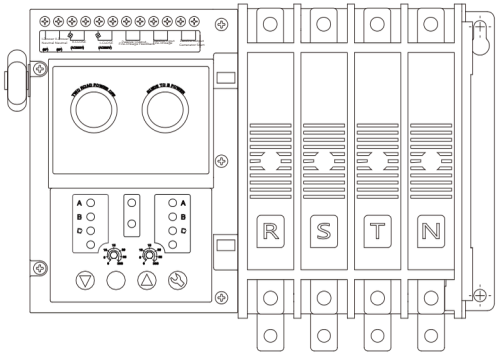


AX3-C Series (Solenoid Type)

Automatic Transfer Switch / User Manual

AXON™ Electric
Where Innovation Meets Electricity

I.General

Automatic transfer switch is a high-tech product developed by our company, comply with IEC 60947-6-1 << Low-voltage switchgear and controlgear- Part 6-1: Multiple function equipment-Transfer switching equipment>>. The parts and components of the product have under take strict aging test and inspection test. The finished product has been powered and aging tested at a continuous high temperature for 24 hours, and finally passed the loading test before leaving the factory, to ensuring the reliability and safety of the product.

Suitable for AC400V and below, rated frequency 50Hz. In case of phase failure, over-voltage, under-voltage and other faults of the power supply, the transfer switch can quickly switch from the main power supply to the alternative power supply under the control of the ATS controller (the alternative power supply must be normal at this time). It can be also put the load in an middle position when needed (two way power off position), so the load neither connected to the main power supply nor to the alternative power supply.

This product is mainly used for the primary and secondary loads specified by the national regulations, it is widely used for fire-fighting system, post and telecommunication stations, hospitals, hotels, urban rail system, high buildings, industrial workshop, television stations, etc., places which need continuous power supply. Mains power source can be grid power, self-starting generator sets, battery packs, etc.

Notice:

☐For the two position ATS, when the switch receive the transfer signal, it will transfer from one power supply to another without stopping at the middle OFF position.

☐For the three-position ATS, after the switch receive the transfer signal, it can be switch from one power supply to another power supply immediately (or after a pre-set delay time), it also can be switch to the middle OFF position which is not connected to any power supply.

☐ATS Classification: PC class

☐The ATS wiring method: Front wiring.

☐ATS with AC110V operating voltage need to be specified when ordering.

II.Working Conditions

- ☐ Ambient temperature: -5°C +40°C and 24-hour average temperature not exceed +35°C
- ☐ The highest atmospheric humidity: Not more than 50% at max.+40°C, max. month humidity 90%, higher humidity is allowed at lower temperature. It should take special treatment for the condensation due to temperature variation
- ☐ Altitude: not more than 2000m.
- ☐ Pollution Class: The installation site environment pollution Class 3
- ☐ Installation Category: Class IV
- ☐ Installation inclination: installed inside the cabinet, max. inclination is ±22.5°
- ☐ Arcing distance: the arcing distance is 30mm under AC400V, arcing distance is 60mm under AC690V

- ☐ Utilization Category: AC-33B

III .Model And Meaning

AX 3 630FS C 4P B

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①	Company Code
②	Solenoid type, PC Class
③	Frame Size 63, 125, 250, 630
④	Function Class C:
⑤	Number of Poles: 3 / 4
⑥	Entry Type: B- Bottom, T- Top
○	
○	

1.Separated type ATS can be chose other brand controller
2. C type ATS with generator start signal output. 3..Working mode depends on the setting of controller, A type with two position ATS only available for I-power source priority mode (Auto transfer with auto recovery)

