0	0~1	退出; 投入 No;Yes
	无压定值 U.None [No-voltage]	15V	1~200	
	PT 断线负序电压 U2.Pt [Negative sequence voltage]	35V	1~200	
	PT 断线告警延时 PtBr.T [PT Break delay]	3s	0~999	
超温保护 HTem. [High temperature protection]	超温配置 HTem.C [High temperature Configuration]	8	0~11	
	超温保护投退 E.HTem [Enable high temperature protection]	0	0~1	退出; 投入 No;Yes
	超温方式 E.HTem.M [Enable high temperature protection Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	超温保护延时 HTem.T [High temperature protection delay]	5s	0~999	
变压器门开保护 DoOp. [Transformer Door Opening Protection]	变压器门开配置 DoOp.C [Transformer Door Opening Configuration]	11	0~11	
	变压器门开投退 E.DoOp	0	0~1	退出; 投入 No;Yes

	[Enable Transformer Door Opening]			
	变压器门开方式 E.DoOp.M [Enable Transformer Door Opening Mode]	0	0~1	告警; 跳闸 Alarm; Trip
	变压器门开延时 DoOp.T [Transformer Door Opening delay]	5s	0~999	
高温保护 OTem [Over temperature Alarm]	高温配置 OTem.C [Over temperature Configuration]	7	0~11	
	高温保护投退 E.OTEM. [Enable Over temperature protection]	0	0~1	退出; 投入 No; Yes
	高温方式 E.OTem.M [Enable Over temperature protection Mode]	0	0~1	告警; 跳闸 Alarm; Trip
	高温保护延时 OTem.T [Over temperature protection delay]	5s	0~999	
重瓦斯保护 SGas [Severe Gas]	重瓦斯配置 SGas.C [Severe Gas Configuration]	10	0~11	
	重瓦斯保护投退 E.SGas. [Enable Severe Gas]	0	0~1	退出; 投入 No; Yes
	重瓦斯方式 E.SGas.M [Enable Severe Gas Mode]	0	0~1	告警; 跳闸 Alarm; Trip
	重瓦斯保护延时 SGas.T [Severe Gas delay]	5s	0~999	
轻瓦斯保护 LGas. [Light Gas]	轻瓦斯配置 LGas.C [Light Gas Configuration]	9	0~11	
	轻瓦斯保护投退	0	0~1	退出; 投入

	E.LGas. [Enable Light Gas]			No;Yes
	轻瓦斯方式 E.LGas.M [Enable Light Gas Mode]	0	0~1	告警; 跳闸 Alarm; Trip
	轻瓦斯保护延时 LGas.T [Light Gas delay]	5s	0~999	
温控器故障保护 E.Th.Fa. [Thermostat Failure Protection]	温控器故障配置 Th.F.C [Thermostat Failure Configuration]	0	0~11	
	温控器故障投退 E.Th.F. [Enable Thermostat Failure Protection]	0	0~1	退出; 投入 No; Yes
	温控器故障方式 E.Th.F.M [Enable Thermostat Failure Protection Mode]	0	0~1	告警; 跳闸 Alarm; Trip
	温控器故障延时 Th.F.T [Thermostat Failure Protection delay]	5s	0~999	
重合闸 Auto-Recloser function [79]	重合闸投退 E.Reclose [Enable Auto-Reclose]	0	0~1	退出; 投入 No; Yes
	重合闸充电延时 Rec.C.T [Auto-reclose charge delay]	15s	0~60	
	重合闸充电返回 T RecC.RT [Auto-reclose charge return time]	1s	0~999	
	重合闸延时 Reclose.T [Auto-Reclose delay]	5s	0~60	
	保护重合返回延时 T.R.T [Trip auto-reclose return time]	30s	0~999	

	重合闸方式 Reclose.X [Auto-reclose Mode]	0	0~1	不检; 检无压 Not Check;Check
	不对应重合投退 E.nonP. [Enable non-position auto-reclose]	0	0~1	退出; 投入 No;Yes
后加速过流 Post-Accelerated Overcurrent	后加速过流投退 E.I>P [Enable post-accelerated overcurrent]	0	0~1	退出; 投入 No;Yes
	后加速经低压 I>P.U [Enable I>P voltage]	0	0~1	退出; 投入 No;Yes [If enable I>P.U, voltage conditions should be considered for overcurrent protection. When the smallest of the three line voltages is less than U.Under and greater than U.Less, the overcurrent protection DO is prepare work.]
	后加速过流定值 I>P [Post-accelerated overcurrent value]	6.5A	0.04~120	
	后加速过流延时 I>P.T [Post-accelerated overcurrent delay]	0s	0~60	
低频减载 [81U] Under-Frequency Protection	低频减载投退 E.UnderFr. [Enable Under Frequency]	0	0~1	退出; 投入 No;Yes
	低压闭锁 E. UnderFr.U [Enable Under Frequency Voltage block]	0	0~1	退出; 投入 No;Yes

	欠流闭锁 E.UnderFr.I [Enable Under Frequency current block]	0	0~1	退出; 投入 No;Yes
	滑差闭锁 E.UnderFr.dHz. [Enable Under Frequency slip block]	0	0~1	退出; 投入 No;Yes
	低频减载定值 UnderFr. [Under Frequency value]	49Hz	45~60	
	低频减载延时 UnderFr.T [Under Frequency delay]	5s	0~60	
	滑差闭锁值 dHz.B [Under Frequency slip block value]	0.1	0.01~100	
	欠流闭锁值 I.B [Under Frequency current block value]	5A	0.2~120	
	低压闭锁值 U.B [Under Frequency voltage block value]	50V	0~200	
非电量 1 保护 Non-electric1 protection	非电量 1 配置 Non-el1.C [Non-electric1 Configuration]	0	0~11	
	非电量 1 投退 E.Non-el1 [Enable Non-electric1 protection]	0	0~1	退出; 投入 No;Yes
	非电量 1 方式 E.Non-el1.M [Enable Non-electric1 Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	非电量 1 延时 Non-el1.T [Non-electric1 delay]	5s	0~999	
非电量 2 保护	非电量 2 配置	0	0~11	

Non-electric2 protection	Non-el2.C [Non-electric2 Configuration]			
	非电量 2 投退 E.Non-el2 [Enable Non-electric2 protection]	0	0~1	退出; 投入 No;Yes
	非电量 2 方式 E.Non-el2.M [Enable Non-electric2 Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	非电量 2 延时 Non-el2.T [Non-electric2 delay]	5s	0~999	
非电量 3 保护 Non-electric3 protection	非电量 3 配置 Non-el3.C [Non-electric3 Configuration]	0	0~11	
	非电量 3 投退 E.Non-el3 [Enable Non-electric3 protection]	0	0~1	退出; 投入 No;Yes
	非电量 3 方式 E.Non-el3.M [Enable Non-electric3 Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	非电量 3 延时 Non-el3.T [Non-electric3 delay]	5s	0~999	
负序过流一段 I2>>> [46] [Negative sequence instantaneous overcurrent]	负序一段投退 E.I2>>> [Enable I2>>>]	0	0~1	退出; 投入 No;Yes
	负序一段定值 I2>>> [I2 value]	10A	0.04~120	
	负序一段延时 I2>>>.T [I2 delay]	5s	0~60	
负序过流二段 I2>> [46] [Negative sequence	负序二段投退 E.I2> [Enable I2>]	0	0~1	退出; 投入 No;Yes
	负序二段方式	0	0~1	告警; 跳闸

time-limited overcurrent]	E.I2>.M [Enable I2> Mode]			Alarm;Trip
	负序二段定值 I2> [I2> value]	9A	0.04~120	
	负序二段延时 I2>.T [I2>. delay]	10s	0~999	
负序反时限过流 I2.Inv.Tr [46] [Negative sequence inverse overcurrent (IDMT)]	负序反时限投退 E. I2>Inv [Enable I2>Inverse]	0	0~1	退出; 投入 No;Yes
	负序反时限电流 I2>Inv [I2>Inverse value]	6A	0.04~120	
	负序反时限系数 I2>Inv.K [I2>Inverse time coefficient]	0.1s	0~100	
	负序反时限曲线 I2>Inv.X [I2>Inverse curves]	0	0~2	一般; 非常; 极端 S1;S2;S3 [Normal Inverse; Very Inverse; Extremely Inverse]
FC 配合的过流闭锁 功能 FC Block	FC 闭锁投退 E. FCBlock [Enable FC Block]	0	0~1	退出; 投入 No;Yes [When the fault current is greater than FCBlock.I, the relay's DO will be blocked,in order to ensure that the fuse is first blown.]
	FC 闭锁电流定值 FCBlock.I [FC Block current value]	10A	0.04~120	
	FC 闭锁延时 FCBlock.T [FC Block delay]	5s	0~60	
遥信名字配置 Name.C [Remote signal name configuration]	实遥信 01 名配置 Name01.C [Remote name 01 configuration]	0	0~9999	
	实遥信 02 名配置	0	0~9999	

