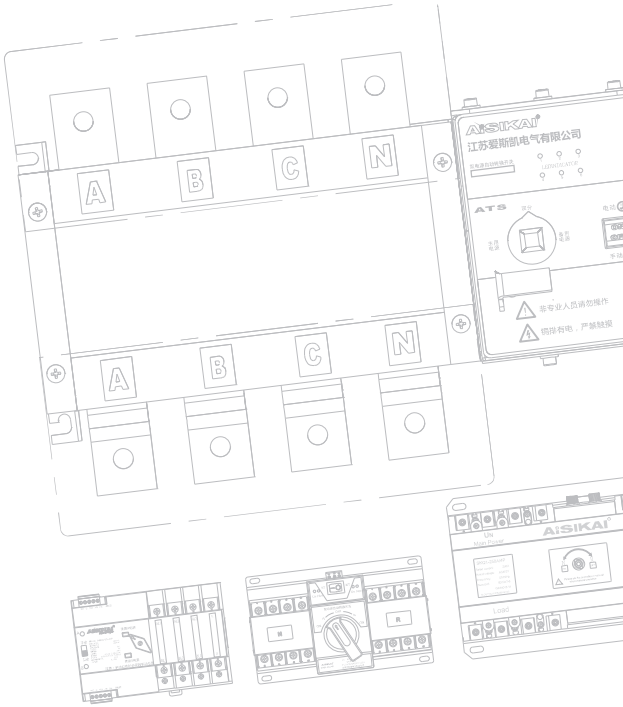
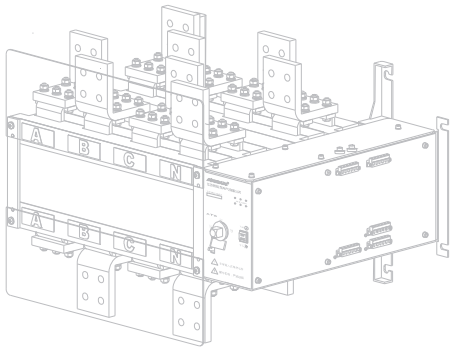
AISIKAI-202011ATSSG-V1.8

wechat contact

AiSIKAI®





AUTOMATIC TRANSFER SWITCH
SELECTION GUIDE

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JIANGSU AISIKAI ELECTRIC CO.,LTD

PRODUCTS CONTENTS

COMPANY PROFILE

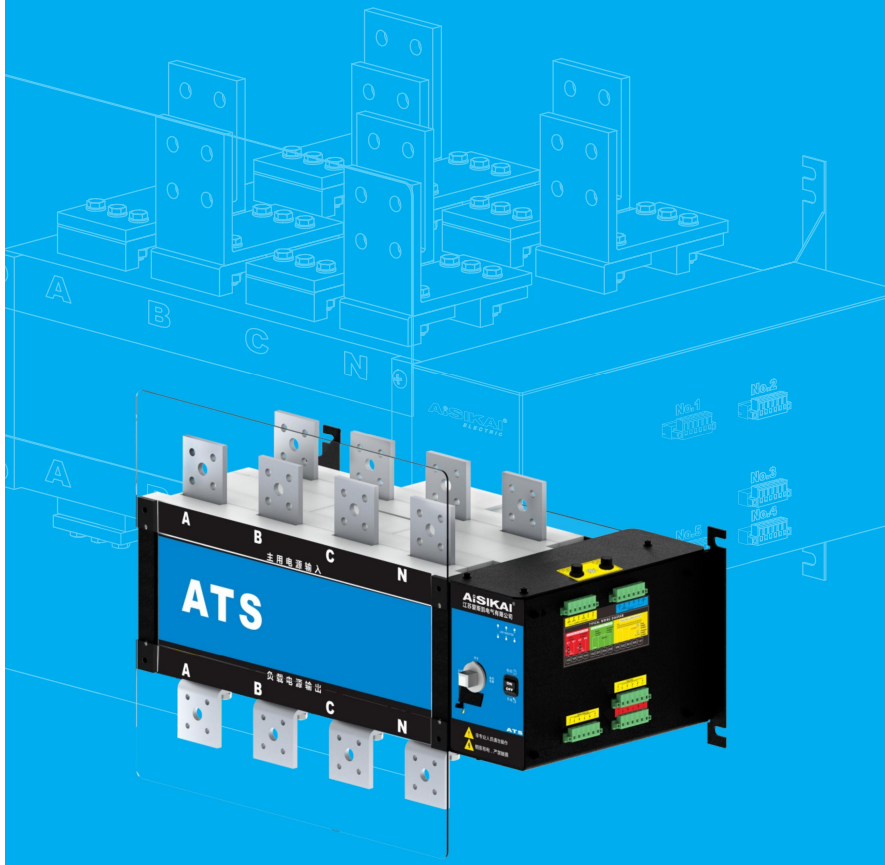
Since established in 2007, AISIKAI has been committed to the manufacture, research, development and marketing of the high-quality high and low voltage electric switches. Our product lines cover level Ⅰ,Ⅱ,Ⅲ power distribution fields. We are awarded as the National High Tech Enterprise, Double-Soft Certified Enterprise (i.e., software product certified and software enterprise certified), Little Giant Science and Technology Enterprise of Jiangsu Province, and Contract-keeping and Trustworthy Enterprise. We have invention patents, utility model patents and appearance patents. All of AISIKAI products have China Compulsory Certification (CCC) and China Quality Certification (CQC). From 2014, we have been recognized as Yangzhou City Engineering Technology Center and National Adopting International Standard Enterprise.

AISIKAI products have CE certification and IEC CB certification. We have passed the ISO9001 Quality Management System and ISO14001 Environment Management System, ISO45001 Occupational Health Management System, and SGS Global Qualified Supplier Authentication.

QUALITY, SERVICE, REPUTATION, INNOVATION is AISIKAI's unchanging company principle. We're always eager to make progress to offer reliable products and impeccable services. With your support and trust, AISIKAI will thrive and work towards a brighter future.

AUTOMATIC TRANSFER SWITCHES

AiSIKAI®



ATS

AUTOMATIC TRANSFER SWITCH

INTELLIGENT DUAL POWER AUTOMATIC TRANSFER SWITCH

Complete Series, Comprehensive Functions

AISIKAI dual power automatic transfer switches consist of SKT, SKQ and ASKQ series. From CB class products with general performance requirements to PC class products with the highest performance, from infrequent to frequent workable products, the perfect solution can be found here. Switches have a wide current range from 6A to 6300A- easily meet the requirements of diverse loads for residential, industrial and commercial use, and are applicable to the first, second and third level distribution network system in the field of low voltage distribution. The perfect functional configuration meets the power switching between utility-utility, utility-generation, generation-generation and more complex uninterrupted backup power. We conform to the relevant technical standards of IEC/GB and implement international standards for production. Switches have national compulsory CCC certification and EU CE certification.

APPLICATIONS

STANDARDS

GB10963.1-2005
IEC60898-1-2002

ATS Product Line

- Class PC
  - SKT series Motor driven type 20A–3200A
  - SKT3 series Motor driven type 20A–100A
  - ASKQ series Electromagnetic driven type 6A–63A
  - ASKQ series Electromagnetic driven type 32A–1600A
  - ASKQ series Electromagnetic driven type 3200A–6300A
- Class BC
  - SKQ1 series Motor driven type 6A–63A
  - SKQ1 series Motor driven type 125A–630A

High-tech Product

Having leading structural design and innovative patented technology, SKT series dual power automatic transfer switches has obtained the national high-tech product certificate (Ref No.141081G0527N).The technical standards comply with IEC60947-1/IEC60947-3/IEC60947-6-1/GB14048.1/GB14048.3/GB14048.11,We implement the international production standards.The switches have national compulsory CCC certification and EU CE certification.

Ultra-small Size, Ideal for Household

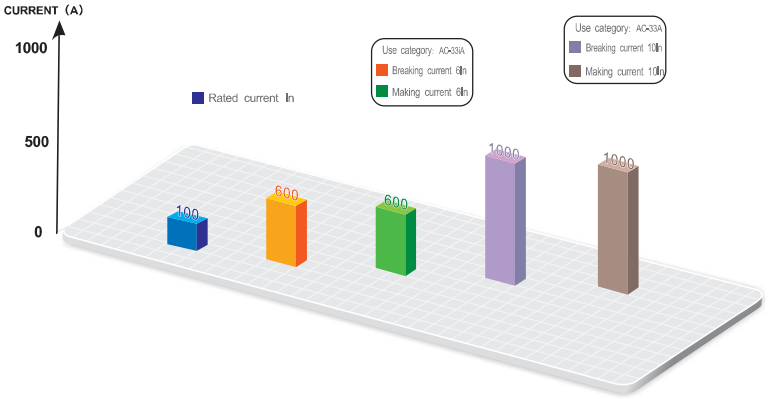
ASKQ(6A-63A)series ATS is a new product developed by AISIKAI according to the international household market demand. Switches has four working modes: automatic, remote control, manual and lock. When matched with a small generator, it can fully meet the uninterrupted power supply requirements of family houses, villas, private clubs and other places.

