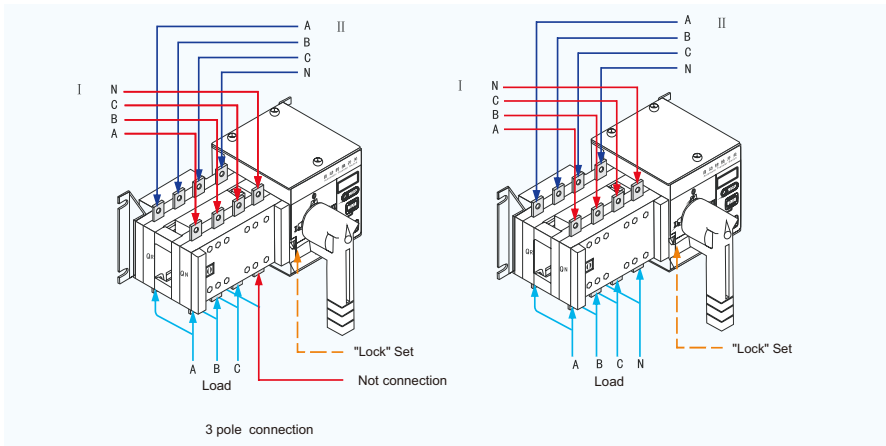


■ Performance and Characters

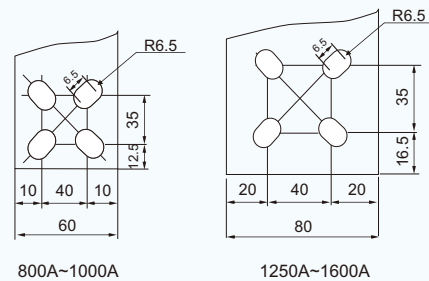
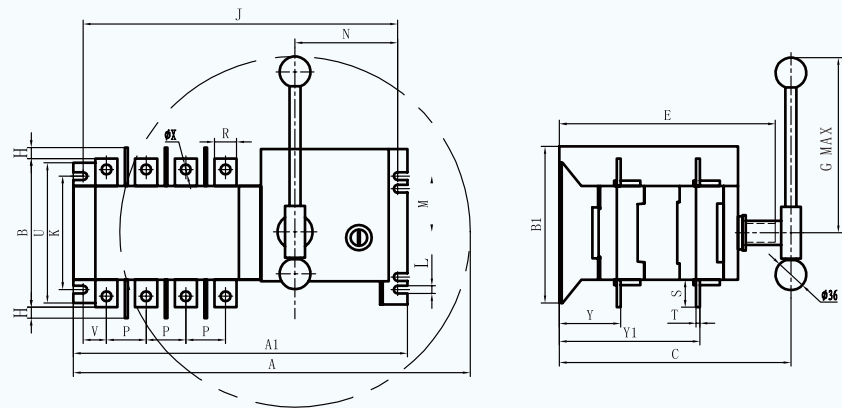
A three-phase circuit breaker with a blue handle and a white terminal block. The handle has a red emergency stop button and a green start button. The terminal block has six terminals labeled A, B, C, N, A, B, C, N. The handle is labeled "100A".

Technology Parameter



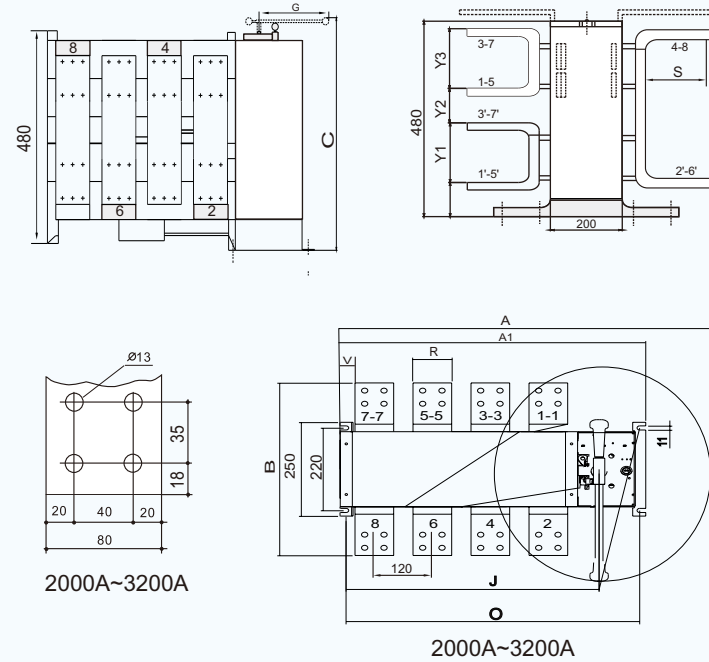
■ Appearance and installation dimensions

☐ Appearance and installation dimension drawing(16A~1600A)



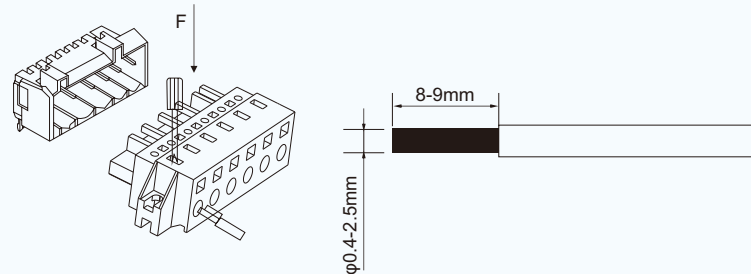
Specification	Total size								Switch installation										Connection terminal				
	A	A1	B	B1	C	E	G	H	J	K	L	M	N	P	R	S	T	U	V	φX	Y	Y1	
16~100A	270	245	110	103	170	142	115	19	226	84	7	44	81	30	14	18	2.5	103	12	6	40.5	92	
125~160A	350	305	135	142	224	190	145	10	283	102	7	49	91	36	20	25	3.5	127	19	9	56	127.5	
250A	410	365	159	142	224	190	145	6	343	102	7	49	91	50	25	29	3.5	141	28	11	58	132	
400A/3P	530	372	234	222	286	268	245	20	354	179	9	97.5	92	65	32	37	5	222	38	11	83	193	
400A/4P	590	432	234	222	286	268	245	20	414	179	9	97.5	92	65	32	37	5	222	38	11	83	193	
630A/3P	530	372	250	222	286	268	245	20	354	179	9	97.5	92	65	40	45	6	222	38	12	83.5	193.5	
630A/4P	590	432	250	222	286	268	245	20	414	179	9	97.5	92	65	40	45	6	222	38	12	83.5	193.5	
800-1000A/3P	785	520	328	250	365	326	360	16	497	220	11	115	85	120	60	64	8	250	60	13	109	254	
800-1000A/4P	1080	634	328	250	365	326	540	16	611	220	11	115	85	120	60	64	8	250	60	13	109	254	
1250A/3P	785	520	336	250	365	326	360	20	497	220	11	115	85	120	80	68	8	250	60	13	109	254	
1250A/4P	1080	634	336	250	365	326	540	20	609	220	11	115	85	120	80	68	8	250	60	13	109	254	
1600A/3P	785	520	336	250	365	326	360	20	497	220	11	115	85	120	80	68	10	250	60	13	110	255	
1600A/4P	1080	634	336	250	365	326	540	20	609	220	11	115	85	120	80	68	10	250	60	13	110	255	

□ Appearance and installation dimension drawing(2000A~3200A)



Specification	A	A1	B	C	G	J	O	R	S	T	V	Y1	Y2	Y3
2000A/3P	785	535	423	560	360	408	490	80	81	10	30	113	121	113
2000A/4P	1080	650	423	560	540	523	605	80	81	10	30	113	121	113
2500A/3P	785	535	433	560	360	408	490	80	81	15	30	118	116	118
2500A/4P	1080	650	433	560	540	523	605	80	81	15	30	118	116	118
3200A/3P	785	535	443	560	360	408	490	80	81	20	30	123	111	123
3200A/4P	1080	650	443	560	540	523	605	80	81	20	30	123	111	123

□ Method of terminal connection

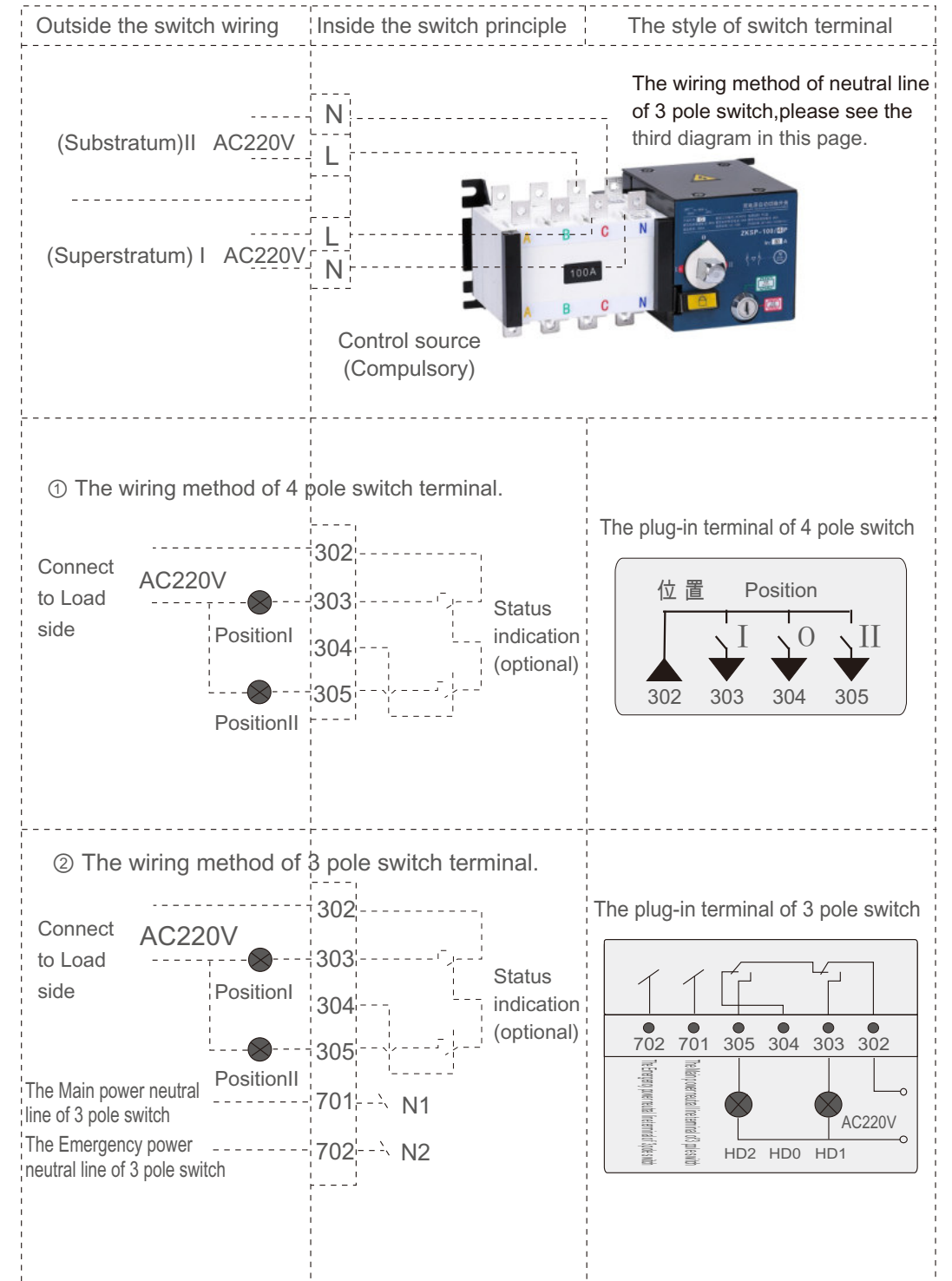


Use the screw driver use force downwards as the picture indicated direction,the line imbedding as the picture shows.

■ Manual instruction

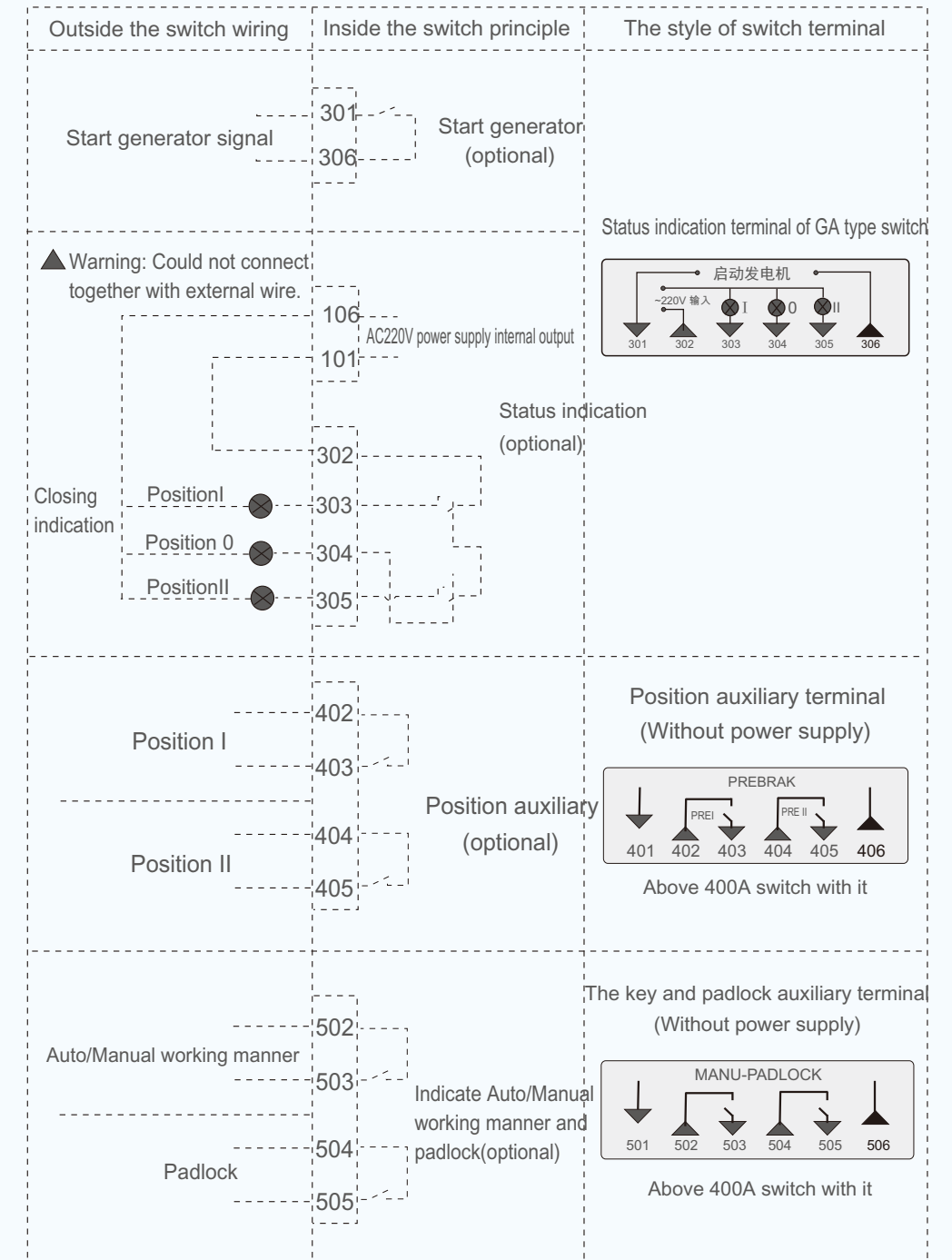
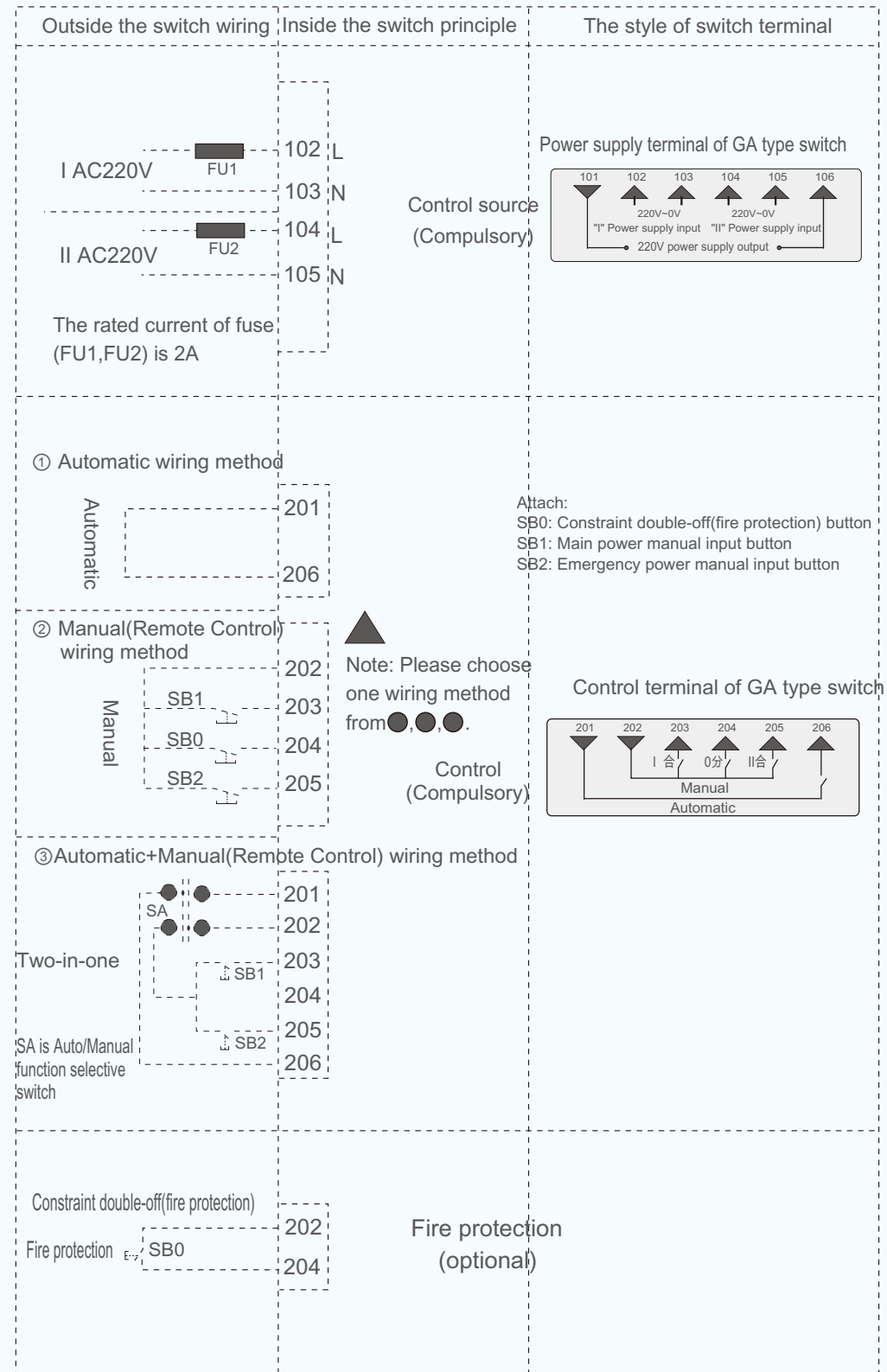
□ GA1 type ATS manual instruction(Rated current:16A-100A)

Note: Please pay attention to Main power and Emergency power phase sequence corresponding relations when you wiring the switch.