	Name02.C [Remote name 02 configuration]			
	实遥信 03 名配置 Name03.C [Remote name 03 configuration]	0	0~9999	
	实遥信 04 名配置 Name04.C [Remote name 04 configuration]	0	0~9999	
	实遥信 05 名配置 Name05.C [Remote name 05 configuration]	0	0~9999	
	实遥信 06 名配置 Name06.C [Remote name 06 configuration]	0	0~9999	
	实遥信 07 名字配置 Name07.C [Remote name 07 configuration]	0	0~9999	
	实遥信 08 名配置 Name08.C [Remote name 08 configuration]	0	0~9999	
	实遥信 09 名配置 Name09.C [Remote name 09 configuration]	0	0~9999	
	实遥信 10 名配置 Name10.C [Remote name 10 configuration]	0	0~9999	
	实遥信 11 名配置 Name11.C [Remote name 11 configuration]	0	0~9999	
2 次谐波闭锁 Second Harmonic Block	2 次谐波闭锁投退 E.SHB. [Enable Second harmonic	0	0~1	退出；投入 No;Yes

	blocking]			
	2次谐波运行定值 SHB.IR [SHB. Running value]	15%	0~100	
	2次谐波合闸定值 SHB.IS [SHB. Close value]	3%	0~100	
	涌流持续时间 XXXXT [Inrush time of duration]	5s	0~999	
压力释放 Pressure Release	压力释放配置 Pre.Re.C [Pressure Release configuration]	0	0~11	
	压力释放投退 E.Pre.Re [Enable Pre.Re]	0	0~1	退出; 投入 No;Yes
	压力释放方式 E.Pre.Re.M [Enable Pre.Re Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	压力释放延时 Pre.Re.T [Enable Pre.Re delay]	5s	0~999	
负控保护 Negative Control	负控保护配置 Ne.Con.C [Negative Control configuration]	0	0~11	
	负控保护投退 E.Ne.Con [Enable Negative Control]	0	0~1	退出; 投入 No;Yes
	负控保护方式 E.Ne.Con.M [Enable Negative Control Mode]	0	0~1	告警; 跳闸 Alarm;Trip
	负控保护延时 Ne.Con.T [Negative Control Delay]	5s	0~999	
检修状态闭锁 [86] Overhaul lockout	检修状态配置 Ma.C [Overhaul lockout configuration]	0	0~11	
	检修状态闭锁通讯投退	0	0~1	退出; 投入

	E. M.BC [Enable Overhaul-lockout communication]			No;Yes
	检修状态闭锁出口投退 E. M.BE [Enable Overhaul-lockout DO]	0	0~1	退出; 投入 No;Yes
	断路器动作时间 Cir.Br.T [Circuit Break time]	0.3s	0~999	
	过量返回系数 Excess R.C [Excess Return Coefficient]	0.950	0.001~2.000	
	欠量返回系数 Under R.C [Under Return Coefficient]	1.050	0.001~2.000	
	弹簧未储能延时 Sp.En.D. [Discharge delay]	0	0~999	
	I0 参与 2CT 计算 I0 P 2CT [I0 participate in 2CT calculation]	0	0~1	保护 CT 不同变比; 保护 CT 同变比 CT D.R; CT S.R [protective CT is different from zero sequence CT] ; [protective CT is same as zero sequence CT] [When there are 2CT, wheather zero sequence current is involved in the calculation of Ib.]
	I01_CT 变比 I01_CT	10	0.1~9999	
	I02_CT 变比 I02_CT	10	0.1~9999	
高频保护 OF [81O]	高频保护投退 E.OF [Enable Over Frequency]	0	0~1	退出; 投入 No;Yes

[Over Frequency Protection]	高频保护定值 OF [Over Frequency value]	50Hz	45~60	
	高频保护延时 OF.T [Over Frequency delay]	5s	0~999	
电压断相保护 Voltage Phase Break Protection	电压断相投退 E.Ph.Br [Enable Voltage Phase Break]	0	0~1	退出; 投入 No;Yes
	电压断相延时 Ph.Br.T [Voltage Phase Break delay]	5s	0~60	
	断相最大电压定值 Ph.BrUmax [Maximum Voltage of Phase Break]	30V	0~200	
	断相最小电压定值 Ph.BrUmin [Minimum Voltage of Phase Break]	18V	0~200	
	断相电压差值 Ph.BrU.Dif [Phase Break differential Voltage]	18V	0~200	
	虚遥信返回延时 VirDI.RT [Virtual DI return delay]	2s	0~999	

AM3E-U (电压型保护装置) 定值表 AM3SE-U(Protection Relay) Setting value				
保护名称 Protection Function	定值名称 Value Name	默认值 Default	范围 Range	备注 Notice
	PT 变比	100	0.1~9999	

	PT			
	电压一次选择 U Unit [Primary voltage display unit]	0	0~1	kV;V
	电压接线方式 PT Mode	0	0~1	3PT; 2PT
	无压定值 U.None [No-voltage]	15V	0~200	
低电压告警 LVP.A [27] [Undervoltage Alarm]	低电压告警投退 E.LVP.A [Enable Undervoltage Alarm]	0	0~1	退出; 投入 No;Yes
	低电压告警定值 LVP.A [Undervoltage Alarm value]	50V	1~200	
	低电压告警延时 LVP.A.T [Undervoltage Alarm delay]	5s	0~999	
过电压告警 [59] [Overvoltage alarm]	过电压告警投退 E.OVP.A [Enable Overvoltage alarm]	0	0~1	退出; 投入 No;Yes
	过电压告警定值 OVP.A [Overvoltage alarm value]	110V	1~200	
	过电压告警延时 OVP.A.T [Overvoltage delay]	10s	0~999	
零序过压告警	零序电压来源	0	0~1	自产; 通道 3 电压

U0.Over Voltage Protect [59N] [Residual overvoltage]	E.U0.OVP.M 零序电压来源 [Source of Residual voltage]			Self-produced; CH3 [Self-produced; Channel3]
	零序过压告警投退 E.U0.OVP [Enable U0.OVP]	0	0~1	退出; 投入 No;Yes
	零序过压告警定值 U0.OVP [Residual over voltage alarm value]	110V	1~200	
	零序过压告警延时 U0.OVP.T [Residual over voltage delay]	10s	0~999	
PT 断线告警 PT supervision[60]	PT 断线告警投退 E.PtBr.A [Enable PT Break alarm]	0	0~1	退出; 投入 No;Yes
	PT 断线负序电压 U2.Pt [Negative sequence voltage]	35V	1~200	
	PT 断线告警延时 PtBr.T [PT Break delay]	3s	0~999	
遥信名字配置 Name.C [Remote signal name configuration]	实遥信 01 名配置 Name01.C [Remote name 01 configuration]	0	0~9999	
	实遥信 02 名配置 Name02.C [Remote name 02 configuration]	0	0~9999	
	实遥信 03 名配置 Name03.C [Remote name 03 configuration]	0	0~9999	

实遥信 04 名配置 Name04.C [Remote name 04 configuration]	0	0~9999	
实遥信 05 名配置 Name05.C [Remote name 05 configuration]	0	0~9999	
实遥信 06 名配置 Name06.C [Remote name 06 configuration]	0	0~9999	
实遥信 07 名字配置 Name07.C [Remote name 07 configuration]	0	0~9999	
实遥信 08 名配置 Name08.C [Remote name 08 configuration]	0	0~9999	
实遥信 09 名配置 Name09.C [Remote name 09 configuration]	0	0~9999	
实遥信 10 名配置 Name10.C [Remote name 10 configuration]	0	0~9999	
实遥信 11 名配置 Name11.C [Remote name 11 configuration]	0	0~9999	

Accessories B Remote address table

名称 Name	代码 Code	名称 Name	代码 Code
状态遥信量 Spare state			
备用状态量遥信 1 Spare state1	1001	备用状态量遥信 2 Spare state2	1002
备用状态量遥信 3 Spare state3	1003	备用状态量遥信 4 Spare state4	1004
备用状态量遥信 5 Spare state5	1005	备用状态量遥信 6 Spare state6	1006
备用状态量遥信 7 Spare state7	1007	备用状态量遥信 8 Spare state8	1008
备用状态量遥信 9 Spare state9	1009	备用状态量遥信 10 Spare state10	1010
备用状态量遥信 11 Spare state11	1011	备用状态量遥信 12 Spare state12	1012
备用状态量遥信 13Spare state13	1013	备用状态量遥信 14Spare state14	1014
备用状态量遥信 15Spare state15	1015	备用状态量遥信 16Spare state16	1016
备用状态量遥信 17Spare state17	1017	备用状态量遥信 18Spare state18	1018
备用状态量遥信 19Spare state19	1019	备用状态量遥信 20 Spare state20	1020
1#PT 手车工作位置 1#PT W.P	1021	2#PT 手车工作位置 2#PT W.P	1022
1#PT 手车试验位置 1#PT T.P	1023	2#PT 手车试验位置 2#PT T.P	1024
1#隔离手车工作位 1#Iso.W.P	1025	2#隔离手车工作位 2#Iso.W.P	1026
1#隔离手车试验位 1#Iso.T.P	1027	2#隔离手车试验位 2#Iso.T.P	1028
1QF 隔离刀 1QF Iso.K	1029	2QF 隔离刀 2QF Iso.K	1030
1QF 位置 1QF On	1031	2QF 位置 2QF On	1032
1 号主供跳位警报 1QF Off A.	1033	2 号主供跳位警报 2QF Off A.	1034
345QJ 分位 345QJ Off	1035	I 母 PT 工作位置 I Bus PT W.P	1036
II 母 PT 工作位置	1037	I 母 PT 试验位置	1038

II Bus PT W.P		I Bus PT T.P	
II 母 PT 试验位置 II Bus PT T.P	1039	PT 避雷器手车位置 PT Arrester W.P	1040
PT 柜隔离手车工作位 PT Iso.W.P	1041	PT 手车工作位置 PT W.P	1042
PT 手车试验位置 PT T.P	1043	PT 手车位置 PT Position	1044
本段 PT 柜控制开关 Pri.Sec.PT Cont.Swit.	1045	本段计量车位置 Pri.Sec.Meter.P	1046
本段进线隔离车位置 Pri.Sec.In-com.Iso.P	1047	本段母联隔离车位置 Pri.Sec.Bus Iso.P	1048
本柜 PT 手车工作位 Pri.Sec.PT W.P	1049	避雷器手车位置 Arrester Position	1050
避雷手车工作位 Arrester W.P	1051	储能回路直流消失 Storage Cir.DC Loss	1052
弹簧未储能 Discharge	1053	弹簧已储能 Stored Spring	1054
低压侧隔离开状态 LV Separation State	1055	非保证负荷 1Non guarant load1	1056
非保证负荷 2Non guarant load2	1057	非保证负荷 3Non guarant load3	1058
非保证负荷 4Non guarant load4	1059	非保证负荷 5Non guarant load5	1060
非保证负荷 6Non guarant load6	1061	非保证负荷 7Non guarant load7	1062
非保证负荷 8Non guarant load8	1063	非保证负荷 9Non guarant load9	1064
非保证负荷 10Non guarant load10	1065	非保证负荷 11Non guarant load11	1066
非保证负荷 12Non guarant load12	1067	非保证负荷 13Non guarant load13	1068
非保证负荷 14Non guarant load14	1069	非保证负荷 15Non guarant load15	1070
非保证负荷 16Non guarant load16	1071	非保证负荷 17Non guarant load17	1072
非保证负荷 18Non guarant load18	1073	非保证负荷 19Non guarant load19	1074
非保证负荷 20Non guarant load20	1075	分段隔离柜手车位置 Subsect.Iso.P	1076
分段隔离手车工作位 Subsect.Iso.W.P	1077	分位 CB Off	1078
合位	1079	负荷开关	1080