Ultra-high Current, Industrial Specialist

ASKQ(3200A-6300A)series ATS is a high-performance product developed by AISIKAI for low-voltage and high-current special industrial equipment, suitable for mining and oil extraction industries, and can also be used as a main power transfer switch in civil or commercial primary distribution systems.

Highest Use Category AC-33A

SKT series automatic transfer switch has reached the highest use category of AC-33A. It can cover most of the requirements of mixed loads in civil, industrial, aviation and transportation fields. Swtiches can be frequently switched and have a breaking and making capacity of up to 10 times the rated current, which is 67% higher than the switches of AC-33iA.



SKT1, SKT2 SERIES CLASS PC AUTOMATIC TRANSFER SWITCH SELECTION TABLE (Motor Driven)

SK	T	1	—	100A	/	4P	/	M1

Company
AISIKAI ELECTRIC

ATS Driven Mode
T: Motor

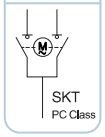
Design Serial
1: standard frame type (current range: 20A–3200A)
2: ultra-thin frame type (current range:10A–100A)

Rated operational current (A)
10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A, 140A,150A, 160A, 180A, 200A, 225A, 250A, 400A, 500A, 630A, 800A, 1000A, 1250A, 1600A, 2000A, 2500A, 3200A

No. of poles
2P: 2 poles
3P: 3 poles
4P: 4 poles

Functions
M1: End type (automatic switch to standby and automatic return to main)
M2: End type[automatic switch to standby but not automatic return to main (need controller)]
X: Fire-fighting type (have fire-fighting ZERO position)
WA: Intelligent type (fire-fighting type+external LED controller SKR2-A)
WB: Intelligent type (fire-fighting type+external LCD controller SKR2-B)
N: Intelligent type (built-in MCU program control board)

Design Marking



Model Description 1:
SKT2–100A/4P/M1:
1. PC class motor driven type automatic transfer switch
2. ultra-thin frame,rated working current 100A
3. 4 poles of copper bars
4. end type automatic switch to standby and automatic return to main

Model Description 2:
SKT1–800A/3P/X:
1. PC class motor driven type automatic transfer switch
2. standard frame, rated current 800A
3. 3 poles of copper bars
4. fire-fighting type

QUALIFICATION DOCUMENTS

China Compulsory Certification | Patents | ISO | CE

OVERVIEW

- SKT series double power automatic transfer switch is the most advanced third generation product. It is PC class and AC-33A use category can be frequently operated electric transfer switch. Switches are suitable for the reliable conversion of two power sources in 50/60Hz 10A-3200A low-voltage AC power distribution system. There are four working modes: automatic, electric, emergency manual and lock.

CLASSIFICATION

- Classified by volume
  Standard type: Type 1, 20A-3200A, 5 kinds volume specification
  Ultra-thin type: Type 2, 10A-100A, 1 kind volume specification
  Note: Ultra-thin type is 50% smaller than the standard type.
- Classified by functions
  M1:end type(automatic switch to standby and automatic return to main)
  M2: end type[automatic switch to standby but not automatic return to main(need controller)]
  X: fire-fighting type (have fire-fighting ZERO position)
  WA: intelligent type (fire-fighting type+ external LED controller SKR2-A)
  WB: intelligent type (fire-fighting type+external LCD controller SKR2-B)
  N: intelligent type(built-in MCU program control board)
- Classified by poles
  2P: 2 poles, 1 phase and 2 lines
  3P: 3 poles, 3 phases
  4P: 4 poles, 3 phases and 4 lines

APPLICATIONS

Civil | Commercial | Industrial

STANDARDS

GB/T14048.11 IEC60947-6-1

NORMAL OPERATIONAL CONDITIONS AND INSTALLATION METHODS

Category	Requirement
Operational temperature	Between -20℃ and 45℃. The average value in 24 hours does not exceed +35℃
Operational humidity	The average humidity at +40℃ shall not exceed 50% without condensation
Altitude	Lower than 2000 meters. Operation at altitude above 2000 meters requires derating
Vibration and gas	Use environment should be without strong vibration and shock, and without harmful gases that corrode metals and destroy insulation
Ambient substance	Without heavy dust, conductive particles and explosive hazardous substances
Pollution level	III
IP rating	IP 20
Storage requirements	Storage environment should be between -30℃ and 70℃, dry, non-corrosive and non-saline. The maximum storage time is 1 year
Packaging	Carton packaging for 630A and below; wooden crate packaging for 800A and above
Stacking	No more than 5 layers for 630A and below; no more than 3 layers for 800A and above
Installation method	Install vertically or horizontally. Upside down installation is prohibited
Wiring method	Standard is top inlet and bottom outlet. Bottom inlet and top outlet can be customized

RAW MATERIAL ADVANTAGES

99.9% High Purity T2 Copper

●99.9% High Purity T2 Copper

The moving and fixed contacts are made of T2 copper and the surfaces are processed with pure silver electroplating technology, so the breaking capacity is much higher than that of welded silver point switches.

●Main Body Made of DMC

The main body is made of reinforced unsaturated polyester glass fiber material(DMC), which has high mechanical strength and insulation performance. It has the advantages of high strength, corrosion resistance and flame re tardan t than or dinary ABS.

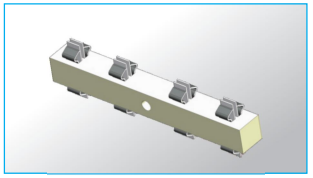
●Self-recovery Drive Motor

We use polychloroprene insulated moist heat type motor or permanent magnet synchronous motor (patented technology), which has high torque, low noise, long life, and self-recovery protection against overheating and overcurrent. These motors have much better comprehensive performance than electromagnet.

●Components Brand Assurance

The electronic components are made of well-known brands. The main control board is produced by the first-tier domestic electronics f actory, using the three-

STRUCTURAL DESIGN



Double-row composite contacts

●Double-row composite contacts

The moving contacts are double-row composite contacts, having the twice conductive area of the single-sided contact switches.

●Transverse-pull moving mechanism

The moving contacts move transversely and reciprocally, which has the advantages of zero arc and a high safety factor compared with the longitudinal separation type switches.

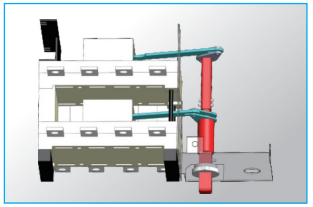
●Double interlocking mechanically and electrically

The precise mechanical design ensures complete isolation between the two power supplies and the logic management of the main control board achieves the electrical interlocking.

●Safety ZERO position

The whole series of products are equipped with safety ZERO position, which can cut off two power supplies at the same time. Therefore, their safety performance is superior to

FUNCTIONAL ADVANTAGES



Mechanical interlocks

●Prevent early failures and damage to equipment

Each moving contact is reliably fixed in the base by a high-strength spring plate made of silicon manganese steel. The pressure between the moving and fixed contacts is constant during the transferring process and after closing. It effectively prevent the equipment failure due to high voltage pulses caused by contact popping or chattering (common in contactor type switches). Our switcher can be installed on frequently vibrating equipment such as diesel generators.

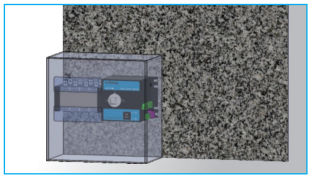
●Load isolation function

The precise safe distance can effectively isolate power supply and load, meeting the creepage requirements. Switch has a clear indication of the on/off position and can be operated with load.

●Neutral line overlapping switching

This patented feature prevents equipment damage caused by neutral line potential drift when switching (optional feature)

PERFORMANCE ADVANTAGES



超薄设计

●Service life

Mechanical life: ≥12000 times Electrical life: ≥7500 times

●High breaking and making capacity

10 times rated current breaking capacity, 10 times rated current making capacity, 8kV rated withstand impulse voltage, 75kA rated limit short-circuit current

●High use category

AC-33A use category, which can be used for frequent operation, has a wider range of applications than AC-33B infrequent use category.

●Meeting the requirements of and power distribution

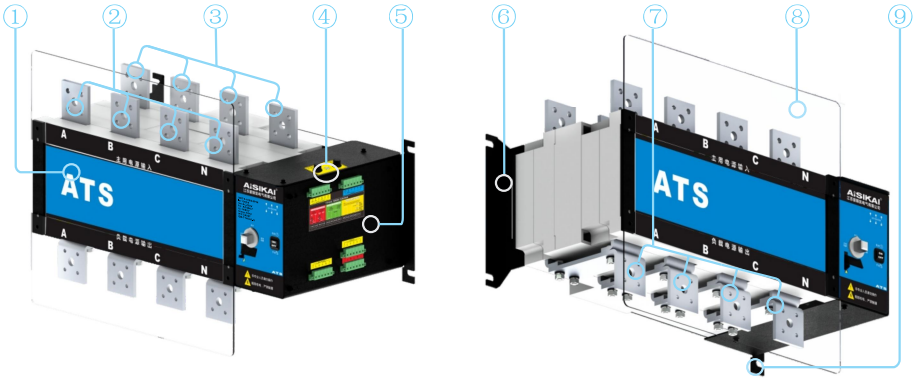
Good electrical performance can meet the technical requirements of Ⅰ and Ⅱ power distribution systems, and has higher shock resistance than circuit breaker type ATS to avoid tripping of the main switch due to short-circuit of a single load.

