

Read the operation instruction carefully before installation

AX1 Series MANUAL TRANSFER SWITCH OPERATION INSTRUCTION



It is recommended to send instructions to end users!

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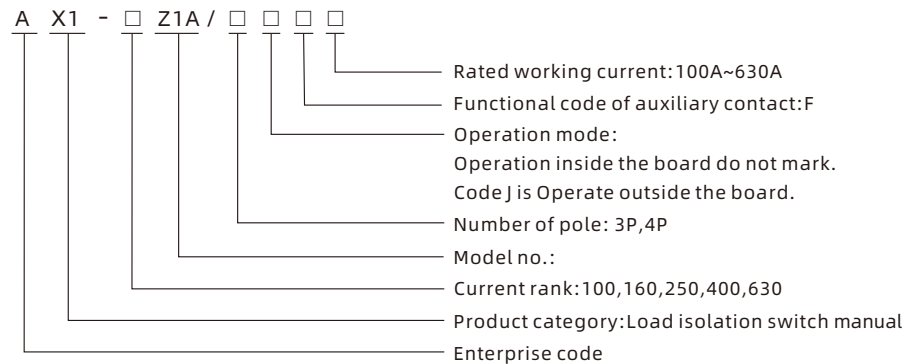
1. Usage

AX1 series Switch (Manual transfer switch) apply to AC 50Hz, rated voltage below 660V (690V), apply to rated voltage below 440V. Rated current is 100A~630A. It is suitable for connecting and breaking the infrequent electric circuit or electric isolation in power system. This product complies with IEC60947-3.

2. Environmental Conditions

- ☐ Altitude not exceed 2000m.
- ☐ Ambient air temperature is not higher than +40°C and not lower than -5°C. And the average temperature value of 24 hours is not higher than +35°C.
- ☐ When the maximum temperature up to +40°C, air relative humidity should not larger than 50%. In the lower temperature, it allows to have a higher relative humidity, but should take measure when temperature occasionally change or turn the condensation.
- ☐ No explosion hazard medium environment.
- ☐ Pollution is 3 class.

3. Model And Meaning



4. Structural Features

- 4.1 Switch adopt elastic-accumulating mechanism for instant release realizes the rapid making and breaking. Have no relationship with the speed of the operation handle and increasing greatly the capability of extinguishing electric arc.
- 4.2 The shell made of unsaturated polyester resin reinforced by fiberglass possess excellent performance of flame resistant, dielectric performance, safe operation, resist carbonic performance and resist impact performance.
- 4.3 Switch have 3P and 4P (3P+Neutral pole)
- 4.4 Operation handle can installed directly in the middle of the switch, which is operate inside the board. And also can additional longer handle installed outside of the board door. It's called outside operate the board.
- 4.5 According to the need, can supply normal open and normal closing auxiliary contact and install special base board, the front and behind connection type, to meet client Different needs.
- 4.6 When in disconnect position "O", users can use two or three locks to lock the handle to avoid misoperation.

5. Structure And Character

The Switch shell is made of unsaturated polyester resin reinforced by fiberglass plastic (DMC). Spring energy storage and Speed institutions can quickly achieve connected with the breaker or disconnected with the break. The structure of the contact is parallel double breakpoint two separate head, and ensure the contact pressure by shape spring; It can automatically determine the limit position of on and off, and has the obvious On-off tag to indicate the on and off position.

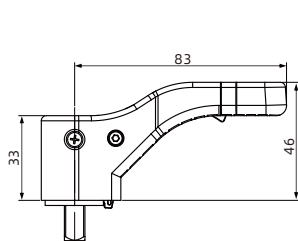
6. Technical Parameter

AX1 series switch's technical parameter

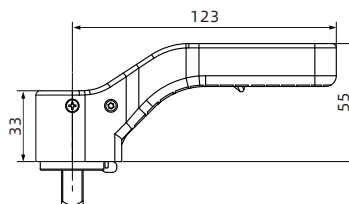
Conventional thermal current(A)		100	125	160	200	225	250	315	400	500	630
Rated insulated voltage(Ui)		690V			800V						
Rated impact withstand voltage(Uimp)		8kV									
Rated working voltage(Ue)		AC400V									
Rated frequency		50Hz									
Use category		AC-22B									
Rated working currentle(A)	AC400V	100	125	160	200	225	250	315	400	500	630
Rated short-circuit connection capacity Icm(kA)		17							40		
Short-time tolerance current Icw(kA)		10kA/1s							20kA/1s		
Mechanical life(Time)		20000	15000					10000			
Electrical life(Time)		1500	1000					1000			