□ GA type ATS manual instruction(Rated current:16A-3200A)

Note: Please pay attention to Main power and Emergency power phase sequence corresponding relations when you wiring the switch.



LOQ1(G) Series PC Class Automatic Transfer Switch

■ Performance and Characters

Automatic switch apparatus is consisted of switch apparatus and the control apparatus. It is mainly applied for monitoring power circuit. It may automatically switch to the spare power supply in case of power failure, realizing the shift between the two different sources power supply.

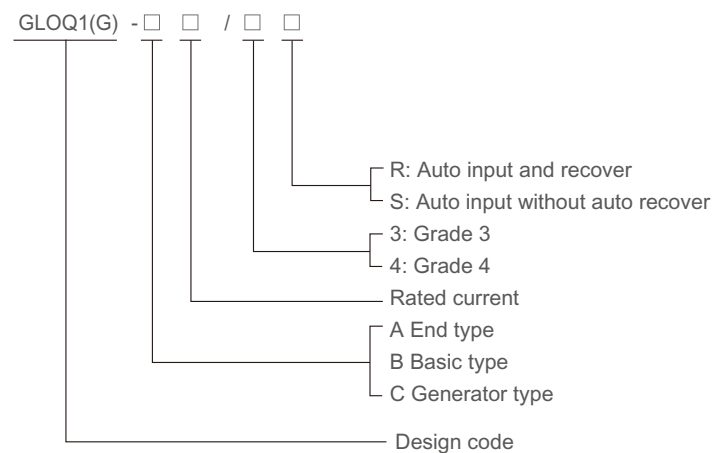
Presently, automatic switch apparatus is mainly used in important places such as grade I and grade II power consumption in some buildings, extinguisher, emergency lighting, and automatic power switch in somer infrastructure.

It is widely used in such distribution system as power consumption under AC 380V 50HZ and rated current of 32~400A. In addition, it also may be used for occasional connection, breaker, and circuit isolation.

GLOQ1(G) series Automatic Switch Apparatus has the advantages of high capacity in power load, connection, switch, and anti-inter ference, multi-control, noise-free, and reliable performance.



■ Products model and it's meaning



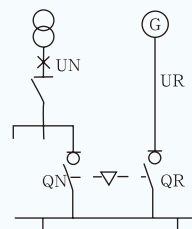
Note: Type A with auto input and recover

Rated working current: 32A, 63A, 100A, 125A, 160A, 200A, 250A, 320A, 400A

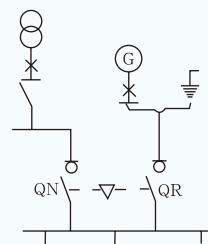
□ Typical application

GLOQ1(G)400

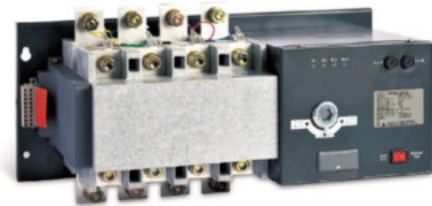
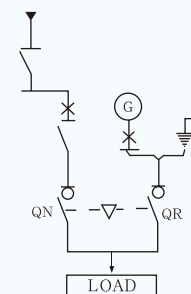
Low voltage lead line and
main distribution disk



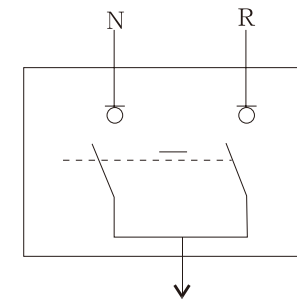
GLOQ1(G)125~320
Distribution disk



GLOQ1(G)32~100
Load side



■ Standards and selectoom



Symbols

GLOQ1(G) selection

♦ Standards

GLOQ1(G) automatic switch apparatus conforms to the following standards and codes:

GB/T 14048.1	General propositions
GB/T 14048.3	Low voltage switch, isolation switch, and circuit breaker apparatus
GB/T 14048.11	Automatic switch apparatus
IEC60947-1	General propositions
IEC60947-3	Low voltage switch, isolation switch, and circuit breaker apparatus
IEC60947-6-1	Automatic switch apparatus

♦ Pollution grade

GLOQ1(G) series products may work in an environment with grade III pollution.

The pollution grade can be determined as specified in GB/T14048.

♦ Working conditions

GLOQ1(G) series products may work in an environment with temperature from -5 to 40 degree.

The installation latitude shall be lower than 2000m.

At the highest temperature of +40 degree, the relative humidity of the air shall be lower than 50%.

At lower temperature, higher relative humidity is allowed, for example 90% at 20 degree.

♦ EMC electromagnetic compatibility

GLOQ1(G) automatic switch apparatus passed IEC61000-4 electromagnetic compatibilit test.

■ Technology Parameter

GLOQ1(G) Automatic Transfer Switching		32A	63A	100A	125A	160A	200A	250A	320A	400A
		3/4P	3/4P	3/4P	3/4P	3/4P	3/4P	3/4P	3/4P	3/4P
Grade by IEC60947-1	Grade by IEC60947-1 and GB 14048.1	Electric performance determined according to GB 14048.1								
Rated working voltage	UC AC 50Hz	380	380	380	380	380	380	380	380	380
Rated insulation voltage	Ui	750	750	750	750	750	750	750	750	750
Rated impact resistance voltage	Uimp	8000	8000	8000	8000	8000	8000	8000	8000	8000
Rated instant resistance capacity	Icw Effective value	5kA	5kA	5kA	10kA	10kA	10kA	10kA	10kA	10kA
Rated short circuit connection capacity	Icm Constant value	1.7x5kA	1.7x5kA	1.7x5kA	1.7x10kA	1.7x10kA	1.7x10kA	1.7x10kA	1.7x10kA	1.7x10kA
Performance life	Mechanical	5000	5000	5000	5000	5000	5000	3000	3000	3000
	Electrical AC 50Hz 1.0Ie 1.05Ue cosφ≤0.8 t≥0.05s	1000	1000	1000	1000	1000	1000	1000	1000	1000
Operation circles		12	12	12	12	12	12	12	12	12

Note: Switch time varies from 1.5 to 3 seconds according to the rated current.

■ Controller

- ☐ Control function

GLOQ1(G) automatic switch apparatus has three control types

- A type

It is mainly for daily power supply, suitable for two power supply circuit, spare system.

It may actualize the spare power supply in case of main power failure and the switch will automatically supply the power.

- B type

It is mainly for daily power supply, suitable for two power supply circuit, spare system.It may actualize the spare power supply in case of main power insufficiency (delay adjustable) and the switch will automatically supply the power. When the main power restores, it may resume the main power (delay adjustable). The controller has auto input without recover and mutual support.

- C type

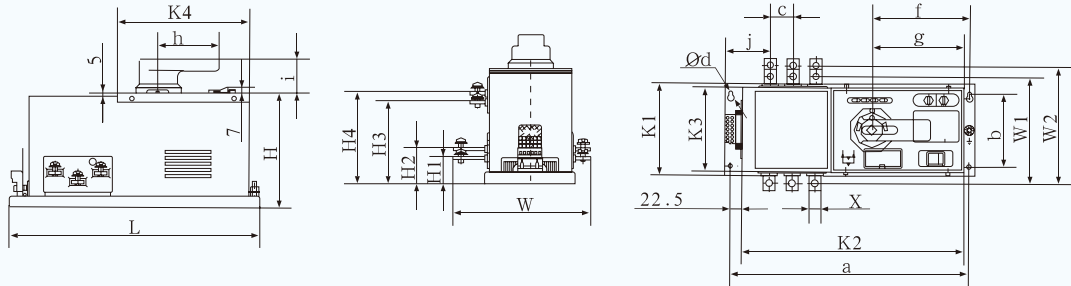
It is mainly for daily power supply and generator circuit. The generator is the spare power circuit. It may actualize the spare power supply in case of main power failure and insufficiency and the generator will start working. When the main power restores, it may resume the main power and send the signal to the Generator.

- ☐ Function description

Controller Auto mode	A type	B type	C type
Monitoring power insufficiency		■	■
Monitoring power over-voltage		▲(Optional)	▲(Optional)
Monitoring power failure(three phases break)	■	■	■
Monitoring spare power insufficiency		■	■
Monitoring spare power over-voltage		▲(Optional)	▲(Optional)
Monitoring spare power failure(single phase brake)	■	■	■
Generator contrlrol			■
Complsory switch			
Complsory switch to power			
Compulsory switch to spare power			
Compulsory switch to double power			
Test			
Test button		■(Optional)	■(Optional)
Display			
Power and spare power separation	■	■	■
Power and spare power failure	■	■	■
Power and spare power phase voltage(LED)			
Auto and compulsory switch mode			
Setting status			
Other functions			
DC24V extinguishing signal switch to double power	▲(Optional)	▲(Optional)	▲(Optional)
Delay			
Switch delay		■(Optional)	■(Optional)
Recover delay		■(Optional)	■(Optional)
Setting mode			
Code switch		■	■
LCD display			
Sittings			
Switch delay(S)		■	■
Recover delay(S)		■	■
Power over-voltage switch value(V)			
Power insufficiency switch value(V)			
Spare power over-voltage switch value(V)			
Spare power insufficiency switch value(V)			
Working mode(AA, NA, NN)		■	■
Power network(power-power,power-generator)			■
Double power feedback signal ON/OFF			

■ Dimensions and connections

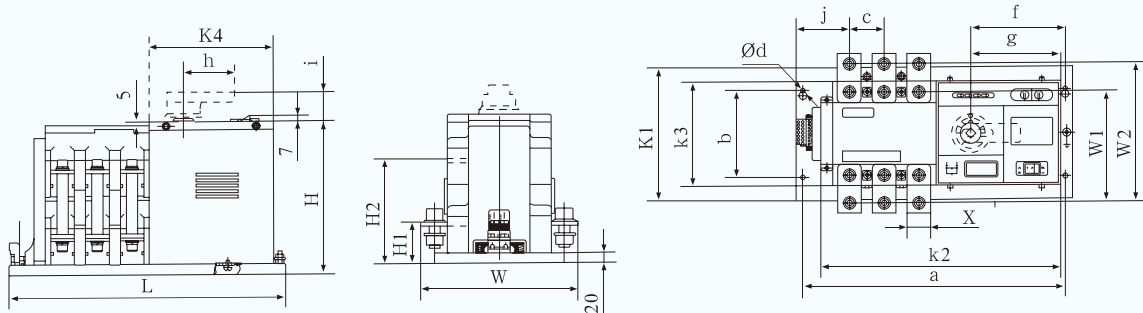
- ☐ GLOQ1(G)-32 GLOQ1(G)-63 GLOQ1(G)-100 GLOQ1(G)-125 GLOQ1(G)-160 GLOQ1(G)-200 GLOQ1(G)-250



Type	Dimensions	L	W	W1	W2	H	H1	H2	H3	H4	a	b	c	φd	f	g	h	i	j	x	k1	k2	k3	k4
GLOQ1(G)□-32/3(4)		330(360)	174	140	154	152	35	47	108	120	315(345)	95	30	5.5	128	121	65	47	59	16	120	290(320)	110	175
GLOQ1(G)□-63/3(4)		330(360)	174	140	154	152	35	47	108	120	315(345)	95	30	5.5	128	121	65	47	59	16	120	290(320)	110	175
GLOQ1(G)□-100/3(4)		330(360)	205	140	154	152	35	47	108	120	315(345)	95	30	5.5	128	121	65	47	59	16	120	290(320)	110	175
GLOQ1(G)□-125/3(4)		370(405)	205	170	185	167	42	57	111	126	355(390)	120	35	5.5	168	159	95	47	65	22	145	325(360)	135	200
GLOQ1(G)□-160/3(4)		370(405)	205	170	185	167	42	57	111	126	355(390)	120	35	5.5	168	159	95	47	65	22	145	325(360)	135	200
GLOQ1(G)□-200/3(4)		370(405)	205	170	185	167	42	57	111	126	355(390)	120	35	5.5	168	159	95	47	65	22	145	325(360)	135	200
GLOQ1(G)□-250/3(4)		370(405)	205	170	185	167	42	57	111	126	355(390)	120	35	5.5	168	159	95	47	65	22	145	325(360)	135	200

Note: h and l dimensions for manual type (GLOQ1M) switch handle installation dimensions; GLOQ1(G) manual switch without connecting nodes.

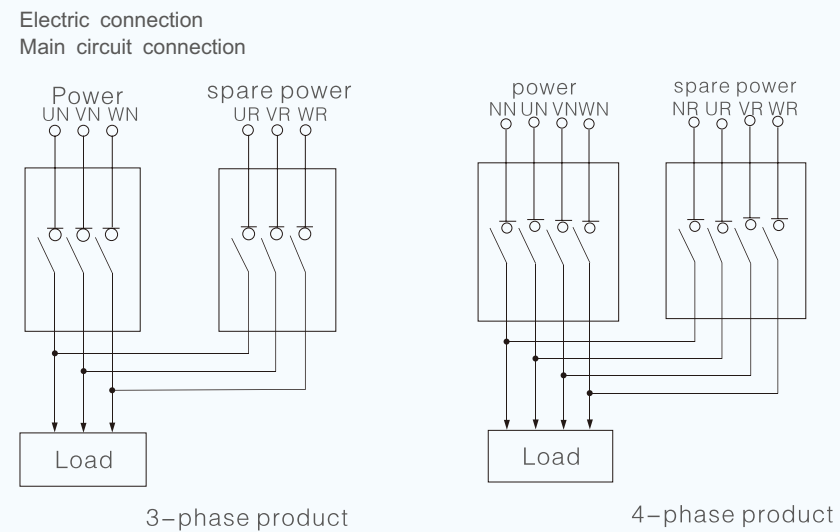
- ☐ GLOQ1 (G) –320 GLOQ1 (G) –400



Type	Dimensions	L	W	W1	W2	H	H1	H2	a	b	c	φd	f	g	h	i	j	x	k1	k2	k3	k4
GLOQ1(G)□-320/3(4)		400(450)	230	160	200	227	60	160	380(430)	125	50	7	136.5	130	125	47	78	34	190	347(397)	150	180
GLOQ1(G)□-400/3(4)		400(450)	230	160	200	227	60	160	380(430)	125	50	7	136.5	130	125	47	78	34	190	347(397)	150	180

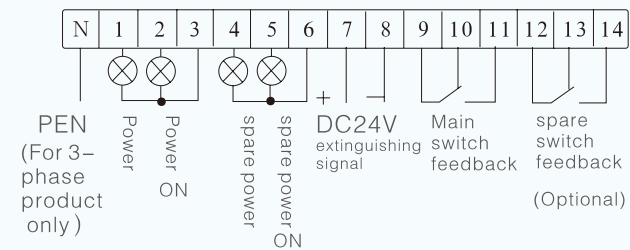
Note: h and l dimensions for manual type (GLOQ1M) switch handle installation dimensions; GLOQ1(G) manual switch without connecting nodes.

■ Electric schemata

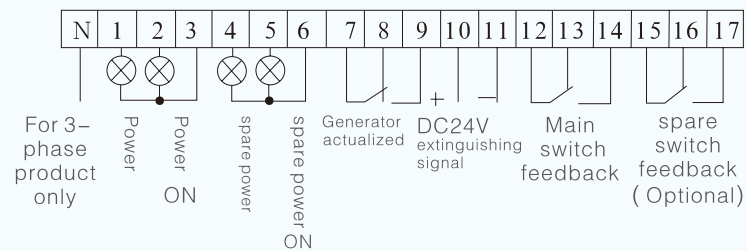


■ Secondary circuit connection

- A type/B type controller



- C type controller



- Secondary circuit connection

Use and maintenance

Cautions

Please indicate the type, specifications, and quantity when ordering, such as working conditions and technical requirements.
Please consult us for the information.

- Please read through the manual before application and pay attention to:

- ◊ GLOQ1(G) automatic switch apparatus may work reliably of 85%-110% rated working voltage.
- ◊ Please pay attention to the lead and out cable (3-phase products requires neutral cable) in application of GLOQ1(G) automatic switch apparatus. 4-phase products dose not allow public neutral cable and please confirm the earthing.
- ◊ Please check reaguilarly (for example once every three months) and check the operation with the test button, manual or auto switch power.