CB On		Load Switch	
复位按钮 Reset Button	1081	高压侧隔离状态 HV Separation State	1082
隔离刀分位 Iso.K.On	1083	隔离刀合位 Iso.K.Off	1084
隔离开关合位 Iso.Switch On	1085	隔离刀位置 Iso.K.P	1086
隔离刀工作位置 Iso.K.W.P	1087	隔离刀试验位置 Iso.K.T.P	1088
隔离手车工作位置 Iso.W.P	1089	隔离手车试验位置 Iso.T.P	1090
隔离手车位置 Iso.P	1091	急停信号 Emergency stop sig.	1092
计量断路器分位 Meter.CB On	1093	计量断路器合位 Meter.CB Off	1094
计量柜弹簧未储能 Meter.Discharge	1095	计量手车工作位置 Meter.W.P	1096
计量手车试验位置 Meter.T.P	1097	计量手车位置 Meter.P	1098
接地刀闸 GroundSwitch	1099	进线负荷开关 In-com.Load Switch	1100
进线隔离柜微断跳闸 In-com.Iso.Micro.CB.T	1101	进线隔离手车工作位置 In-com.Iso.W.P	1102
进线隔离手车试验位置 In-com.Iso.T.P	1103	进线手车工作位 In-com.W.P	1104
进线微断跳闸 In-com.Micro.T	1105	母联断路器分位 Bus CB On	1106
母联断路器合位 Bus CB Off	1107	母联隔离手车工作 Bus Iso.W.P	1108
母联隔离手车位 Bus Iso.P	1109	母线 PT 柜隔离刀合闸 Bus PT Iso.K.On	1110
母线 PT 手车工作位 Bus PT W.P	1111	熔断器手车工作位置 Fuse W.P	1112
熔断器手车试验位置 Fuse T.P	1113	上隔离 Upper Iso.	1114
上隔离合位 Upper Iso.On	1115	上隔离开关合位 Upper Iso.Switch On	1116
手车工作位置 Work Posi.	1117	手车试验位置 Test Posi.	1118
手动分闸 ManualTrip	1119	手动合闸 ManualClose	1120
所用变工作位置	1121	所用变试验位置	1122

T.W.P		T.T.P	
跳位监视 Trip Supervision	1123	微型断路器跳闸 Micro.CB.T	1124
下 PT 手车工作位 Lower PT W.P	1125	下隔离 Lower Iso.	1126
下接地 Lower Ground	1127	信号复归 ResetSignal	1128
压变工作位置 Pre.Trans.W.P	1129	压变试验位置 Pre.Trans.T.P	1130
远方 Remote	1131	远方复归 Remote Reset	1132
触头手车工作位置 Contact W.P	1133	交直流空开跳闸 AC/DC Air Switch.T	1134
操作回路跳闸 Operation Cir.T	1135	电压回路跳闸 Voltage Cir.T	1136
隔离开关分位 Iso.Switch Off	1137	PT 隔离开关位置 PT Iso.Switch.P	1138
计量 PT 手车工作位置 Meter.PT W.P	1139	操显装置告警 Oper.And Disp.Devi.A	1140
接地手车工作 Ground W.P	1141	接地手车试验 Ground T.P	1142
避雷手车试验位 Arrester T.P	1143	母线电压失压 B.Vol.Lo	1144
储能电源失电 Power Loss	1145	断路器温度报警 Cir.Temp.A	1146
油机并车屏联跳 Oil.Eng.Par.Joint.T	1147	I/II 段失压跳闸信号 I/II LV.T Sig.	1148
I/II 段电压并列信号 I/II Vol.Par.Sig.	1149	进线侧电源失电 In-com.Power Loss	1150
本段 PT 断线信号 Pri.Sec.PT Break Sig.	1151	本段母线退出信号 Pri.Sec.Bus Exit Sig.	1152
联络手车工作 Liaison W.P	1153	联络手车试验 Liaison T.P	1154
下 PT 手车试验位 Lower PT T.P	1155	母线接地信号 Ground Bus Signal	1156
电压不平衡 Unbalance Voltage	1157	熔断器开关 Fuse Switch	1158
非电量遥信 Non-elec			
备用非电量遥信 1 Spare Non-elec.1	2001	备用非电量遥信 2 Spare Non-elec.2	2002
备用非电量遥信 3	2003	备用非电量遥信 4	2004

Spare Non-elec.3		Spare Non-elec.4	
备用非电量遥信 5 Spare Non-elec.5	2005	备用非电量遥信 6 Spare Non-elec.6	2006
备用非电量遥信 7 Spare Non-elec.7	2007	备用非电量遥信 8 Spare Non-elec.8	2008
备用非电量遥信 9 Spare Non-elec.9	2009	备用非电量遥信 10 Spare Non-elec.10	2010
备用非电量遥信 11 Spare Non-elec.11	2011	备用非电量遥信 12Spare Non-elec.12	2012
备用非电量遥信 13 Spare Non-elec.13	2013	备用非电量遥信 14Spare Non-elec.14	2014
备用非电量遥信 15 Spare Non-elec.15	2015	备用非电量遥信 16Spare Non-elec.16	2016
备用非电量遥信 17 Spare Non-elec.17	2017	备用非电量遥信 18Spare Non-elec.18	2018
备用非电量遥信 19 Spare Non-elec.19	2019	备用非电量遥信 20Spare Non-elec.20	2020
高温 OverTemp.	2021	超温 HighTemp.	2022
转速低 Low Speed	2023	转速高 High Speed	2024
轻瓦斯 SlightGas	2025	重瓦斯 SevereGas	2026
油位高 High Oil Level	2027	油位低 Low Oil Level	2028
压力释放 PressureRele.	2029	温控器故障 Therm.Fa.	2030
热复归 HeatRecovery	2031	门控跳 Door Control.T	2032
门禁跳闸 Access Control.T	2033	隔离手车连跳 Iso.Handcart.T	2034
高侧网门 High side net-door	2035	低侧网门 Low side net-door	2036
感烟器报警 Smoke Detector.A	2037	负控跳闸 Nega.Control.T	2038
变压器门开 DoorOpen	2039	非电量 1 Non-elec.1	2040
非电量 2 Non-elec.2	2041	非电量 3 Non-elec.3	2042
非电量 4 Non-elec.4	2043	非电量 5 Non-elec.5	2044
非电量 6	2045	非电量 7	2046

Non-elec.6		Non-elec.7	
非电量 8 Non-elec.8	2047	非电量 9 Non-elec.9	2048
非电量 10 Non-elec.10	2049	非电量 11 Non-elec.11	2050
非电量 12 Non-elec.12	2051	非电量 13 Non-elec.13	2052
非电量 14 Non-elec.14	2053	非电量 15 Non-elec.15	2054
非电量 16 Non-elec.16	2055	非电量 17 Non-elec.17	2056
非电量 18 Non-elec.18	2057	非电量 19 Non-elec.19	2058
非电量 20 Non-elec.20	2059	计量门 1 跳闸 Meter-door1.T	2060
计量门 2 跳闸 Meter-door2.T	2061	计量门 3 跳闸 Meter-door3.T	2062
计量门 4 跳闸 Meter-door4.T	2063	计量门 5 跳闸 Meter-door5.T	2064
计量门 6 跳闸 Meter-door6.T	2065	计量门 7 跳闸 Meter-door7.T	2066
计量门 8 跳闸 Meter-door8.T	2067	计量门 9 跳闸 Meter-door9.T	2068
计量门 10 跳闸 Meter-door10.T	2069	计量门 11 跳闸 Meter-door11.T	2070
计量门 12 跳闸 Meter-door12.T	2071	计量门 13 跳闸 Meter-door13.T	2072
计量门 14 跳闸 Meter-door14.T	2073	计量门 15 跳闸 Meter-door15.T	2074
计量门 16 跳闸 Meter-door16.T	2075	计量门 17 跳闸 Meter-door17.T	2076
计量门 18 跳闸 Meter-door18.T	2077	计量门 19 跳闸 Meter-door19.T	2078
计量门 20 跳闸 Meter-door20.T	2079	负控保护 Nega.Control.P	2080
弧光保护 Arc.P	2081	5 次 A 相电容故障 5th A p.Capacitor.F	2082
5 次 B 相电容故障 5th B p.Capacitor.F	2083	5 次 C 相电容故障 5th C p.Capacitor.F	2084
7 次 A 相电容故障 7th A p.Capacitor.F	2085	7 次 B 相电容故障 7th B p.Capacitor.F	2086
7 次 C 相电容故障	2087		

