AT30 Series

Installation Manual

Read this manual thoroughly and retain it for future reference before installation and operation. This manual is subject to revision due to technical upgrades or manufacturing improvements.

0GEIS.AT30.026

Version : V1.0

Contents

1. Scope of Application

AT30 Series

The AT30 Series is an industrial-grade, PC Class automatic transfer switching equipment.

- **Contact Transfer Time**: ≤100ms
- **Utilization Category**: AC-33A (per IEC 60664-1 insulation coordination requirements)
- **Optional Neutral Overlapping Function**

Application Scope

The AT30 is designed for use in 50Hz alternating current (AC) systems with rated voltages up to 400V and rated currents up to 630A. Typical applications include:

- Power distribution networks
- Dual-source (primary/backup or mutually redundant) switching systems
- Infrequent load circuit transfer operations

Typical Deployment Scenarios

- **Critical Infrastructure:** Public facilities, data communication centers, and smart infrastructure requiring Grade I Power Supply Reliability (per GB 50052)
- **Mission-Critical Loads:** Systems demanding uninterrupted power supply (UPS) coordination, including Grade I Special Priority Loads
- **General Critical Loads:** Industrial/commercial distribution circuits with high continuity requirements

Compliance

Complies with:

The product complies with IEC60947-6-1 *Low-voltage switchgear and controlgear – Part 6-1: Multiple function equipment – Transfer switching equipment.*

2. Normal Operating Conditions

2.1 Temperature

- Operating: -20°C to +55°C
- Storage: -30°C to +75°C

2.2 Installation altitude

- ≤2000m.

2.3 Relative humidity

- ≤50% at maximum ambient temperature +40°C.
- Higher humidity permitted at lower temperatures.
- Up to 90% when monthly average minimum temperature is +20°C (requires anti-condensation measures for temperature fluctuations).

2.4 Installation requirements

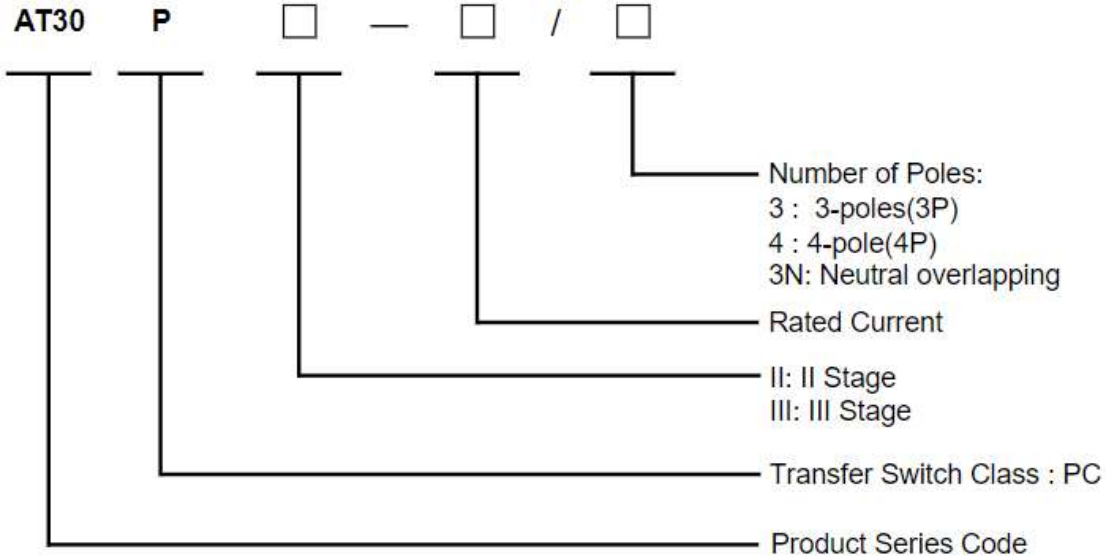
- Non-explosive atmospheres.
- Protected from rain/snow.

2.5 Pollution Degree: 3

2.6 Installation Categories: III & IV

2.7 Utilization Category: AC-33A

3. Model Designation & Key Performance Parameters



4. Main Performance Indicators

Rated Frame Current (A)		A	100	250	400	630
Equipment Class			PC			
Rated Currents (A)		A	16-100	125-250	320-400	500-630
Number of Poles			3P, 4P, 3N (Neutral overlapping)			
Rated VoltageAC		V	400			
Rated Insulation Voltage		V	800			
Rated Impulse Withstand Voltage		kV	8			
Main Contact Position			II stage / III stage			
Contact Switching Time	II stage	ms	< 100	< 100	< 100	< 100
	III stage	ms	< 200	< 200	< 200	< 200
Transfer Time	II stage	ms	< 200	< 200	< 200	< 200
	III stage	ms	< 250	< 250	< 250	< 250
Utilization Category			AC-33A			
Rated Conditional Short-Circuit Current MCCB		kA	70			
Mechanical Endurance		cycles	12,000	12,000	10,000	10,000
Electrical Endurance		cycles	6,000	6,000	6,000	6,000

5. MT100 Controller

5.1 **MT100 Controller Control Panel Layout**

- **Indicator Lights**

Indicator	Description
Alarm Indicator	● Slow flashing (1Hz) : Warning. ● Rapid flashing (5Hz) : Fault.
Auto Mode Indicator	Illuminates in automatic mode.
Manual Mode Indicator	Illuminates in manual mode.
Power Source N Status	● Steady on : AC normal. ● Flashing : Abnormal. ● Off : No power.