●Ultra-thin volume (20A-100A)

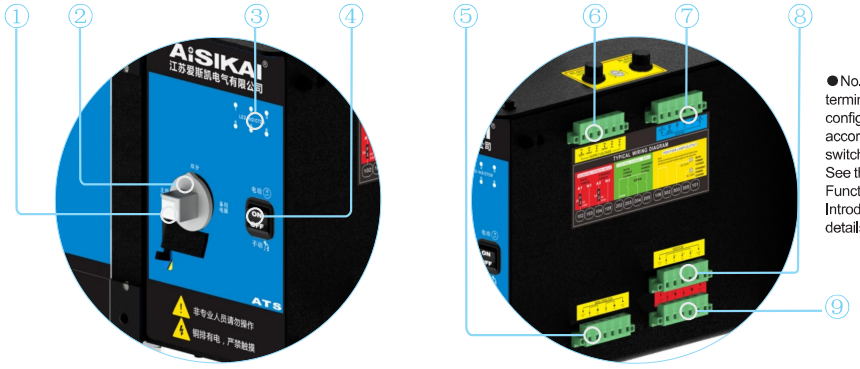
The precise mechanical design achieves an ultra-thin volume, and the assembled electrical box is only 25% the size of a floor tile (60*60).

STRUCTURE INTRODUCTION

① Switch body:the standard type is top inlet and bottom outlet type
② Main power input copper bars: Used for fixing the main power cables or busbars
③ Standby power input copper bar:Used for fixing the standby power cables or busbars
④ Ⅰ / Ⅱ fuses
⑤ Electronic control unit of transfer switch: including main control circuit board and driving motor
⑥ Left installation bracket:Matched with the right installation bracket for fixing the switch
⑦ Load power output one-piece copper bars, for fixing the load cables or busbars Patent No. ZL 2010 3 0242257.0 ZL 20102 0664285.6
⑧ Protective plate installation hole, for fixing the protective plate
⑨ Right installation bracket:Matched with the left installation bracket for fixing the switch



① Switch position status indicator
② Manual emergency handle interface: you can manually turn the switch for power supply switching in case of emergency
③ LED indicators, see ATS-14 for details
④ Electric/emergency manual mode selection button
⑤ Terminal No.5:Extension port, standard product has no signal output, optional self-start signal output, padlock indication, etc.
⑥ Terminal No.1: Electronic control unit power supply input
⑦ Terminal No.2: Transferring control signal input (passive control)
⑧ Terminal No.3: Position feedback signal output 1 (active output for M type and passive output for others)
⑨ Right installation bracket:Matched with the left installation bracket for fixing the switch



●No.1-5 wiring terminals are configured according to the switch model. See the Terminal Functions Introduction for details.

FUNCTION CODE TABLE

Application type	End type	Fire-fighting type	Intelligent type	
Function code	M	X	W(External controller type)	N(Built-in MCU program control board)
Structure				
Electrical two-section type	Y			
Electrical three-section type		Y	Y	Y
Manual three-section type	Y	Y	Y	Y
Control mode				
Controller manual/ automatic control			Y	Y
Remote electric control (external control)		Y		
Emergency manual	Y	Y	Y	Y
Fully automatic switch	Y(without fault detection)	External control	Y(with three phases fault detection)	
Lock mode	Optional	Optional	Optional	Optional
Fire-fighting signal (forced to ZERO position)		Passive close signal	See ATSC-03 for details	
Main/standby power monitoring protection				
Over-voltage protection	Single phase (optional)	Single phase (optional)	Three phases(adjustable range)	Single phase (optional)
Under-voltage protection	Single phase (optional)	Single phase (optional)	Three phases(adjustable range)	Single phase (optional)
Phase loss protection			Y	
Frequency protection			See ATSC-03 for details	
Phase angle detection				
N-phase fault alarm				
Phase sequence inconsistency alarm				
Application function				
Automatic switch to standby and automatic return to main	M1(Standard products)	External control	Y	Y
Automatic switch to standby but not automatic return to main	M2(Customized)	External control	See ATSC-03 for details	
Main power supply has priority	Y	External control	Y	Y
Standby power supply has priority	0s or 2s (Under-voltage optional)	optional	Settable	
Generator self-start signal (passive)		optional	Y	
Transfer delay		External control	Adjustable	
Power failure delay setting			Y	
Power recovery delay setting			Y	
Alarm records storage			See ATSC-03 for details	
Communication			See ATSC-03 for details	
Feedback signal	AC220V(Ⅰ、Ⅱ)	Passive(Ⅰ、Ⅱ、0)	DC5V(Ⅰ、Ⅱ、0)	Passive(Ⅰ、Ⅱ、0)
Display function				
Switch position status display	External indication light	External indication light	Y	External indication light
Voltage display			See ATSC-03 for details	
Frequency display			See ATSC-03 for details	
Current display			See ATSC-03 for details	

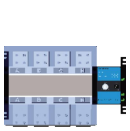
Note:W type consists of a controller with corresponding function and X type switch
Y means this function is available.

MAIN TECHNICAL PARAMETERS

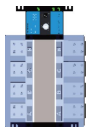
	SKT2 Series	SKT1 Series												
Frame rating current (Inm)	100A	160A		250A	630A		1600A				3200A			
Rated current (In)	100	125A	160	250	400	630	800	1000	1250	1600	2000	2500	3200	
Thermal current rating (Ith)	10,16,20,25, 32,40,50,63, 80,100A	63,80,100, 125,140, 150,160A		125,140,160,180, 200,225,250A	160,180,200, 225,250,315, 350,400,500, 630A		800,1000,1250, 1600A				2000,2500,3200A			
Rated insulation voltage of copper bar (Ui)	1000V													
Rated impulse withstand voltage (Uimp)	12KV													
Rated operational voltage of copper bar (Ue)	AC400V													
Use category	AC-33A													
Rated operational current of copper bar (Ie)	10,16,20,25,32,40,50,63,80,100,125,140,150,160,180,200,225,250,315,350,400,500,630						800,1000,1250,1600,2000,2500,3200							
Rated making capacity	10Ie													
Rated breaking capacity	10Ie													
Rated limit short-circuit current (Iq) fuse for protection	100KA	100KA		100KA	120KA		120KA				120KA			
Rated limit short-circuit current (Iq) circuit breaker for protection	50KA	50KA		50KA	65KA		65KA				65KA			
Transferring time Ⅰ－Ⅱ或Ⅱ－Ⅰ	1.2S				0.6S		1.2S				2.4S			
Rated operational voltage of the control power supply	AC220V (special voltage DC24V、DC110V、DC220V、AC110V、AC280V)													
Start	40W				325W		355W		400W	440W	600W			
Normal	18W				62W		74W		90W	98W	120W			
Net weight(kg) 4 poles	3,5	5,3	5,5	7	17	17,5	37			44	98			

Note: The parameters of SKT1 20A-100A are exactly same as the SKT1 125A product

SCHEMATIC DIAGRAM OF CORRECT INSTALLATION

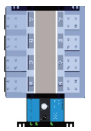


Best (front)



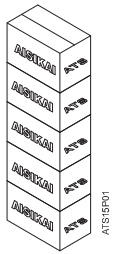
Right (vertical)

Right (upside-down)

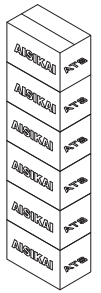


Wrong (inverted)

PRODUCTS STACKING REQUIREMENTS

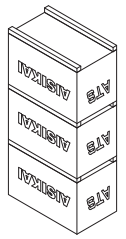


Stack at most 5 layers



Stacking more than 5 layers is strictly prohibited

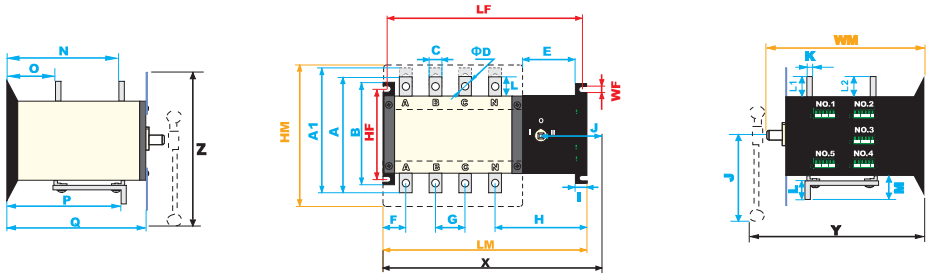
Schematic diagram of wooden box package stacking