7th ACp.Capacitor.F			
压板遥信			
备用硬压板遥信 1 Spare HardPre.Plate1	3001	备用硬压板遥信 2 Spare HardPre.Plate2	3002
备用硬压板遥信 3 Spare HardPre.Plate3	3003	备用硬压板遥信 4 Spare HardPre.Plate4	3004
备用硬压板遥信 5 Spare HardPre.Plate5	3005	备用硬压板遥信 6 Spare HardPre.Plate6	3006
备用硬压板遥信 7 Spare HardPre.Plate7	3007	备用硬压板遥信 8 Spare HardPre.Plate8	3008
备用硬压板遥信 9 Spare HardPre.Plate9	3009	备用硬压板遥信 10 Spare HardPre.Plate10	3010
备用硬压板遥信 11 Spare HardPre.Plate11	3011	备用硬压板遥信 12 Spare HardPre.Plate12	3012
备用硬压板遥信 13 Spare HardPre.Plate13	3013	备用硬压板遥信 14 Spare HardPre.Plate14	3014
备用硬压板遥信 15Spare HardPre.Plate15	3015	备用硬压板遥信 16 Spare HardPre.Plate16	3016
备用硬压板遥信 17 Spare HardPre.Plate17	3017	备用硬压板遥信 18 Spare HardPre.Plate18	3018
备用硬压板遥信 19 Spare HardPre.Plate19	3019	备用硬压板遥信 20 Spare HardPre.Plate20	3020
1QF 故障闭锁 1QF Fault Block	3021	2QF 故障闭锁 2QF Fault Block	3022
I 段 PT 投入 I PT Input	3023	II 段 PT 投入 II PT Input	3024
PT 并列硬压板 PT Par.HardPre.Plate	3025	备投允许 SPA.Permission	3026
备自投投入 E.SPAS	3027	备自投自动复归 E.SPASaR	3028
闭锁保护 Block Protection	3029	闭锁备自投 Bl.SPAS	3030
闭锁电压输入 Block Voltage Input	3031	闭锁重合闸 BlockReclosing	3032
差动保护硬压板 Differ.HardPre.Plate	3033	投低压侧跳闸 LV.T Input	3034
投高压侧跳闸 HV.T Input	3035	投过流保护 Overcurrent.P Input	3036
允许遥控并列 Remote Par.Allowed	3037	允许自动并列 Automatic Par.Allowed	3038
置检修状态 Maintenance	3039	重合闸压板 Reclosing Pre.Plate	3040

自投开关投入 AutomaticSwitch Input	3041		
信号量遥信 Signal			
备用信号量遥信 1 Spare Signal1	4001	备用信号量遥信 2 Spare Signal2	4002
备用信号量遥信 3 Spare Signal3	4003	备用信号量遥信 4 Spare Signal4	4004
备用信号量遥信 5 Spare Signal5	4005	备用信号量遥信 6 Spare Signal6	4006
备用信号量遥信 7 Spare Signal7	4007	备用信号量遥信 8 Spare Signal8	4008
备用信号量遥信 9 Spare Signal9	4009	备用信号量遥信 10 Spare Signal10	4010
备用信号量遥信 11 Spare Signal11	4011	备用信号量遥信 12 Spare Signal12	4012
备用信号量遥信 13 Spare Signal13	4013	备用信号量遥信 14 Spare Signal14	4014
备用信号量遥信 15 Spare Signal15	4015	备用信号量遥信 16 Spare Signal16	4016
备用信号量遥信 17 Spare Signal17	4017	备用信号量遥信 18Spare Signal18	4018
备用信号量遥信 19 Spare Signal19	4019	备用信号量遥信 20 Spare Signal20	4020
一段系统接地 Pri.System Ground	4021	PT 断线 PT Break	4022
失压脱扣 LV.T	4023	复位信号 ResetSignal	4024
运行状态 Running State	4025	负控保护 Nega.Control.P	4026
电压并列 Voltage Parallel	4027	系统谐振信号 Sys.Resonance Sig.	4028
系统接地信号 Sys.Ground Sig.	4029	绝缘监察 Insulation Monitor	4030
主变异常信号 Transf.Abnormal Sig.	4031	CT 二次过压 CT Secondary.OV	4032
事故跳闸输入 Emergency.T input	4033	电源监视 Power Monitor	4034
发电机启动 Alternator Start	4035	发电机故障 Alternator Failure	4036
控制回路断线 CtrError Act	4037	PT 电压切换 Pt Voltage Switch	4038
电压不平衡信号	4039	本段 PT 失压	4040

Unbalance.V Sig.		Pri.Sec.PT V.LOSS	
风扇已运行 Running Blower	4041	PT 并列 PT Parallel	4042
控制回路正常 CtrError Normal	4043	电容器故障信号 Capac.Failure Sig.	4044

Accessories C Event Record

AM 事件记录 AM Event Record				
事件代码 Event code	事件名称 Event name	参数名称 Parameter name	参数值 Parameter values	参数单位 Parameter unit
0	过流一段保护 [Instantaneous overcurrent] 3I>>>	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative sequence voltage U2	浮点数 Float	V
		A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A
		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A
		1	过流二段保护 [Time-limited overcurrent] 3I>>	A 相电流 Ia
B 相电流 Ib	浮点数 Float			A
C 相电流 Ic	浮点数 Float			A
UAB	浮点数 Float			V
UBC	浮点数 Float			V
UCA	浮点数 Float			V

			Float	
		负序电压 Negative sequence voltage U2	浮点数 Float	V
		A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A
		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A
2	过流三段保护 [Definite time overcurrent] 3I>	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative sequence voltage U2	浮点数 Float	V
		A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A
		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A
3	启动时过流一段保护 [Motor Start Instantaneous overcurrent]	A 相电流 Ia	浮点数 Float	A
		B 相电流	浮点数	A

	3I>>>.S	Ib	Float	
		C相电流 Ic	浮点数 Float	A
4	运行时过流一段保护 [Motor Run Instantaneous overcurrent] 3I>>>.R	A相电流 Ia	浮点数 Float	A
		B相电流 Ib	浮点数 Float	A
		C相电流 Ic	浮点数 Float	A
5	A相反时限过流保护 [Ia Inverse Definite Minimum Time overcurrent] Ia>InverseT.	时间 t	浮点数	s
		A相电流 Ia	浮点数 Float	A
		B相电流 Ib	浮点数 Float	A
		C相电流 Ic	浮点数 Float	A
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative sequence voltage U2	浮点数 Float	V
6	B相反时限过流保护 [Ib Inverse Definite Minimum Time overcurrent] Ib>InverseT.	时间 t	浮点数	s
		A相电流 Ia	浮点数 Float	A
		B相电流 Ib	浮点数 Float	A
		C相电流 Ic	浮点数 Float	A
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压	浮点数	V

		Negative sequence voltage U2	Float	
7	C 相反时限过流保护 [Ic Inverse Definite Minimum Time overcurrent] Ic>InverseT.	时间 t	浮点数 Float	s
		A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative sequence voltage U2	浮点数 Float	V
8	I01 过流一段 [I01 ground fault Instantaneous overcurrent] I01>>>>	I01	浮点数 Float	A
9	I01 过流二段 [I01 ground fault Time-limited overcurrent] I01>>	I01	浮点数 Float	A
10	I02 过流一段 [I02 ground fault Instantaneous overcurrent] I02>>>>	I02	浮点数 Float	A
11	I02 过流二段 [I02 ground fault Time-limited overcurrent] I02>>	I02	浮点数 Float	A
12	I01 反时限 [I01 ground fault Inverse Definite Minimum Time overcurrent] I01>InverseT.	时间 t	浮点数 Float	s
		I01	浮点数 Float	A

13	I02 反时限 [I02 ground fault Inverse Definite Minimum Time overcurrent] I02>InverseT.	时间 t	浮点数 Float	s
		I02	浮点数 Float	A
14	后加速过流保护 [Post-accelerated overcurrent] I>P.T	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
15	重合闸 [Auto-recloser] Reclose	——	——	——
16	低频减载 [Under Frequency] UnderFr.	频率 Frequency	浮点数 Float	Hz
17	手动合闸 [ManualClose]	——	——	——
18	手动分闸 [ManualTrip]	——	——	——
19	过负荷跳闸 I>Lo.T [OverLoadTrip]	最大相电流 Maximum current Im	浮点数 Float	A
20	负序过流一段保护 [Negative sequence Instantaneous overcurrent] I2>>>>	负序电流 Negative sequence current I2	浮点数 Float	A
		最大相电流 Maximum current Im	浮点数 Float	A
21	负序反时限保护 [Negative sequence Inverse Definite Minimum Time] overcurrent I2>InverseT	时间 t	浮点数 Float	s
		负序电流 Negative sequence current I2	浮点数 Float	A
22	热过载跳闸 [Thermal overload Trip] OverHeat.T	跳闸百分比 Trip Percent	浮点数 Float	%
		最大相电流	浮点数	A

		Maximum current Im	Float	
		正序电流 Positive sequence current I1	浮点数 Float	A
		负序电流 Negative sequence current I2	浮点数 Float	A
23	堵转保护 [Blocking Rotor StallTrip]	最大相电流 Maximum current Im	浮点数 Float	A
24	启动时间过长保护 [Starting time-out] StartOutTime	最大相电流 Maximum current Im	浮点数 Float	A
25	低电压保护 [Under Voltage Trip] LVP.T	最大线电压 Maximum voltage Um	浮点数 Float	V
26	欠电压保护 [Under Voltage Trip] LVP.T	UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
27	过电压保护 [Over Voltage Trip] OVP.T	UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
28	零序过电压保护/自产零序过 压保护 [Residual Over Voltage Trip/Self-produced Residual Over Voltage Trip] U0.OVP/3U0.OVP	零序电压 Residual voltage U0	浮点数 Float	V
29	不平衡电压保护 [Unbalance Voltage Trip] Unb.V.T	不平衡 U Unbalance Voltage Unb.V	浮点数 Float	V
30	不平衡电流保护 [Unbalance Current Trip]	不平衡 I Unbalance Current	浮点数 Float	A

	Unb.I.T	Unb.I		
31	重瓦斯跳闸 [Severe Gas Trip] SevereGas.T	——	——	——
32	压力释放跳闸 [Pressure Release Trip] Pre.Re.T	——	——	——
33	超温跳闸 [High Temperature Trip] HighTemp.T	——	——	——
34	非电量 1 跳闸/计量门 1 跳闸 [Non-electricity 1 Trip/Meter-door 1 Trip] Non-el1.T/Me.do1.T	——	——	——
35	非电量 2 跳闸/计量门 2 跳闸 [Non-electricity 2 Trip/Meter-door 2 Trip] Non-el2.T/Me.do2.T	——	——	——
36	分段备投合母联 [Bus Standby Power Automatic Switch Close Bus] B.S.C.B.	——	——	——
37	分段备投跳进线 1 [Bus Standby Power Automatic Switch Trip 1 Incoming] B.S.T.1	——	——	——
38	分段备投跳进线 2 [Bus Standby Power Automatic Switch Trip 2 Incoming] B.S.T.2	——	——	——
39	2 备 1 跳进线 1 [2 Incoming Spare power, 1 Incoming Primary power, trip 1 Incoming] 2S.1T.1-In.	——	——	——
40	2 备 1 合进线 2 [2 Incoming Spare power, 1 Incoming Primary power, close 2 Incoming] 2S.1C.2-In.	——	——	——