Indicator	Description
Power N Closing Status	Illuminated when N switch auxiliary contact is valid.
Power R Closing Status	Illuminated when R switch auxiliary contact is valid.
Power Source R Status	● Steady on : AC normal. ● Flashing : Abnormal. ● Off : No power.

Key Functions

Icon	Key	Function
	Manual/Automatic Key	Toggle between manual and automatic mode.
	N Power Closing Key	Close power source N (manual mode only).
	Opening Key	Disconnect load (three-position switch).
	R Power Closing Key	Close power source R (manual mode only).
	Set/Confirm Key	In the main interface, press this key to enter the menu page. In the menu interface, the confirm key can move the cursor and confirm setting information. Long press this key for 3 seconds in alarm status to clear the alarm.
	Down Key/Test Light Key	In the main interface, press this key to scroll down the display. In the menu interface, it can move the cursor down or decrease the number at the cursor position. In the main interface, long press this key for a test light, during which the LCD backlight lights up, the LCD displays all black, and all LED lights on the panel light up.

Note: Pressing the  *key and*  *keys simultaneously can set the backlight to stay on; pressing again or restarting will cancel the backlight stay-on feature.*

5.2 Main Menu

In the main interface, press  the key to enter the main menu interface:

1. Exit 2. Parameter Settings 3. Historical Records 4. Self-Reset Settings 5. Manual Test 6. Date and Time Settings 7. Language 8. Cumulative Information 9. Controller Information	Press the flip key to select different parameter lines (the current line is highlighted in black), and then press the confirm key to enter the corresponding display interface.

Note: Entering parameter settings requires a password; the default password is "01234". The operator can change the password to prevent others from changing the controller configuration. Remember to keep the new password safe; if forgotten, please contact company service personnel.

5.3 Generator Operation

5.3.1 Manual Mode Start/Stop

In the main interface, press the set/confirm key to enter the main menu interface, select "5. Manual Test" to enter the manual start operation interface. When the system type is "N Power Municipal R Power Generator, N Power Generator R Power Municipal, N Power Municipal R Power Municipal", it directly enters the following operation interface.

Manual Test	
Return Stop the generator Start the generator	Press the flip key to select different parameter lines (the current line is highlighted in black), and then press the confirm key to confirm.

Stop the generator: Disconnect the output generator start signal to control the generator to stop.

Start the generator: Control the generator start signal output to control the generator to start.

5.3.2 Communication Remote Control Start/Stop

Control via RS485 interface using MODBUS protocol, sending remote start or stop commands.

Remote control stop: Disconnect the output generator start signal to control the generator to stop.

Remote control start: Control the generator start signal output to control the generator to start.

5.3.3 Automatic Mode Start/Stop

5.3.3.1 Input Start

Set "Remote Start with Load" or "Remote Start without Load" at the programmable input port, but not both simultaneously.

Remote Start with Load: Generator starts output; when generating normally, it closes the generator; when ineffective, it disconnects the generator start output signal.
Remote Start without Load: Generator starts output; when municipal power is normal, it closes the municipal power; when ineffective, it disconnects the generator start output signal.

5.3.3.2 Municipal Power Abnormal Start

When municipal power is abnormal, the generator starts output, when generating normally, it closes the generator.

5.3.4 Scheduled Inspection Start

When the scheduled inspection start function is enabled, users can set the scheduled start time. When the scheduled time arrives, the controller sends a start signal, and the scheduled start signal disconnects after the duration ends. Scheduled inspection start can be set to with load or without load.

- **Scheduled Inspection Start with Load:** Generator starts output; when generating normally, it closes the generator.
- **Scheduled Inspection Start without Load:** Generator starts output; when municipal power is normal, it closes the municipal power.

  Scheduled start cycle time can be set to monthly, weekly, or daily.
- **Monthly Start:** Can set which month to start, the date, and time to start.
- **Weekly Start:** Can set multiple days within a week to start at the same time. For example, set Monday to Friday to start at 8:00 AM for 10 hours.
- **Daily Start:** Can set to start at the same time every day.

5.4 Parameter Settings

In the main interface, press the confirm button to enter the menu page, select "Parameter Settings", and then press the confirm button to confirm. This will lead to the parameter settings password confirmation interface. Enter the correct password to access the parameter main interface. If the password is incorrect, it will exit directly back to the main interface. ***The factory default password is: 01234.*** In the parameter configuration page, long press the confirm button to exit this interface and return to the main display interface.