Upside-down stacking is strictly prohibited

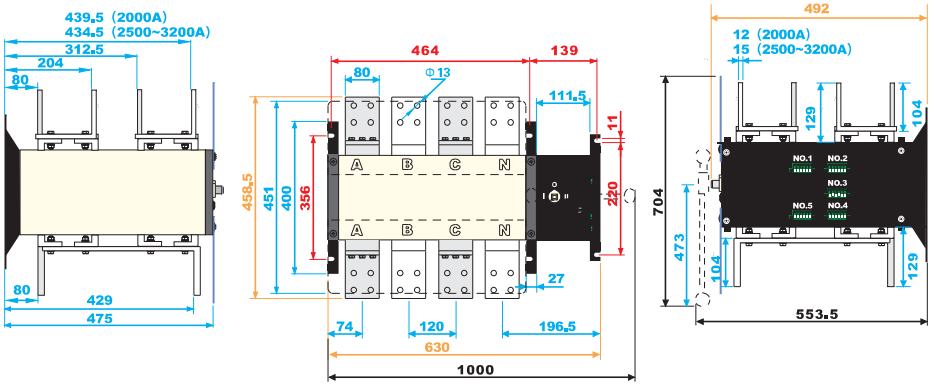
OUTLINE DRAWING 1

20A–3200A outline dimensions



OUTLINE DRAWING 2 (AUXILIARY DIMENSIONS)

2000A-3200A auxiliary outline dimensions

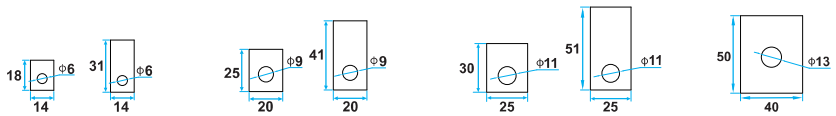


20A-1600A OUTLINE AND INSTALLATION TABLE

Series	Current range	Installation dimensions			Body maximum size			Other detailed dimensions of switch							Other detailed dimensions of switch													Reference dimensions		
		LF	WF	HF	LM	WM	HM	A	A1	B	C	ΦD	E	F	G	H	I	J	K	L	L1	L2	M	N	O	P	Q	X	Y	Z
SKT2 Series	20–100A	225	6.5	84	242.5	135.5	143	115	127	107.5	14	6	102.5	19.5	30	133	14.5	142	2. 5	20.5	19	31	26	87.5	37.5	87.5	114	303.5	171	208
SKT1 Series	125–160A	271	7	110	290	188	163	142	158.5	130	20	9	102.5	33	36	150	18	188.5	3. 5	25.5	25.5	42	31.5	133	55.5	133	165.5	393	221	265.5
	250A	335	7	110	351	192	200	166	187	130	25	11	103	37.5	50	163.5	18	189	3. 5	28. 5	30	51	36	136.5	57	139	169.5	452.5	227	289
	400A	416	8	180	436	263	324	270	-	200	40	13	126	45.5	65	195.5	25	189	5	45	52	52	58	186	77	208.5	239	521.5	296	355
	630A	416	8	180	436	263	324	270	-	200	40	13	126	45.5	65	195.5	25	189	6	45	52	52	58	186	77	208.5	239	521.5	296	355
	800A	608	11	220	633	321	451	353	-	252.5	60	9	120	77	120	196	27	473	8	73	65	80	88	248	104	256	298	1008	381	700.5
	1000A	608	11	220	633	321	451	353	-	252.5	60	9	120	77	120	196	27	473	8	73	65	80	88	248	104	256	298	1008	381	700.5
	1250A	608	11	220	633	321	451	353	-	252.5	60	22*24	120	77	120	196	27	473	8	73	65	80	88	248	104	256	298	1008	381	700.5
	1600A	608	11	220	633	321	451	353	-	252.5	80	13	120	77	120	196	27	473	10	97	80	80	112	248	104	256	298	1008	381	700.5

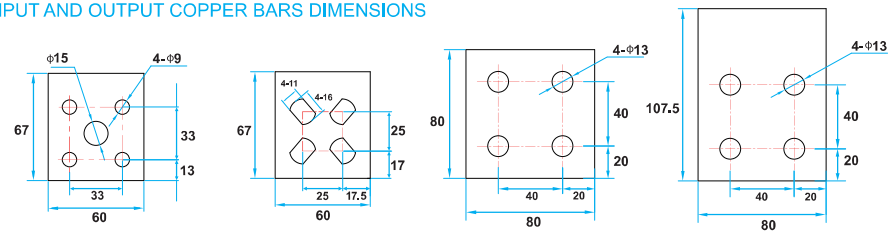
Note: X, Y and Z are the maximum width, depth and height of the switch after assembling the manual emergency handle. Depending on the angle at which the handle is mounted or the position of the moving slider, the corresponding size will be smaller than the data in the table, for reference only
The parameters of SKT1 20A-100A are exactly same as the SKT1 125A product.

INPUT AND OUTPUT COPPER BARS DIMENSIONS



20A–100A　125A–160A　250A　400A–630A

INPUT AND OUTPUT COPPER BARS DIMENSIONS

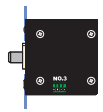


800A–1000A　1250A　1600A　2000A–3200A

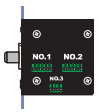
TERMINAL FUNCTIONS INTRODUCTION

Terminal Serial No	Access point serial No	Function	Instruction
Terminal No. 1	**101、106**	Power supply neutral line and live line output for feedback	Active output, **1A AC220V**
	102、103	Power supply No. 1 live line and neutral line input	**＞5A AC 220V**
	104、105	Power supply No. 2 live line and neutral line input	**＞5A AC 220V**
Terminal No. 2	**201、206**	Passive control when disconnected; active control when closed	See SKT type schematic diagram for details
	202	Common terminal of external passive control signal input	Passive control signals
	203	When closed with 202, Circuit Ⅰ is switched on	
	204	When closed with 202, Circuit 0 is switched on	
	205	When closed with 202, Circuit Ⅱ is switched on	
Terminal No.3	**301、306**	Not used	Not assembled on **20A–250A**
	302	Common terminal of passive position feedback signal output	M type is active output, the other types are passive output, see the schematic diagram for details, **1A AC 220V**
	303	Closed with 302 when Circuit Ⅰ is switched on	
	304	Closed with 302 when Circuit 0 is switched on	
	305	Closed with 302 when Circuit Ⅱ is switched on	
Terminal No. 4	**401、406**	Not used	Assembled on **400A** and above
	402、403	Closed when Circuit Ⅰ is switched on	Passive **3A AC 220V**
	404、405	Closed when Circuit Ⅱ is switched on	Passive **3A AC 220V**
Terminal No. 5	**501**	Not used	Optional parts, passive **3A AC 220V**
	502	Not used	
	503	Not used	
	504	Not used	Optional parts, passive **3A AC 220V**
	505	Not used	
	506	Not used	

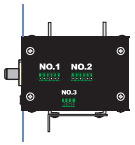
TERMINAL LOCATION DIAGRAM



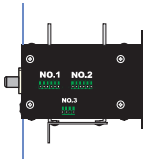
M type 20A–100A



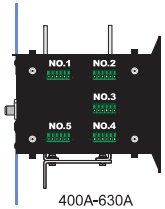
X type 20A–100A



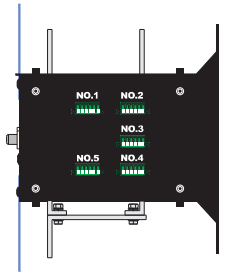
125A–160A



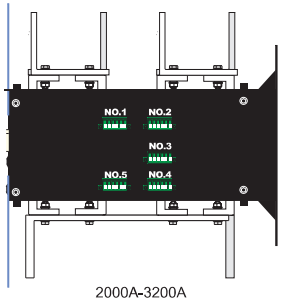
250A



400A-630A

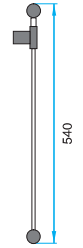


800A-1600A

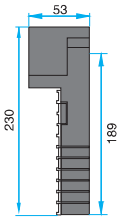


2000A-3200A

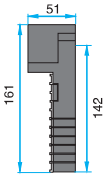
STANDARD ACCESSORIES



800A–3200A



125A–630A



20A–100A

Manual handle

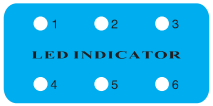
Protective plate

Cable fixing bolt

Current (A)	No. of wiring terminals (pieces)	No. of manual handle /material	No. of protective plate/material	No. of user manual	No.(set) and specification of cable fixing bolt
2000-3200	**5**	**1** pc/steel	**2** pcs/PMMA	**1** copy	**M12*45/48**
1600	**5**	**1** pc/steel			**M12*40/48**
1250	**5**	**1** pc/steel			**M10*35/48**
800-1000	**5**	**1** pc/steel			**M8*35/48**
400-630	**5**	**1** pc/ABS			**M12*30/12**
250	**3**	**1** pc/ABS			**M10*25/12**
125-160	**3**	**1** pc/ABS			**M8*25/12**
20-100	**3** (1 for M type)	**1** pc/ABS			**M6*20/12**

INSTRUCTIONS FOR LED INDICATORS

When the light is on, it means that Circuit Ⅰ control relay is normal (the relay is mounted on the internal circuit board. Only when No. 4 light is off, the No. 3 light is used for this function).

