

# AUTOMATIC TRANSFER SWITCH

## AX2 Series



[www.axoncorp.com](http://www.axoncorp.com)



Product comply to GB/T 14048.11 and IEC 60947-6-1

## APPLICATION

The AX2 Series Automatic Transfer Switch serves as a power switching system between the main power source and an alternative power source. It allows automatic switching between these power sources based on certain conditions or criteria. This switch is capable of handling power distribution networks or motor networks operating at a frequency of 50Hz, with a rated working voltage of 400V. It comes in various rated current capacities, ranging from 63A to 3200A, indicating its ability to handle different load sizes.

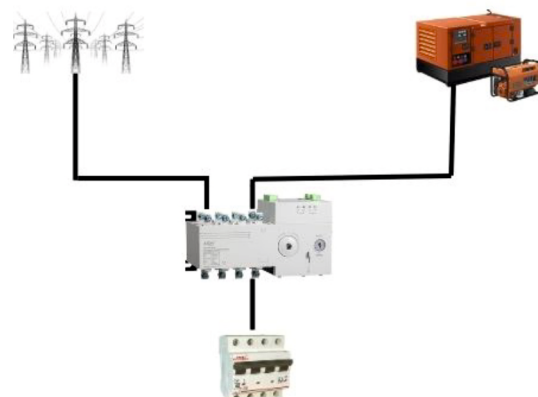
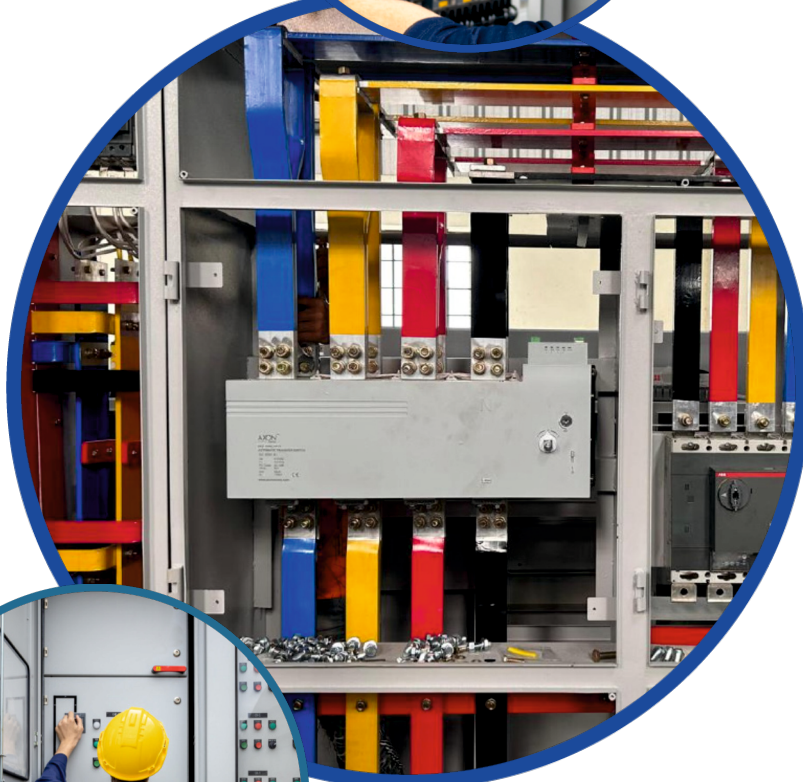
## ORDERING CODE

AX 2 --- □ □ / □  
↓ ↓ ↓ ↓ ↓ ↓  
① ② ③ ④ ⑤ ⑥

- ① Company Code
- ② Automatic Transfer Switch
- ③ Rated Thermal Current
- ④ 'B' / 'GB' / 'L'
- ⑤ Poles 3,4.
- ⑥ T: Top Entry, B: Bottom Entry

## WORKING CONDITIONS

- Ambient temperature: -5°C ~ +40°C, average Temperature should not exceed +35°C in 24h;
- Atmospheric conditions: Humidity should not exceed 50% at highest ambient temperature +40°C, higher humidity of 90% is allowed at lower temperature with average temperature +25°C
- Altitude: Installed location altitude should not exceed 2000m