Parameter Settings Item Table

No.	Parameter Name	Adjustment Range	Default Value	Default Value
1	N Power Voltage Normal Delay Time	(0~3600) s	10	Time to confirm when N power voltage changes from abnormal to normal.
2	N Power Voltage Abnormal Delay Time	(0~3600) s	5	Time to confirm when N power voltage changes from normal to abnormal.
3	R Power Voltage Normal Delay Time	(0~3600) s	10	Time to confirm when R power voltage changes from abnormal to normal.
4	R Power Voltage Abnormal Delay Time	(0~3600) s	5	Time to confirm when R power voltage changes from normal to abnormal.
5	Main Power Selection Setting	(0~1)	0	0: N power is main, R power is backup; 1: R power is main, N power is backup.
6	System Type Setting	(0~2)	0	0: N power is mains, R power is generator; 1: N power is generator, R power is mains; 2: N power is mains, R power is mains.
7	AC Power Supply	(0~3)	0	0: Three-phase four-wire;

No.	Parameter Name	Adjustment Range	Default Value	Default Value
				1: Three-phase three-wire; 2: Two-phase three-wire; 3: Single-phase two-wire. Three-phase three-wire requires special customization.
8	Rated Voltage	(0~30000)V	220	Rated voltage value of the AC system.
9	Voltage Over High Enable	(0~1)	1	0: Disable; 1: Enable.
10	Voltage Over High Threshold	(0~200)%	120	Upper limit value for voltage; abnormal if greater than this value.
11	Voltage Over High Return Threshold	(0~200)%	115	Return value for upper limit; normal if less than this value.
12	Voltage Under Low Enable	(0~1)	1	0: Disable; 1: Enable.
13	Voltage Under Low Threshold	(0~200)%	80	Lower limit value for voltage; abnormal if less than this value.
14	Voltage Under Low Return Threshold	(0~200)%	85	Return value for lower limit; normal if greater than this value.
15	Rated Frequency	(10.0~75.0)Hz	50.0	Rated frequency value of the AC system.
16	Over Frequency Enable	(0~1)	1	0: Disable; 1: Enable.
17	Over Frequency Threshold	(0~200)%	110	Upper limit value for frequency; abnormal if greater than this value.
18	Over Frequency Return Threshold	(0~200)%	104	Return value for upper limit; normal if less than this value.
19	Under Frequency Enable	(0~1)	1	0: Disable; 1: Enable.

No.	Parameter Name	Adjustment Range	Default Value	Default Value
20	Under Frequency Threshold	(0~200)%	90	Lower limit value for frequency; abnormal if less than this value.
21	Under Frequency Return Threshold	(0~200)%	96	Return value for lower limit; normal if greater than this value.
22	Phase Loss Monitoring Enable	(0~1)	1	0: Disable; 1: Enable.
23	Reverse Phase Sequence Monitoring Enable	(0~1)	1	0: Disable; 1: Enable.
24	Voltage Transformer Enable	(0-1)	0	0: Disable; 1: Enable.
25	Voltage Transformer Primary Voltage	(30-30000)V	100	
26	Voltage Transformer Secondary Voltage	(30-1000)V	100	

Switch Settings

No.	Parameter Name	Adjustment Range	Default Value	Description
1	Closing Delay	(0.1~20.0)s	5.0	Pulse time for closing relay output; continuous output if 0.
2	Opening Delay	(0.1~20.0)s	5.0	Pulse time for opening relay output; continuous output if 0.
3	Switch Conversion Interval	(1~9999)s	1	Delay time between opening N power and closing R power, or opening R power and closing N power (MT100-III).
4	Re-closing Delay	(0~20.0)s	1.0	If the first switch opening fails, it will re-close after this delay, and if it fails

No.	Parameter Name	Adjustment Range	Default Value	Description
				again, it will trigger an opening failure alarm.
5	Re-opening Delay	(0~20.0)s	1.0	If the first switch closing fails, it will re-open after this delay, and if it fails again, it will trigger a closing failure alarm (MT100-III).
6	Switch Type Setting	(0~2)	0	0: Two-position switch; 1: One-position switch; 2: No position switch (MT100-III).
7	Forced Opening Action	(0~1)	0	0: Warning alarm; 1: Fault alarm.
8	Self-recovery Setting	(0-1)	1	0: Self-recovery disabled; 1: Self-recovery enabled.
9	Mutual Backup Setting	(0-1)	1	0: Invalid; 1: Valid.
10	Opening Input Enable	(0~1)	0	0: Disable; 1: Enable (three-position switch). If the opening position input is not connected, please set to disable.
11	NO Opening Conversion Enable	(0~1)	0	0: Disable; 1: Enable. When enabled, the controller directly switches from one path to another without opening control output (MT100-III).

Generator Settings

No.	Parameter Name	Adjustment Range	Default Value	Description
1	Generator Set Start Delay Time	(0~9999)s	1	Delay starts when preparing to start the generator set; after the delay, it sends a start signal.
2	Generator Set Stop Delay Time	(0~9999)s	5	Delay starts when preparing to stop the generator set; after the delay, it disconnects the start signal.

Scheduled Start/Stop Settings

No.	Parameter Name	Adjustment Range	Default Value	Description
1	Scheduled Inspection Start Enable	(0~1)	0	0: Disable; 1: Enable.
2	Scheduled Inspection Start Load Setting	(0~1)	0	0: No load; 1: With load.
3	Scheduled Inspection Start Cycle Selection	(0~2)	0	0: Monthly; 1: Weekly; 2: Daily.
4	Scheduled Inspection Start Month Setting	Month Selection	1	January to December.
5	Scheduled Inspection Start Date Setting	(1~31)	1	Date for starting each month.
6	Scheduled Inspection Start Weekly Date Setting	Week Selection		Sunday to Saturday.
7	Scheduled Start Time Hour	(0~23)h	0	Time for scheduled start.
8	Scheduled Start Time Minute	(0~59)min	0	Time for scheduled start.
9	Scheduled Start Running Time	(0~30000)min	30	Duration for scheduled start.