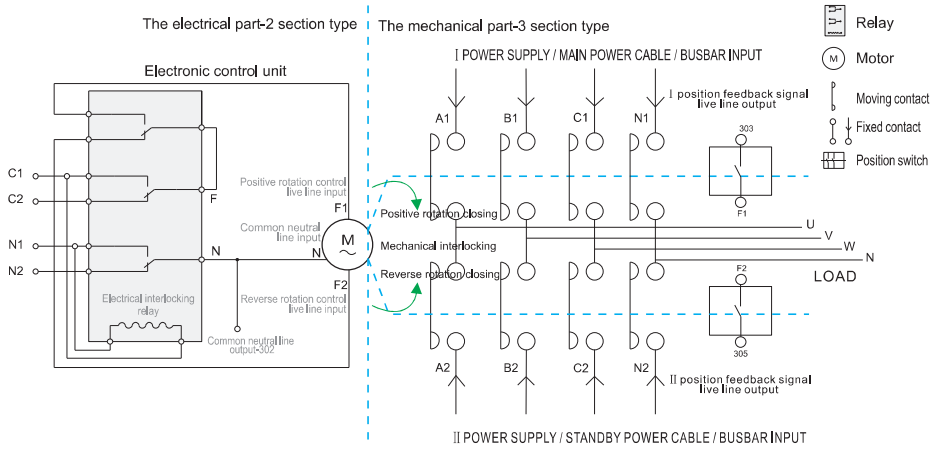


规格	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
20-250A	When the light is on, it means that there is power in the Circuit Ⅰ control power supply (there is AC 220V power between the access points 102 and 103 of terminal No. 1)	When the light is on, it means that the fuse of Circuit Ⅰ control power supply is working properly	When the light is on,it means that Circuit Ⅰ control relay is normal (the relay is mounted on the internal circuit board.Only when No.4 light is off, the No.3 light is used for this function)	When the light is on, it means that there is power in the Circuit Ⅱ control power supply (there is AC 220V power between the access points 104 and 105 of terminal No. 1)	When the light is on, it means that the fuse of Circuit Ⅱ control power supply is working properly	For 125A-250A switch, when the light is on, it means that the key lock or button is in AUTO (the key lock or the button is mounted on the front panel of the switch)
400-3200A	When the light is on, it means that there is power in the Circuit Ⅰ control power supply (there is AC 220V power between the access points 102 and 103 of terminal No. 1). If the light flashes, it means that the voltage is abnormal	When the light is on, it means that the key lock or button is in AUTO (the key lock or the button is mounted on the front panel of the switch)	When the light is on, it means that there is power in the Circuit Ⅱ control power supply (there is AC 220V power between the access points 104 and 105 of terminal No.1,measure voltage range AC220V ±15%). If the light flashes, it means that the voltage is abnormal	When the light is on, it means that Circuit Ⅰ is closed	When the light is on, it means that both Circuit Ⅰ and Circuit Ⅱ are open	When the light is on, it means that Circuit Ⅱ is closed

Note: SKT2 type has no LED indicator.

SKT–M TYPE AUTOMATIC TRANSFER SWITCH

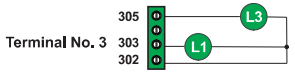
M Type Internal Schematic Diagram



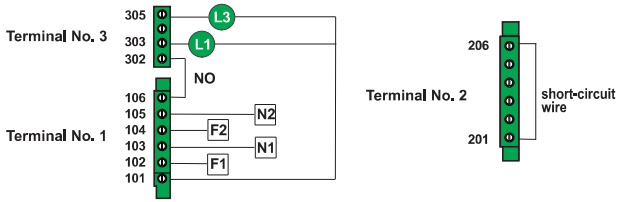
● Note: The above diagram only shows the working principle and do not represent the number of internal components.

Secondary Wiring Schematic Diagram: M Type Full-Auto Transfer (Electrical 2-Section)

10A–100A



10A–3200A

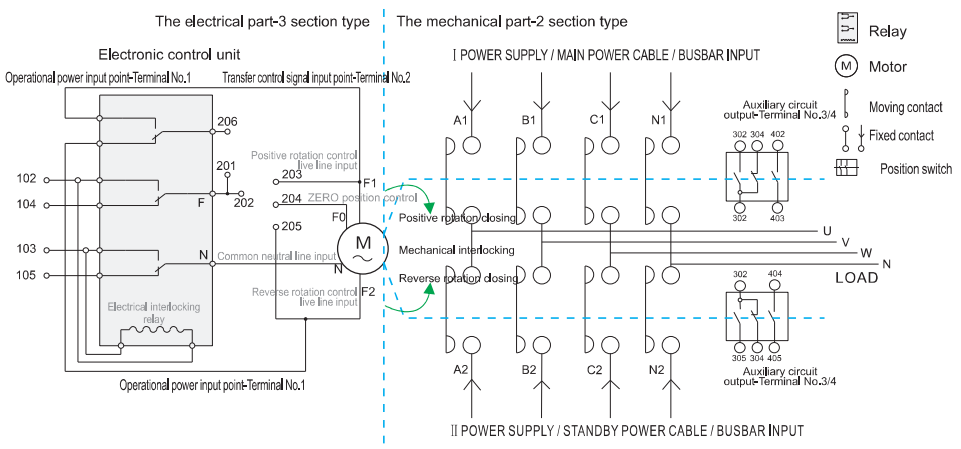


F1 / N1 : Power I live line/neutral line
F2 / N2 : Power II live line/neutral line
L1: Power I indicator, Circuit I closed
L3: Power II indicator, Circuit II closed

Note: M1\M2 type ATS is suitable for end places without any requirement for transfer delay

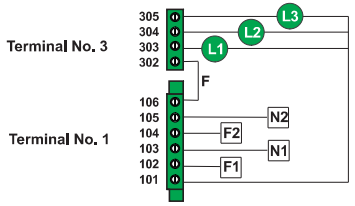
SKT-X Type Automatic Transfer Switch

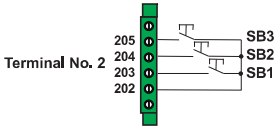
X Type Internal Schematic Diagram



● Note: The above diagram only shows the working principle and do not represent the number of internal components.

Secondary Wiring Schematic Diagram: X Type Remote/External Control Transfer (Passive Control, Electrical 3-Stage)





Note: X type ATS is suitable for end places with technical requirements for transfer delay, generally used in conjunction with generator sets. The passive control mode can realize two/three sections control; the active control mode can realize two-section control. Please refer to M1/M2 type 125A-3200A circuit diagram for secondary diagram.

F1 / N1 : Power I live line/neutral line
F2 / N2 : Power II live line/neutral line

L1: Power I indicator, Circuit I closed
L2: Circuit ZERO close indicator light
L3: Power II indicator, Circuit II closed
SB3: Standby power close button (Circuit II close)
SB2: Double off button (Circuit ZERO close)
SB1: Main power close button (Circuit I close)

SKT1-D DC TYPE INTELLIGENT DUAL POWER AUTOMATIC TRANSFER SWITCH (Motor Driven) SELECTION TABLE

SK	T	1	—	100A	/	4P	/	M1	/	D		110V
Company: AISIKAI ELECTRIC		Design Serial: 1. Standard frame type (current range: 20A-630A)		Rated operational current (A): 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A, 140A, 150A, 160A, 180A, 200A, 225A, 250A, 400A, 500A, 630A		No. of poles: 2P: 2 poles; 3P: 3 poles; 4P: 4 poles		Functions: M1: End type (automatic switch to standby and automatic return to main); M2:End type [automatic switch to standby but not automatic return to main(need controller)]; X: Fire-fighting type(have fire-fighting ZERO position)		Direct Current Type		Control voltage: 24V/110V/125V

Design Marking

Model Description:

SKT1–630A/3P/M1/D110V:
1.Class PC motor driven type automatic transfer switch
2. standard frame, rated operational current 630A
3. 3 poles of copper bars
4. end type, automatic switch to main and automatic return to standby
5. control voltage DC 110V

资质文件

CCC（略） ZL（略） ISO CE

OVERVIEW

- SKT series double power automatic transfer switch is the most advanced third generation product. It is Class PC and DC-33B use category can be frequently operated electric transfer switch. Switches are suitable for the reliable conversion of two power supplies in 20A-6300A DC power distribution system. There are four working modes: automatic, electric, emergency manual and lock.