YES1 Series PC Class Automatic Transfer Switch

■ Two Section Automatic Transfer Switch

YES1 series of PC-class dual-power supply automatic switch (here in after ATSE) is the latest company Technology development of high-tech products. It is in line with IEC60947-6-1, GB/T14048.11-2002 superscript, And also with "high-rise buildings fire norms" and "Architectural Design fire norms ", "emergency Lighting Design Guide, "" civil electrical design specifications. "

- ☐ Small in volume, convenient in installation
- ☐ Self-input and self-restoring , Self-input without self-restoring, automatic or manual is all depends on you
- ☐ You can choose integral type or split type
- ☐ 2 Pole ,3 Pole ,4 Pole all you can choose
- ☐ Running parameter could be adjusted
- ☐ Rated voltage of 400V, rated current is from 10Amp to 3200Amp

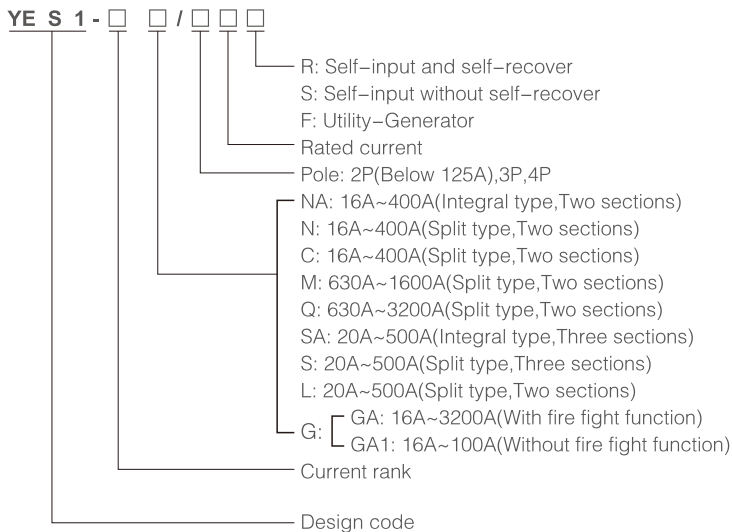
■ General

With the development of society. People request to the ability of power supply are becoming more and more strictly. Two sources have been used in many conditions to ensure the reliability of power supply. YES1 series automatic transfer switch is such a new product designed according to this requirement. As the products has the function of Self-input and self-restoring, Self-input without self-restoring, Utility-utility, utility-generator, it can detect the three phases four wires of utility and the three phase voltage of two sources at the same time. If the primary power is failure, such as over voltage, under voltage or loss phases, it will changeover from the abnormality power to the normal power automatically. The products system in utility-generator, could be sent out a signal. It's perfect capability, reliable, flexible easy to use, wide range of dual-power products, up to the domestic level.

■ Application

YES1 series ATS are mainly used for the state of a load, widely applicable to the fire, postal communication, hospitals, hotels, Urban rail transport and high-rise buildings, industrial assembly line, television stations need electricity for the important parts. Main power Emergency Power can be power grids, with Self-excitation generator sets, battery, and so on.

■ Products model and it's meaning



Note :

- ☐ This series products all could using together with Y-700, Y-701, Y-702 series PC class Automatic Transfer switch controller, except NA, SA type products.
- ☐ The instruction of ATS controller, please see details "PC class Automatic Transfer switch controller" Page 16~Page 22.

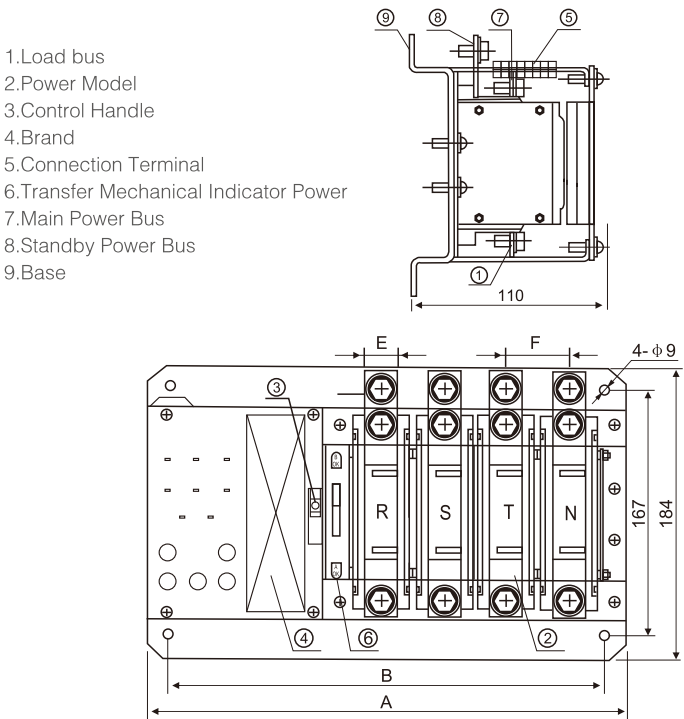
NA Type Automatic Transfer Switch (Two Sections of Integral Type)

- ☐ To meet the customer's requirement, our company launch a switch with interior controller, consumer only connect the main return way to use the automatic transfer switch electric system

■ NA Type ATS appearance and Installation Dimension



- ☐ YES1-125NA
- ☐ Rated current: 32A ~ 125A



☐ Appearance and installation size

Model	Pole	YES1-32NA	YES1-125NA
A	2P	216	237
	3P	243	274
	4P	270	311
B	2P	196	217
	3P	223	254
	4P	250	291
E		12	20
F		27	37

☐ Technical Parameter

Model	YES1-32NA			YES1-125NA		
Rated current (A)	16, 20, 25, 32			40, 50, 63, 80, 100, 125		
Rated control current (A)	5					
Rated short time current (KA)	10					
Service Life	Mechanical	8000				
	Electric	3000				
Pole	2P	3P	4P	2P	3P	4P
Weight(kg)	4.2	4.7	5.2	5	5.5	6.5
Operating Cycle(s/time)	10					

**N Type Automatic Transfer Switch
(Two Sections of Fission Type)**

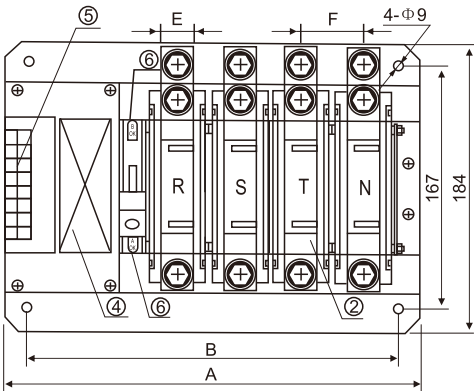
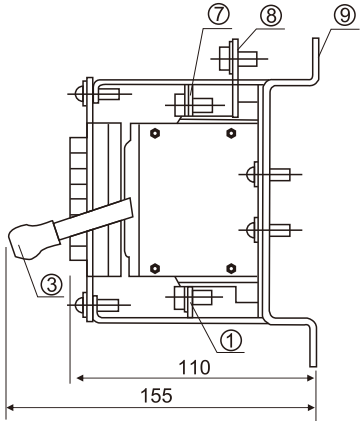


- ☐ YES1-125N
- ☐ Rated current: 32A ~ 125A



- ☐ YES1-32N
- ☐ Rated current: 16A ~ 32A

N Type ATS appearance and Installation Dimension



- 1.Load bus
- 2.Power Model
- 3.Control Handle
- 4.Brand
- 5.Connection Terminal
- 6.Transfer Mechanical Indicator Power
- 7.Main Power Bus
- 8.Standby Power Bus
- 9.Base

☐ Appearance and installation size

Model	Pole	YES1-32N	YES1-125N
A	2P	170	191
	3P	197	228
	4P	224	265
B	2P	150	171
	3P	177	208
	4P	204	245
E		12	20
F		27	37

☐ Technical Parameter

Model	YES1-32N			YES1-125N		
Rated current (A)	16, 20, 25, 32			40, 50, 63, 80, 100, 125		
Rated control current (A)				5		
Rated short time current (KA)				10		
Service Life	Mechanical	8000				
	Electric	3000				
Pole	2P	3P	4P	2P	3P	4P
Weight(kg)	3.2	3.7	4.2	4	4.5	5.5
Operating Cycle(s/time)				10		

**C Type Automatic Transfer Switch
(Two Sections of Fission Type)**



- ☐ YES1-125C
- ☐ Rated current: 32A ~ 125A

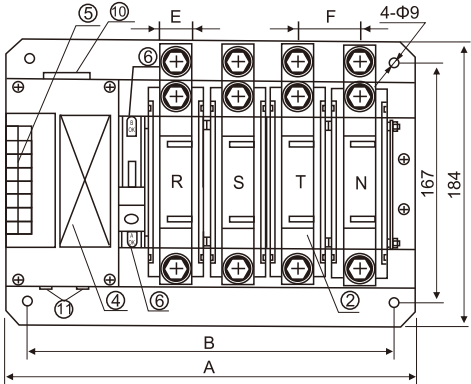
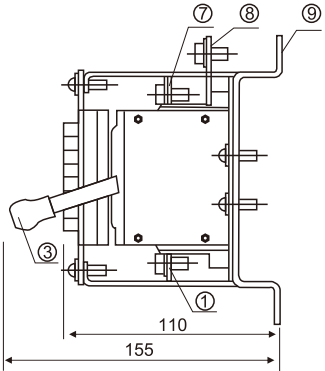


- ☐ YES1-32C
- ☐ Rated current: 16A ~ 32A

Automatic transfer switch

☐ To easy installation for customers. Our company alter to special socket between the fission type ATS controller and switch body, the consumer may connect the main return way, then plug into the socket directly, leaves out the trouble to connection.

C Type ATS appearance and Installation Dimension



- 1.Load bus
- 2.Power Model
- 3.Control Handle
- 4.Brand
- 5.Connection Terminal
- 6.Transfer Mechanical Indicator Power
- 7.Main Power Bus
- 8.Standby Power Bus
- 9.Base
- 10.Connector socket of controller
- 11.10A Fuse

☐ Appearance and installation size

Model	Pole	YES1-32C	YES1-125C
A	2P	170	191
	3P	197	228
	4P	224	265
B	2P	150	171
	3P	177	208
	4P	204	245
E		12	20
F		27	37

☐ Technical Parameter

Model	YES1-32C			YES1-125C		
Rated current (A)	16, 20, 25, 32			40, 50, 63, 80, 100, 125		
Rated control current (A)				5		
Rated short time current (KA)				10		
Service Life	Mechanical	8000				
	Electric	3000				
Pole	2P	3P	4P	2P	3P	4P
Weight(kg)	3.2	3.7	4.2	4	4.5	5.5
Operating Cycle(s/time)				10		

NA,N,C Type Dual-power Automatic Transfer Switch (Two Section)



- ☐ YES1-400NA
☐ Rated current: 160A ~ 400A

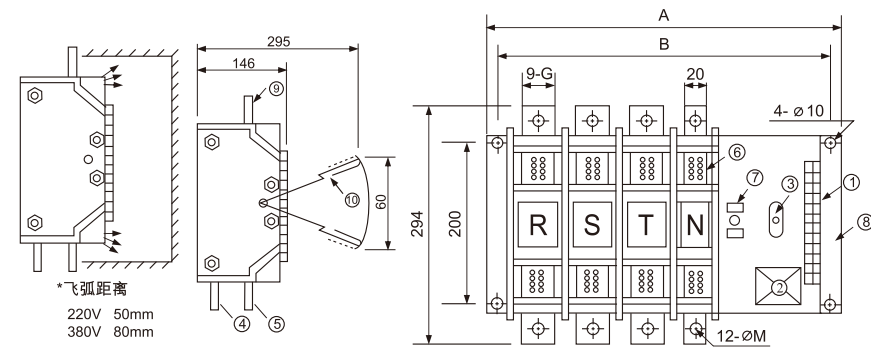


- ☐ YES1-400N
☐ Rated current: 160A ~ 400A

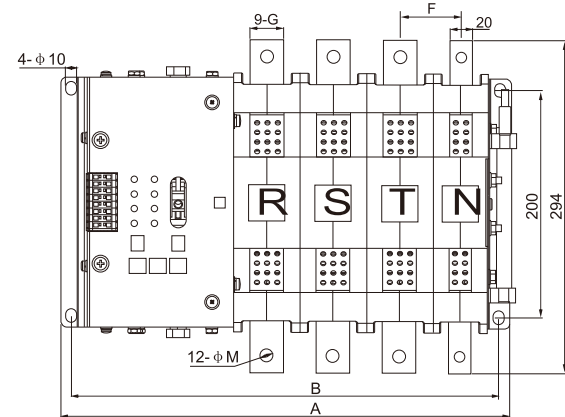


- ☐ YES1-400C
☐ Rated current: 160A ~ 400A

■ NA, N, C Type ATS appearance and Installation Dimension



- 1.Connection Terminal 2.Brand 3.Control Handle Faucet 4.Load Bus 5.Standby Power Bus
6.Arc Chute 7.Close-transition Indication of Primary and Standby power 8.Base
9.Main Power Bus 10.Control handle (Removable)



- ☐
- Appearance and installation size

Model	Pole	YES1-250	YES1-400
A	3P	322	352
	4P	372	402
B	3P	302	332
	4P	352	382
G		20	30
M		8	10
F	4P	49	400/3P为59，400/4P-T与N为54，其余为59

- ☐
- Technical Parameter

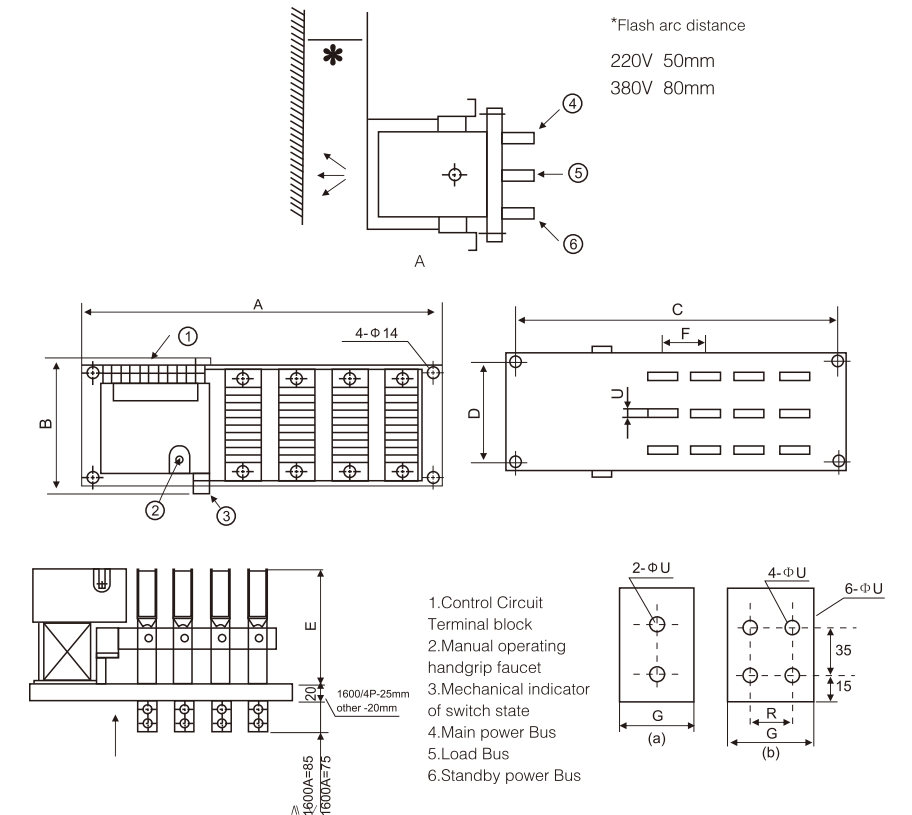
Model		YES1-250		YES1-400	
Rated current (A)		160,180,200,225,250		250,315,400	
Rated control current (A)		7			
Rated short time current (KA)		10			
Service Life	Mechanical	8000			
	Electric	3000			
Pole		3P	4P	3P	4P
Weight(kg)		18	19	18.5	20.5
Operating Cycle(s/time)		15			

M Type Dual-power Automatic Transfer Switch (Two Section)



- ☐ YES1-1600M
☐ Rated current: 630A ~ 1600A

■ M Type ATS appearance and Installation Dimension



- ☐
- Appearance and installation size

Model	Pole	YES1-630M	YES1-800M	YES1-1000M	YES1-1250M	YES1-1600M
A	3P	530				640
	4P	600				750
C	3P	490				580
	4P	560				710
B		280				
D		210				
E		250				
F		90	90	90	90	130
G		30(a)	40(a)	45(a)	55(a)	75(b)
R						40
U		12				14

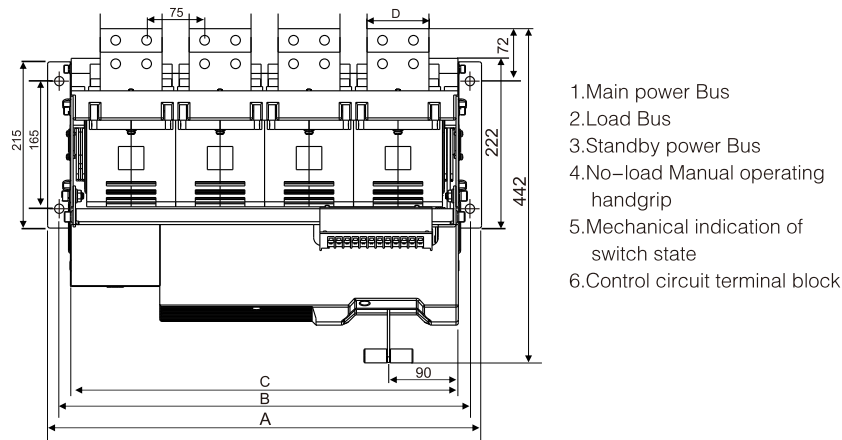
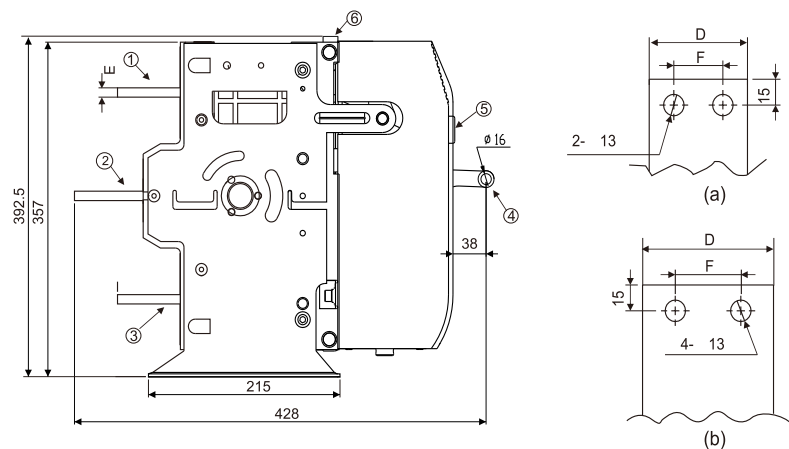
- ☐
- Technical Parameter

Model		YES1-630M		YES1-800M		YES1-1000M		YES1-1250M		YES1-1600M	
Rated current (A)		630		800		1000		1250		1600	
Rated control current (A)		16									
Rated short time current (KA)		32									
Service Life	Mechanical	3000									
	Electric	1000									
Pole		3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
Weight(kg)		37	42.5	39	46	41	48	48	57	56	67
Operating Cycle(s/time)		15		20		25		25		25	

■ Main Function

- ☐ Closed-transition and open-transition are both by one electromagnetic winding
- ☐ Simple in structure and convenience in examine and maintain
- ☐ It's a latest reliable sliding contact, with strong overload capacity
- ☐ Eliminate the superabundance electric parts, long service life.