Parameter Table

Programmable Input Relay Settings

No.	Parameter Name	Adjustment Range	Default Value	Description
1	Programmable Input Port 1 Settings	(0~20)	0	Not Used.
2	Input Port 1 Valid Type	(0~1)	0	0: Closed Effective 1: Open Effective

Programmable Output Relay Settings

No.	Parameter Name	Adjustment Range	Default Value	Description
1	Output Port 1 Valid Type	(0~1)	0	0: Normally Open Output 1: Normally Closed Output.
2	Output Port 1 Settings	(0~36)	1	Common Alarm

Module Settings

No.	Parameter Name	Adjustment Range	Default Value	Description
1	Module Power-On Mode	(0~2)	0	0: Hold (Maintain the mode before power-off) 1: Manual Mode 2: Automatic Mode
2	Language Selection	(0~1)	0	0: Simplified Chinese 1: English
3	Password Settings	(00000~65535)	01234	Password for entering parameter settings
4	Module Address	(1~254)	1	Communication address for RS485 networking
5	Communication Port Baud Rate	(0~3)	2	0: 2400bps 1: 4800bps 2: 9600bps 3: 19200bps
6	Communication Port Parity Bit	(0~2)	0	0: None 1: Odd Parity 2: Even Parity
7	Communication Port Stop Bit	(1~2)	2	Can be set to 1 or 2 stop bits

No.	Parameter Name	Adjustment Range	Default Value	Description
8	Module Date and Time Settings			
9	Communication Function Settings	(0~3)	0	0: Remote Control Enabled 1: Remote Control Disabled 2: Remote Adjustment Disabled 3: Remote Adjustment and Control Disabled

Input Port Function Description

No.	Input Port Item	Function Description
0	Not Used	Input port invalid
1	Reserved	
2	Remote Start with Load	Generator start output; when mains power is normal, generator connects.
3	Remote Start without Load	Generator start output; when mains power is normal, mains connects.
4	Test Light Input	All LEDs on the panel light up, LCD backlight on, LCD screen black.
5	Reserved	
6	Reserved	
7	Start Prohibition Input	Prohibits generator start signal output; in automatic mode, after stop delay ends, disconnects generator start signal output; in manual mode, if already started, manual stop is required, and manual start is invalid after stopping.
8	Switch Tripping Input	Switch tripping fault input.

No.	Input Port Item	Function Description
9	N Power Main Input	Forces N power as the main input.
10	R Power Main Input	Forces R power as the main input.
11	N Power Closing Button Input	Same as the panel N power closing button; self-resetting button required.
12	R Power Closing Button Input	Same as the panel R power closing button; self-resetting button required.
13	Trip Button Input	Same as the panel trip button; self-resetting button required (MT100-III).
14	Force Manual Mode	Forces the controller mode to manual mode.
15	Force Automatic Mode	Forces the controller mode to automatic mode.
16	Alarm Reset	Resets the current alarm.
17	Remote Control Prohibition Input	When effective, remote control operations are invalid.
18	Self-Return Input	
19	Trip Input	Trip auxiliary feedback input; if the switch requires trip input, please enable trip input first (three-position switch).
20	Reserved	

Output Port Function Description

No.	Output Port Item	Function Description
0	Not Used	Output port invalid.
1	Common Alarm Output	Common alarms include fault alarms and warning alarms.
2	Common Fault Alarm	Fault alarms include switch transfer failures.
3	Common Warning Alarm	Warning alarms include N power reverse phase sequence, R power reverse phase sequence, forced disconnection.
4	Transfer Failure	Switch transfer failures include N power closing failure, N power trip failure, R power closing failure, R power trip failure.

No.	Output Port Item	Function Description
5	Sound Alarm	When fault alarm is effective, an external alarm can be connected, cleared after a delay of 60 seconds.
6	Reserved	
7	Reserved	
8	Transfer Output	Relay output during switch closing and trip transfer; stops output after transfer ends. Minimum output time is 1 second.
9	N Power & R Power Both Abnormal Output	Outputs when both N power and R power are abnormal.
10	N Power Voltage Normal	Outputs when N power is normal.
11	N Power Voltage Abnormal	Outputs when N power is abnormal.
12	R Power Voltage Normal	Outputs when R power is normal.
13	R Power Voltage Abnormal	Outputs when R power is abnormal.
14	Automatic Mode	Outputs in automatic mode.
15	Manual Mode	Outputs in manual mode.
16	Generator Start	Controls generator start.
17	Forced Disconnection Output	Outputs when forced disconnection is effective (three-position switch).
18	N Power Switch Closing Control	Controls N power switch closing.
19	N Power Switch Trip Control	Controls N power switch trip (three-position switch).
20	R Power Switch Closing Control	Controls R power switch closing.
21	R Power Switch Trip Control	Controls R power switch trip (three-position switch).