CLASSIFICATION

- Classified by volume

  Standard type: type1, 3 sizes: 20A-12520A-125Ad,125A-250A, 400A-630A

- Classified by function

  M1:end type (automatic switch to standby and automatic return to main)
  M2:end type [automatic switch to standby but not automatic return to main(need controller)]
  X: fire-fighting type(have fire-fighting ZERO position)

- Classified by poles

  2P: 2 poles, 1 phase and 2 lines
  3P: 3 poles, 3 phases
  4P: 4 poles, 3 phases and 4 lines

APPLICATIONS

Civil Commercial Industrial

STANDARDS

GB/T14048. 11 IEC60947-6-1

NORMAL OPERATIONAL CONDITIONS AND INSTALLATION METHODS

Category	Requirement
Operational temperature	Between -20℃ and 45℃. The average value in 24 hours does not exceed +35℃
Operational humidity	The average humidity at +40℃ shall not exceed 50% without condensation
Altitude	Lower than 2000 meters. Operation at altitude above 2000 meters requires derating
Vibration and gas	Use environment should be without strong vibration and shock, and without harmful gases that corrode metals and destroy insulation
Ambient substance	Without heavy dust, conductive particles and explosive hazardous substances
Pollution level	III
IP rating	IP 20
Storage requirements	Storage environment should be between -30℃ and 70℃, dry, non-corrosive and non-saline. The maximum storage time is 1 year
Packaging	Carton packaging
Stacking	No more than 5 layers
Installation method	Install vertically or horizontally. Upside down installation is prohibited
Wiring method	Standard is top inlet and bottom outlet. Bottom inlet and top outlet can be customized

FUNCTION CODE TABLE

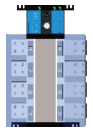
Application type	End type	Fire-fighting type
Function code	M	X
Structure		
Electrical two-section type	Y	
Electrical three-section type		Y
Manual three-section type	Y	Y
Control mode		
Controller manual/ automatic control		
Remote electric control (external control)		Y
Emergency manual	Y	Y
Fully automatic switch	Y(without fault detection)	External control
Lock mode	Optional	Single phase (optional)
Fire-fighting signal (forced to ZERO position)		Passive close signal
Main/standby power monitoring protection		
Over-voltage protection	Single phase (optional)	Single phase (optional)
Under-voltage protection	Single phase (optional)	Single phase (optional)
Phase loss protection		
Frequency protection		
Phase angle detection		
N-phase fault alarm		
Phase sequence inconsistency alarm		
Application function		
Automatic switch to standby and automatic return to main	M1(Standard products)	External control
Automatic switch to standby but not automatic return to main	M2(Customized)	External control
Main power supply has priority	Y	External control
Standby power supply has priority	0s or 2s (Under-voltage optional)	optional
Generator self-start signal (passive)		optional
Transfer delay		External control
Power failure delay setting		
Power recovery delay setting		
Alarm records storage		
Communication		
Feedback signal	DC125V(Ⅰ、Ⅱ)	Passive(Ⅰ、Ⅱ、0)
Display function		
Switch position status display	External indication light	External indication light
Voltage display		
Frequency display		
Current display		

MAIN TECHNICAL PARAMETERS

Thermal current rating (Ith)	125A									250A							630A	
Rated operational current of copper bar (Ie)	20	25	32	40	50	63	80	100	125	140	150	160	180	200	225	250	400	630
Rated insulation voltage of copper bar (Ui)	800V																	
Rated impulse withstand voltage (Uimp)	8KV(main circuit) , 4KV (control circuit)																	
Rated operational voltage of copper bar (Ue)	DC125V																	
Rated limit short-circuit current Iq	7KA																	
Maximum peak current	11.9KA																	
Use category	DC-31B																	
I^2t	148kA²S																	
SCPD	RT36																	
ATSE class	Class PC																	
Standards	GB/T 14048.11-2016																	

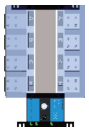
SCHEMATIC DIAGRAM OF CORRECT INSTALLATION

Best (front)



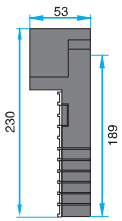
Right (vertical)

Right (upside-down)



Wrong (inverted)

STANDARD ACCESSORIES



Handle

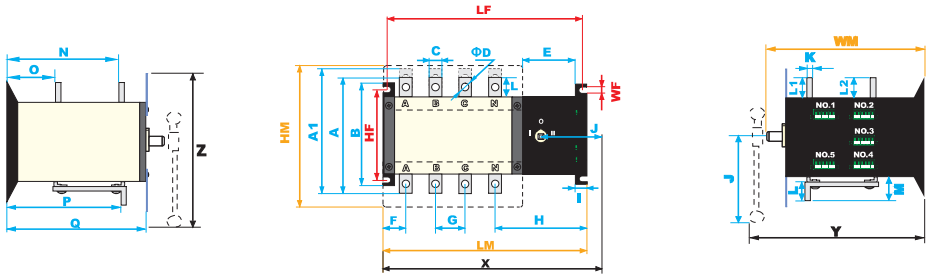
Protective plate

Cable fixing bolt

Current (A)	No. of wiring terminals (pieces)	No. of manual handle /material	No. of protective plate/material	No. of user manual	No.(set) and specification of cable fixing bolt
400-630	5	1 pc/ABS	2 pcs/PMMA	1 copy	M12*30/12
125-250	3	1 pc/ABS			M10*25/12
20-125	3 (1 for M type)	1 pc/ABS			M8*25/12

OUTLINE DRAWING

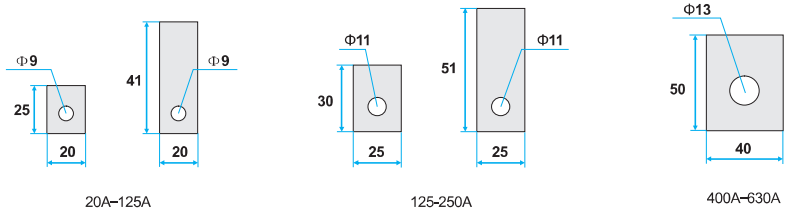
20A–630A outline dimensions



Item	Current range	125–160A	250A	400A	630A
Installation dimensions	LF	271	335	416	416
	WF	6.5	7	8	8
	HF	110	110	180	180
Body maximum size	LM	290	351	436	436
	WM	188	192	263	263
	HM	163	200	324	324
Other detailed dimensions of switch	A	142	166	270	270
	A1	158.5	187	-	-
	B	130	130	200	200
	C	20	25	10	10
	D	9	11	13	13
	E	102.5	103	126	126
	F	33	37.5	45.5	45.5
	G	36	50	65	65
	H	150	163.5	195.5	195.5
	I	18	18	25	25
	J	188.5	189	189	189
	K	3.5	3.5	5	6
	L	25.5	28.5	45	45
	L1	25.5	30	52	52
	L2	42	51	52	52
	M	31.5	36	58	58
	N	133	136.5	186	186
	O	55.5	57	77	77
	P	133	139	208.5	208.5
	Q	165.5	169.5	239	239
Reference dimensions	X	393	452.5	521.5	521.5
	Y	221	227	296	296
	Z	265.5	289	355	355

Note: X, Y and Z are the maximum width, depth and height of the switch after assembling the manual emergency handle. Depending on the angle at which the handle is mounted or the position of the moving slider, the corresponding size will be smaller than the data in the table, for reference only.

INPUT AND OUTPUT COPPER BARS DIMENSIONS

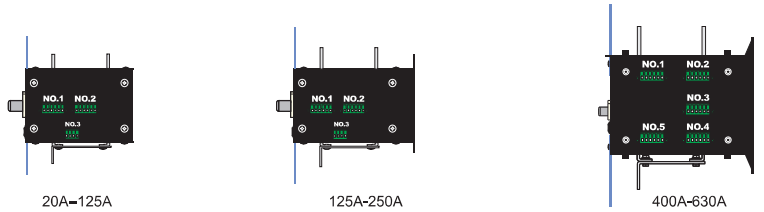


20A–125A　　125-250A　　400A–630A

TERMINAL FUNCTIONS INTRODUCTION

Terminal Serial No	Access point serial No	Function	Instruction
Terminal No. 1	101、106	Power supply neutral line and live line output for feedback	Active output, **1A AC220V**
	102、103	Power supply No. 1 live line and neutral line input	**＞5A AC 220V**
	104、105	Power supply No. 2 live line and neutral line input	**＞5A AC 220V**
Terminal No. 2	201、206	Passive control when disconnected; active control when closed	See SKT type schematic diagram for details
	202	Common terminal of external passive control signal input	Passive control signals
	203	When closed with 202, Circuit Ⅰ is switched on	
	204	When closed with 202, Circuit 0 is switched on	
	205	When closed with 202, Circuit Ⅱ is switched on	
Terminal No.3	301、306	Not used	Not assembled on **20A–250A**
	302	Common terminal of passive position feedback signal output	M type is active output, the other types are passive output, see the schematic diagram for details, **3A AC 125V**
	303	Closed with 302 when Circuit Ⅰ is switched on	
	304	Closed with 302 when Circuit 0 is switched on	
	305	Closed with 302 when Circuit Ⅱ is switched on	
Terminal No. 4	401、406	Not used	Assembled on **400A** and above
	402、403	Closed when Circuit Ⅰ is switched on	Passive **3A AC 125V**
	404、405	Closed when Circuit Ⅱ is switched on	Passive **3A AC 125V**
Terminal No. 5	501	Not used	Optional parts, passive **3A AC 125V**
	502	Not used	
	503	Not used	
	504	Not used	Optional parts, passive **3A AC 125V**
	505	Not used	
	506	Not used	