## MAIN TECHNICAL DATA

### 125-1600A Series Automatic Transfer Switch Electrical & Mechanical Characteristic

Rated Thermal current Ith		125A								160A			250A			630A				1600A					
Rated Insulation Voltage Ui(V)		690																							
Rated Impulse Withstand Volt. Uimp(kV)		8																							
Rated Operational Current Ie(A)		20	25	32	40	63	80	100	125	125	140	160	200	225	250	315	400	500	630	800	1000	1250	1600		
Rated short -circuit Making Capacity Icm(kA) Peak		8								17			17			26				55					
Rated Limit short-circuit current Iq(kA)		120																							
Transfer Time		1.7								2.3			3.1			2.1				2.6					
Contact transfer time in sec		0.7								1			1.2			0.8				1					
Weight(kg)	3 pole	3.8								5.8			9.8			20.6				50	58.6	59			
	4 pole	4								6.1			10.7			22				54	60.7	61			
Utilization Category		AC-33iB(GB),AC-32B (IEC)																							

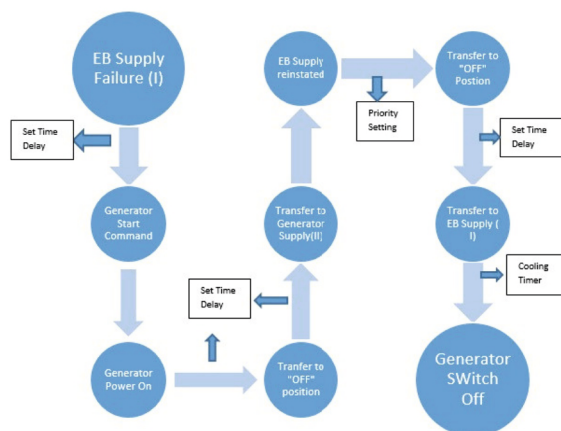
## FUNCTION CHARACTERISTIC

Type Item	B	GB	L
Control Voltage	AC230V 50/60Hz		
Aux. power supply	No		DC12-36V
Voltage measure range	No		40~300V
Power Consumption	≤ 10W		≤ 10W
Working Position	(I-O-II) Three working position		(I-O-II) Three working position
Operating Mode	Manual, Auto	Manual,Remote	Manual, Auto,Remote
Display Mode	LED Indicator		
Transfer Mode	Auto transfer auto recovery	No	Source Priority Setting
Under-volt. Protection	No		160-200V Adjustable
Over-volt. Protection	No		240-290V Adjustable
Over/under Frequency	No		40Hz~60Hz Adjustable
Transfer Delay	No		0-180 sec Audjustable
Recovery Delay	No		0-180 sec Audjustable
Generator Start Delay	No		0-180 Sec adjustable only with Aux Supply (DC 12-36 V)
Phase Monitor	Single Phase (R phase)		(R,Y,B) Three phase monitoring
Generator Control	Yes (One set relay dry contact )	No	Yes (One set relay dry contact)
Fire-linkage	Fire-Emergency (passive contact input with passive contact output)	No	Remote Control (I-O-II)
Isolation Lock	OFF position with isolation function,		with padlock function
Overload Setting	No		Adjustable with CT input
Center Delay	No		0-5s Adjustable
RS485 Communication	No		Optional
Installation Mode	Integrated (No display)		Integrated (No display)/ Split (with display) optional
Source 1 & Source 2 postion indicator	Yes 230 Volts Direct supply	Yes 230 Volts Direct supply & 1 set of Passive contact	Yes 230 Volts Direct supply

## Automatic Transfer Switch (ATS) KEY PRODUCT FEATURES

1. **Self-Cleaning Contact Mechanism** Utilizes a double complex contact with a horizontal pulling design that ensures effective self-cleaning and secure electrical connections during switching operations.
2. **Reliable Interlocking for Safety** Equipped with both mechanical and electrical interlocks to prevent source overlap. The contact units function as independent load disconnect switches, enhancing safety and operational reliability.
3. **Emergency OFF Position Capability** Automatically switches to a Null (OFF) position during emergencies, cutting off both power sources to meet fire safety standards and emergency shutdown requirements.
4. **Motorized Switching Operation** Powered by a single-phase motor, enabling smooth, consistent, and reliable transition between power sources with minimal mechanical stress.
5. **Energy-Efficient Motor Control** The motor is energized only during the changeover process, ensuring no energy is consumed during stable operation and reducing unnecessary power loss.
6. **Safe Source Separation** The contact mechanism includes a mechanical interlock to ensure that normal and backup power sources remain safely isolated during service and operation.
7. **Enhanced Safety with Indicators and Locking Features** a clear position indicator and padlock provision, ensuring safe maintenance procedures and minimizing risks during service.
8. **Secure and Durable Performance** Offers password-protected settings for configuration security, supports automated operations, and is designed for high reliability, with a lifespan of over 8,000 switching cycles.
9. **Advanced Control and EMI Protection** Combines electromechanical precision with intelligent logic control technology, delivering high resistance to interference and no electromagnetic disruption to surrounding devices.
10. **Installation-Friendly Design** Engineered for easy setup, the plug-in terminal connections in the control circuit, along with spreaders and phase separators, provide safe and flexible termination using cables or bus bars.
11. **Multiple Control Modes** Supports automatic, manual, and remote control options, offering versatile operation to accommodate various user requirements and application scenarios.

