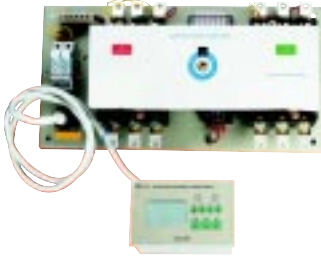


## NQ1 Dual Power Automatic Transfer Switch



### General

With the development of society, people has higher requirement on reliable supply power. Lots of places use two-path power supply in order to guarantee the reliability of supply power. Under this case, we need a kind of device can reliably transfer between two-path power supply to guarantee the supply power reliably and safely. NQ1 automatic transfer switch is a special device developed for the purpose of such requirement. This product has two kind of switchover function of self-operation self-recover and self-operation non self-recovery. It is a kind of automatic transfer goods with lately design, perfect performance, high automatic degree and wide usage.

### Application

NQ1 automatic transfer switch (hereinafter call as NQ1) is suitable for two-path power supply system with AC 50 HZ/60HZ, rated working voltage 400V, rated current from 6A ~ 800A. It can automatically transfer power supply to reserve power or generator when common power occurring fault so as to guarantee the reliability and safe of supply power. NQ1 has the protective function of overload, under-voltage, short circuit and lack phase which is especially suitable for using in the place where does not allow power supply failure, such as fire fighting, hospital, marketplace, military project, high-rise building, bank, TV station and so on.

### Standards

- ◆ IEC 60947-1 or GB14048.1 《General Rules》
- ◆ IEC 60947-2 or GB14048.2 《Low voltage breakers》
- ◆ IEC 60947-6-1(1989) or GB14048.11 《automatic transfer switch electric》

Notice:1.Reset selection: automatic switch with restore is no code, and automatic switch without restore code is N.  
2.Release type: instantaneous code is "2", and double is no code.

### Working Condition

- ◆ Ambient medium temperature: less than +40℃ and more than -5℃;24 h average value less than+35℃;
- ◆ Altitude: not over 2000m;
- ◆ The max ambient air relative humidity when the maximum temperature is +40℃ does not surpass 50%, in compares under the low temperature to be possible to allow the high relative humidity, the wettest monthly average min temperature is +25℃,this monthly mean maximum relative humidity is 90%, the dew on the surface of the product must be taken into consideration because of the temperature change.
- ◆ Class of pollution: 3
- ◆ The breaker should be put in the place where there isn't any explosive medium and conductive dust and no gas, which would corrode metal or destroy the insulation.

Table. 1

Normal	Reserve	Control Function
Power	Power	Normal power supply electricity: Q2 OFF, Q1 ON
Normal	Normal	Q1 ON after time-delay and recover power supply power
Abnormal	Normal	Q2 OFF after time-delay, Q1 ON recover normal power supply power

Notice: Q1-Control Normal Power Circuit Breaker  
Q2-Control Reserve Power Circuit Breaker  
Switchover operation time delay (0~30S, factory default value is 3S if user has not special requirement)Return operation time delay (0~ 30s, factory default value is 3S if user has not special requirement).

Regarding to the transfer switch of self-operation non self-recovery, see Table 2 for its control function: under Auto state, when the normal power occurs fault or abnormality after a certain delay time it can automatically transfer to reserve power to supply power. When the normal power recovers normal, it failed automatically return to normal power. It only can return to normal power after a certain time-delay time when the reserve power occurs fault or abnormality.

Table. 2

Normal Power	Reserve Power	Control Function
Normal	Normal	Normal power supply electricity: Q2 OFF, Q1 ON
Abnormal	Normal	Q1 ON after time-delay and recover power supply power
Recover Normal	Normal	Still supply power from reserve power
Normal	Abnormal	Q2 OFF after time-delay, Q1 ON recover normal power supply power

Notice: Q1 —— Control Normal Power Circuit Breaker

Q2 —— Control Reserve Power Circuit Breaker

Switchover operation time delay (0~30S, factory default value is 3S if user has not special requirement)

Return operation time delay (0~ 30s, factory default value is 3S if user has not special requirement).