- ☐ YES1-3200Q
☐ Rated current: 630A ~ 3200A



- ☐
- Appearance and installation size

Model	Pole	630A	800A	1000A	1250A	1600A	2000A	2500A	3200A
A	3P/4P	445/561							
B	3P/4P	415/531							
C	3P/4P	385/503							
D		60				80			
E		10					15	30	
F		30(a)				40(b)			

- ☐
- Technical Parameter

Model		YES1-3200Q															
Rated current (A)		630A		800A		1000A		1250A		1600A		2000A		2500A		3200A	
Rated control current (A)		16															
Rated short time current (KA)		50															
Service Life		Mechanical		3000													
Electric		1000															
Pole		3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
Weight(kg)		39	44.5	40	47	41	48.5	42	50	45	54	58	68	59.5	70	61	72
Operating Cycle(s/time)		15		20		25											

AMQ5 Series Dual Power Automatic Transfer Switch

■ Application

□ AMQ5 Series automatic transfer switch (transfer switch) is developed successfully with the most advanced ATS technology in the world. This kind of transfer switch and intelligent display mated with it are mainly applied in the occasions required uninterrupted power supply like building, posts and telecommunications, mine industry, shipping and military industry. Under the necessary trend of urban power service increasing, it can meet the higher requirements of the reliable power service. This product has many features like reliable performance, small volume and simple operating etc.

■ Main Function

□ With safe and reliable interlocking function, when the breaker is under closing state, the breaker cannot be plugged in or drawn out, you must open the breaker first to plug in or pull out. With function of reliable making and breaking main circuit and secondary circuit, besides, the device possesses self-locking function. When you draw out the breaker, the device has safe insulating isolation (your finger will not touch with the charged parts). The breaker can be mounted with various rotaring manual operating mechanism and motor operating mechanism.

■ Specification

Type			AMQ5												
Type AMQ5(Three-step type)			AMQ5-100			AMQ5-250			AMQ5-400			AMQ5-630		AMQ5-800	
Rated voltage			AC690V DC125V												
Rated current			100A			250A			400A			630A		800A	
Number of cut-in			Double cut-in												
Connecting mode			In front of panel and at back of panel (Non standard product)												
Operating current	DC110V (A)		3	3	4	3	4	5	5	5	7	6	6	6	
	AC100V/110V (A)		3	3	4	3	4	5	5	5	7	6	6	6	
	AC200V/220V (A)		1.5	1.5	2	1.5	2	2.5	2.5	2.5	3.5	3	3	3	
Trip current	DC110V		1A						1.5A			2A			
	AC100V/110V		1A						1.5A			2A			
	AC200V/220V		0.5A						0.7A			1A			
Performance	Short-time withstanding current		5kA			10kA			12kA			15kA			
	Rated conditional short-circuit current		12.5kA			25kA			30kA			37.5kA			
	Making and breaking capacity		AC-33B(10Ie making 8Ie opening) cosØ=0.35 DC-33B 1.1Ie making 1.1Ie opening L/R=1ms												
	A power Cut in		55ms			55ms			60ms			100ms			
	Changeover	side Cut off	20ms			20ms			25ms			30ms			
	time	B power Cut in	80ms			80ms			90ms			135ms			
		side Cut off	20ms			20ms			25ms			30ms			
	Service life		With 2500 times of electric life with 10000 times(120 times/hour) of mechanical life												
	Operation circle time		120 time/hour												
	Auxiliary switch		A source 1C B source 1C switch capacity AC100V5A AC200V2.5A DC100V0.5A												
Accessory		Protective cover breakthrough absorber manual handle													

Automatic transfer switch

Type	AMQ5																			
Typ AMQ5 (Three-step type)	AMQ5-1000			AMQ5-1250			AMQ5-1600			AMQ5-2000			AMQ5-3150			AMQ5-4000				
Rated voltage	AC690V DC125V									AC690V										
Rated current	1000A			1250A			1600A			2000A			3150A			4000A				
Number of cut-in	Double cut-in																			
Connecting mode	At the back of panel in the front of panel									At the back of panel										
Number of pole	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	3P				
Weight(kg)	30(40)	39(54)	49(64)	31(45)	40(56)	51(66)	36(50)	47(62)	59(74)	95	115	135	110	150	190	207				
Operating current	DC110V (A)	6	6	8	6	6	8	7	8	9	8	10	12	10	12	14	16			
	AC100V/110V (A)	6	6	8	6	6	8	7	8	9	8	10	12	10	12	14	16			
	AC200V/220V (A)	3	3	4	3	3	4	3.5	4	4.5	4	5	6	7	8	7	8			
Trip current	DC110V	2A									4A									
	AC100V/110V	2A									4A									
	AC200V/220V	1A									1A									
Performance	Short-time withstanding current	22kA						25kA			35kA			50kA			50kA			
	Rated conditional short-circuit current	50kA						55kA			55kA			80kA			100kA			
	Making and breaking capacity	AC-33B(10Ie making 8Ie opening) cosØ=0.35 DC-33B 1.1Ie making 1.1Ie openingL/R=1ms									AC2(Ie making Ie opening) cosØ=0.65									
	A power	Cut in	115ms						115ms			180ms			140ms			200ms(190)		
	Changeover	side	Cut off	25ms						25ms			25ms			30ms			30ms(30)	
	time	B power	Cut in	145ms						150ms			220ms			190ms			220ms(240)	
		side	Cut off	25ms						25ms			25ms			30ms			30ms(30)	
	Operation circle time		120 times/hour									30 times/hour								
	Auxiliary switch		A source 1C B source 1C switch capacity AC100V5A AC200V2.5A DC100V0.5A																	
Accessory		Protective cover breakthrough absorber manual handle																		

Note: At DC operating occasion, the construction of circuit is almost same. Please operate according to DC operating order.

- The weight in the bracket is stuck on the product surface.
- The capacity of N pole contact is 2000A for product with 4000A and 4P.

□ Main technical index of AMQ5 with two steps

Type				AMQ5								
Type AMQ5 (Two-step type)				AMQ5-125			AMQ5-250		AMQ5-400			
Rated voltage				AC690V DC125V								
Rated current				40A,63A,100A,125A			160A,200A,225A,250A		350A,400A			
Number of cut-in				Double cut-in								
Connecting mode				In front of panel and at back of panel								
Operating current	DC110V (A)			3	3	4	3	4	5	5	5	7
	AC100V/110V (A)			3	3	4	3	4	5	5	5	7
	AC200V/220V (A)			1.5	1.5	2	1.5	2	2.5	2.5	2.5	3.5
Trip current	DC110V			1A							1.5A	
	AC100V/110V			1A							1.5A	
	AC200V/220V			0.5A							0.7A	
Performance	Short-time withstanding current			5kA			10kA		12kA			
	Rated conditional short-circuit current			12.5kA			25kA		30kA			
	Making and breaking capacity			AC-33B(10Ie making 8Ie opening) cosØ=0.35 DC-33B 1.1Ie making 1.1Ie openingL/R=1ms								
	Changeover time	A power	Cut in	55ms			55ms		60ms			
		side	Cut off	20ms			20ms		25ms			
		B power	Cut in	80ms			80ms		90ms			
		side	Cut off	20ms			20ms		25ms			
	Service life											
Operation circle time				120 times/hour								
Auxiliary switch				A source 1C B source 1C switch capacity AC100V5A AC200V2.5A DC100V0.5A								
Accessory												

Note: The occasion for DC operation has the same circuit, only little different. Please operate it according to DC operation direction.

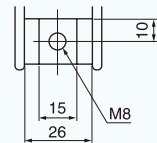
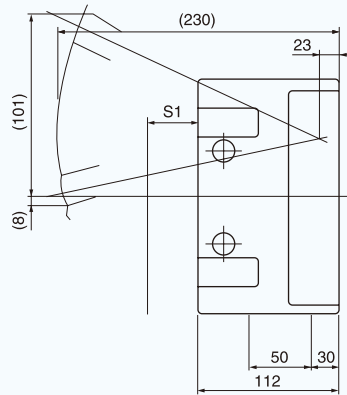
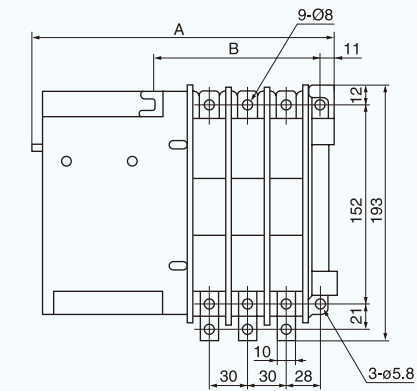
The two-step type belongs to an economic type, and

The outline size of 100A and 125A grades has the same size with three-step.

The outline size of 160A,200A,225A and 250A grades has the same size with three-step.

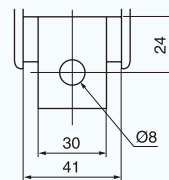
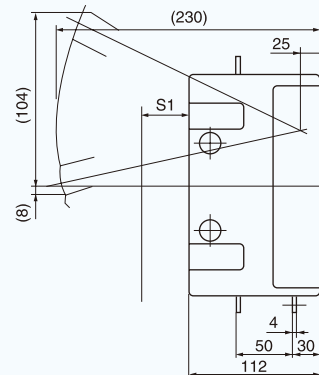
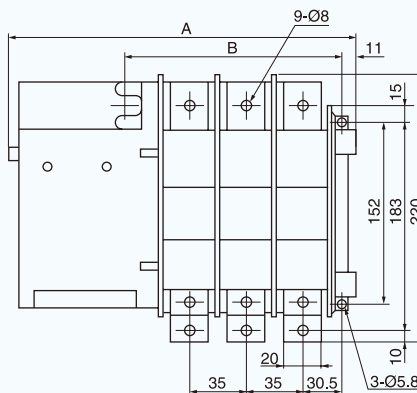
The outline size of 350A and 400A grades has the same size with three-step.

■ Outline and Mounting Dimension (mm)



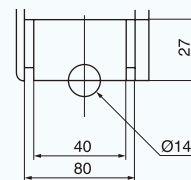
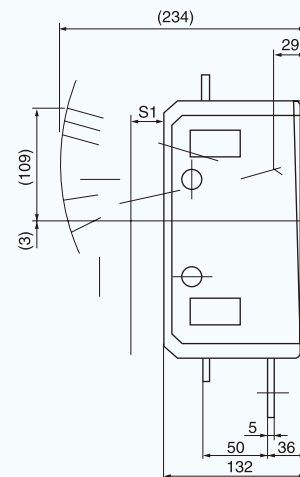
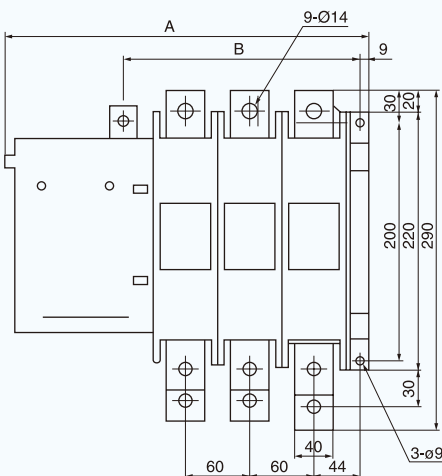
	A	B
2P	209	103
3P	239	133
4P	269	163

AMQ5-100A



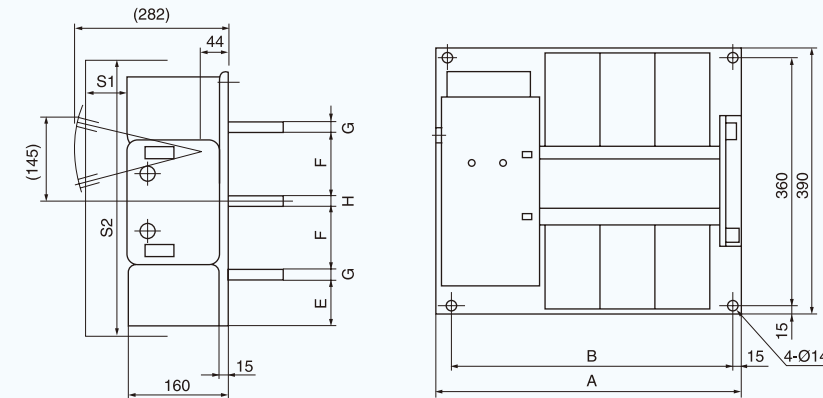
	A	B
2P	219	113
3P	254	148
4P	289	183

AMQ5-250A



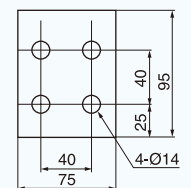
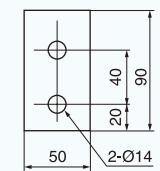
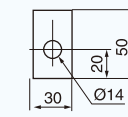
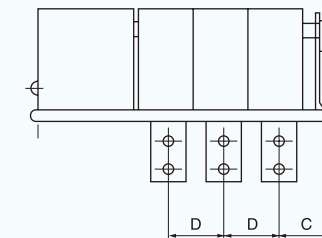
	A	B
2P	280	164
3P	340	224
4P	400	284

AMQ5-400A



S1: 45mm(400V), 90mm(690V)
A2: 430mm(400V), 450mm(690V)

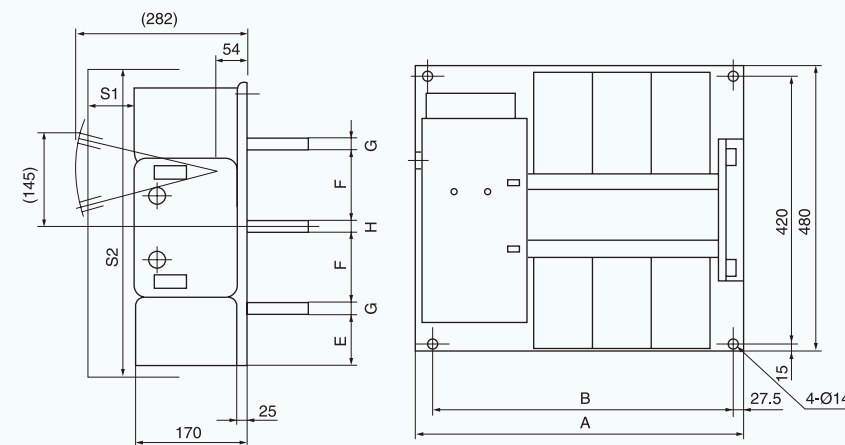
Type	630A,800A	1000A,1250A	1600A
A	2P	340	370
	3P	405	450
	4P	470	530
B	2P	310	340
	3P	375	420
	4P	440	500
C	80	88	97.5
D	65	80	100
E	60	60	57
F		117.5	
G	10/15	12/15	15
H		15	



630A
800A
AMQ5-630~1600A

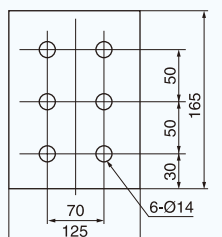
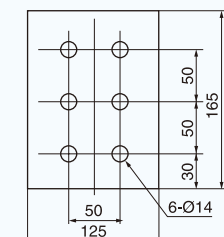
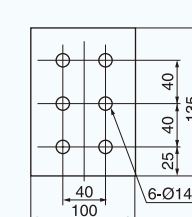
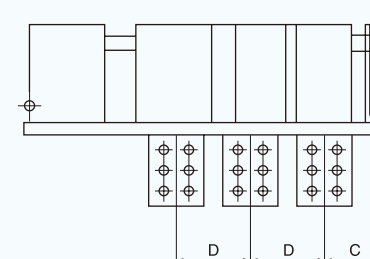
1000A
1250A

1600A



S1: 50mm(400V), 100mm(690V)
A2: 560mm(400V), 600mm(690V)

Type	2000A	2500A	3150A	4000A
A	2P	540	540	640
	3P	650	650	915
	4P	845	850	1155
B	2P	500	500	600
	3P	595	585	860
	4P	790	790	1100
C	130	130	135	135
D	135	135	240	240
E	75	75	75	75
F	117.5	117.5	117.5	117.5
G	15	20	20	20
H	15	20	20	20



2000A

3150A

4000A

AMQ5-2000~4000A

AMQ2 Series Dual Power Automatic Transfer Switch

■ Application

- AMQ2 series automatic transfer switch is one new ATS of our company developed by the microcomputer control technology . This series ATS is settled AM1 circuit breaker as the executive element, and along with the mechanotrons, the new control mechanism with electromechanical double interlock, which is especially applied in the important places not allowed power off. To meet actual demand, three different operation methods are available such as automatic entry automatic reset, automatic entry non automatic reset and commutative standby.
- The device conforms to IEC60947-6-1.The whole series have past CCC certification.



■ Environment Conditions for Operation

- Temperature condition: -5°C~+55°C; relative humidity<95% at 55°C.
- Elevation: altitude of installation place shall not exceed 2000m.
- Pollution grade: grade III.

■ Type and Meaning

- Standard product
 - Non-standard product
- AMQ2** ☐ ☐ ☐ **CB** ☐ ☐
- X: with fire protection linkage function
 - Operation methods:
 - R: automatic entry automatic reset
 - S: automatic entry non automatic reset
 - I: commutative standby
 - CB type ATS, with short circuit, overload protection
 - Switching poles: 3P, 4P
 - Current Grade: 100, 160, 250, 400, 630
 - Controller model: A type B type No controller no mark



Note: To the nonstandard products, the specific type of fire protection signal should be noted. Without note, the default be considered DC24V.