No.	Output Port Item	Function Description
22	Trip Control	Controls N power and R power switch trip (three-position switch).
23	Reserved	
24	Reserved	
25	N Power Closing Status	Outputs when N power switch is in the I position.
26	R Power Closing Status	Outputs when R power switch is in the II position.
27	Trip Status	Outputs when the switch is in the 0 position; requires enabling trip input function and configuring input port as trip input; outputs when this input port is effective (MT100-III).
28	Reserved	
29	Reserved	
30	Reserved	
31	Reserved	
32	Reserved	
33	Reserved	
34	Remote Control	Controls output via RS485 communication command.
35	Reserved	

6. Historical Records

In the main interface, press the confirm button to enter the menu page, select "Historical Records," and then press the confirm button to confirm. This will take you to the historical records page. Each historical record includes:

- Recorded date and time
- Record type
- Record event
- N power status

- R power status
- N power three-phase voltage
- R power three-phase voltage
- N power frequency
- R power frequency

The historical records can record up to 50 entries, with the first entry being the latest record. Users can view each record by scrolling down. When the number of records exceeds 50, new records will overwrite the oldest records. Record types include: action events, warning events, fault events. Fault events are all fault alarms, warning events are all warning alarms.

Action Events are Recorded at the Moment of the Following Actions

No.	Action Event	Description
1	N Power Closing Output	Recorded when N power closing output occurs.
2	R Power Closing Output	Recorded when R power closing output occurs.
3	N Power Trip Output	Recorded when N power trip output occurs (three-position switch).
4	R Power Trip Output	Recorded when R power trip output occurs (three-position switch).
5	AB Simultaneous Closing Fault	Recorded when N power and R power are both loaded simultaneously
6	Power on of generator set	Generator start signal output record
7	Generator shut-down	Generator unit start signal disconnected output record
8	Automatic mode	Record when switching to automatic mode
9	Manual mode	Record when switching to manual mode

7. Switch Operation and Running

7.1 Manual Operation

Press the Manual/Automatic  switch key, and the manual status indicator will light up, indicating that the controller is in manual mode. After pressing the switch transfer key, the switch will immediately start switching, and once the switch is in position, the corresponding indicator light will

remain on.

7.2 Automatic Operation

Press the Manual/Automatic switch key, and the automatic status indicator will light up, indicating that the controller is in automatic mode. In automatic mode, the controller automatically switches the switch based on the status of Power N, Power R, switching priority, and self-recovery status to ensure power supply to the load. The following explains the control logic with "Power N as the main source," "Power N as city power and Power R as generator power" as an example.

7.2.1 Self-Recovery

When set to self-recovery, if Power N is the main source and Power N is normal, it will close. If Power N is abnormal and Power R is normal, Power N will open, and Power R will close. If Power N recovers to normal, Power R will open, and Power N will close.

7.2.2 Self-Recovery Not Enabled (Mutual Backup Effective)

When set to self-recovery not enabled and mutual backup effective, if Power N is the main source and Power N is normal, it will close. If Power N is abnormal and Power R is normal, Power N will open, and Power R will close. If Power N recovers to normal and Power R is also normal, the switch will remain in the Power R closed state. When Power R is abnormal, Power R will open, and Power N will close.

7.2.3 Self-Recovery Not Enabled (Mutual Backup Ineffective)

When set to self-recovery not enabled and mutual backup ineffective, if Power N is the main source and Power N is normal and closed, when Power N is abnormal and Power R is normal, Power N will open, and Power R will close. If Power N recovers to normal, the switch will remain in the Power R closed state. When Power R is abnormal, Power R will open, and even if Power N is normal, Power N will not close.

Note: In this mode, Power N must be switched to manual mode to close through key operation; otherwise, in automatic mode, the switch will only switch between opening and the Power R position.

7.2.4 NO Open Switching

When "NO Open Switching Enabled" is set, the controller will no longer perform the opening operation. The specific setting method is: enter the "Switch Settings" interface in the parameter settings interface and set "NO Open Switching Enabled" to "Enabled." Using "Power N as the main source," "Power N as city power and Power R as generator power" as an example, if Power N is normal, it will close. When Power N is abnormal and Power R is normal, the controller will issue a command to close Power R, and the switch will directly switch from Power N load to Power R load, skipping the intermediate step of opening Power N.

Note: This function is suitable for switches with a breaking position that allow direct switching from Power N load to Power R load (MT100-III).

7.2.5 Switch Open Feedback Input

If the switch needs to connect to the open feedback input, please first set "Open Input Enabled." The specific setting method is: enter the "Switch Settings" interface in the parameter settings interface and set "Open Input Enabled" to "Enabled." Then set Programmable Input 1 to "Item 19: Open Input." When Programmable Input 1 detects a low level, the open input is valid.

During the switching process, if Power N fails to close, the corresponding switch for Power N will no longer perform the closing action, and if Power R is normal, it will execute the closing of Power R. If there is an open failure, the controller will no longer perform the closing or opening actions of the switch.

Note: This function is suitable for switches with a breaking position (MT100-III).