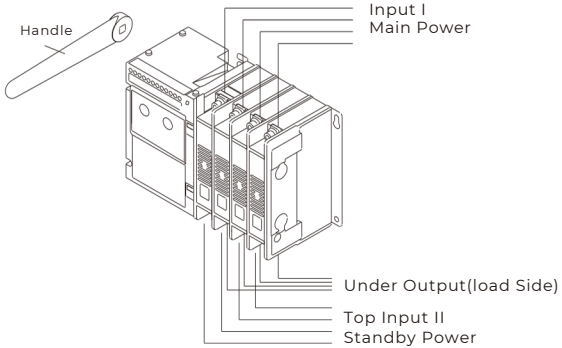
IV .Technical Data

Mode	Insulation	A,B,C type								
voltage	Rated	AC690V								
voltage	Rated	400V								
current	Rated	20A~125A			160A~250A			315A~630A		
impulse voltage	withstand	8kV								
Kind of throw		Double throw								
Wiring method		Front board								
Number of poles		2P	3P	4P	2P	3P	4P	2P	3P	4P
Weight		6	6.3	7	6	8	10	11	13.6	16.2
Rated control power current	AC100V/110V	3	3	4	3	4 2	5	5	5	7
	AC200V/220V	1.5	1.5	2	1.5	2	2.5	2.5	2.5	3
Characteristic	Short- time withstand current	10kA								
	Making and breaking capacity	17kA								
	Transfer Time I Power Close	80ms			80ms			100ms		
	Transfer Time I Power Open	30ms			30ms			30ms		
	Transfer Time II Power Close	100ms			100ms			120ms		
	Transfer Time II Power Open	30ms			30ms			30ms		
	Electrical Life/ Mechanical Life	1000/5000						1000/4000		
	Operating cycle	60times/hour								
Utilization category		AC-33B								
Auxiliary contact		I & II power source side are both 2NO+2NC, contact capabity: 15A/AC250V								
Accessaries		Manual handle								

Notice:
The weight, Short time withstand current, operate current and trip current are all for reference only.

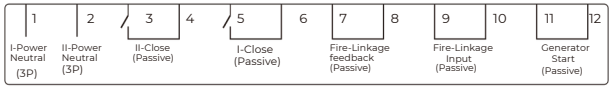
V.Wiring Diagram

▫ AX 3-C Type Wiring Diagram



VI.AX3-C Type Wiring Terminal Instruction

■ RDSP1-C3 type terminal instruction



☐ Generator Start: when I-main power fault, the terminal will closed after delay time.

☐ Fire-Linkage input: when short-connect this two terminals, ATS switch to double OFF position, remove the connection and press AUTO/MANU to reset.

☐ Fire-Linkage feedback: When ATS is in double OFF position, this two terminals closed to output feedback signal.

☐ I-Close: When ATS at I-power close status, this two terminals closed, output a passive signal.

☐ II-Close: When ATS at II-power close status, this two terminals closed to output a passive signal.

☐ I-power Neutral line: when ATS with 3 poles, Neutral line of I-power have to connect to this terminal.

☐ II-power Neutral line: when ATS with 3 poles, Neutral line of II-power have to connect to this terminal.

Notes: I-Power neutral and II-power neutral line is only applicable to 3 poles ATS

■ RS485 Communication Terminals Instruction

☐ 485A and 485B: RS485 communication terminal

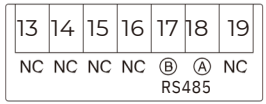
☐ Communication protocol parameters, module address: 1 (range: 1-32, user setting)

☐ Baud rate： 9600bps

☐ Data bits: 8 bits

☐ Parity bit: none

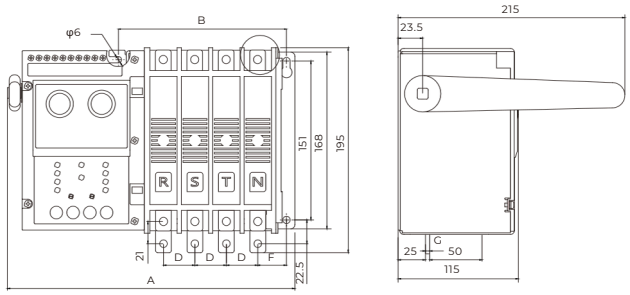
☐ Stop bit: 1 bit

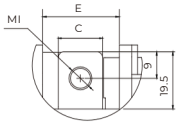


Note: NC is reserved for undefined ports, users are not allowed to connect.