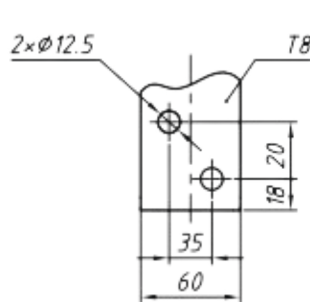
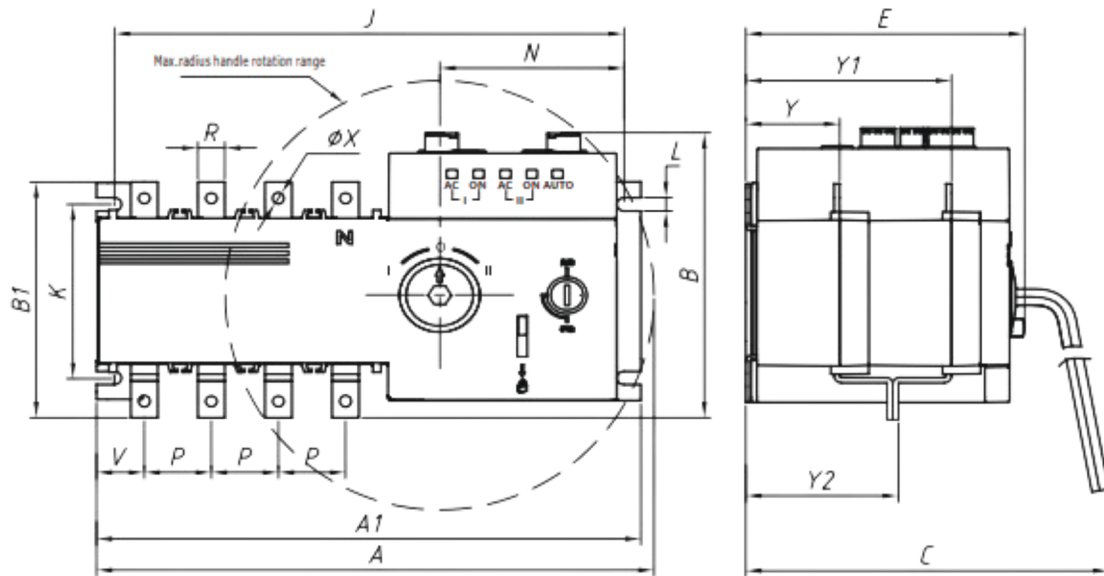
## Auto Mode Flow Chart



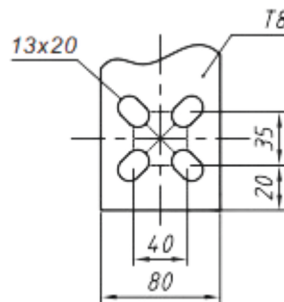
EB Failures can be due to Under or Over Voltage/Frequency, Phase failure, Phase Sequence fault