7. Boundary and installation dimension

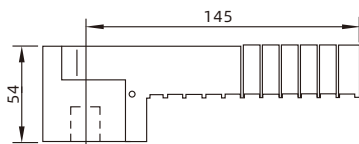
7.1 Operation handle(According to the current specification)



100~250A(Inside operation handle)



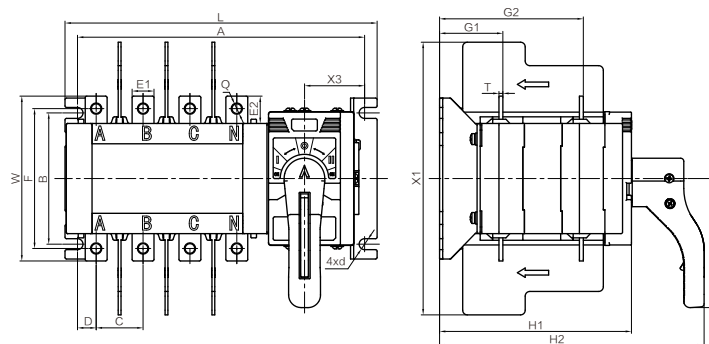
400~630A(Inside operation handle)



100~630A(Outside operation handle)

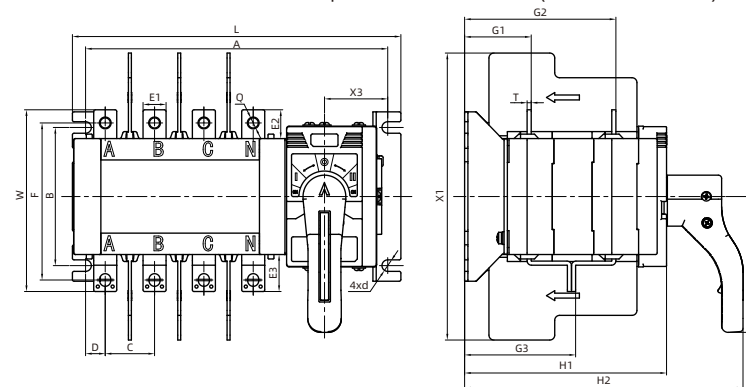
7.2 Boundary and installation dimension

AX1 Series Manual Transfer Switch Shape and installation size (two in and two out)



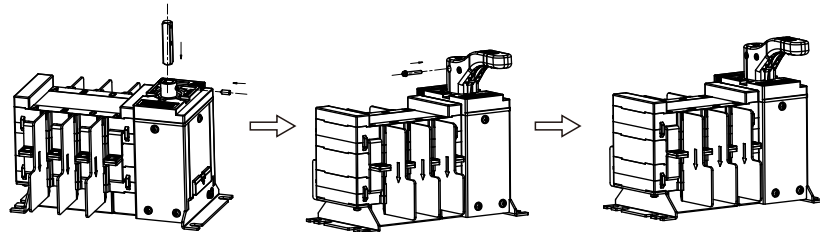
Specification	Boundary							Installation dimension													
	L(4P/3P)	W	H1	H2	X1	X2	X3	A(4P/3P)	B	d	C	D	E1	E2	F	G1	G2	Q	T		
AX1-100Z1A	200/175.5	105.5	123	170	174.5	83	38.5	184/159.5	84	Ø7	30	12	14	17.5	89.5	40.5	92	Φ6.2	2.5		
AX1-160Z1A	248/223	135	166	212	185	83	38.5	227.5/202.5	102	Ø7	36	19	20	25	115	57	129	Φ9	3.5		
AX1-250Z1A	313/263	158.5	166	212	200.5	83	39.5	292/242	102	Ø7	50	28	25	29	133.5	57	130.5	Φ11	3.5		
AX1-400Z1A	408/348	233.5	241	298	289.5	123	58.5	388/328	179	Ø9	65	38	32	37	203.5	82.5	193	Φ11	5		
AX1-630Z1A	408/348	249.5	241	298	289.5	123	58.5	388/328	179	Ø9	65	38	40	45	214.5	83	193.5	Φ12.5	6		

