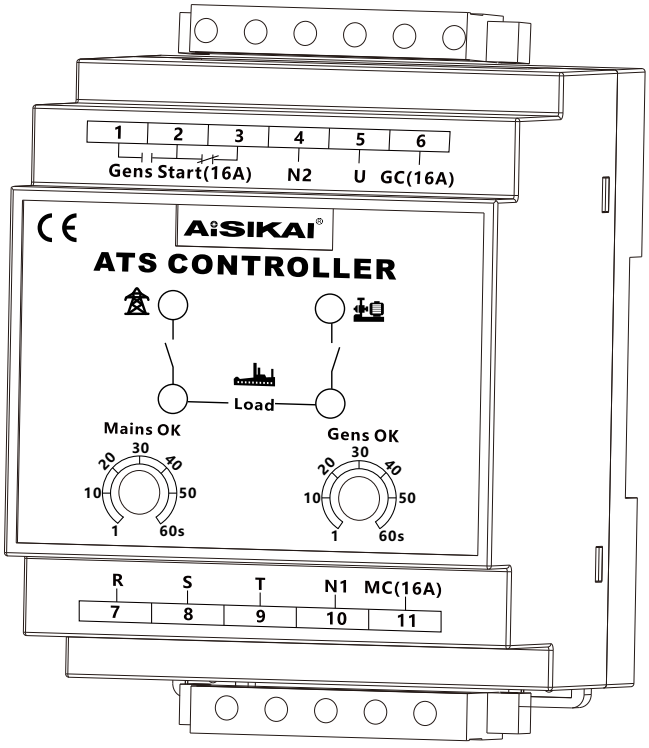
AiSIKAI®

POWER THE FUTURE

SKR2D-E SERIES

DIN RAIL ATS CONTROLLER

User Manual 26V1.0



AUTOMATIC TRANSFER SWITCH

400 828 8338

▶ Overview

The SKR2D-E dual-power automatic transfer controller is designed for PC-level ATS transfer switches (with a continuous output for the closing signal). It can monitor the three-phase four-wire voltage of the mains and the single-phase voltage of the generator. When the mains voltage drops or a phase is missing, it controls the ATS to switch after a time delay. The controller is also capable of sending a start signal to the generator set when the mains power is abnormal.

▶ Performance and Features

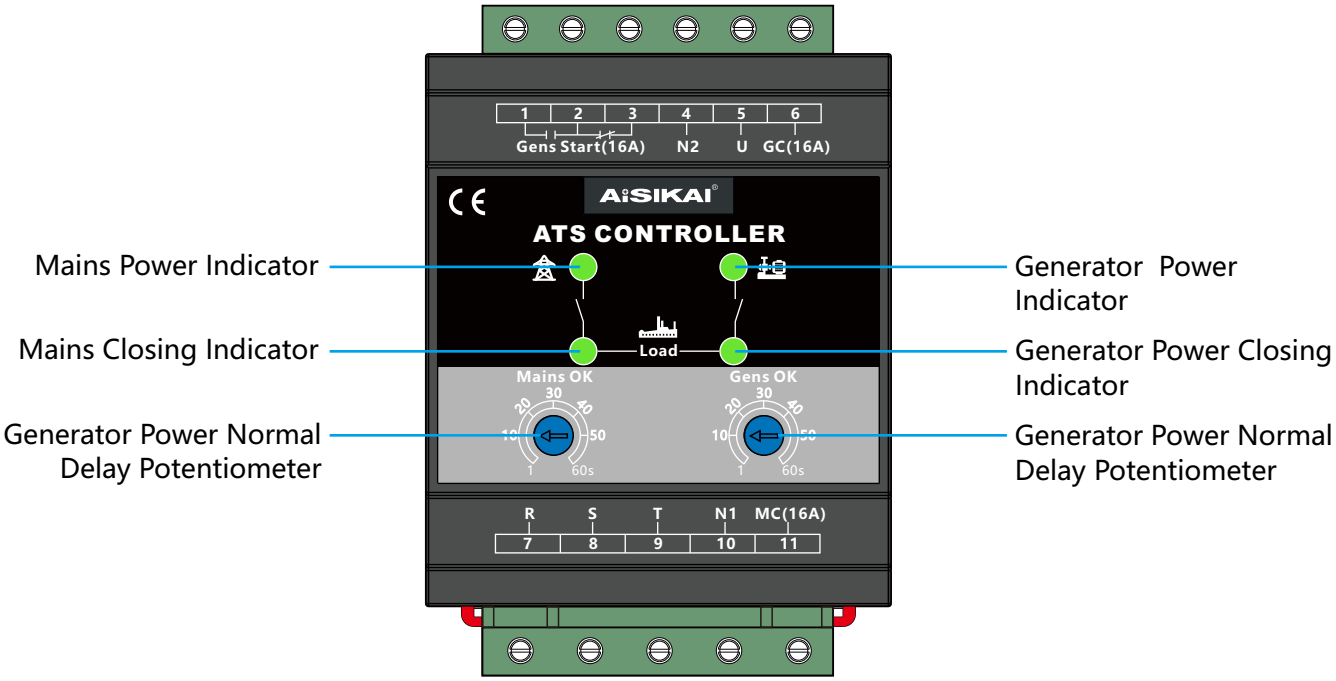
The SKR2D-E controller is capable of monitoring the three-phase mains voltage and the single-phase generator voltage, as well as controlling the ATS. Its main features are as follows:

- It features an automatic transfer and automatic restore function.
- It features undervoltage and phase loss detection functions.
- The LED indicators on the panel clearly display the controller's operating status.
- Two-circuit N-line separation design
- The delay for the mains power to return to normal is set via a potentiometer (range: 1-60s), and the delay for the generator power to be normal is also set via a potentiometer (range: 1-60s).
- When the mains power is absent, or any phase voltage falls below the minimum operating voltage, or a phase loss occurs, a start signal for the generator set will be issued.
- The output contact capacity of the switching relay for the mains and generator power supplies is 16A AC250V, which can be directly used to drive switch transfer and other operations.
- The output contact capacity of the generator set start relay (GENS START) is 16A AC250V, with passive normally open/normally closed contacts.
- It boasts exceptional resistance to electromagnetic interference, making it well-suited for use in complex environments with strong electromagnetic interference.
- It features a modular structural design with a flame-retardant ABS enclosure, ensuring a compact structure.
- 35mm DIN-rail mounting inside the cabinet.

▶ Technical Parameters

Item	Content
Operating Voltage	Powered by AC power supplies A1N1/A2N2, with a rated voltage of AC220V (range: AC175~280V)
Overall Power Consumption	The power consumption of the voltage circuit under the rated voltage is approximately 2W.
AC Voltage Input: Three-phase four-wire Single-phase two-wire	 AC175V - AC2 80 V (ph - N) AC175V - AC2 80 V (ph - N)
AC Frequency	50Hz/60Hz
Generator Set Start Relay	16A 250VAC, passive normally open/normally closed output
Mains Closing Relay	16A 250VAC, active normally open output
Generator Closing Relay	16A 250VAC, active normally open output
Overall Dimensions	77.5X61X115mm
Operating Temperature	(-25~+70)° C
Operating Humidity	(20~93)%RH
Storage Temperature	(-25~+70)°C
Dielectric Strength	An AC voltage of 2.2kV is applied between the high-voltage AC terminals and the low-voltage terminals, and the leakage current shall not exceed 3mA within 1 minute.
Weight	0.2kg

▶ Panel Operation



- **Potentiometer Function Description**

Definition	Description
Mains Power Normal Delay Potentiometer	Rotate the potentiometer knob to set the mains power normal delay time (range: 1-60s), with a factory default of 5s.
Generator Power Normal Delay Potentiometer	Rotate the potentiometer knob to set the generator power normal delay time (range: 1-60s), with a factory default of 5s.

- **Indicator Description**

Definition	Description
Mains Power Indicator	Light on: Mains power is normal; Light off: No mains power; Slow flashing: Undervoltage or phase loss in the mains power; Rapid flashing: Overvoltage in the mains power.
Generator Power Indicator	Light on: Generator power supply is normal; Light off: No generator power supply; Slow flashing: Undervoltage in the generator power supply; Rapid flashing: Overvoltage in the generator power supply.
Mains Closing Indicator	Light on: The load is powered by the mains supply.
Generator Closing Indicator	Light on: The load is powered by the generator supply.