41	1 备 2 跳进线 2 [1 Incoming Spare power, 2 Incoming Primary power, trip 2 Incoming] 1S.2T.2-In.	—	—	—
42	1 备 2 合进线 1 [1 Incoming Spare power, 2 Incoming Primary power, close 1 Incoming] 1S.2C.1-In.	—	—	—
43	分段复归合进线 1 [Bus Standby Power Automatic Reset Close 1 Incoming] B.R.C.1	—	—	—
44	分段复归合进线 2 [Bus Standby Power Automatic Reset Close 2 Incoming] B.R.C.2	—	—	—
45	分段复归跳母联 [Bus Standby Power Automatic Reset Trip Bus] B.R.T.B.	—	—	—
46	2 备 1 复归合进线 1 [2 Incoming Spare power, 1 Incoming Primary power, Reset close 1 Incoming] 2S.1R.C.1	—	—	—
47	2 备 1 复归跳进线 2 [2 Incoming Spare power, 1 Incoming Primary power, Reset trip 2 Incoming] 2S.1R.T.2	—	—	—
48	1 备 2 复归合进线 2 [1 Incoming Spare power, 2 Incoming Primary power, Reset close 2 Incoming] 1S.2R.C.2	—	—	—
49	1 备 2 复归跳进线 1 [1 Incoming Spare power, 2 Incoming Primary power,	—	—	—

	Reset trip 1 Incoming] 1S.2R.T.1			
50	FC 闭锁 [FC Block]	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
51	变压器门误开跳闸 [Transformer Door Open Trip] DoorOpenT	——	——	——
52	遥控合闸 [RemoteClose]	——	——	——
53	遥控分闸 [RemoteTrip]	——	——	——
54	失压保护 [Loss of Voltage Trip] LVP.T	最大线电压 Maximum voltage Um	浮点数 Float	V
55	油位低跳闸 [Low oil Trip] Low oil.T	——	——	——
56	油位高跳闸 [High oil Trip] High oil.T	——	——	——
57	反时限过流保护 [Inverse Definite Time overcurrent] I>InverseT.	时间 t	浮点数 Float	s
		A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
58	I01 过流三段 [I01 ground fault Definite time overcurrent] I01>	I01	浮点数 Float	A
59	I01 后加速过流 [I01 ground fault Post-accelerated overcurrent] I01>P.T	时间 t	浮点数 Float	s
		I01	浮点数 Float	A
60	高温保护跳闸	——	——	——

	[Over Temperature Trip] OverTemp.T			
61	轻瓦斯保护跳闸 [Light Gas Trip] LightGasT	——	——	——
62	2 备 1 跳母联 [2 Incoming Spare power, 1 Incoming Primary power, trip bus] 2S.1T.B.	——	——	——
63	2 备 1 复归合母联 [2 Incoming Spare power, 1 Incoming Primary power, Reset close bus] 2S.1R.C.B.	——	——	——
64	柴发机备投跳进线 1 [Diesel Generator Standby Power Automatic Switch Trip 1 Incoming] Die.S.T.1	——	——	——
65	柴发机备投跳进线 2 [Diesel Generator Standby Power Automatic Switch Trip 2 Incoming] Die.S.T.2	——	——	——
66	柴发机备投合母联 [Diesel Generator Standby Power Automatic Switch Close Bus] Die.S.C.B.	——	——	——
67	柴发机备投合柴发机 [Diesel Generator Standby Power Automatic Switch Close Diesel Gnerator] Die.S.C.D.	——	——	——
68	非电量 3 跳闸 [Non-electricity 3 Trip] Non-el3.T	——	——	——
69	非电量 4 跳闸 [Non-electricity 4 Trip] Non-el4.T	——	——	——
70	备用 1 跳闸	——	——	——

	[Spare 1 Trip] Spare1.T			
71	备用 2 跳闸 [Spare 2 Trip] Spare2.T	——	——	——
73	备用 3 跳闸 [Spare 3 Trip] Spare3.T	——	——	——
74	隔离柜连跳 [Isolation Intertrip] Iso.Cab.T	——	——	——
75	系统谐振跳闸 [System Resonanc Trip] Sys.Res.T	——	——	——
76	高频保护 [Over Frequency] OF.T	频率 Frequency	浮点数 Float	Hz
77	温控器故障跳闸 [Temperature Controller Failure Trip] Th.Fa.T	——	——	——
78	自产 3I0 保护一段跳闸 [Self-produce ground fault Instantaneous overcurrent] 3I0>>>>	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
		3I0	浮点数 Float	A
79	自产 3I0 保护二段跳闸 [Self-produce ground fault Time-limited overcurrent] 3I0>>>	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
		3I0	浮点数 Float	A
80	过负荷告警 I>Lo.A [Over Load Alarm] OverLoadAla.	最大相电流 Maximum current Im	浮点数 Float	A

81	PT 断线告警 (AM5、AM4-U) [PT Break Alarm] PT BreakAla.	UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative sequence voltage U2	浮点数 Float	V
82	控故障告警 [Control Circuit Break Alarm] CtrErrorAla.	—	—	—
83	负序过流二段告警 [Negative sequence Time-limited overcurrent Alarm] I2>>.A	负序电流 I2	浮点数 Float	A
		最大相电流 Maximum current Im	浮点数 Float	A
84	热过载告警 [Thermal overload Alarm] OverHeat.A	告警百分比 Alarm percent	浮点数 Float	%
		最大相电流 Maximum current Im	浮点数 Float	A
		正序电流 Positive sequence current I1	浮点数 Float	A
		负序电流 Negative sequence current I2	浮点数 Float	A
85	I母低电压告警 LVP.A (AM5\AM4-U1) [I Bus Under Voltage Alarm] I Bus LVP.A	最大线电压 Maximum voltage Um	浮点数 Float	V
86	I母过电压告警 (AM5\AM4-U1) [I Bus Over Voltage Alarm] I Bus OVP.A	最大线电压 Maximum voltage Um	浮点数 Float	V

87	I母零序过压告警 (AM5\AM4-U1) [I Bus Residual Over Voltage] Alarm I Bus U0.OVP.A	零序电压 Residual Voltage U0	浮点数 Float	V
88	轻瓦斯告警 [Light Gas Alarm] LightGasA			
89	高温告警 [Over Temperature Alarm] OverTemp.A			
90	非电量 2 告警 [Non-electricity 2 Alarm] Non-el2.A	——	——	——
91	非电量 3 告警 [Non-electricity 3 Alarm] Non-el3.A	——	——	——
92	分段充电完成 [BusCharge]	——	——	——
93	进线 1 充电完成 [1 In-coming Charge] I-In.Charge	——	——	——
94	进线 2 充电完成 [2 In-coming Charge] 2-In.Charge	——	——	——
95	I母自产零序过压告警 (AM5\AM4-U1) [I Bus Self-produced Residual Over Voltage Alarm] I Bus 3U0.OVP.A	零序电压 Residual Voltage U0	浮点数 Float	V
96	II母低电压告警 (AM5\AM4-U2) [II Bus Under Voltage Alarm] II Bus LVP.A	最大线电压 Maximum voltage Um	浮点数 Float	V
97	II母零序过压告警 (AM5\AM4-U2) [II Bus Residual Over Voltage Alarm] II Bus U0.OVP.A	零序电压 Residual Voltage U0	浮点数 Float	V
98	II母 PT 断线告警 (AM5\AM4-U2) [II Bus PT Break Alarm]	UAB2	浮点数 Float	V
		UBC2	浮点数	V

	II Bus PT BreakAla.		Float	
		UCA2	浮点数 Float	V
		负序电压 Negative sequence voltage U2	浮点数 Float	V
99	II母过电压告警 (AM5\AM4-U2) [II Bus Over Voltage Alarm] II Bus OVP.A	最大线电压 Maximum voltage Um	浮点数 Float	V
100	II母自产零序过压告警 (AM5\AM4-U2) [II Bus Self-produced Residual Over Voltage Alarm] II Bus 3U0.OVP.A	零序电压 Residual Voltage U0	浮点数 Float	V
101	电机备投跳进线 1,2 [Motor Standby Power Automatic Switch Trip 1,2 Incoming] M.S.T.1,2	——	——	——
102	电机备投合电机 [Motor Standby Power Automatic Switch Close Motor] M.S.C.M.	——	——	——
103	过流三段告警 [Definite time overcurrent Alarm] 3I>.A	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
104	I01 过流一段告警 [I01 ground fault Instantaneous overcurrent Alarm] I01>>>.A	时间 t	浮点数 Float	s
		I01	浮点数 Float	A
105	I01 过流二段告警 [I01 ground fault Time-limited overcurrent Alarm] I01>>.A	时间 t	浮点数 Float	s
		I01	浮点数 Float	A

106	I01 过流三段告警 [I01 ground fault Definite time overcurrent Alarm] I01>.A	时间 t	浮点数 Float	s
		I01	浮点数 Float	A
107	I01 反时限过流告警 [I01 ground fault Inverse Definite Minimum Time overcurrent Alarm] I01>InverseT.A	时间 t	浮点数 Float	s
		I01	浮点数 Float	A
108	I01 后加速告警 [I01 ground fault Post-accelerated overcurrent Alarm] I01>P.A	时间 t	浮点数 Float	s
		I01	浮点数 Float	A
109	I02 过流告警 [I02 ground fault overcurrent Alarm] I02>.A	时间 t	浮点数 Float	s
		I02	浮点数 Float	A
110	I02 反时限过流告警 [I02 ground fault Inverse Definite Time overcurrent Alarm] I02>InverseT.A	时间 t	浮点数 Float	s
		I02	浮点数 Float	A
111	负序过流一段告警 [Negative sequence Instantaneous overcurrent Alarm] I2>>>.A	负序电流 Negative sequenc current I2	浮点数 Float	A
		最大相电流 Maximum current Im	浮点数 Float	A
112	超温保护告警 [High Temperature Alarm] HighTemp.A			
113	重瓦斯保护告警 [Severe Gas Alarm] SevereGas.A			
114	失压告警	最大线电压	浮点数	V