AX1Series Manual Transfer Switch Shape and installation size (two in and one out)



Specification	Boundary							Installation dimension														
	L(4P/3P)	W	H1	H2	X1	X2	X3	A(4P/3P)	B	d	C	D	E1	E2	E3	F	G1	G2	G3	Q	T	
AX1-100Z1A	200/175.5	110.5	123	170	174.5	83	38.5	184/159.5	84	Ø7	30	12	14	17.5	22.5	95	40.5	92	67.5	Φ6.2	2.5	
AX1-160Z1A	248/223	139.5	166	212	185	83	38.5	227.5/202.5	102	Ø7	36	19	20	25	29.5	119.5	57	129	95	Φ9	3.5	
AX1-250Z1A	313/263	163	166	212	200.5	83	39.5	292/242	102	Ø7	50	28	25	29	23.5	138	57	130.5	95.5	Φ11	3.5	
AX1-400Z1A	408/348	248.5	241	298	289.5	123	58.5	388/328	179	Ø9	65	38	32	37	52	218.5	82.5	193	193	Φ11	5	
AX1-630Z1A	408/348	265	241	298	289.5	123	58.5	388/328	179	Ø9	65	38	40	45	60.5	230	83	193.5	196	Φ12.5	6	

7.3 AX1series Manual Transfer switch handle installation

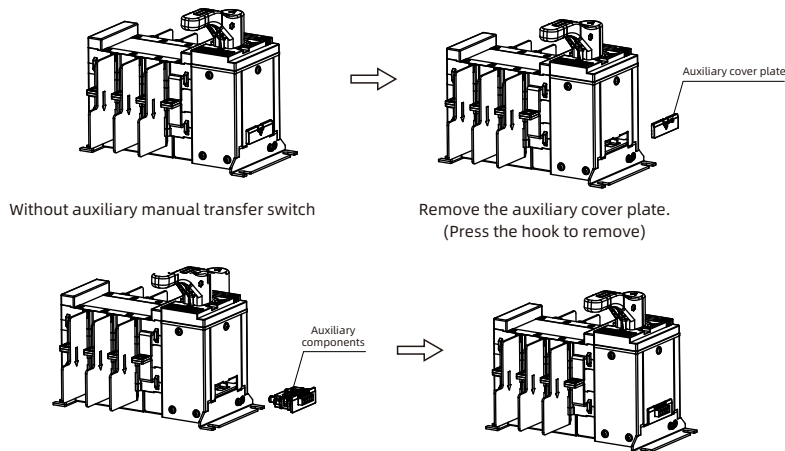


Insert the handle shaft into the rotating shaft and secure it with a set screw.

Insert the handle into the handle shaft and fasten it with screws.

Handle installation is complete.

7.4 AX1series Manual Transfer switch Auxiliary installation



Without auxiliary manual transfer switch

Remove the auxiliary cover plate.
(Press the hook to remove)

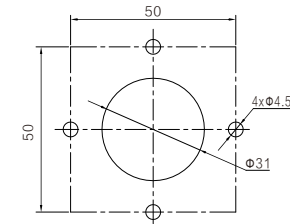
Insert the auxiliary into the terminal notch and press in place.

Auxiliary installation is complete.