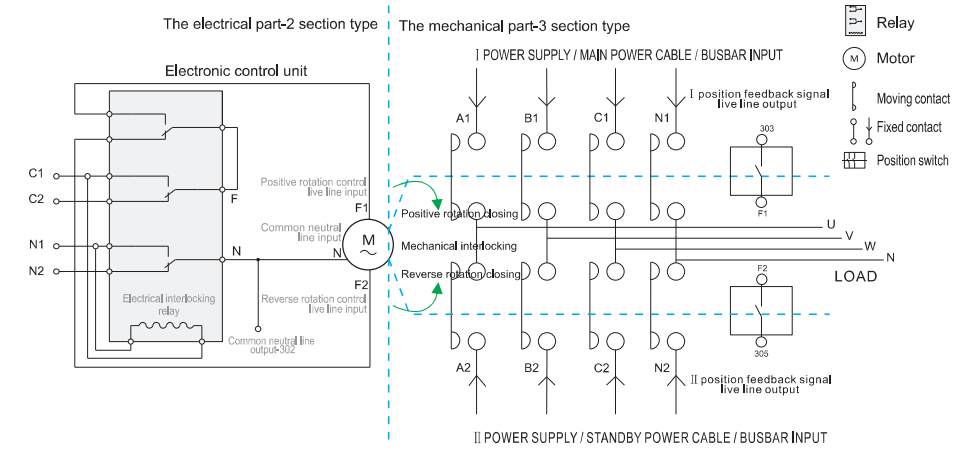
TERMINAL LOCATION DIAGRAM



20A–125A　　125A-250A　　400A-630A

SKT–M TYPE AUTOMATIC TRANSFER SWITCH

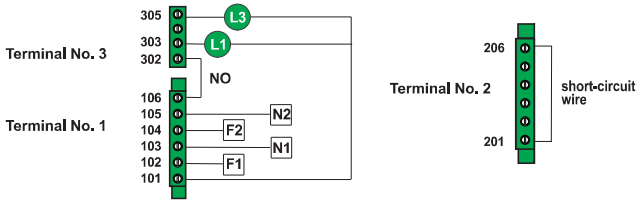
M Type Internal Schematic Diagram



● Note: The above diagram only shows the working principle and do not represent the number of internal components.

Secondary Wiring Schematic Diagram: M Type Full-Auto Transfer (Electrical 2-Section)

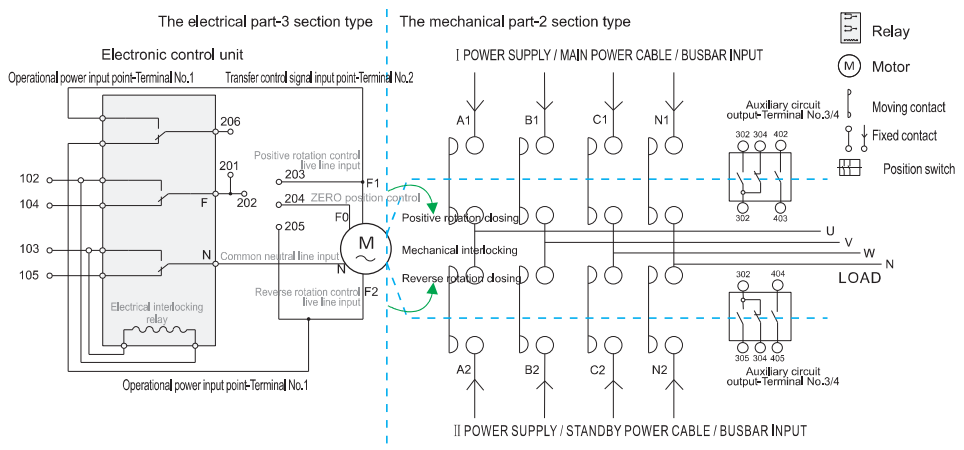
20A–630A



Note: M1\M2 type ATS is suitable for end places without any requirement for transfer delay

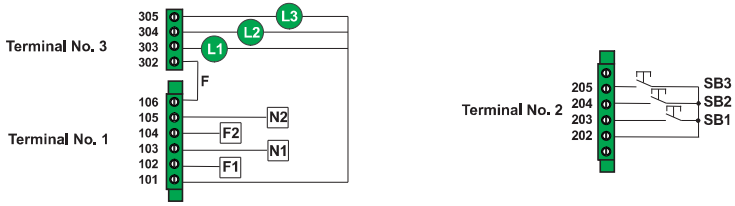
SKT–X TYPE AUTOMATIC TRANSFER SWITCH

X Type Internal Schematic Diagram



● Note: The above diagram only shows the working principle and do not represent the number of internal components.

Secondary Wiring Schematic Diagram: X Type Remote/External Control Transfer (Passive Control, Electrical 3-Stage)



Note: X type ATS is suitable for end places with technical requirements for transfer delay, generally used in conjunction with generator sets. The passive control mode can realize two/three sections control; the active control mode can realize two-section control. Please refer to M1/M2 type 125A-3200A circuit diagram for secondary diagram.

F1 / N1 : Power Ⅰ live line/neutral line
F2 / N2 : Power Ⅱ live line/neutral line

L1: Power Ⅰ indicator, Circuit Ⅰ closed
L2: Circuit ZERO close indicator light
L3: Power Ⅱ indicator, Circuit Ⅱ closed
SB3: Standby power close button (Circuit Ⅱ close)
SB2: Double off button (Circuit ZERO close)
SB1: Main power close button (Circuit Ⅰ close)

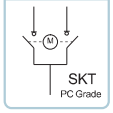
SKT3 CLASS PC INTELLIGENT DUAL POWER AUTOMATIC TRANSFER SWITCH (Motor Driven) SELCTION TABLE

MODEL SELECTION

SK	T	3	–	63A	/	4P	/	M1

- **Company**: AISIKAI ELECTRIC
- **ATS Driven Mode**: T: Motor
- **Design Serial**: standard frame type (current range: 6A–63A)
- **Rated operational current (A)**: 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- **No. of poles**: 3P: 3 poles; 4P: 4 poles
- **Functions**: M1: End type (automatic switch to standby and automatic return to main); X: Fire-fighting type(have fire-fighting ZERO position)

Design Marking



Model Description:

SKT3-63A/4P

1. PC class motor driven type automatic transfer switch
2. ultra-thin frame,rated working current 100A
3. 4 poles of copper bars

PRODUCT FEATURES

●High Safety Performance

Adopting the double-row composite contacts design, transverse-pull moving mechanism, micro-motor energy pre-storage and micro-electronic control technology, basically realizing zero arc (no arc distinguishing chamber); adopting reliable mechanical interlocking and electrical interlocking; adopt ZERO position technology, switches can be forced to ZERO position in case of emergency (simultaneous cut off of two power supplies); having functions like clear indication of ON/OFF, padlock, etc. , realizing reliable isolation between the power and the load.

●Mechatronics Design

Transfer process is accurate, flexible and smooth

●Excellent Electromagnetic Compatibility

Strong anti-interference ability, no external interference

●Beautiful appearance, small volume and light weight

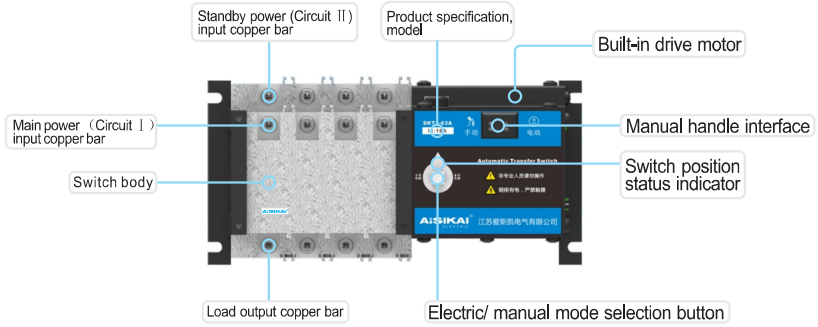
●High Automation Level

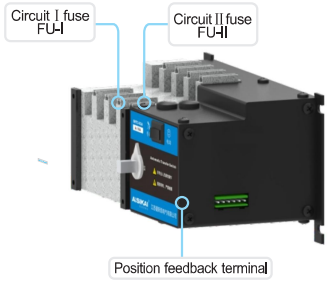
Switches have multiple input and output interfaces, easy to achieve remote PLC control and system automation. Switches can work without any external control units.