	[Loss of Voltage Alarm] LVP.A	Maximum voltage Um	Float	
115	I02 过流一段告警 [I02 ground fault Instantaneous overcurrent Alarm]	时间 t	浮点数 Float	s
	I02>>>.A	I02	浮点数 Float	A
116	I02 过流二段告警 段告警 [I02 ground fault Time-limited overcurrent Alarm]	时间 t	浮点数 Float	s
	I02>>.A	I02	浮点数 Float	A
117	门开告警 [Transformer Door Alarm] DoorOpenA	时间 t	浮点数 Float	s
118	进线 PT 断线 [In-coming PT Break Alarm] I.PtBr.A	——	——	——
119	非电量 1 告警 [Non-electricity 1 Alarm] Non-el1.A			s
120	非电量 4 告警 [Non-electricity 4 Alarm] Non-el4.A			s
121	重合闸充电完成 [Auto-reclose Charge] chargeOK	——	——	——
122	备用 1 告警 [Spare 1 Alarm] Spare1.A	——	——	——
123	备用 2 告警 [Spare 2 Alarm] Spare2.A	——	——	——
124	备用 3 告警 [Spare 3 Alarm] Spare3.A	——	——	——
125	市电充电 [Power Supply Charge] Mark.Charge	——	——	——
126	市电备投跳发电机 [Power Supply Standby	——	——	——

	Power Automatic Switch Trip Generator] Mark.S.T.D.			
127	市电备投合进线 1 [Power Supply Standby Power Automatic Switch Close 1 In-coming] Mark.S.C.1	—	—	—
128	市电备投合进线 2 [Power Supply Standby Power Automatic Switch Close 2 In-coming] Mark.S.C.2	—	—	—
129	逆功率保护 [Reverse Power Trip] R.P.T	有功功率 Active power	浮点数 Float	kW
		功率因数 Power factor	浮点数 Float	
130	压力释放告警 [Pressure Release Alarm] Pre.Re.A	—	—	—
131	发电机备 1 充电 [Generator Spare power, 1 In-coming Primary power Charge] A1.S.1.Charge	—	—	—
132	发电机备 2 充电 [Generator Spare power, 2 In-coming Primary power Charge] A1.S.2.Charge	—	—	—
133	柴发机备 1 跳 1QF [Diesel Generator Spare power, 1 In-coming Primary, Trip 1QF] Die.S.1T.1QF	—	—	—
134	柴发机备 1 合 4QF [Diesel Generator Spare power, 1 In-coming Primary, Close 4QF] Die.S.1C.4QF	—	—	—
135	柴发机备 2 跳 2QF [Diesel Generator Spare	—	—	—

	power, 2 In-coming Primary, Trip 2QF] Die.S.2T.2QF			
136	柴发机备 2 合 4QF [Diesel Generator Spare power, 2 In-coming Primary, Close 4QF] Die.S.2C.4QF	—	—	—
137	温控器故障告警 [Temperature Controller Failure Alarm] Th.Fa.A	—	—	—
138	二次过压告警（非电量） [Secondary Over Voltage Alarm] Se.OVP.A	—	—	—
139	不平衡电流 3I0 保护告警 [Unbalance Current Alarm] Unb.3I0.A	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
		3I0	浮点数 Float	A
150	DI1 变位 [DI1 Set] DI1	—	—	—
151	DI2 变位 [DI2 Set] DI2	—	—	—
152	DI3 变位 [DI3 Set] DI3	—	—	—
153	DI4 变位 [DI4 Set] DI4	—	—	—
154	DI5 变位 [DI5 Set] DI5	—	—	—
155	DI6 变位 [DI6 Set]	—	—	—

	DI6			
156	DI7 变位 [DI7 Set] DI7	—	—	—
157	DI8 变位 [DI8 Set] DI8	—	—	—
158	DI9 变位 [DI9 Set] DI9	—	—	—
159	DI10 变位 [DI10 Set] DI10	—	—	—
160	DI11 变位 [DI11 Set] DI11	—	—	—
161	DI12 变位 [DI12 Set] DI12	—	—	—
162	DI13 变位 [DI13 Set] DI13	—	—	—
163	DI14 变位 [DI14 Set] DI14	—	—	—
164	DI15 变位 [DI15 Set] DI15	—	—	—
165	DI16 变位 [DI16 Set] DI16	—	—	—
166	DI17 变位 [DI17 Set] DI17	—	—	—
167	DI18 变位 [DI18 Set] DI18	—	—	—
168	DI19 变位 [DI19 Set] DI19	—	—	—
169	DI20 变位 [DI20 Set]	—	—	—

DI20				
170	合后位置变位 [Position after closing set]	——	——	——
171	合位监视变位 [Circuit Breaker On Set] CCB On set	——	——	——
172	分位监视变位 [Circuit Breaker Off Set] CCB Off set	——	——	——
173	防跳监视变位 [Anti-pumping set]	——	——	——
174	装置上电 [Device on power]	——	——	——
179	PT 断线 [PT Break]	——	——	——
180	3 备 1 充电 [3 In-coming Spare power, 1 In-coming Primary power Charge] 3S.1 Charge	——	——	——
181	3 备 2 充电 [3 In-coming Spare power, 2 In-coming Primary power Charge] 3S.2 Charge	——	——	——
182	A 相差压跳闸 [Phase A Differential Voltage Trip] UdA.T	A 相差压 Phase A Differential Voltage UdA	浮点数 Float	V
183	B 相差压跳闸 [Phase B Differential Voltage] UdB.T	B 相差压 Phase B Differential Voltage UdB	浮点数 Float	V
184	C 相差压跳闸 [Phase C Differential Voltage] UdC.T	C 相差压 Phase C Differential Voltage UdC	浮点数 Float	V
185	备投再恢复 1#合 3QF [Standby Power Automatic Switch Reset 1#, Close 3QF] S.R.1#.C.3QF	——	——	——

186	均无压恢复充电 [Loss of Voltage Reset Charge No-Vol.R.Charge	—	—	—
187	均无压复 2 跳 4 [Loss of Voltage Reset 2 In-coming Trip 4 In-coming] No-Vol.R.2.T.4	—	—	—
188	均无压复 2 合 2 [Loss of Voltage Reset 2 In-coming Close 4 In-coming] No-Vol.R.2.C.2	—	—	—
189	均无压复 1 跳 4 [Loss of Voltage Reset 1 In-coming Trip 4 In-coming] No-Vol.R.1.T.4	—	—	—
190	均无压复 1 合 1 [Loss of Voltage Reset 1 In-coming Close 1 In-coming] No-Vol.R.1.C.1	—	—	—
191	均无压复 1 合 3 [Loss of Voltage Reset 1 In-coming Close 3 In-coming] No-Vol.R.1.C.3	—	—	—
192	远方按钮合闸 [Remote button close]	—	—	—
193	远方按钮分闸 [Remote button trip]	—	—	—
194	急停分闸 [Emergency trip]	—	—	—
195	2 备 1 合柴发 [2 In-coming Spare power, 1 In-coming Primary power, Close Diesel Generator] 2S.1C.Die.	—	—	—
196	2 备 1 复归跳柴发 [2 In-coming Spare power, 1 In-coming Primary power, Reset Trip Diesel Generator] 2S.1R.T.Die.	—	—	—
197	负控跳闸 [Load Control Trip] Neg.Con.T	—	—	—

198	绝缘监测告警 [Residual Monitor Alarm] Insul.Monit.A	—	—	—
199	绝缘监测跳闸 [Residual Monitor Trip] Insul.Monit.T	—	—	—
200	均无压充电 [Loss of Voltage Charge] No-Vol.Charge	—	—	—
201	均无压跳 2 [Loss of Voltage Trip 2 In-coming] No-Vol.T.2	—	—	—
202	均无压合 1 [Loss of Voltage Close 1 In-coming] No-Vol.C.1	—	—	—
203	备用进线备 1 充电 [Spare In-coming Standby Power Automatic Switch 1 In-coming Charge] Sp.In.S1 Charge	—	—	—
204	备用进线备 2 充电 [Spare In-coming Standby Power Automatic Switch 2 In-coming Charge] Sp.In.S2 Charge	—	—	—
205	备用进线备 1 跳进线 1 [Spare In-coming Standby Power Automatic Switch 1 In-coming Trip 1 In-coming] Sp.In.S1.T.1	—	—	—
206	备用进线备 1 合备用 [Spare In-coming Standby Power Automatic Switch 1 In-coming Close Spare In-coming] Sp.In.S1.C.Sp.	—	—	—
207	备用进线备 2 跳进线 2 [Spare In-coming Standby Power Automatic Switch 2 In-coming Trip 2 In-coming]	—	—	—

	Sp.In.S2.T.2			
208	备用进线备 2 合备用 [Spare In-coming Standby Power Automatic Switch 2 In-coming Close Spare In-coming] Sp.In.S2.C.Sp	—	—	—
209	均无压跳进线 1,2 [Loss of Voltage Trip 1,2 In-coming] No-Vol.T.1,2	—	—	—
210	均无压合母联 [Loss of Voltage Close Bus] No-Vol.C.B.	—	—	—
211	均无压合备用进线 [Loss of Voltage Close Spare In-coming] No-Vol.C.Sp.In.	—	—	—
212	欠流告警 [Under Current Alarm] LIP.A	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
213	电压不平衡开入跳闸 [Unbalance Voltage Trip] Unb.V.DI.T	—	—	—
214	分段备投合进线 3 [Bus Standby Power Automatic Switch Close 3 In-coming] B.S.C.3	—	—	—
215	分段备投合进线 4 [Bus Standby Power Automatic Switch Close 4 In-coming] B.S.C.4	—	—	—
216	进线 1 逆功率 [1 In-coming Reverse Power Trip] 1-In.RP.T	—	—	—
217	2 备 1 跳进线 1 手车	—	—	—