Note: Overvoltage value: ≥AC275V; Undervoltage value: ≤AC160V

- **Operation and Control**

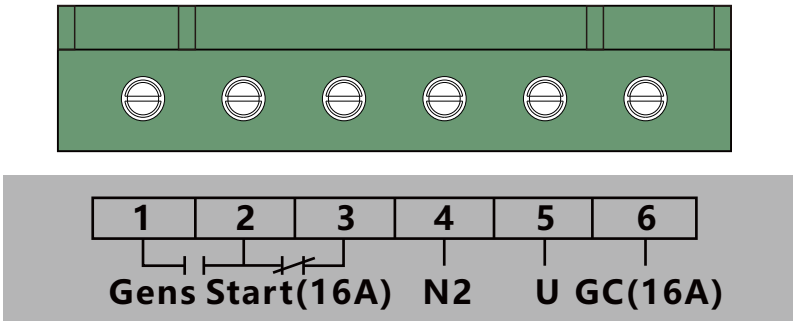
Mains Closing

When the mains power supply is normal, the mains indicator light of the controller turns on.
After the set delay period, the mains closing relay energizes, the coil of the generator set start relay is powered, and the mains closing indicator light illuminates.

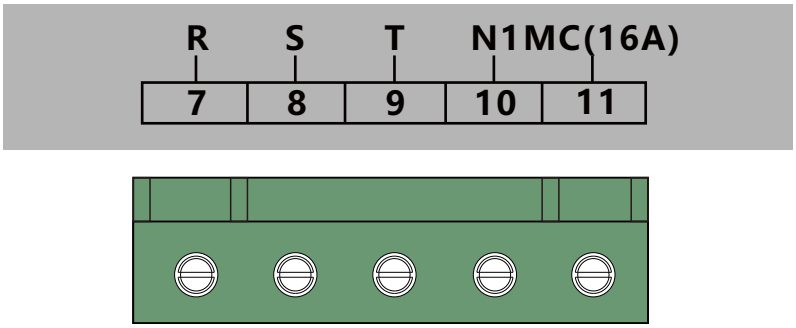
Generator Closing

When the mains power supply is abnormal, the controller's mains closing indicator light remains off, the mains closing relay is de-energized, and the coil of the generator set start relay is powered off. At this point, if the generator set is supplying power and the power is normal, the generator indicator light turns on. After the set delay period, the generator closing relay energizes, and the generator closing indicator light illuminates.

▶ Wiring



Terminal Block (Top)