■ Main Features

- Three available operation methods
 - Automatically entry and automatically reset
 - Automatically entry and non automatically reset
 - Commutative standby
- Three steady operating positions
 - The grid power supply is making, the standby power supply is breaking.
 - The grid power supply is breaking, the standby power supply is making.
 - The grid power supply is breaking, the standby power supply is breaking.
- Compact size, single structure, beautiful outlook , 12.5~630A available, convenient operation and long operating life,3P,4P can be supplied.
- The transfer is driven by single motor, single structure, reliable transfer, no noise and small wallop.
- The device is with electromechanical interlock protection, which can ensure the two power supplies working normally, no disturbance.
- The device can be along with load automatic transfer , on urgent situation, it can be transferred by handle.

- Advantages comparative to other products:
 - The breaking capacity of the control protecting fuse is 50kA, which increases the distribution safety.
 - There is interlock between manual and automatic operation, this can avoid the manual operation on the automatic operation.
 - When the executive handle of circuit breaker is broken, the contact is felted or the load is in problem(overload, short circuit), the ATS do not transfer, that is called the real electromechanical interlock.
 - The wrong wire connection indication can be supplied When the phase wire and zero wire are connected wrong, the sound-photo device will alarm, it ensures the reliability.

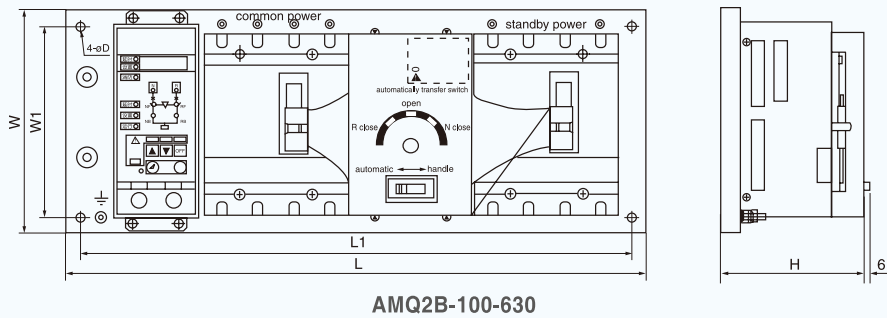
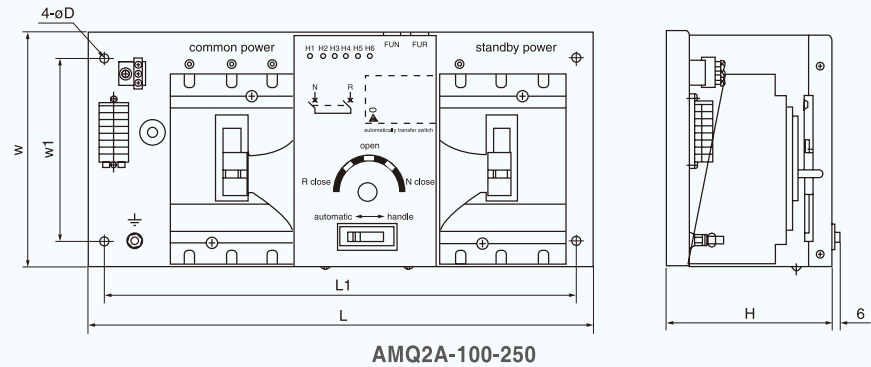
■ Function of Controller in HATS Automatic Transfer Switch

Contrller	Type A (built-in)	Type B (panel)
Operational voltage	AC230V	AC230V
Frequency	50/60Hz	50/60Hz
Three operational positions		
Common power supply making	◆	◆
Standby power supply making	◆	◆
Both common power supply and standby power supply breaking	◆	◆
Automatic operation	◆	◆
Manual remote control		
Handle operation	◆	◆
Automatic operation		
To monitor common power supply and automatic transfer	◆ Check phase lacking, voltage losing	◆ Check phase lacking,undervoltage, overvoltage and voltage losing
To monitor standby power supply and automatic transfer		◆ Check phase lacking,undervoltage, overvoltage and voltage losing
To control generator		◆
Fire fighting linkage	<input type="checkbox"/>	<input type="checkbox"/>
Automatic entry automatic reset	◆	◆
Automatic entry non automatic reset	◆	◆
Commutative standby	◆	◆
Manually remote control		
Compel it to work at common power supply		◆
Compel it to work at standby power supply		◆
Compel it to word at "0" position		◆
Test		
By test pushbutton on panel or control pushbutton	◆	◆
Indications		
Operation status indication: making or breaking	◆	◆
Common power supply indication and standby power supply indication	◆	◆
Malfunction tripping indication		
Parameters setting indication		
Other functions		
Transfer time delay	0s,5s,15s,30s inaccuracy ≤ 5%	0-255s
Recovery time delay	0s,5s,15s,30s inaccuracy ≤ 5%	0-255s
Protective function when neutral line is wrong connection (sound and light alarm)	◆	◆
Overtime malfunction-breaking function after transfer signal sent out	◆	◆
◆ Standard configuration <input type="checkbox"/> Selective function		

□ **Note:**

1. If operational voltage is the same as power voltage, the common power supply and standby power supply can supply power directly.
If not ,it must use equivalent isolation transformer.
2. Under the situation of handle operation, if the control of electrical manipulating device is open,auto-matic controlling function will be invalid.
3. On conditions both common power supply and standby power supply are normal,if common power supply is malfunction and automatically transfer to standby power supply (transfer time delay adjustable),when the common power supply returns to normal, it will automatically return (return time delay adjustable).
4. Under the situation both common power supply and standby power supply are normal and common power supply is working, if common power supply is malfunction and automatically transfer to standby power supply. Controller will stop transferring. Even if common power supply return to normal, switch will not return. Please press reset pushbutton, controller returns to normal.
5. Under the situation both common power supply and standby power supply are normal, to get through electricity(or reset), the common power supply will work prior If the working power has some malfunction during operation and automatically transfer to another power supply (type B switching transfer time delay adjustable), both power supply will have the same priority and will be standby power supply of each other.

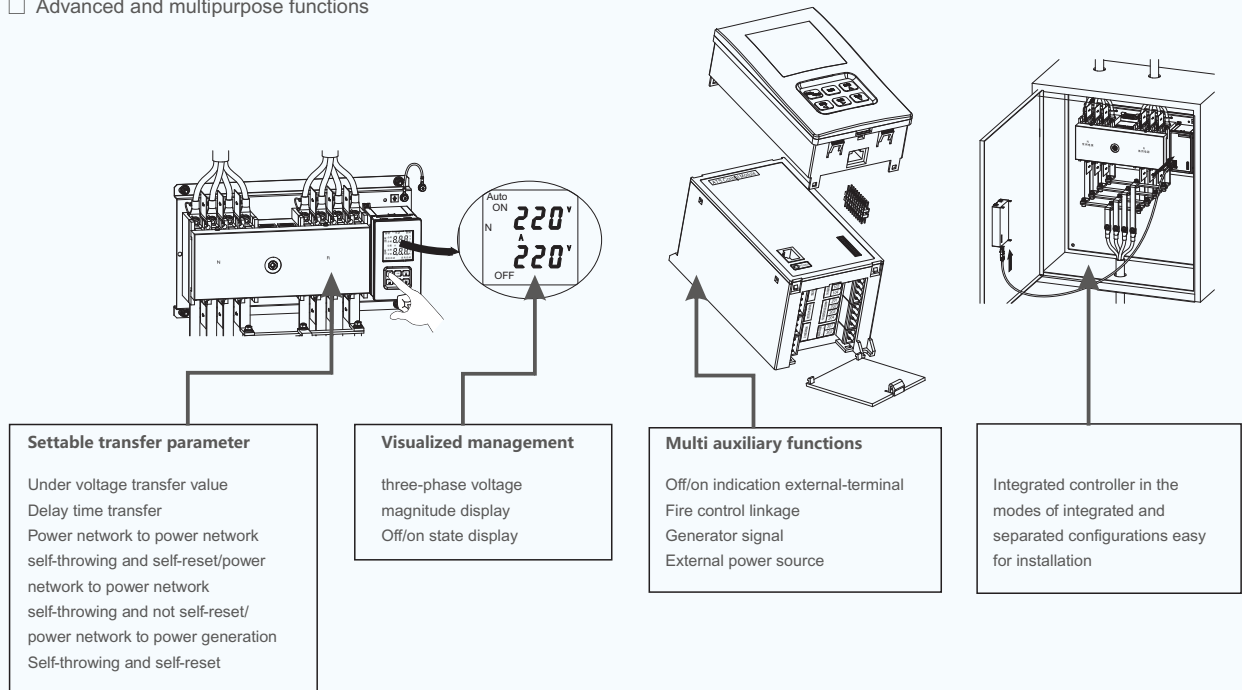
■ **Outline and Mounting Dimension (mm)**



Type	Outline dimensions(mm)			Installation dimensions(mm)		
	L(3P/4P)	W(3P/4P)	H(3P/4P)	L1(3P/4P)	W1(3P/4P)	H1(3P/4P)
AMQ2A-100	430/500	200	140	400/470	155	6.5
AMQ2A-160	430/500	200	140	400/470	155	6.5
AMQ2A-250	430/500	200	140	400/470	155	6.5
AMQ2B-100	500/570	200	140	470/540	170	6.5
AMQ2B-160	500/570	200	140	470/540	170	6.5
AMQ2B-250	500/570	200	140	470/540	170	6.5
AMQ2B-400	620/710	275	190	590/680	245	9
AMQ2B-630	620/710	275	190	590/680	245	9

- ☐ Dual-interlock protection
- The mechanical-electrical interlock duplex protection is used to prevent two power sources from being connected simultaneously to be load, where in the electrical interlock works in the breaker contact position mode for directly indicating the automatic transfer switch to perform the genuine electrical interlock so that the automatic transfer does not take place automatically in such cases as contact fusion welding, breaker handle damage, and circuit as contact fusion welding, breaker handle damage, and circuit fault breaker tripping.

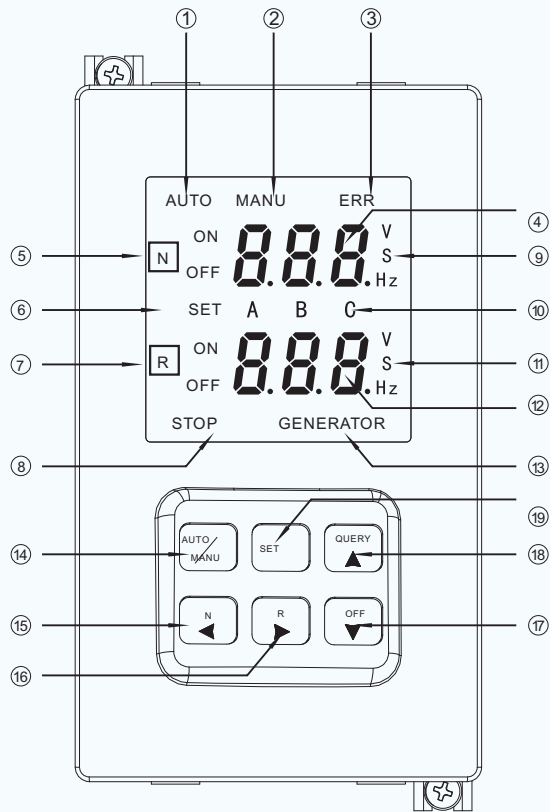
□ Advanced and multipurpose functions



■ Controller

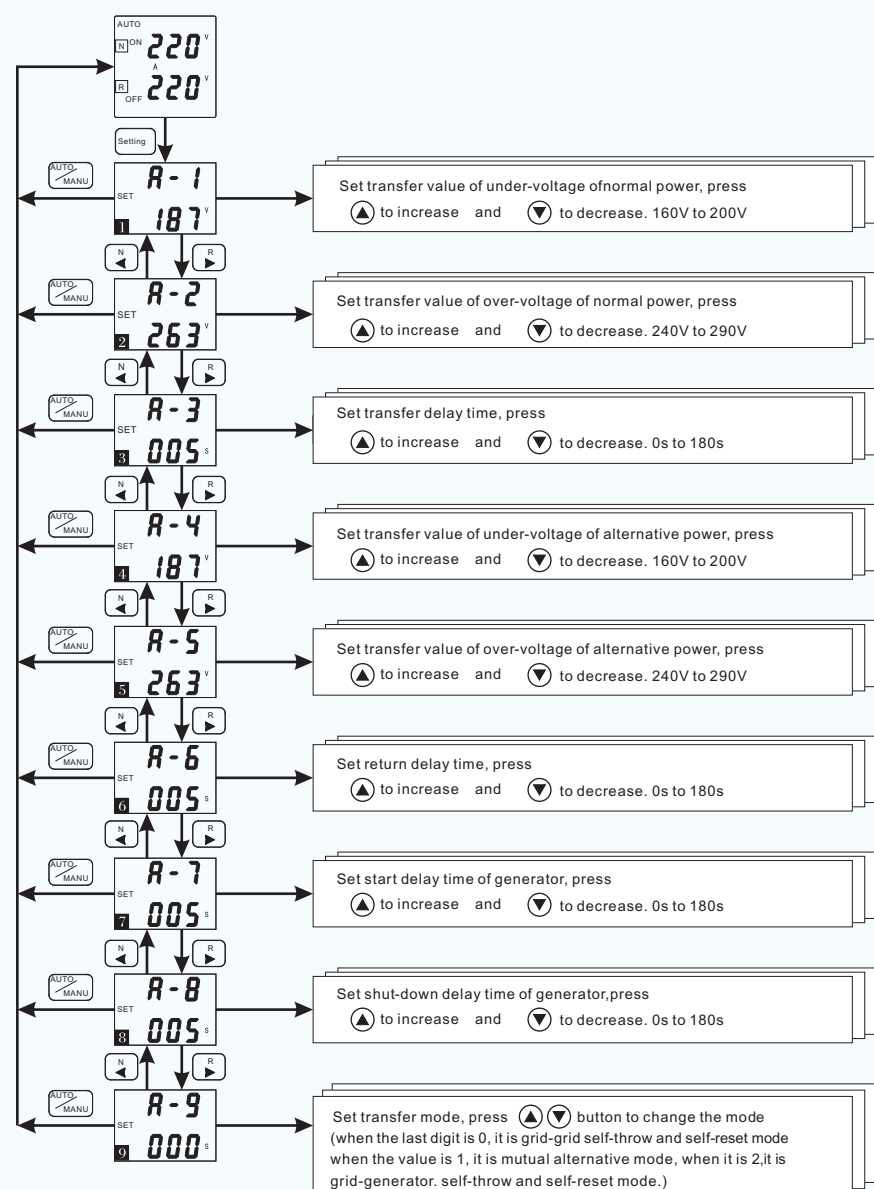
Type and function	Type A (basic type)	
Modes of manual and automatic transfer	■	
Working position of the main contact (actuator circuit breaker)		
Prime power turned on	■	
Standby power turned on	■	
OFF	■	
Automatic control		
Monitoring the prime power	Failures such as loss of phase/voltage, under and over voltage	for any of three phases of the power supply
Monitoring the standby power	Failures such as loss of phase/voltage, under and over voltage	for any of three phases of the power supply
Self-throwing and self-reset	■	
Self-throwing and not self-reset	■	
Power network to power network	■	
Power network to power generation	■	
No-voltage transfer	■	
Under voltage transfer	■	
Over voltage transfer	■	
Adjustable delay time	■	
Transfer delay a	Continuously adjustable in the range of 0s~180s	
Return c	Continuously adjustable in the range of 0s~180s	
Generator control	■	
Fire control linkage (inactive contact)	■	
Indication		
Indication for on, off, and double-break	■	
Prime power indication	■(Displaying voltage magnitude)	
Standby power indication	■(Displaying voltage magnitude)	
Fault tripping indication	■	
External indication signal terminal	■	
Parameter setting indication	■	
Interlock protection		
Mechanical interlock	■	
Electrical interlock	■(not transfer automatically with faulty tripping)	

- The Type A integrated controller works in the modes of grated or separated configurations, and is installed in the cabinet or on the panel to allow operation outside the cabinet.
Whether to transfer from one power source to another depends on the state of the operational power supply. Generating set control Press-key manually forced transfer operating
- Control voltage
AC230V 50Hz
- Operation: automatic operation, manual operation
- Setting delay
Transfer delay: adjustable in the range of 0s - 180s, prime power failure, time before off for QN
Return delay: continuously adjustable within the range of 0s-180s, prime power recovery, time before off for QR
- Interface for display and operation
LED digital display



1. Indication of automatic working mode;
2. Indication of manual working mode;
3. Failure indication
When the breaker is disengaged due to the failure or short-circuit of the switch, this lamp will be on;
4. Display area of normal power voltage parameters
It displays normal power voltage parameters and changeover delay time under the working condition , and setting items under the setting condition;
5. Indication of the on or off of breaker on the normal power side;
6. Indication of setting condition;
7. Indication of the on or off of breaker on the alternative power side;
8. Indication of the start of stop function;
9. Units of voltage, time, and frequency of the normal power;
10. Phases A, B, and C;
11. Units of voltage, time, and frequency of the alternative power;
12. Display area of alternative power voltage parameters;
It displays alternative power voltage parameters and transfer delay time under the working condition, and setting items under the setting condition;
13. Indication of the start signal of generator;
14. Selection button of automatic/manual transfer
When it is regularly used, it can be used for selecting the automatic or manual mode; it saves and exits the functions when it is under the setting condition.

15. Button for compulsorily turn off the normal power
Under the manual control mode, if this button is pressed,it can compulsorily switch to the normal power; if it is setting condition, this button is the “scroll up” button of setting programs;
16. Button for compulsorily turn off the alternative power
Under the manual control mode, if this button is pressed, it can compulsorily switch to the alternative power; if it is setting condition, this button is the “scroll up” button of setting programs;
17. Off button
Under the manual control mode, if either line of both power lines are normal and this button is pressed, it will switch to the disengagement position; this button is the minus button for setting parameters when it is under setting condition;
18. Failure inquiry button
When the switch fails and malfunction lamp on the failure screen is on, the detail malfunction code can be inquired if it is pressed; this button is the plus button if it is under the setting condition;
19. Setting button
When this button is pressed, it may enter into the parameter setting menu of the controller.