8. Communication Configuration

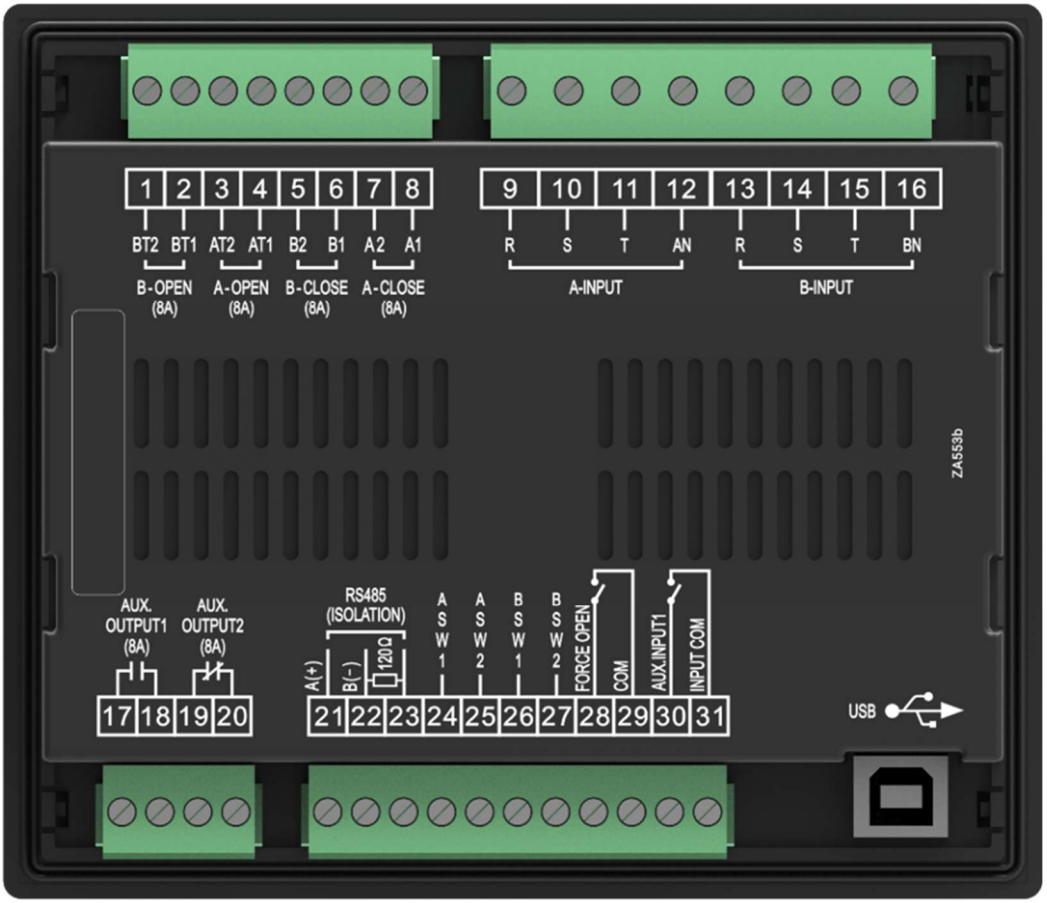
The MT100 controller has RS485 and USB communication ports. The RS485 communication port allows connection to an open structure local area network. The communication port uses the Modbus communication protocol, which, with software running on a PC or data acquisition system, provides a simple and practical dual power transfer management solution for factories, telecommunications, industrial, and civil buildings, achieving the "remote control, remote measurement, remote signaling" functions.

For specific information on the communication protocol, please refer to the 《MT100 Controller Communication Protocol》.

RS485 Communication Port

- Communication Protocol: Modbus-RTU Communication Parameters
- Module Address: 1 (Range: 1-254)
- Baud Rate: 9600bps (2400/4800/9600/19200bps)
- Data Bits: 8 bits
- Parity Bit: None (No parity, Odd parity, Even parity)
- Stop Bits: 2 bits (1 bit or 2 bits)