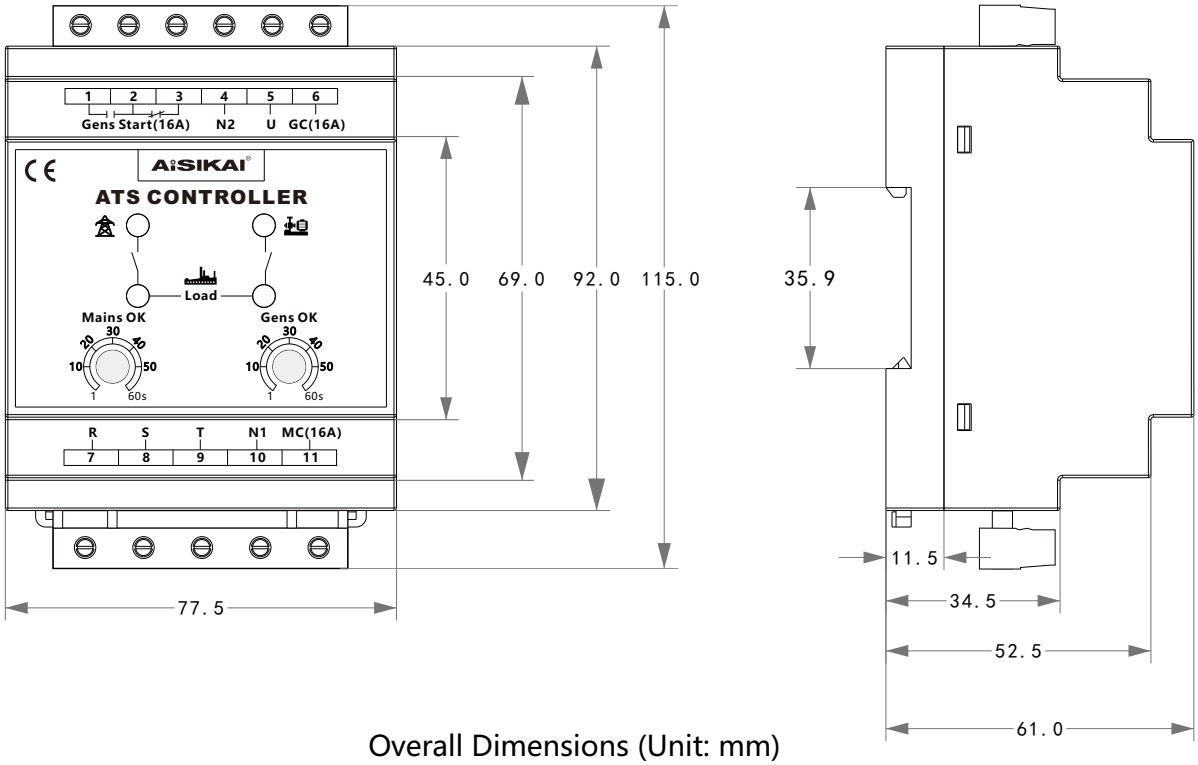


Terminal Block (Bottom)

Terminal Block Wiring Description

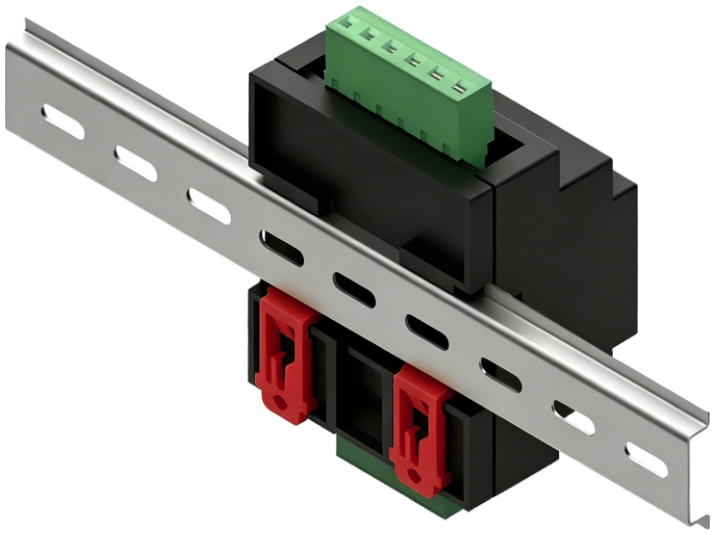
No.	Item	Function Description		Remark
1	Gens Start	Normally Open	Generator Set Start Signal Output	Passive normally open/normally closed relay output, rated at 16A
2		Common Terminal		
3		Normally Closed		
4	N2	Generator Set AC Power N-phase		Generator AC Single-phase Voltage Input
5	U	Generator Set AC Power Phase A		
6	GC	Generator Closing Output		During closing, it outputs U-phase voltage, with a rated current of 16A and a rated voltage of 220V.
7	R	Mains AC Power Phase A		Mains AC Three-phase Four-wire Voltage Input
8	S	Mains AC Power Phase B		
9	T	Mains AC Power Phase C		
10	N1	Mains AC Power Phase N		
11	MC	Mains Closing Output		During closing, it outputs R-phase voltage, with a rated current of 16A and a rated voltage of 220V.