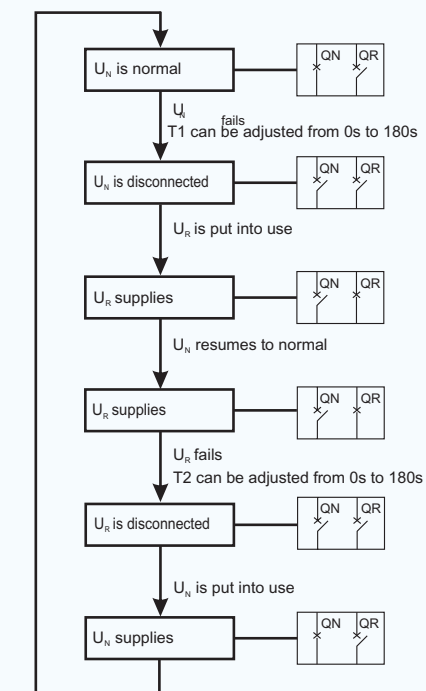
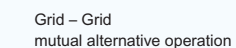
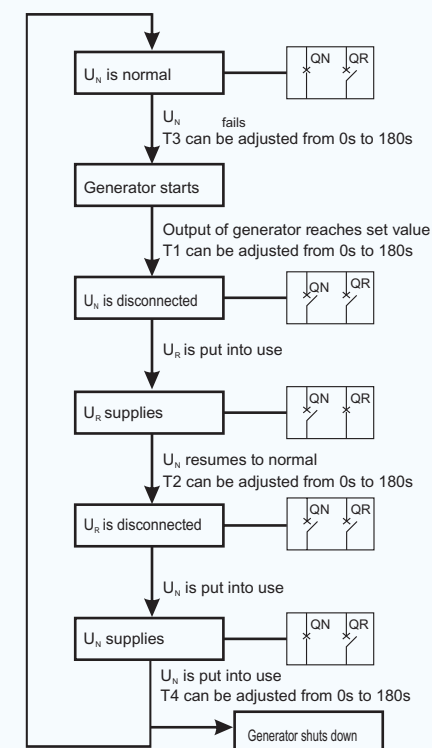
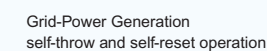
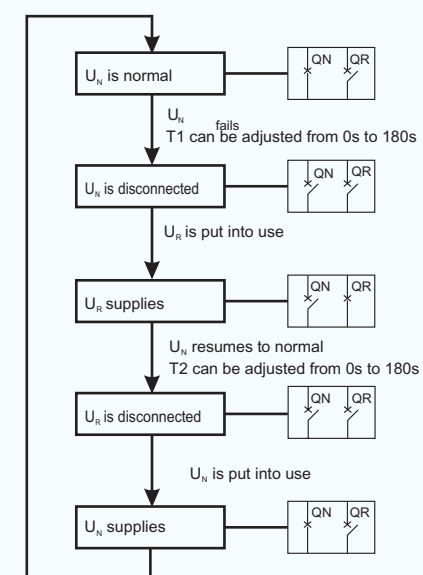
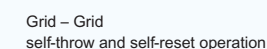
☐ Operation description on parameter setting

Note for keys

Button Description:

Press the Setting Button when the controller is working, LED will display the parameter setting menu interface displayed in Figure ; press “◀” and “▶” buttons in the setting menu to scroll up the setting options; if the automatic/ manual button is pressed, it will exit the setting menu; press “▼” or “▲” to change parameters.

☐ Working processes of type A controller



T1: Transfer delay can be adjusted from 0s to 180s

Failure of UN , time before disconnecting QN

T2: Return delay time can be adjusted from 0s to 180s

Normal of UN , time before disconnecting QR

T3: Delay time in starting generator can be adjusted from 0s to 180s

T4: Delay time in shutting-down generator can be adjusted from 0s to 180s

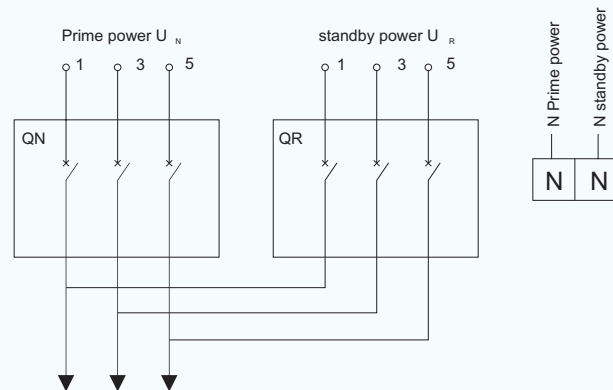
QN: Operating breaker on the frequently used side

QR: Operating breaker on the stand-by side

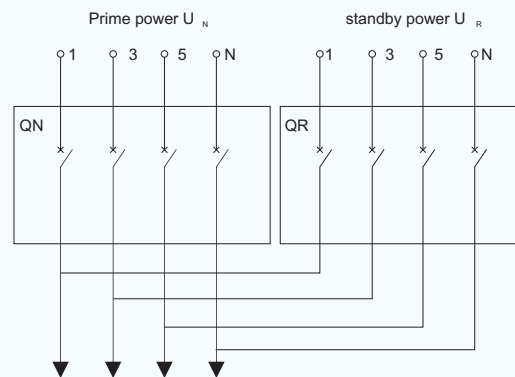
UN : Normal power supply

External connection diagram

Product connection diagram



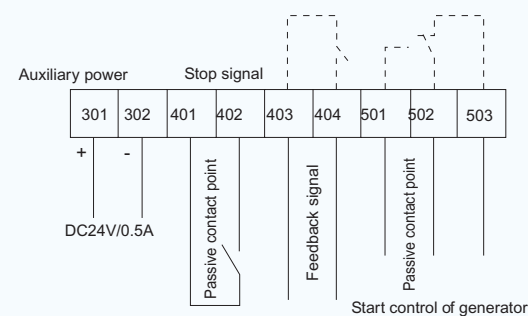
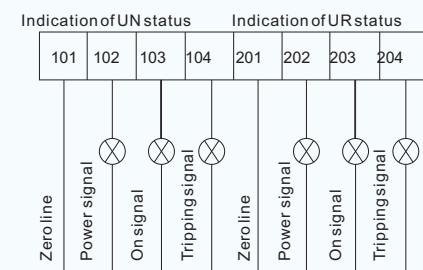
4P product connection diagram



Note :

QN actuator circuit breaker on the prime (normal) side
QR actuator circuit breaker on the standby (reserve) side

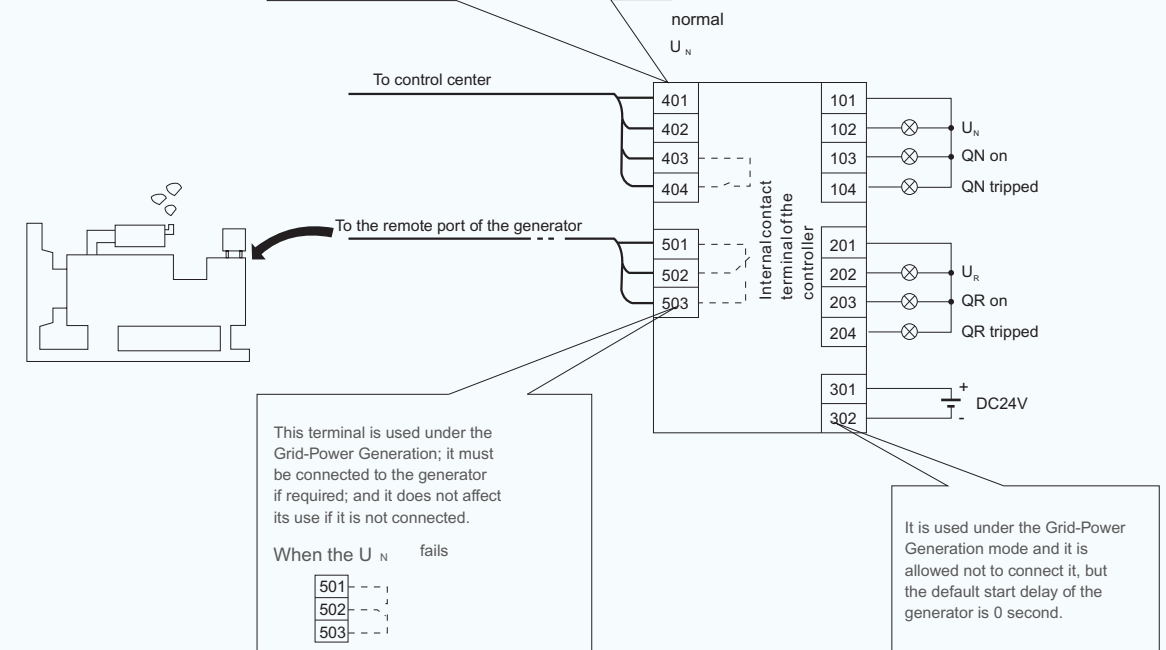
Wiring diagram of external terminals of the controller



Note: the hidden line is the internal wiring of the controller.

Application

Terminals 401 and 402 can only connect to passive signal; otherwise, the controller will be burnt! Passive signals may be inputted through relay. Product after receiving the stop signal off, 403 and 404 will be connected. After removing stop signals, this product will restore to normal working status by pressing any key of the controller.



This terminal is used under the Grid-Power Generation; it must be connected to the generator if required; and it does not affect its use if it is not connected.

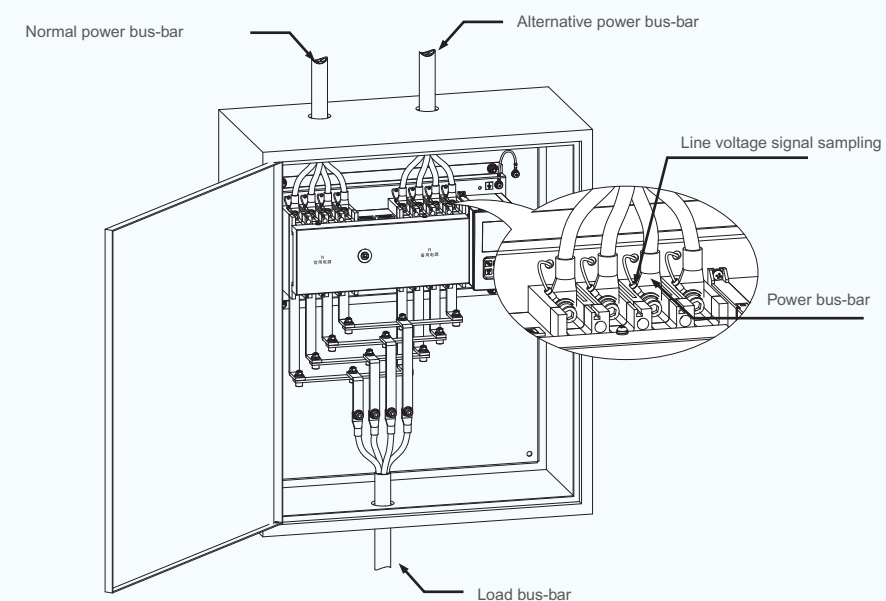
When the U_N fails

501 ---
502 ---
503 ---

It is used under the Grid-Power Generation mode and it is allowed not to connect it, but the default start delay of the generator is 0 second.

Line incoming pattern

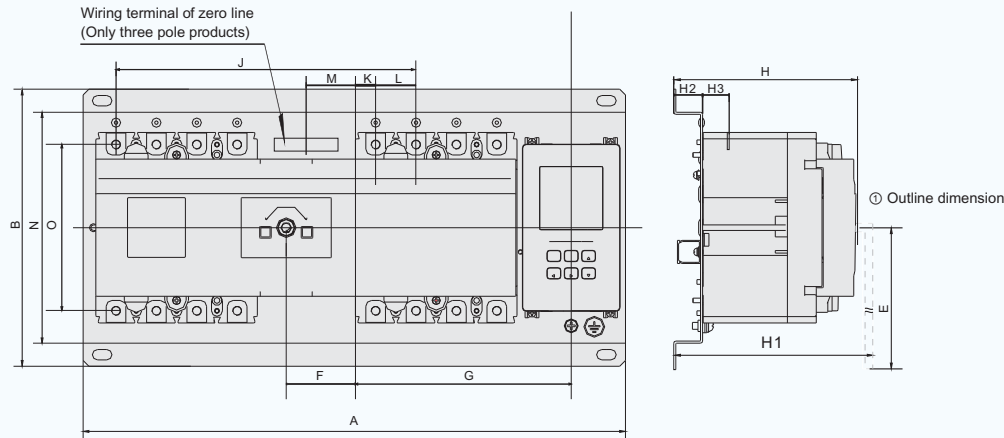
Connecting bus-bar type



Installation mode: vertical installation or horizontal installation

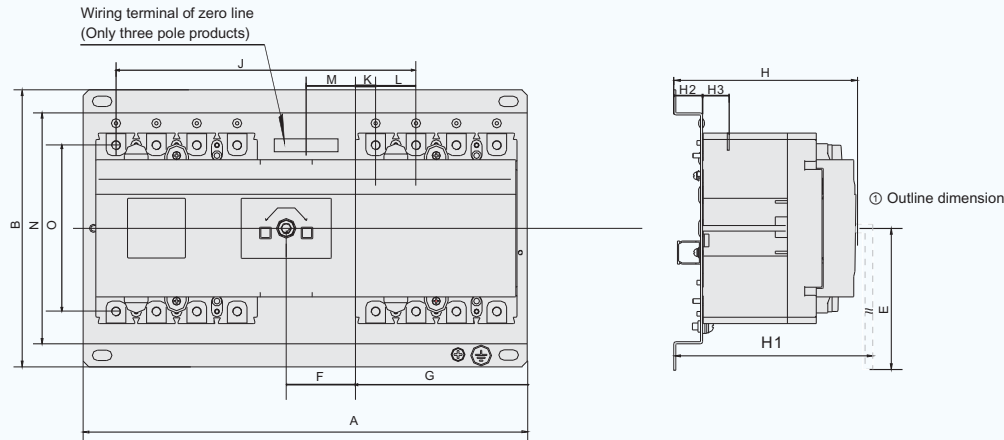
■ Overall and mounting dimensions (mm)

□ Outline dimension & Installation dimension



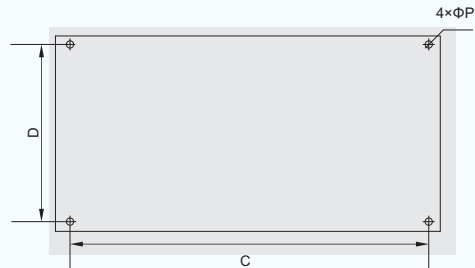
Dimension Modle	A		B	E	F		G		J	K		L	M	N	O	H	H1	H2	H3
	3P	4P			3P	4P	3P	4P		3P	4P								
NZ7-63	355	380	240	200	40	52.5	132.5	145	178	24	11.5	25	40	200	117	150	170	25	18/28
NZ7-125	390	420	240	200	43	58	148	163	194	24	9	30	43	200	136	150	180	25	24
NZ7-250	435	470	240	200	41.5	59	170.5	188	225	36	18.5	35	41.5	200	144	160	190	25	24
NZ7-400	565	615	330	225	43.5	68.5	232.5	257.5	304	61.5	36.5	48	43.5	265	224	200	227	24	40
NZ7-630	680	740	330	225	45.5	74.5	291	320	385	89	60	58	45.5	270	234	200	232	24	42

□ Outline dimension & Installation dimension



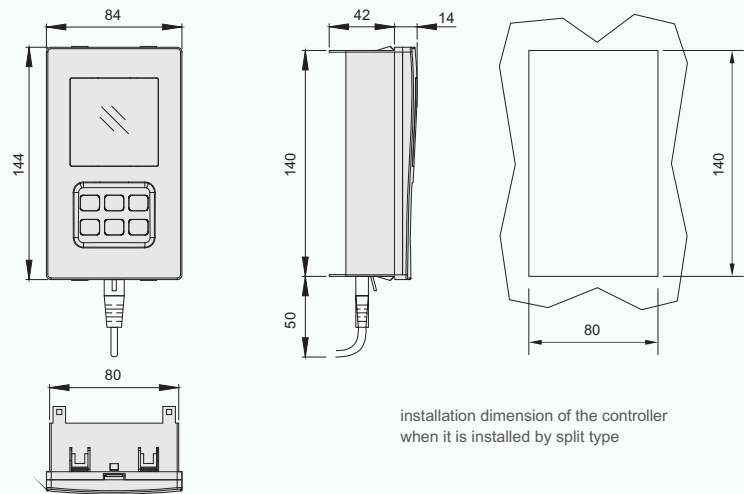
Dimension Modle	A		B	E	F		G		J	K		L	M	N	O	H	H1	H2	H3
	3P	4P			3P	4P	3P	4P		3P	4P								
NZ7-63	335	340	240	200	40	52.5	91	102	178	24	11.5	25	40	200	117	150	170	25	18/28
NZ7-125	370	400	240	200	43	58	103	111	194	24	9	30	43	200	136	150	180	25	24
NZ7-250	415	450	240	200	41.5	59	121	149	225	36	18.5	35	41.5	200	144	160	190	25	24
NZ7-400	545	595	330	225	43.5	68.5	193	220	304	61.5	36.5	48	43.5	265	224	200	227	24	40
NZ7-630	660	720	330	225	45.5	74.5	261	290	385	89	60	58	45.5	270	234	200	232	24	42

□ Installation dimension



Dimension Modle	C		D	P
	3P	4P		
NZ7-63	322	347	220	Φ8
NZ7-100	357	387	220	Φ8
NZ7-225	402	437	220	Φ8
NZ7-400	505	555	300	Φ10
NZ7-630	622	680	300	Φ10

□ Controller Module



■ Ordering information

The user shall indicate such items as the type, current specification,number of poles.
Example: If you order an auto transfer switch equipment, shell current 100A,rated current 100A ,breaking capacity of Type H,4 poles, Type A controller, you can write it as NZ7-100H/4100YA

AQC45 Series Dual Power Automatic Transfer Switch

■ Application

- AQC45 automatic transfer switch is suitable for the dual power supply system of AC50/60Hz , rated operational voltage 400V/230V, rated operational current up to 63A. Automatically transfer one or multi-load circuits from one power to the other power, to protect power supplied normally to load circuit.
- The device is mainly used for industry, shopping center, bank, high building and so on.
- The device comply with IEC60947-6-1.