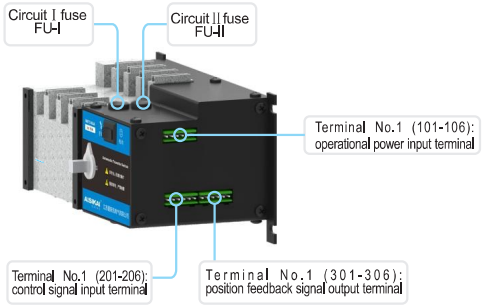
CLASS PC AUTOMATIC TRANSFER SWITCH SELECTION TABLE (Motor Driven)

Category	Requirement
Operational temperature	Between -20℃ and 45℃. The average value in 24 hours does not exceed +35℃
Operational humidity	The average humidity at +40℃ shall not exceed 50% without condensation
Altitude	Lower than 2000 meters. Operation at altitude above 2000 meters requires derating
Vibration and gas	Use environment should be without strong vibration and shock, and without harmful gases that corrode metals and destroy insulation
Ambient substance	Without heavy dust, conductive particles and explosive hazardous substances
Pollution level	III
IP rating	IP20
Storage requirements	Storage environment should be between -30℃ and 70℃, dry, non-corrosive and non-saline. The maximum storage time is 1 year
Packaging	Carton packaging
Wiring method	Standard is top inlet and bottom outlet. Bottom inlet and top outlet is not available

STRUCTRE INTRODUCTION







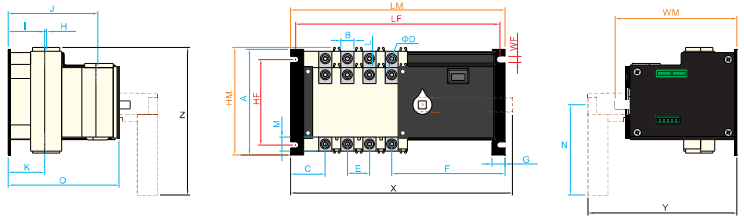
MAIN TECHNICAL PARAMETERS

Frame rating	Thermal current rating (Ith)	Rated insulation voltage(Ui)	Rated impulse withstand voltage(Uimp)	Rated operational voltage(Ue)	Rated operational current(Ie)	Rated making capacity	Rated breaking capacity	Rated limit short-circuit current	Electrical control unit operational voltage
63A	6A、10A、16A、20A、25A、32A、40A、50A、63A	800V	8kV	400V	6A、10A、16A、20A、25A、32A、40A、50A、63A	8kA	5kA/30ms	35kA	AC220V

TERMINAL FUNCTIONS INTRODUCTION

Terminal Serial No	Access point serial No	Function	Description
Terminal No. 1 (operational power input)	102、103	Power supply 1 live line and neutral line input	>5A AC220V
	104、105	Power supply 2 live line and neutral line input	>5A AC220V
Terminal No. 2 (control signal input)	201、206	See Internal Schematic Diagram for details	Active control
	202	Common terminal of external passive control signal input	External passive control
	203	When closed with 202, Circuit Ⅰ is switched on	
	204	When closed with 202, Circuit 0 is switched on(Ⅰ / Ⅱ open)	
	205	When closed with 202, Circuit Ⅱ is switched on	
Terminal No. 3 (position feedback signal output)	301、306	Optional	Passive output
	302	Common terminal of passive position feedback signal output	
	303	Closed with 302 when Circuit Ⅰ is switched on	
	304	Closed with 302 when Circuit 0 is switched on	
	305	Closed with 302 when Circuit Ⅱ is switched on	

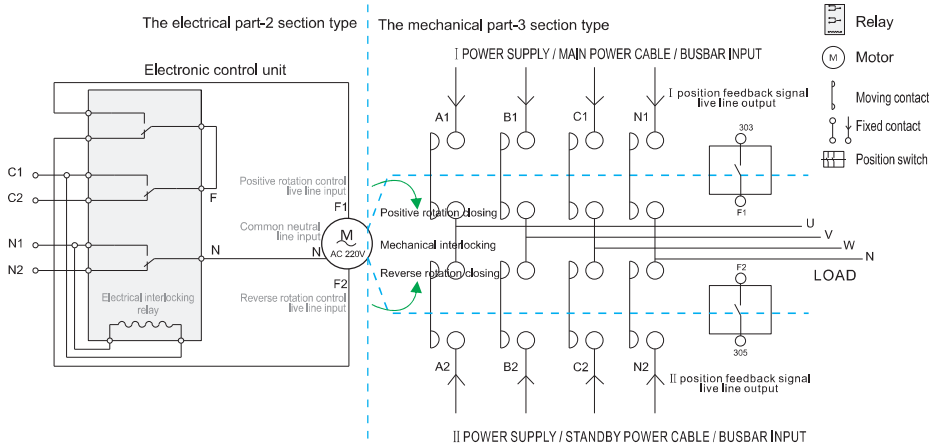
OUTLINE AND INSTALLATION DIMENSIONS



Installation dimensions			Body maximum size			Other detailed dimensions of switch																
LF	HF	WF	LM	HM	WM	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	X	Y	Z
203	85	6	213	106	121	105	13	34.5	6	22	112.5	13	2	36	89	36	16	14	90	110	220	148	147

Note: X, Y and Z are the maximum width, depth and height of the switch after assembling the manual emergency handle. Depending on the angle at which the handle is mounted or the position of the moving slider, the corresponding size will be smaller than the data in the table, for reference only.

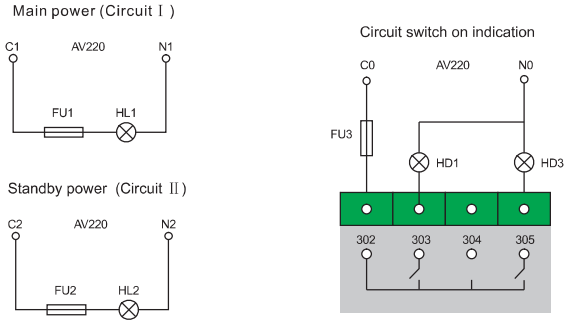
M Type Switch Internal Schematic Diagram



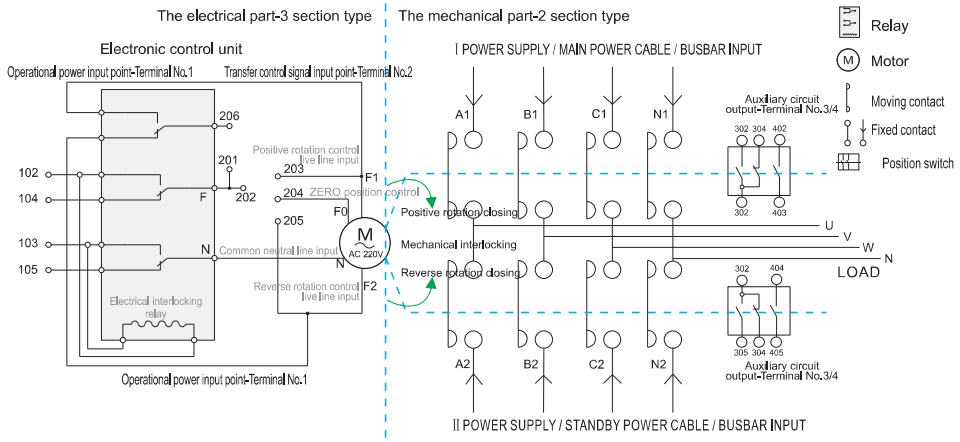
● Note: The above diagram only shows the working principle and do not represent the number of internal components.

Secondary Wiring Schematic Diagram

Full-auto control transfer



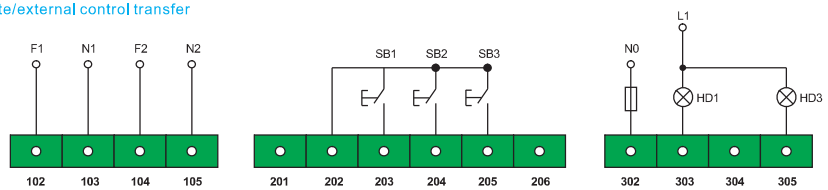
X Type Internal Schematic Diagram



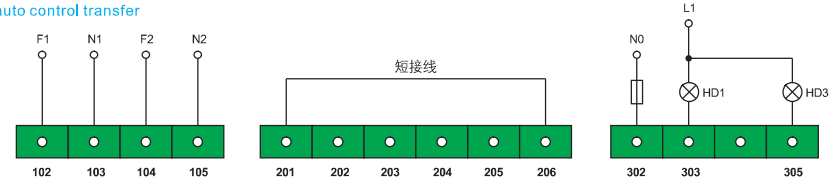
● Note: The above diagram only shows the working principle and do not represent the number of internal components.

Secondary Wiring Schematic Diagram

Remote/external control transfer



Full-auto control transfer



Note: X type ATS is suitable for end places with technical requirements for transfer delay, generally used in conjunction with generator sets.
The passive control mode can realize two/three sections control; the active control mode can realize two-section control.
F1/N1:Main power live line/neutral line; F2/N2: Main power live line/neutral line;
HD1: indication light for main power , Circuit Ⅰ closed; HD3:indication light for standby power, Circuit Ⅱ closed
SB1: main power closing button (close Circuit Ⅰ)
SB2: Double-off button (close Circuit 0)(force switch to fire-fighting ZERO position)
SB3: standby power closing button (close Circuit Ⅱ)