9. Controller Port Definitions

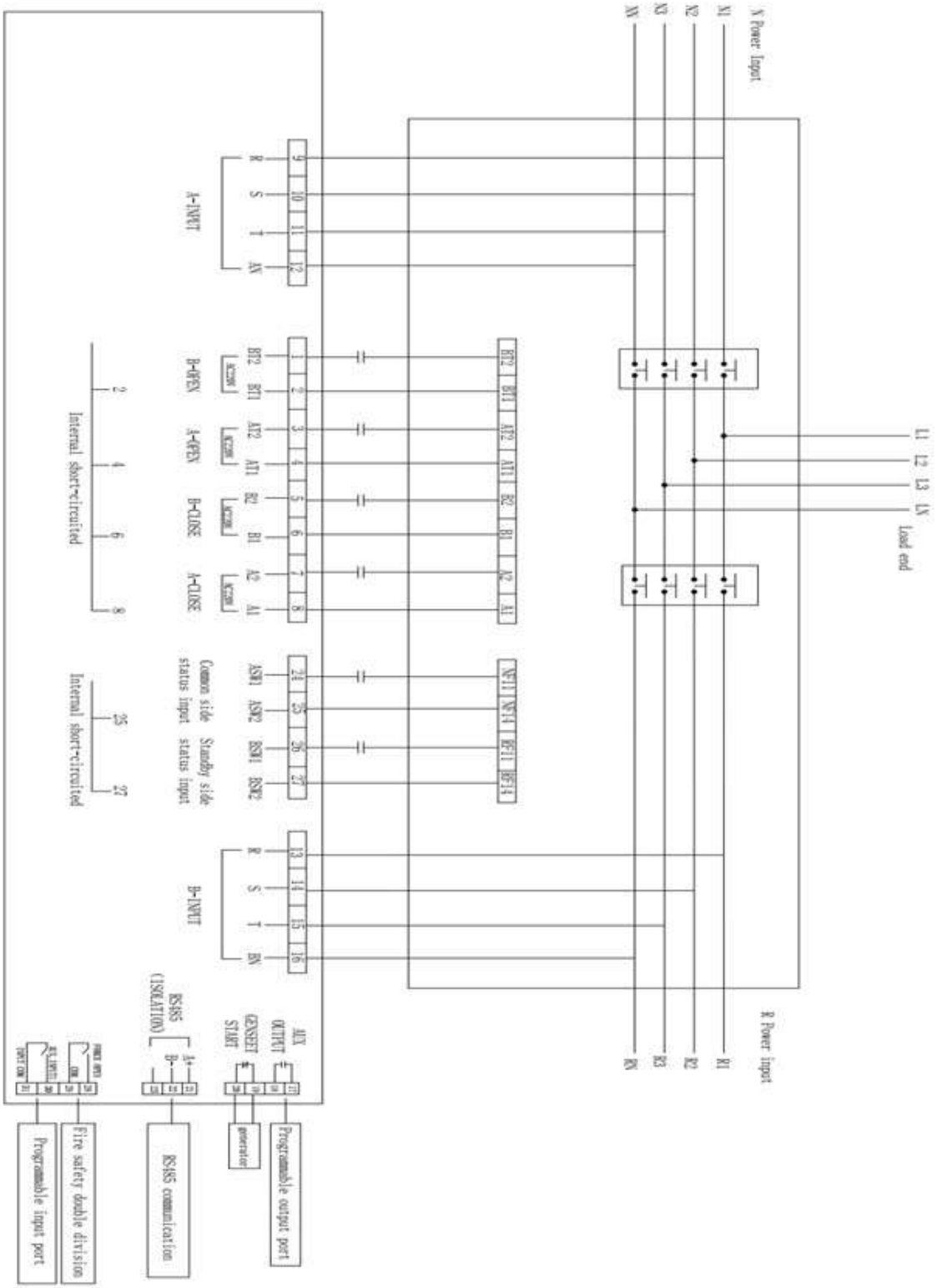


Input/Output Port Function Descriptions

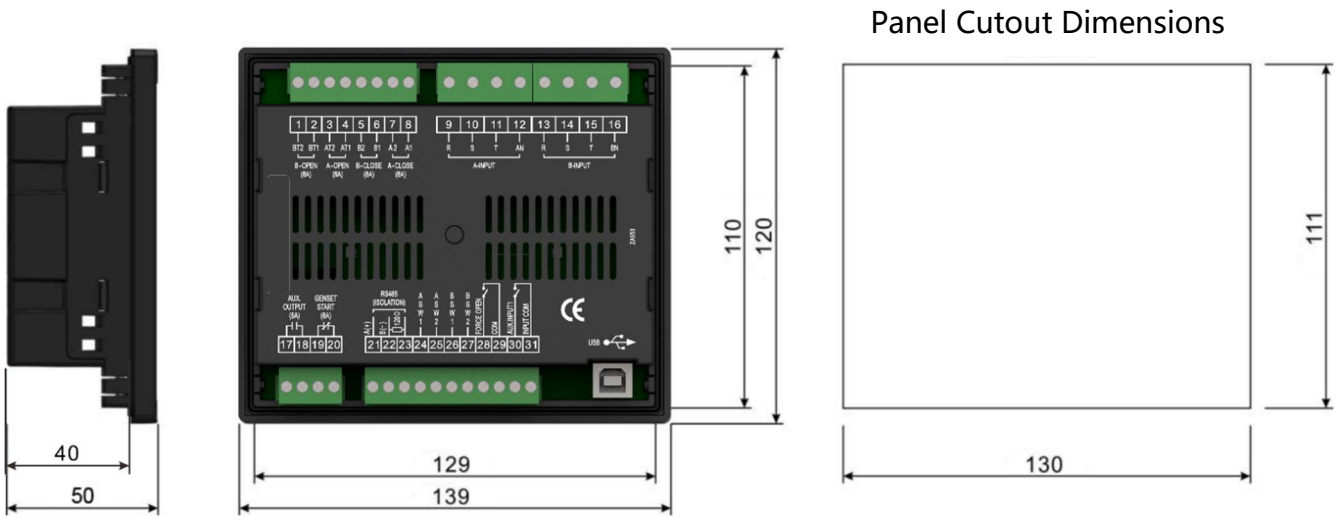
Terminal No.	Name	Function Description	Remarks
1	BT2	Power R Disconnect Output N	Outputs AC power, controls the opening of Power R switch; Rated 8A.
2	BT1	Power R Disconnect Output L	
3	AT2	Power N Disconnect Output N	Outputs AC power, controls the opening of Power N switch; Rated 8A.
4	AT1	Power N Disconnect Output L	
5	B2	Power R Connect Output N	Outputs AC power, controls the closing of Power R switch; Rated 8A.
6	B1	Power R Connect Output L	
7	A2	Power N Connect Output N	Outputs AC power, controls the closing of Power N switch; Rated 8A.
8	A1	Power N Connect Output L	
9	R	N-INPUT (AC three-phase four-wire voltage for Power N)	If single-phase input, connect only R, AN.
10	S		
11	T		
12	AN		
13	R	R-INPUT (AC three-phase four-wire voltage for Power R)	If single-phase input, connect only R, BN.
14	S		
15	T		
16	BN		