■ Environment Conditions for Operation

- Temperature condition: -5°C~+40°C; the average value within 24h not exceed +35°C.
- Elevation: altitude of installation place shall not exceed 2000m.
- Atmosphere condition: relative humidity at +40°C shall not exceed 50%. Higher humidity is permissible at lower temperature condition. When the higher monthly average relative humidity is 90% in the humidest month , the lowest monthly average temperature of this month is +25°C. And consider the influence of dew on product surface due to temperature changes.
- Pollution grade: grade III
- Apparatus grade: grade CB.

■ Structure

- AQC45 automatic transfer switch is made up of MCB(DZ47)single motor mechanism、 control circuit, all parts are installed on a backplate. Control power voltage of automatic transfer switch is AC230V, mechanical life is 5000 times.

■ Performance

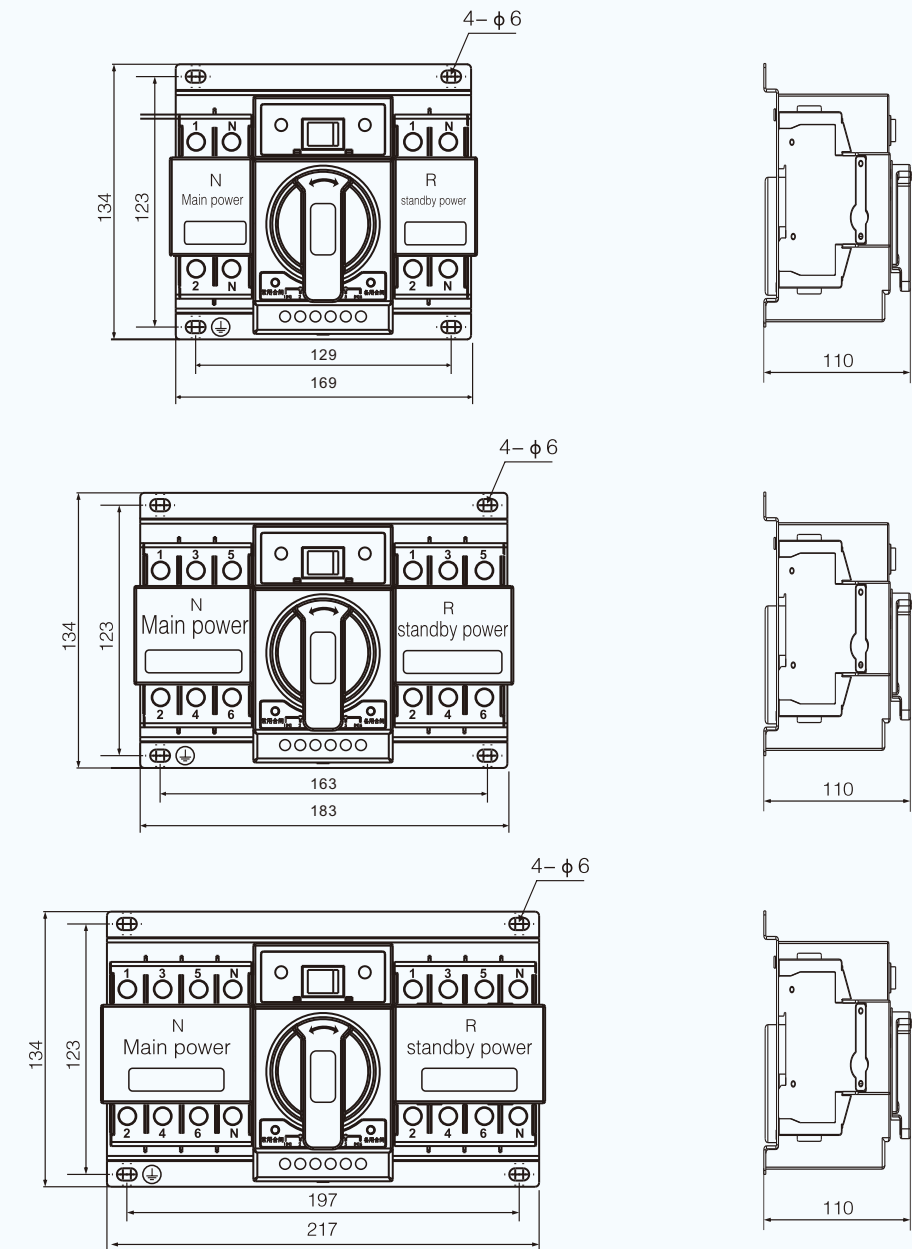
- AQC45 automatic transfer switch(only R type that is automatically entry and automatically reset) monitor phase voltage of double power supply(is named common power supply and standby power supply) at the same time. When common power supply is malfunction ,that is to say ,A phase of MCB is voltage failure or phase failure, automatic transfer switch automatically transfer standby power supply with non-time delay; when common power supply returns to normal , automatically transfer common power supply with non-time delay. Both power supply are malfunction are not allowed.

■ Main Specifications and Table for Choosing of Settled Breakers

Type	Settled breakers	Number of poles	Type of instantaneous release	Rated current of breakers In (A)	Rated operational voltage of breakers Ue	Operational voltage of control circuit
AQC45	DZ47	2P	Type C:for distribution	6,10,16,25,32,40,50,63	AC400V/AC230	AC230
		3P	Tripping current range:5In~10In			
		4P	Type D:for motor protection			
			Tripping current range:10In~14In			

■ Overall and mounting dimensions (mm)

□ Outline dimension & Installation dimension



■ Matters Need Attention

- Phase sequence of the input terminals of one MCB must be same as the other,N-pole of double power supply can not be connected wrongly.
- Earthing protection should be reliable, assure service safe.
- When checks load circuit normally or malfunction maintenance, must close automatic control function.

AQC45N Series Dual Power Automatic Transfer Switch

■ Application

□ AQC45N series automatic transfer switch is suitable for the dual power supply of AC 50/60Hz, rated voltage AC85-280V, up to 63A. It works from one main power to another reserved power to protect power supplied normally . Its function depends on its configuration of the controller.

■ Main specification

Type	AQC45N-A	AQC45N-B	AQC45N-C	AQC45N-D
Poles	2,3,4			
Current	6A,10A,16A,20A,25A,32A,40A,50A,63A			
Operating voltage range	AC150-265V 50/60HZ			
Installation	All in 1			
Operating method	Automatic, Manual			
Motor control	No	1×5A relay	No	1×5A relay
Fire engine service control	No	Passive contact input,1NO passive contact feedback contact	No	Passive contact input,1NO passive contact feedback contact
Conversion delay time	0.2s	0.2-30s	0.2s	0.2-30s
Returning delay time	0.2s	0.2-30s	0.2s	0.2-30s
Circuit inspection	A,N	A,N	A,B,C,N	A,B,C,N
Under-voltage test	Yes			
Phase release	A,N	A,N	A,B,C,N	A,B,C,N

■ Performance

□ AQC45 automatic transfer switch(only R type that is automatically entry and automatically reset) monitor phase voltage of double power supply(is named common power supply and standby power supply) at the same time. When common power supply is malfunction ,that is to say ,A phase of MCB is voltage failure or phase failure, automatic transfer switch automatically transfer standby power supply with non-time delay; when common power supply returns to normal , automatically transfer common power supply with non-time delay. Both power supply are malfunction are not allowed.

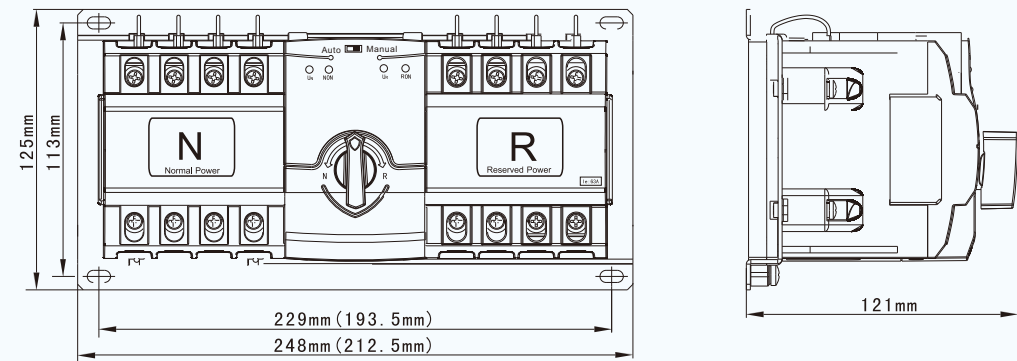
■ Matters Need Attention

- Phase sequence of the input terminals of one MCB must be same as the other, N-pole of double power supply can not be connected wrongly.
- Earthing protection should be reliable, assure service safe.
- When checks load circuit normally or malfunction maintenance, must close automatic control function.

■ Overall and mounting dimensions (mm)

□ Outline dimension & Installation dimension

3. Outline and Mounting Dimension (mm)



Note: The data meets 3Pole. A,B,C,D measure are the same.

YEQ1 Series CB Class Automatic Transfer Switch

YEQ1系列双电源自动转换开关 ■ Products feature and character

YEQ2 Series intelligent dual power automatic swithes is made up of two units in 3 pole and 4 pole of MCCB and (auxiliary,alarm contact),the mechanical interlocking transmission,intelligent controller and other components. It has the integral style and split type with two kinds mechanism. Integral controller is equipped with a base and executing agencies ; Split type is intelligent controll er installe d in the panem User take the base by implementing agencies to install into the cabinet controller with about 2m cables.

- Reliable mechanical interlock between the two circuit breakers and electrical interlocking device. eliminate the two devices closing completely at the same time.
- SCM intelligent controller used to control the core hardware is simple and powerful, expansion of convenience, high reliability.
- It has a short circuit, over load protection functions, over voltage,under voltage, loss phase automatic transfer function and intelligent alarm function.
- Automatic switching external parameters can be set free.
- Operation of Intelligent motor protection
- The control circuit devices with fire, fire control cente r to a control signal into intell igent controller. two sets circuit breaker will enter a stating of breaking .
- There is a computer network interface for achieving remote control four remote telemetry functions

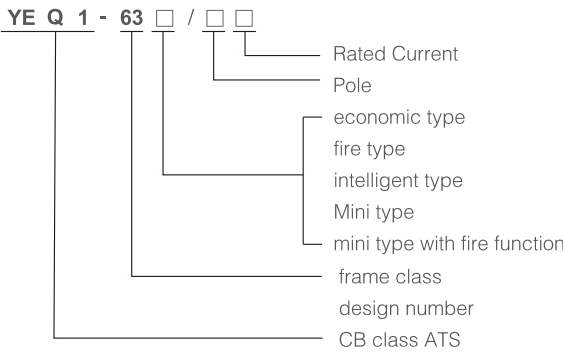
■ The feature and character of YEQ1 series ATS

- YEQ1 series (terminal type) (economic type) – Automatic Transfer Switches, is used to the terminals to the dual electrical power switching devices;
- Small in volume,simple in constitution;
- There is provide 2P,3P,4P.Easy to operation and long to use;
- Transfer switch driving by single motor, a smooth, no noise, the impact is small;
- With mechanical interlocking and electrical interlock, change over credibility, could be supply by manual or automatic operation;
- Common, spare circuit breaker rated current can be different;
- A.T.S contain connector for users wiring can rdfect Breaker (open or closed) state;
- A.T.S panel show various instructions: separations instruction manual, automatic and wiring diagram and so on.

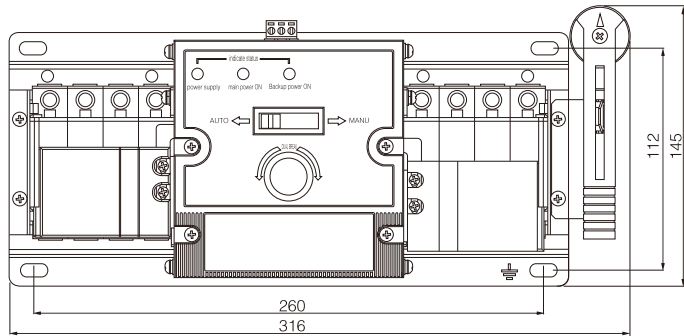


- YEQ1-63X
- YEQ1-63Y

■ Model and Meaning

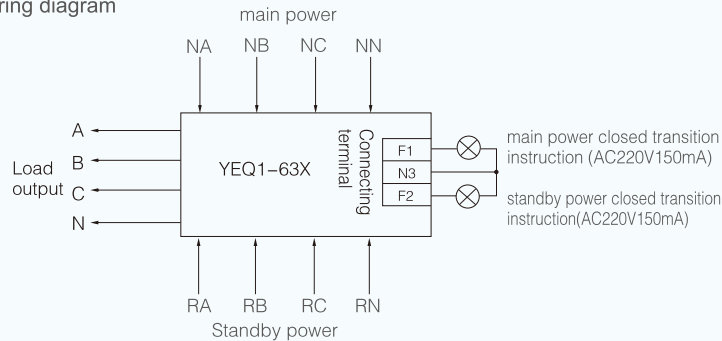


■ X Y type switch overall and dimensions

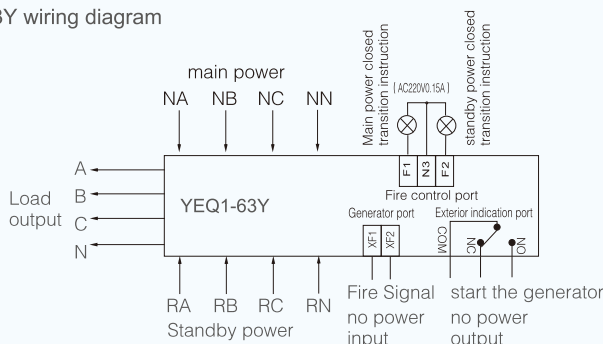


■ YEQ1-63X, YEQ1-63Yseries wiring diagram

□ YEQ1-63X wiring diagram



□ YEQ1-63Y wiring diagram



Note: this wiring diagram is only fit for 4 pole ATS, when choose 3 pole ATS, Neutral line of Main power (NN) must be connected to the 3 pole zero line terminal.

■ Use of Operates and supports

- Whether main power or backup power with voltage or not, all can be by manual mode ope rated.Under manual,put the auto- manual button to manual position, pull the handle by clockwise to end,Backup power implementation circuit breaker Qn i s OFF, implementation of MAIN power supply circuit breaker Qn ONG; When pull handle counterclockwise to the end, the implementation of Backup power source Qr is ON,implementation of MAIN power supply circuit breaker Qn is OFF;
- Set the auto position, if the MAIN power is normally,ATS will transfer to MAIN power working. The main power indiacation will bright on panel;If the main power is unusually,ATS will transfer to Backup Power working.The Backup indication will be bright on the panel.
- ATS has 1A of two units fuses and a elec tric connector, fuse as short-circuit protection in automatic controller.Electric connecto as dry contact in In dication light to panel of controller box,voltage of 220V AC, I50mA , the detail please reference to instruction.

■ Fault Analysis and Removal

- When ATS under automatic control state,the power condition was changed,but the operation mechanism no action. Such as MCB can't closed-transition or open - transition then should be checked:
 - 1.whether the power grid are failed;
 - 2.whether the wiring shedding;
 - 3.the fuse itself whether burning. If the front point of one circuit breaker with ele ctricity, and t he connection are both wiring well, fuses are intact, but yet can not closed-transition or open-transition.You should be asked to professionals or contact manufactory.

■ Notice to users in orders

- When User place the order need to notice the identifying device models, specifications, dispensed breaker models, specifications, pole number. Such as : Automatic Transfer Switch device, Self-input and self-recover type, rated current of 50 A,4 pole, which is written YEQ1-63L/4P (50A).
- For users special requirements, please contact with factories and to explain well in orders indicate.

YEQ2 Series CB Class Automatic Transfer Switch

General introduction

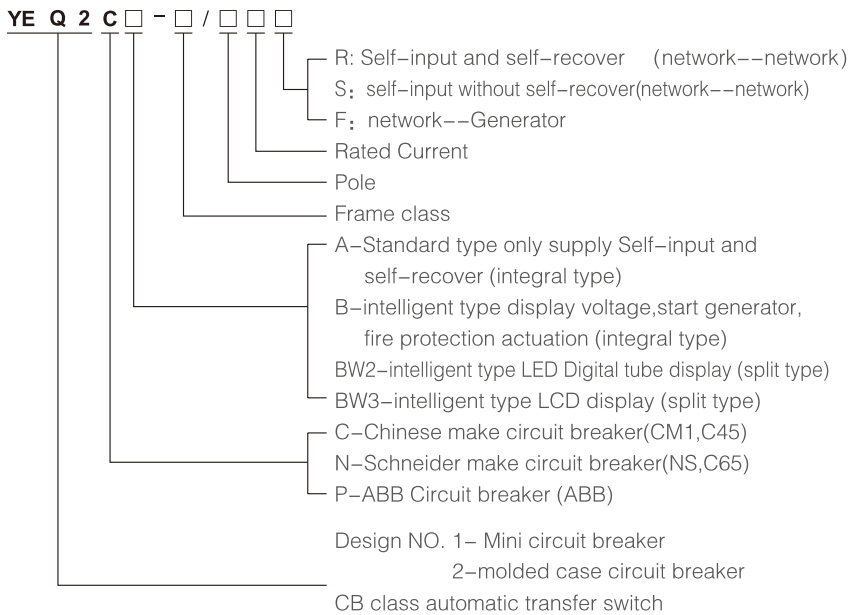
YEQ2 series automatic transfer switch is the best development of the company generation products.Mostly used to monitor the power supply circuits. When main power failed,it will change over to backup power by automatically,thus completing the transformation of power system. At present, in particular suited for the important electricity power places where disallow to failure, in order to meet the needs of the scene.Automatic switch has self–input and self–recover,self–input without self–recover, utility to utility, utility–generators work with a variety functions,the product applied in 220V,AC 50Hz,rated current from 10A to 1250A (CB class) automatically switch products.