	[2 In-coming Spare power, 1 In-coming Primary power, trip 1 In-coming Handcart] 2S.1T.1-In.Hand.			
218	2 备 1 复归合进线 1 手车 [2 In-coming Spare power, 1 In-coming Primary power, Reset Close 1 In-coming Handcart] 2S.1R.C.1-In.Hand.	—	—	—
219	低侧网门告警 [Low side net-door Alarm] Low S.D.A	—	—	—
220	低侧网门跳闸 [Low side net-door Trip] Low S.D.T	—	—	—
221	事故总信号 [Accident Signal]	—	—	—
222	电压不平衡跳闸 [Unbalance Voltage Trip] Unb.V.T	—	—	—
223	相序保护跳闸 [Incorrect Phase Sequence Voltage Trip] Ph.Se.T	—	—	—
224	断相保护跳闸 [Voltage Phase Loss Trip] Break ph.T	—	—	—
225	I段 PT 投入 [I Bus PT Input] I PT Invest.	—	—	—
226	II段 PT 投入 [II Bus PT Input] II PT Invest.	—	—	—
227	PT 并列 [PT Parallel] PT Juxtaposition	—	—	—
228	1 号 2 号主供断电警报 [1,2 In-coming Primary power loss Alarm] 1,2 Main supply outage.A	—	—	—
229	遥控并列	—	—	—

	[Remote Parallel] Remote Juxtaposition			
230	遥控解列 [Remote Disconnection] Remote Splitting	——	——	——
231	母线充电保护 [Bus Charge Trip] B.Cha.T	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
232	CT 二次过压跳闸 [Secondary CT Over Voltage Trip] CT Se.OVP.T	——	——	——
233	CT 二次过压告警 [Secondary CT Over Voltage Alarm] CT Se.OVP.A	——	——	——
234	隔离手车连跳动作 [Isolation Handcart Intertrip] Iso.Handcart.T	——	——	——
235	备投允许 [Standby Power Automatic Switch Permission] Standby allowed	——	——	——
236	允许合闸信号 [Close Circuit Breaker Signal Permission] Allowable C.signal	——	——	——
237	柴发机备投跳母联 [Diesel Generator Standby Power Automatic Switch Trip Bus] Die.S.T.B.			
238	备投启动柴发信号 [Standby Power Automatic Switch Start Diesel Generator Signal] S.Sta.Die.Sig.			
239	油位高告警 [High oil Alarm]			

	High oil.A			
240	均无压跳母联 [Loss of Voltage Trip Bus] No-Vol.T.B.			
241	负序过流二段跳闸 [Negative sequence Time-limited overcurrent] I2>>	负序电流 I2	浮点数 Float	A
		最大相电流 Maximum Current Im	浮点数 Float	A
242	差动总启动标志 [Differential total start flag]	——	——	——
243	差动速断保护 [Instantaneous Differential Differential quick break protection]	动作时间 Action time	浮点数 Float	s
		A 相差流 Differential IA IdA	浮点数 Float	A
		B 相差流 Differential IB IdB	浮点数 Float	A
		C 相差流 Differential IC IdC	浮点数 Float	A
		A 相制动 Restraint IA IrA	浮点数 Float	A
		B 相制动 Restraint IB IrB	浮点数 Float	A
		C 相制动 Restraint IC IrC	浮点数 Float	A
244	比率差动保护 [Differential protection with Ratio Restraining] Ratio differential protection	动作时间 Action time	浮点数 Float	s
		A 相差流 Differential IA IdA	浮点数 Float	A
		B 相差流 Differential IB IdB	浮点数 Float	A
		C 相差流 Differential IC IdC	浮点数 Float	A

		A相制动 Restraint IA IrA	浮点数 Float	A
		B相制动 Restraint IB IrB	浮点数 Float	A
		C相制动 Restraint IC IrC	浮点数 Float	A
245	差流越限 [Differential current overshoot]	A相差流 Differential IA IdA	浮点数 Float	A
		B相差流 Differential IB IdB	浮点数 Float	A
		C相差流 Differential IC IdC	浮点数 Float	A
246	正序过流一段保护 [Positive sequence Instantaneous overcurrent] $I1 >>>$	定值 Fixed value	浮点数 Float	A
		延时 Delayed	浮点数 Float	s
		正序电流 Positive sequence current I1	浮点数 Float	A
247	正序过流二段保护 [Positive sequence Time-limited overcurrent] $I1 >>$	定值 Fixed value	浮点数 Float	A
		延时 Delayed	浮点数 Float	s
		正序电流 Positive sequence current I1	浮点数 Float	A
248	正序过流反时限保护 [Positive sequence Inverse Definite Time overcurrent] $I1 > \text{Inverse}T.$	曲线类型 Curve type	整数 Integer	一般/非常/ 极端 S1/S2/S3
		启动电流 Starting current	浮点数 Float	A
		时间系数 Time coefficient	浮点数 Float	s
		动作时间	浮点数	s

		Action time	Float	
		正序电流 Positive sequence current I1	浮点数 Float	A
249	长启动保护告警 [Starting time-out Alarm Long start protection alarm]	计时门槛 Timing threshold	浮点数 Float	A
		动作时间 Action time	浮点数 Float	s
250	电流不平衡告警 [Unbalance current Alarm] Unb.I.A	定值 Fixed value	浮点数 Float	A
		延时 Delayed	浮点数 Float	s
		动作值 Action value	浮点数 Float	A
		平均电流 Iavg	浮点数 Float	A
251	电压不平衡告警 [Unbalance Voltage Alarm] Unb.V.A	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		动作值 Action value	浮点数 Float	V
		平均线电压 Average Voltage Uavg	浮点数 Float	V
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
252	过电压保护告警 [Over Voltage Alarm] OVP.A	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V

		零序电压 Residual Voltage U0	浮点数 Float	V
253	零序过压保护告警 [Residual Over Voltage Alarm] U0.OVP.A	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		零序电压 Residual Voltage U0	浮点数 Float	V
254	正序过压保护告警 [Positive Over Voltage Alarm] U1.OVP.A	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		正序电压 Positive Voltage U1	浮点数 Float	V
255	正序过压保护跳闸 [Positive Over Voltage Trip] U1.OVP.T	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		正序电压 Positive Voltage U1	浮点数 Float	V

256	负序过压保护告警 [Negative Over Voltage Alarm] U2.OVP.A	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative Voltage U2	浮点数 Float	V
257	负序过压保护跳闸 [Negative Over Voltage Trip] U2.OVP.T	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		负序电压 Negative Voltage U2	浮点数 Float	V
258	低电压保护告警 [Under Voltage Alarm] LVP.A	定值 Fixed value	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数 Float	V
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		零序电压 Residual Voltage U0	浮点数 Float	V
		延时 Delayed	浮点数 Float	s
		UAB	浮点数	V

259	相序保护告警 [Incorrect Phase Sequence Voltage Alarm] Ph.Se.A		Float	
		UBC	浮点数 Float	V
		UCA	浮点数 Float	V
		零序电压 Residual Voltage U0	浮点数 Float	V
		正序电压 Positive Voltage U1	浮点数 Float	V
		负序电压 Negative Voltage U2	浮点数 Float	V
		平均线电压 Average Voltage Uavg	浮点数 Float	V
260	首端 CT 断线告警 [I CT Break Alarm] F.CT Break.A	——	——	——
261	尾端 CT 断线告警 [II CT Break Alarm] T.CT Break.A	——	——	——
262	I02 后加速过流 [I02 ground fault Post-acceleration overcurrent] I02>P.T	时间 t	浮点数 Float	s
		I02	浮点数 Float	A
263	I02 后加速告警 [I02 ground fault Post-acceleration overcurrent Alarm] I02>P.A	时间 t	浮点数 Float	s
		I02	浮点数 Float	A
264	差动保护长期启动 [Long term start of differential protection]	A 相差流 Differential IA IdA	浮点数 Float	A
		B 相差流 Differential IB IdB	浮点数 Float	A
		C 相差流 Differential IC	浮点数 Float	A

		IdC		
265				
266				
267	I侧 CT 断线告警 [I CT Break Alarm] I CT Break.A	——	——	——
268	II侧 CT 断线告警 [II CT Break Alarm] II CT Break.A	——	——	——
269	III侧 CT 断线告警 [III CT Break Alarm] III CT Break.A	——	——	——
270	IV侧 CT 断线告警 [IV CT Break Alarm] IV CT Break.A	——	——	——
271	有压有流出口动作 [Voltage and current trip Pressure and current outlet action]	——	——	——
272	预留 (告警事件代码)			
289	Reserve			
290	启动风冷 [Start air-cooled water chiller]	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
291	闭锁调压 [Blocking voltage regulation]	A 相电流 Ia	浮点数 Float	A
		B 相电流 Ib	浮点数 Float	A
		C 相电流 Ic	浮点数 Float	A
292	间隙零序过流一段跳闸 [Transient ground fault Instantaneous overcurrent]	间隙零序电流 Transient ground fault current	浮点数 Float	A

	Clearance I0>>>>	Clearance I0		
293	间隙零序过流二段跳闸 [Transient ground fault Time-limited overcurrent] Clearance I0>>>	间隙零序电流 Transient ground fault current Clearance I0	浮点数 Float	A
294	I段 PT 投入 [I Bus PT Input] I PT Invest.	——	——	——
295	II段 PT 投入 [II Bus PT Input] II PT Invest.	——	——	——
296	PT 自动并列 [PT auto-Parallel] PT Juxtaposition	——	——	——
297	遥控并列 [Remote Parallel] Remote Juxtaposition	——	——	——
298	遥控解列 [Remote Disconnection] Remote Splitting	——	——	——
299	负控保护跳闸 [Load Control Trip] Neg.Con.T	时间 t	浮点数 Float	s
300	负控保护告警 [Load Control Alarm] Neg.Con.A	时间 t	浮点数 Float	s
301	PT 自动解列 [PT Disconnection] PT Splitting	——	——	——
302	二次谐波闭锁 [Second Harmonic Block] SHB.	A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A
		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A
303	1 备 2 跳非重要负荷 [1 In-coming Spare power, 2 In-coming Primary power, trip Unimportant Load]	——	——	——