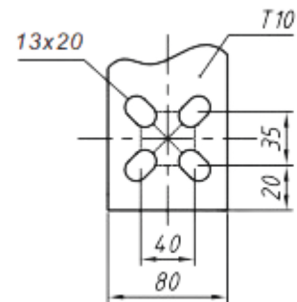
## AX2-125~1600A DIMENSIONS



800-1000A



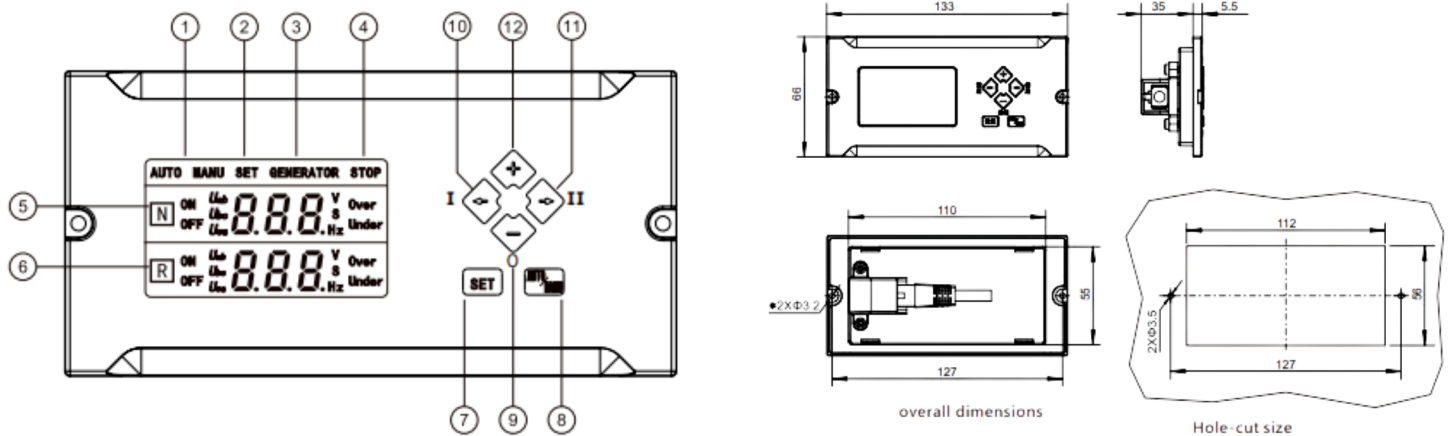
1250A



1600A

SPEC	Outline Dimensions (mm)							Mounting Dimensions (mm)										
In	A	A1	B	B1	C	E	J		K	L	N	P	R	V	*X	Y	Y1	Y2
125A	330	244	135	115	165	125	228		85	6.5	83	30	12	21	6.5	41.5	91.5	66.5
160A	374	301	175	140	200	150	285		102	7	94	36	20	31	8.5	55.5	125.5	92.5
250A	436	373	200	178	250	198	344		108	6.5	99	50	24	37	11	72	157	116
630A	502	433	265	260	295	244	416		180	9	101	65	40	47.5	12	83	193	140
800-1600A	1050	636	345	337	373	320	612		220	11	83.5	120	80	71	13	109	241	196
2000A	800	633	460		542		610				85		80				169	
2500A	800	633	460		542		610				85		80				174	
3200A	800	633	460		542		610				85		80				179	

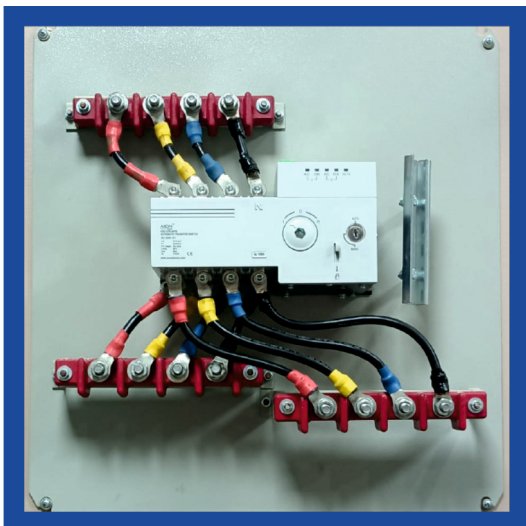
## LCD Display outline dimensions and split mounting hole-cut size



1. Auto, Manual working mode indication
2. Setting status indicate;
3. Generator start signal indicate;
4. ATS OFF position indicate (Such as Fire-Emergency)
5. Source 1 Power status data indication zone: Under working mode: display Source 1 power voltage data and transfer delay time, Under setting mode: display setting item code;
6. Source 2 power status data indication zone: Under working mode: display Source 2 power voltage data and recovery delay time, Under setting mode: display setting item code;
7. "SET" Setting button: press this button will enter into controller setting menu;
8. "AUTO/MANU" Auto/Manual transfer mode selection button: under working 1.status it is used as select the Auto and Manual transfer mode, under the setting status it used as save and exit function
9. will change to "0"-OFF position; under setting status it is used for data decrease button
10. Transfer to Source 1 power button: under manual mode and source 1 power available, push this  
v"0-OFF" button: under manual control mode if any one of the two power is available, push this button



## ATS Installationns in Panel Boards



## Axon Electric Corporation

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