Structure and features

YEQ2 Series intelligent dual power automatic switches is made up of two units in 3 pole and 4 pole of MCCB and(auxiliary contact,alarm contact),the mechanical interlocking transmissi on,intelligent controller and other components. It has the integral style and split type with two kinds mechanism. Integral controller is equipped with a base and executing agencies; Split type is intelligent control ler installed in the panel User take the base by implementing agencies to install into the cabinet controller with an about 2m cables.

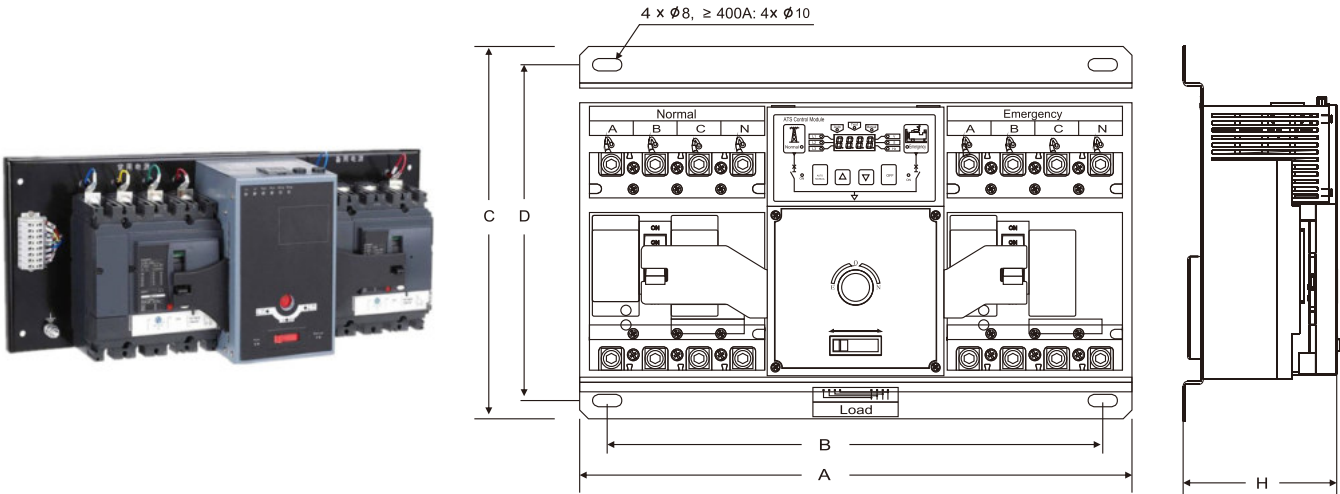
- Reliable mechanical interlock between the two circuit breakers and electrical interlock device. Eliminate the two devices closing completely at the same time.
- SCM intelligent controller used to control the core hardware is simple and powerful, expansion of convenience,high reliability.
- It has a short circuit, over load protection functions, over voltage,under voltage, loss phase automatic transfer function and intelligent alarm function.
- Automatic switching external parameters can be set free.
- Operation of Intelligent motor protection
- The control circuit devices with fire, fire control center to a control signal into intelligent controller. Two sets circuit breaker will enter a stating of breaking .
- There is a computer network interface for achieving remote control four remote telemetry functions

Product Model and Meaning



Note:
 split type ATS can match W2,W3 type controller
 Details of the controller please refer to page 37 to 45

Appearance and installation dimensions



ATS overall and dimension

Specification	Dimensions		A		B		C	D	H
	3P	4P	3P	4P	3P	4P			
YEQ1C–63	285	320	245	280	255	230	141		
YEQ1N–63	285	320	245	280	255	230	141		
YEQ1P–63	285	320	245	280	255	230	141		
YEQ2C–63	305	355	265	315	255	230	141		
YEQ2C–100	335	395	295	355	255	230	141		
YEQ2C–225	365	435	325	395	255	230	155		
YEQ2C–400	491	587	431	527	330	300	215		
YEQ2C–630	524	640	464	580	330	300	215		
YEQ2C–800	580	720	520	660	340	310	215		
YEQ2C–1250	580	720	520	660	415	385	290		
YEQ2N–250	355	425	315	385	255	230	148		
YEQ2N–630	497	587	437	527	355	325	215		
YEQ2P–125	305	355	265	315	255	230	155		
YEQ2P–160	335	395	295	355	255	230	155		

Y-700 series Automatic transfer switch controller



□ Y-700

General

Y-700 Automatic transfer switch controller is a intelligent automatic transfer module with programmable,automate measure,LCD display and digital communication etc function. It combines digital, intelligent and networked together. It achieve measure and control process automatically,reduce human operation error. It's the ideal product of dual power transfer. The core part of Y-700 Automatic transfer switch controller is microprocessor. It could detect the three phase voltage of Main power and Emergency power accurately. When the voltage abnormal(overvoltage,undervoltage,phase loss,overfrequency,underfrequency),it could make accurate judgment and then output passive control signals. This device could apply in different kinds of ATS. Such as specialized ATS,contactor type ATS,circuit breaker type ATS and so on. The controller with compact structure,advanced circuit and high reliability. So it can widely used in the electrical devices or automatic control system of electricity, telecommunication,petroleum,coal,metallurgy,railway,municipal,intelligent building etc industry.

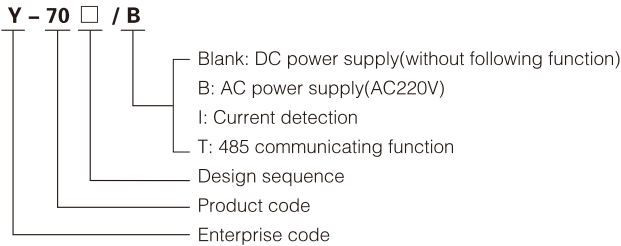
Performance and characteristics

- The type of control system could set to 1#Utility2#Utility,1#Utility2#Generator,1#Generator2#Utility, 1#Generator2#Generator. The dimension of LCD display is 128mm*64mm. LCD display with backlight and could show by two languages(Chinese or English). It could show the three phase voltage and frequency of Main power and Emergency power.

Main	Emergency
Line voltage Uab, Ubc, Uca	Line voltage Uab,Ubc,Uca
Phase voltage Ua, Ub, Uc	Phase voltage Ua,Ub,Uc
Frequency F1	Frequency F2

- Controller with overvoltage,undervoltage,phase loss,reverse phase sequence,overfrequency and underfrequency protection function.
 □ It can choose Automatic working status or Manual working status. In the Manual working status,could close or open switch by press the button.
 □ All the parameters could be programmed on the scene. Adopt secondary password to prevent wrong operation.
 □ On the scene,it could test the genset in with load or without load mode.
 □ With functions of switch reclosing and the power button again.
 □ Output signal could set to be pulse or continuous output.
 □ It can apply to one off position switch,two off position switch and without off position switch.
 □ The neutral line of Main power and Emergency power are designed separately.
 □ Real time clock display.
 □ With function of timing start or stop genset. The cycle could set to be a single running, once a week running or once a month running. And all the cycle running method could choose with load or without load.
 □ Controller can control 2 units genset cycle running. The running time and the interval downtime of genset both could be set.
 □ The range of DC power is very wide. Can short time withstand 80V DC input. Or through HWS560(85V-560VAC input,12VDC output) power module to supply power.
 □ The distance of AC power input terminals is far,so it can maximum withstand 625V input.
 □ Controller has RS485 isolation communication interface. It's apply protocols of Mod Bus communication will achieve "remote controlling,remote measuring,remote communication" functions. It could remote control genset start or stop and remote control ATS closing or open.
 □ It could inquiry the current state of controller(contain input port,overvoltage,undervoltage etc Internal Digital data).
 □ Suitable for a variety of connection types(Three phase four wire,Three phase three wire, Single phase two wire,Two phase three wire).
 □ Modular structure design,flame retardant ABS shell,pluggable terminal blocks,embedded installation,structure compact and easy installation.

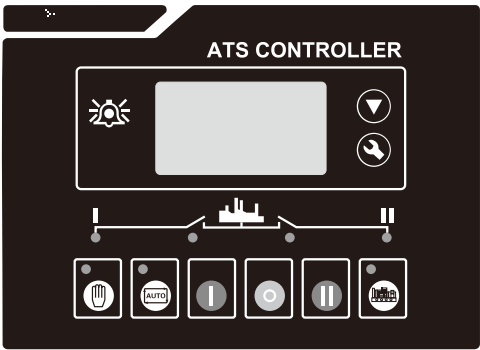
Products model and it's meaning



Technical Parameter

Model	Y-700		
Working voltage	1.DC8.0V-35.0V continuous power supply 2.HTS220/HWS560 power module to supply power(When it no battery to supply power) 3.AC power source L1N1,L2N2 supply power. The range of voltage:AC(160V~280V), (Y-700/B,Y-700/BI)		
Overall power consumption	<3W(Standby mode) ≤2W)		
AC voltage input	Alternating current system	Y-700、Y-700/I	Y-700/B、Y-700/BI
	Three phase four wire(L-L)	80V~625V	80V~480V
	Three phase three wire(L-L)	80V~625V	Unsuitable
	Single phase two wire(L-N)	50V~360V	50V~280V
	Two phase three wire(A-B)	80V~625V	80V~480V
Rated frequency	50/60Hz		
The output capacity of closing break-brake relay	16A 250VAC Passive output		
The output capacity of programmable relay	16A/7A 250VAC Passive output		
The digital quantity input port	Grounding effective		
Communication mode	RS485 Isolation interface, MODBUS Agreement		
Appearance dimension	211mmx155mmx55mm		
Hole size	186mmx141mm		
Working conditions	Temperature:(-25~+70)℃ Humidity: (20~90)%		
Storage conditions	Temperature:(-30~+80)℃		
Protection grade	If there is a waterproof rubber ring between in controller and control screen. If there is no waterproof rubber ring between in controller and control screen.		
Dielectric strength	Object: Between in input/output/power source Reference standard: IEC688-1992 Test method: AC1.5KV/1 min Leakage current 5mA		
Weight	0.8kg (Y-700,Y-700/I)/1 .0kg(Y-700/B、Y-700/BI)		

Operation panel and the function of button



1# Manual closing button	In the manual working status,press 1#, 1# close.
Off button	In the manual working status,press 1# and 2# off.
2# Manual closing button	In the manual working status,press 2#, 2# close.
Manual setting button	Press controller will be in the manual working status.
Automatic setting button	Press controller will be in the automatic working status.
Commissioning button	Press controller enter into commissioning interface.
Menu/confirm button	Press ,controller enter into menu interface. Long press ,exit from the current operation and display the main interface. When the controller fault alarm,long press ,could eliminate the fault alarm.
Page turning/ increase button	Change the screen interface. In the parameter setting interface,it's numerical increase button.

Y-701/Y-702系列
双电源控制器



□ Y-701



□ Y-702

■ Introduction

Y-701/Y-702 series Dual-Automatic Transfer Switch Controller is an ideal ATS controller which equipped with Microprocessor Measuring unit,Programmable Output unit,Communication unit(only 702),Indicator Display(701 NORMAL,702 LED) function,adjustable Conversion Delay function,adjustable working models and Intelligent Power Module to reduce the risk of man-made operation.
Due to the core is made up of microprocessor,Y-701/Y-702 series controller can detects any tiny changes(over-voltage,under-voltage and lacking phase) of the circuit and output the passive switch quantity signal.

■ Operational environment

- The ambient temperature should be higher than -10℃ and lower than 60℃.
- the ambient altitude should not be higher than 2000m.
- the ambient electrical pollution class should not be higher than level 3.
- the ambient relative air humidity should not be higher than 50%,40℃,the ambient temperature should not be higher than 25℃ while in the wettest month(The average maximum humidity of the month should be lower than 90%).
- If the environment is not up to the standard,the demand-side should notice the supply-side in advance.

■ Product Features

□控制器功能		
products model number	Y-701	Y-702
installation method	分体式	
display mode	indicator light	LED
rated duty	uninterrupted duty	
self-input and self restore	■	■
self-input and no self restore	■	■
normal port and standby port share to each other	■	■
generator auto-start function	■	■
normal power detect	four-phase lacking phase detection,three-phase over-voltage/under-voltage detection.	
standby power detect	four-phase lacking phase detection,three-phase over-voltage/under-voltage detection.	
Passive fire protection input	■	■
(DC9-36V)Active fire protection input	■	■
Active fire control input	■	■
voltage real-time display	□	■
normal power and standby power indication	■	■
normal power and standby power over-voltage/under-voltage adjustable	■	■
generator Rev. Stop time adjustable	■	■(F/F1)
Programmable Output	□	■
RS485 communicating function	□	■

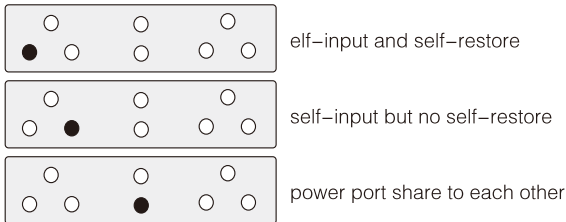
Note: only the solid squares have the function

■ function introduction

- Self-input and self-restore.when the normal power was broke down(lacking phase, over-voltage or under-voltage),The ATS will connect up to the standby power until the grid back to normal.
- Self-input but no self-restore.not same to the 1,the switch will keep connecting up to the standby power until manual operation.
- Power port share to each other. Followed 2,now the power grid is right,and the switch is connecting up to standby power,till the standby power break down,the switch will turn back to the power grid.
- Error alarm.when the ordered instruction can't be execute in the prescribed time,the controller will stop executing(outputting),and the Y-701's indicator light will start system checking(at same time the Y-702's indicator light shows dual flicker),press the"Manual/Auto" button to stop the alarm.

■ Setting mode of Y-701 controller

- setting mode of self-input and self-restore,self-input but no self-restore,power port share to each other.
- In the "Auto" mode,press both "A closing" and "B closing" buttons to start setting,then press "A switch on" to select the right mode.



■ Setting mode of Y-702 controller

- parameter setting
Press "Manual/Auto" button ten times to start setting.Press "A closing" or "B closing" to select.
- parameter modify
After enter the above mentioned panel,press "Manual/Auto" button to start/cancel modifying (digit start to flash),press "A closing" to increase and press "B closing" to decrease.
- save&exit setting
When the setting action completed,and the digit is still flashing,press "All OFF" button to save and exit(Only this way can save the modification).

□ Y-702的参数代码,范围及默认值

NO.	parametric code	Para Name	range	factory default
1	U270	common over-voltage	200-300	270
2	u165	common under-voltage	100-200	165
3	U270	standby over-voltage	200-300	270
4	u165	standby under-voltage	100-200	165
5	Γ	delay time of cutting to common power	0-240	1
6	┐	delay time of cutting to standby power	0-240	1
7	q	time-consuming of turn on the generator	0-240	5
8	d	time-consuming of turn off the generator	0-240	5
9	P	brightness control	0-10	8
10	E	ATS working mode	0-2	0
11	■	Programmable Output	0-8	0
12	J	local host	1-32	1
13	b	baud rate	1=2400 2=4800 3=9600 4=19200	3
14	H	reset to defaults	(0- 3) 3=reset to defaults	0

ATTENTION:select H=003 will restore the ATS,this operation may produce a error of voltage display in range $\pm 10V$.

□ 可编程输出口F/F1的定义:

Programmable Output	setting range(0–8)	default output
F/F1	0=enable generator normally–closed display 1=fire control feedback display 2=normal power fault display 3=standby power fault display 4=auto mode display 5=manual mode display 6=changeover failed display 7=normal power enabled display 8=standby power enabled display	0

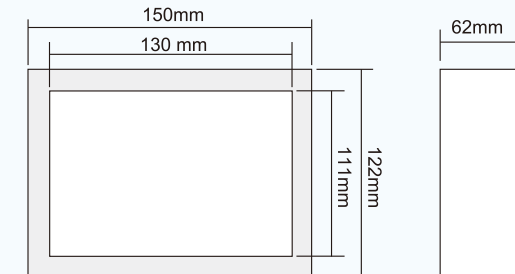
☐ ATS working mode

E-0 self-input and self restore

E-1 self-input and no self restore(details refer to P19 function introduction)

E-2 normal port and standby port share to each other(details refer to P19 function introduction)

■ Y-700/702 Contour and installation size



开孔尺寸: 130mm*111mm

外形尺寸：150mm*122mm

■ Y-700/702 Function of each terminal

R-	R+	GND	R1	485A (+)	485B (-)	EGND
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- ☐ R-&R+:DC9V-36V active fire control input enabled
 - ☐ GND&R1:short circuit,passive fire control unit enabled
 - ☐ 485A&485B:RS485--communication terminal,EGND--Frame Ground
- Communication protocol parameters:
- Local host:1(1-32,can be modified)
- Baud rate:9600bps
- Data bit:8
- Parity bit:none
- Stop bit:1

M3	M4	L2	A2	A2	B2	C2	N2	T2	T1	F2	F1	F	N1	C1	B1	A1	A1	L1	M2	M1
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

- ☐ M3,M4:standby power passive closing auxiliary output,outputting time depends on ATS Model;about 3 seconds within magnet exciting coil,Electric type ATS can be more than 10 seconds.
- ☐ L2:standby power active closing feedback input,only limited to phase A/B/C
- ☐ A2:standby power phase A output,feedback to the closing standby power.
- ☐ A2,B2,C2,N2:standby power three-phase&four-wire input
- ☐ T1,T2:All off signal output,can be active or passive depends on ATS model,when equipped with PC class three sections ATS,it is 220AC active output,and it is passive when equipped with seclusion type ATS.
- ☐ F2,F1,F:in Y-701 controller,F1 and F are starting generator signal output;in Y-702 controller, F1 and F are programmable output.
- ☐ A1,B1,C1,N1:normal power three-phase&four-wire input
- ☐ A1:A phase normal output,feedback to closing normal power.
- ☐ L1:normal power active closing feedback input,only limited to phase A/B/C.
- ☐ M1,M2:normal power passive closing auxiliary output,outputting time refers to M3&M4.