	1S.2T.Unimp.Lo.			
304	2 备 1 跳非重要负荷 [2 In-coming Spare power, 1 In-coming Primary power, trip Unimportant Load] 2S.1T.Unimp.Lo.	——	——	——
305	I02 过流三段 [I02 ground fault Definite time overcurrent] I02>	I02	浮点数 Float	A
306	I02 过流三段告警 [I02 ground fault Definite time overcurrent Alarm] I02>.A	I02	浮点数 Float	A
307	检修状态闭锁 [Maintenance Block] Maint.Sta.B.	——	——	——
308	电机温度 1 跳闸 [Motor Temperature 1 Trip] M.Tem1.T	——	——	——
309	电机温度 1 告警 [Motor Temperature 1 Alarm] M.Tem1.A	——	——	——
310	电机温度 2 跳闸 [Motor Temperature 2 Trip] M.Tem2.T	——	——	——
311	电机温度 2 告警 [Motor Temperature 2 Alarm] M.Tem2.A	——	——	——
312	电源监视跳闸 [Power Monitor Trip] Pow.Monit.T	——	——	——
313	电源监视告警 [Power Monitor Alarm] Pow.Monit.A	——	——	——
314	备投停止柴发信号 [Standby Power Automatic Switch Stop Diesel Generator Signal] S.St.Die.Sig.			
315	启动柜故障跳闸 [Starting Cabinet Failure Trip]	——	——	——

	St.Cab.Fa.T			
316	启动柜故障告警 [Starting Cabinet Failure Alarm] St.Cab.Fa.A	——	——	——
317	同期合闸 [Synchronous Close Permission] Synchronous.C	——	——	——
318	进线侧恢复充电 [In-coming Reset Charge] In.R.Charge	——	——	——
319	柴发充电 [Diesel Generator Charge] Die.Charge	——	——	——
320	市电恢复充电 [Power Supply Reset Charge] Mark.R.Charge	——	——	——
321	柴发恢复充电 [Diesel Generator Reset Charge] Die.R.Charge	——	——	——
322	柴发备投合柴发 [Diesel Generator Standby Power Automatic Switch Close Diesel Generator] Die.S.C.D.	——	——	——
323	市电恢复跳柴发 [Power Supply Standby Power Automatic Switch Reset Trip Diesel Generator] Mark.R.T.D.	——	——	——
324	市电恢复合市电 [Power Supply Standby Power Automatic Switch Reset Close Power Supply] Mark.R.C.Mark.	——	——	——
325	柴发恢复合柴发 [Diesel Generator Standby Power Automatic Switch Reset Close Diesel Generator]	——	——	——

Mark.R.C.D.				
326	弧光保护跳闸 [Arc flash Protection Trip] Arc.Pro.T	—	—	—
327	弧光保护告警 [Arc flash Protection Alarm] Arc.Pro.A	—	—	—
328	均无压进线 1 充电 [Loss of Voltage 1 In-coming Charge] No-Vol.1-In.Charge	—	—	—
329	均无压进线 2 充电 [Loss of Voltage 2 In-coming Charge] No-Vol.2-In.Charge	—	—	—
330	均无压合 2 [Loss of Voltage Close 2 In-coming] No-Vol.C.2	—	—	—
331	均无压跳 1 [Loss of Voltage Trip 1 In-coming] No-Vol.T.1	—	—	—
332	均无压跳 3 [Loss of Voltage Trip 3 In-coming] No-Vol.T.3	—	—	—
333	A 相二次谐波 [Ia Second Harmonic Block] A.SH.	A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A
		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A
334	B 相二次谐波 [Ib Second Harmonic Block] B.SH.	A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A

		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A
335	C 相二次谐波 [Ic Second Harmonic Block] C.SH.	A 相二次谐波电流 Ia Second Harmonic Ia_H2	浮点数 Float	A
		B 相二次谐波电流 Ib Second Harmonic Ib_H2	浮点数 Float	A
		C 相二次谐波电流 Ic Second Harmonic Ic_H2	浮点数 Float	A

Appendix D AM5-FT Anti-pumping

AM5-FT anti-pumping is module that cooperate with AM series protection relay to achieve anti-pumping function of circuit breaker. Anti-pumping is divided into two types: AC/DC110V and AC/DC220V. When ordering, it is assumed to consistent with power supply (anti-pumping cannot be used under DC48V and DC24V, and it is recommended to use circuit breaker anti-pumping function). Anti-pumping adopts rail installation method, and the wiring is shown in Figure 1.

The steps for testing anti-pumping are as following:

1. Under premise of protection relay with anti-pumping, manual open and close once. If circuit breaker can be opened and closed normally, it is judged that circuit breaker is not equipped with anti-pumping;
2. After confirming circuit breaker is not equipped with anti-pumping, manual close it and then simulate once protection trip (protection current is not removed). And simulate once manual close.

If circuit breaker is closed first and then opened, it indicates that anti-pumping function is triggered;

3. After confirming circuit breaker is not equipped with anti-pumping, manual close it. Circuit breaker is closed and the manual closing signal is not removed. At this time, short the manual opening contact, and circuit breaker opens, indicating that anti-pumping function is triggered.

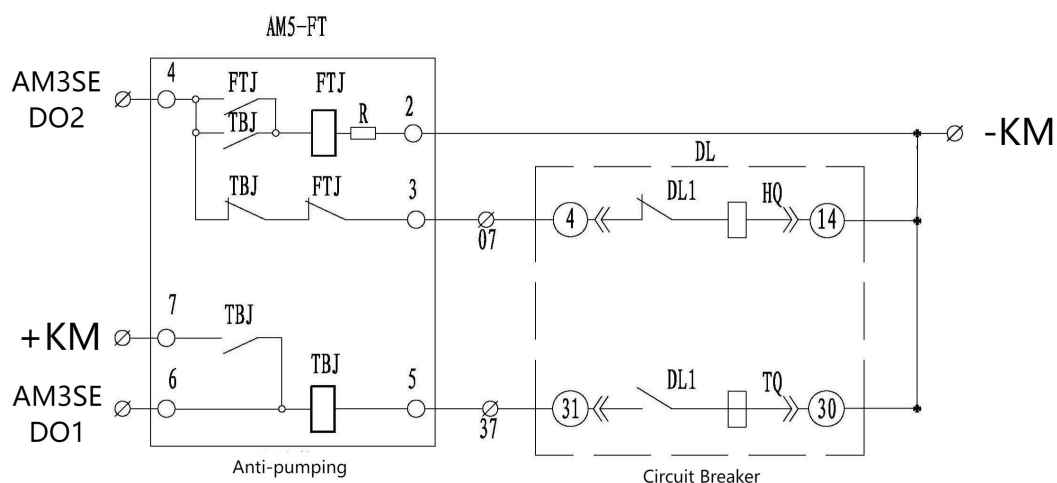


Fig 1 AM5-FT Anti-pumping Wiring



Fig 2 AM5-FT Front View

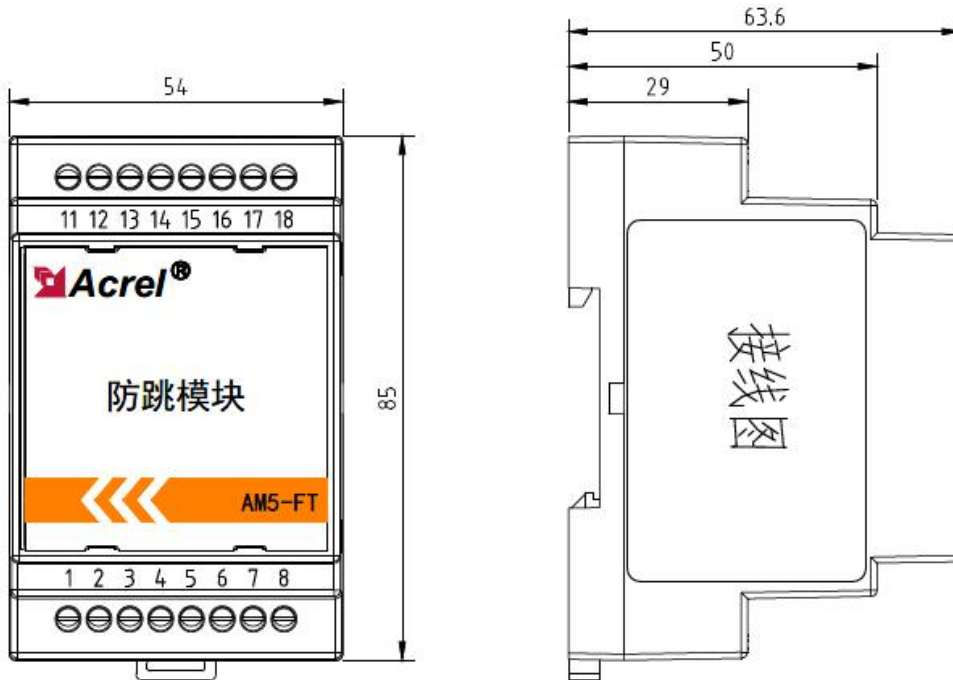


Fig 3 AM5-FT Dimensions

Headquarters: Acrel Co., Ltd.

Trade Company: Acrel E-Business(Shanghai)Co., Ltd.

Address: No.253 Yulv Road, Jiading District, Shanghai, China

TEL.: 0086-21-69156352

Web-site: www.acrel-electric.com

E-mail: sales@acrel-electric.com

Postcode: 201801

Manufacturer: Jiangsu Acrel Electrical Manufacturing Co., Ltd.

Address: No.5 Dongmeng Road, Dongmeng industrial Park, Nanzha Street, Jiangyin City,
Jiangsu Province, China

TEL./Fax: 0086-510-86179970

Web-site: www.jsacrel.com

E-mail: sales@email.acrel.cn

Postcode: 214405