VII.Shape and installation dimensions

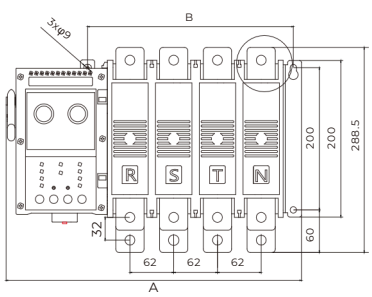
Switch panel safety distance size：30mm(400V),60mm(690V)

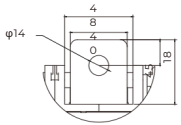




Model	Size / Pole	A	B	C	D	E	F	G	I
AX3 -63	2P	205	91	12	20	15	33.5	2	M5
	3P	225	111						
	4P	245	131						
AX3-125	2P	223	100	15	30	26	27.5	4	M8
	3P	253	130						
	4P	283	160						
AX3-250	2P	231	111	20	35	31	30	4	
	3P	266	146						
	4P	301	181						

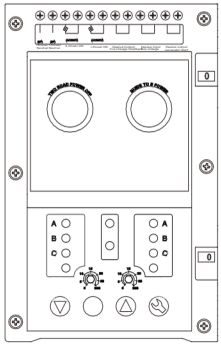
Switch panel safety distance size：30mm(400V)，60mm(690V)

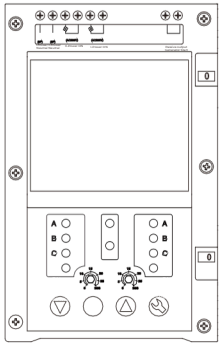




Model	Size / Pole	A	B
RDSP1-630	2P	295	168
	3P	357	230
	4P	419	292

VIII .Work mode setting instructions





AX3-C model 3 position

☐ Enter mode setting

In the automatic state, press and hold "I-Close" and "II-Close" button at the same time for ten seconds to enter the mode setting. At this time, the "A" and "B" lights of the I power supply are on or the "Manu" and "Auto" lights are on.

"A" light on means auto transfer with auto recovery, "manu" light on means auto transfer without auto recovery."B" light on means I-power priority, "Auto" light on means II-power priority.

☐ Mode selection.

Short press "I-Close" button to change the mode between auto transfer with auto recovery and auto transfer without auto recovery.

Short press "II-Close" button to change between I-power priority and II-power priority mode.

☐ Exit mode.

Press the "O-OFF" button to exit and save the setting.

IX.Manual operation method and Notes.

☐ I-Power Close method: press the "two-way power off" button (as shown in the figure), so that both the I and II power supplies are in the 0-OFF position (C2 two-position type does not need this operation), Use the handle to turn the manual shaft in the direction indicated by the arrow, to switch the I-power in the close position.

☐ II-Power Close method: press the "two-way power off" button (as shown in the figure), so that both the I and II power supplies are in the OFF position (C2 two-position type does not need this operation), Then press the "Guide to II-power" button and hold it, and at the same time turn the manual shaft in the direction indicated by the arrow to switch the II-Power in the close position.

☐Manual trip method: (only applicable to C3 model three-position type, C2 model two-position type can only be switched but not tripped) In order to ensure safety, please press the "two-way power off" button to trip under power cut-off status. (Please confirm whether the switch is tripped by the ON/OFF indicator).

Note: Manual operation is prohibited when the switch is loaded. The controller must be in manual or power-off state during manual operation.

X.Maintenance and storage

Inspection and maintenance must be carried out by professionals. All external power supplies should be cut off during inspection and maintenance. In order to maintain the performance of the power switch and keep it in good condition, the first maintenance inspection shall be carried out within one year after installation, and regular maintenance shall be done at least once a year thereafter.