▶ Overall Dimensions and Cutout Dimensions



Overall Dimensions (Unit: mm)

- Installation Method

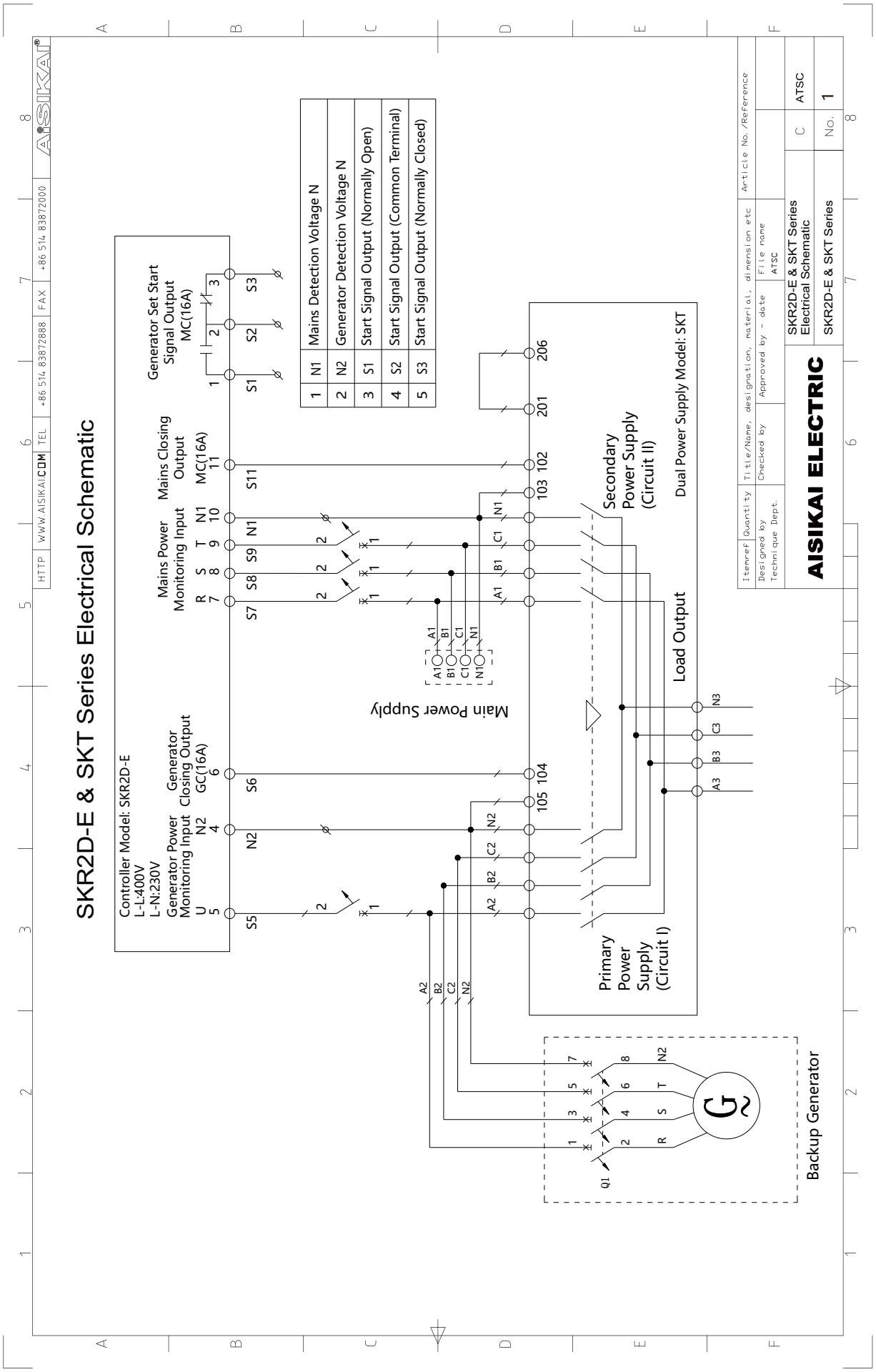


The controller is designed for 35mm DIN-rail mounting inside the cabinet, as shown in the figure.

▶ Troubleshooting

Fault Phenomenon	Possible Measures
Controller Not Functioning	Check the wiring and voltage of both the mains power and the generator power.
Controller Displays Normally but the Switch Fails to Operate	Inspect the ATS mechanism; Check the wiring between the controller and the ATS.

▶ Typical Application Diagram



AISIKAI-ATSCHB-26V1.0AC

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