Terminal No.	Name	Function Description	Remarks
17	AUX.OUTPUT1	Programmable Output 1	Default: Common alarm output, normally open output, capacity 8A 250VAC.
18			
19	AUX.OUTPUT2	Programmable Output 2	Default: Generator start control output, normally closed output, capacity 8A 250VAC.
20			
21	A(+)	RS485 Communication Port	Internal 120-ohm impedance matching resistor connected.
22	B(-)		
23	120-ohm Resistor	RS485 impedance matching resistor	Users need to connect this terminal to terminal 21 according to the site networking situation for connecting to the internal 120-ohm impedance matching resistor of the controller.
24	ASW1	Power N Switch Closed State Input	Detects the closed state of Power N switch, passive contact input; ASW1 and ASW2 shorted for valid input.
25	ASW2		
26	BSW1	Power R Switch Closed State Input	Detects the closed state of Power R switch, passive contact input; BSW1 and BSW2 shorted for valid input.
27	BSW2		
28	FORCE OPEN	Forced Open Input	Forced opening, shorted for valid.
29	COM		
30	AUX. INPUT 1	Programmable Input 1	Default: Not used, shorted for valid.
31	INPUTCOM		
USB	USB	USB D-type USB communication port	Can connect to PC for parameter configuration and program upgrade.

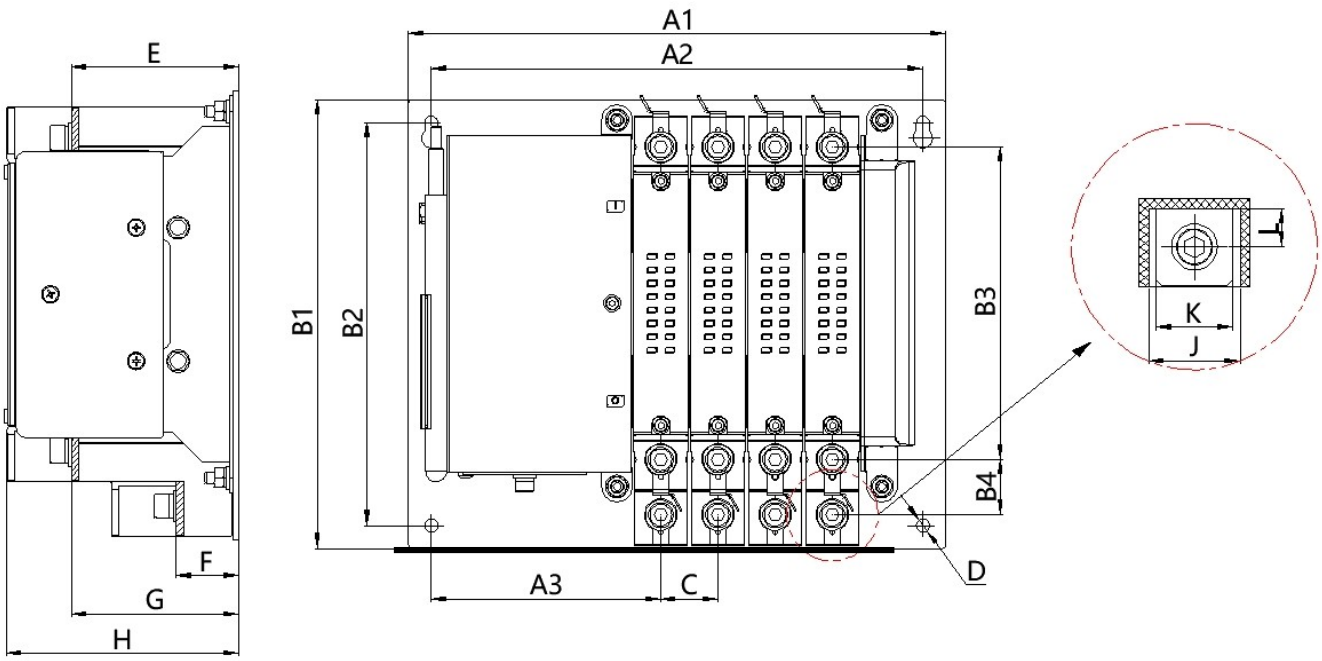
10. Wiring Diagram



11. Installation Dimensions



12. Switch Dimensions and Installation Dimensions



model	A1(3p/4p)	A2(3p/4p)	A3	B1	B2	B3	B4	C	D	E	F	G	H	J	K	M	L
AT30-100II	252/282	228/258	120.5	235	211	164	29	30	Φ7	88	33	88	126	21	16	M8	10.5
AT30-100III	277/307	253/283	145.5														
AT30-250II	287/322	255/290	130	287	263	224	27	35	Φ7	95.5	32.5	95.5	134	25	22	M8	10.5
AT30-250III	307/342	275/310	150														
AT30-400II	406/466	342/402	150.5	391	361	298	41	60	Φ9	110.5	35	110.5	172	48	40	M12	20
AT30-400III	426/486	362/422	170.5														
AT30-630II	438/508	373/443	154.5	391	361	298	41	70	Φ9	110.5	35	110.5	172	58	44	M12	20
AT30-630III	456/526	393/463	174.5														

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