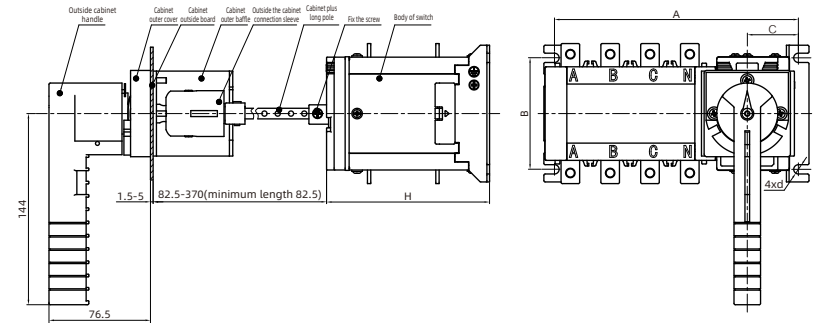
Note: Auxiliary needs to be installed in the "O" position.

7.5 AX1series Manual transfer switch cabinet for external installation

7.5.1 Opening size of AX1series Manual transfer switch cabinet door

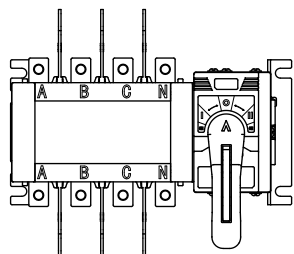


7.5.2 External installation of AX1series Manual transfer switch

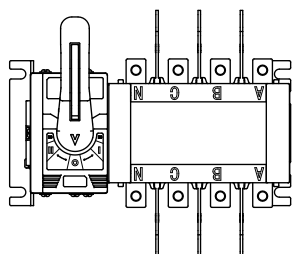


Specification	A(4P/3P)	B	C	d	H
AX1-100Z1A	184/159.5	84	38.5	Φ7	123
AX1-160Z1A	227.5/202.5	102	38.5	Φ7	166
AX1-250Z1A	292/242	102	39.5	Φ7	166
AX1-400Z1A	388/328	179	58.5	Φ9	241
AX1-630Z1A	388/328	179	58.5	Φ9	241

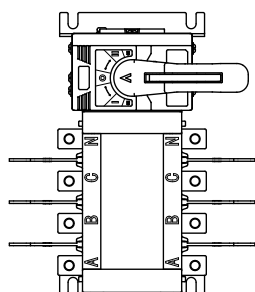
8. Installation schematic



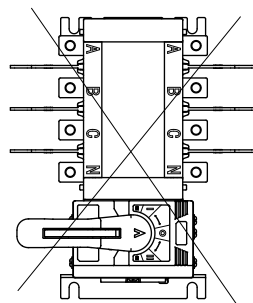
(1) Correct



(2) Correct



(3) Correct



(4) Incorrect

Installation instructions:

The installation method in Figure 4 will lead to the displacement of the moving contact system during the isolator conversion, and lead to contact damage during the live operation.

9. Use And Maintain

- 9.1 Switch should be mounted vertically and in accordance with the capacity of electrical equipment to select the rated current. Before installation should check nameplate if it meets the use requirement. Switch must be disconnected in the installation. It means switch in "O" position.
- 9.2 Switch terminal or wiring copper bus should be surrounded by insulator to prevent switch short circuit.
- 9.3 If the extended shaft is not coaxial with the cabinet door's handle hole, must not pull the extended shaft to avoid damage to the internal parts of the switch. However, should adjust the place of switch.
- 9.4 The handle and machine of outside operation have interlock protection function: When switch closed, cabinet door could not open. When cabinet door open, switch could not close. If no need interlock, you can rub down the black Column pin that was inserted in a side of extended shaft or convex rib of joint sleeve.
- 9.5 The friction place of operating mechanism should be brushed with oil regularly to make it flexible and to increase using life. If switch is seriously damaged, you must stop using immediately.

10. Ordering Instruction

Customer should offer us the detail informations as follows:

- 10.1 Name of the product, model, specification and quantity.
- 10.2 In case of special installation conditions or special purpose, you should provide the corresponding technical informations or negotiate with our company.