This switch is mainly used for switchover between two-path power supply in power network as well as power network and generator. In power network - generator supply power system, the generator usually is used for reserve power. See Table 3 for other control function: when the power network voltage is lower than 70-80% of rated voltage, it can automatically start generator. When the generator mains voltage reached to normal (above 80 % rated voltage), switch on generating power supply. After the power network voltage recovers normal (reach to above 80% rated voltage), it will cut off the load circuit from generating power after a certain time-delay, and automatically return to normal power supply.

Table. 3

Normal Power	Reserve Power	Control Function
Normal	Normal	Normal power supply electricity: Q2 OFF, Q1 ON
Abnormal	Normal	Generator group generating
Abnormal	Normal generation	Generator group will supply power onceits generating voltage reach to above 80% rated voltage
Recover Normal	Generation	Q1 ON after time-delay and recover power network supply power

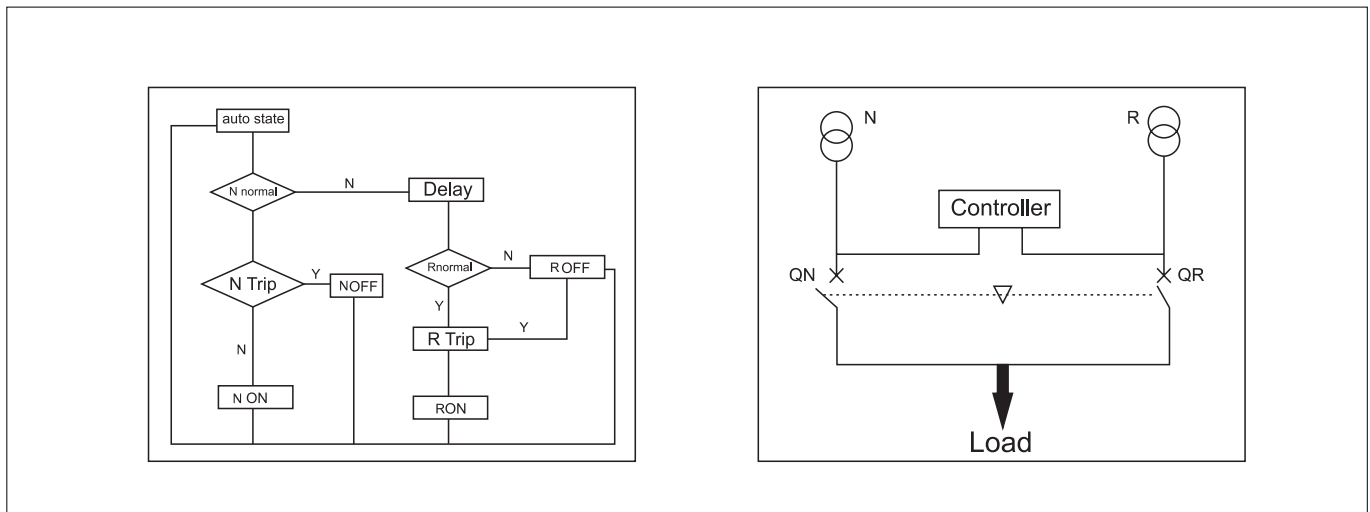
Notice: Q1-Control Normal Power Circuit Breaker

Q2-Control Reserve Power Circuit Breaker

Switchover operation time delay (0~30S, factory default value is 3S if user has not special requirement)

Return operation time delay (0~ 30s, factory default value is 3S if user has not special requirement).

Fig. 3



# ATS Dual Power Automatic Transfer Switch

## Main technology parameter

- ◆ The control power of the automatic controller and motor mechanism is AC230V.
- ◆ The transfer device is suitable for the system of rated working voltage is AC400V.
- ◆ The operating life of the transfer device (N-R-N cycle) is 5000 times.
- ◆ The minimum transfer time is in 1-3s.

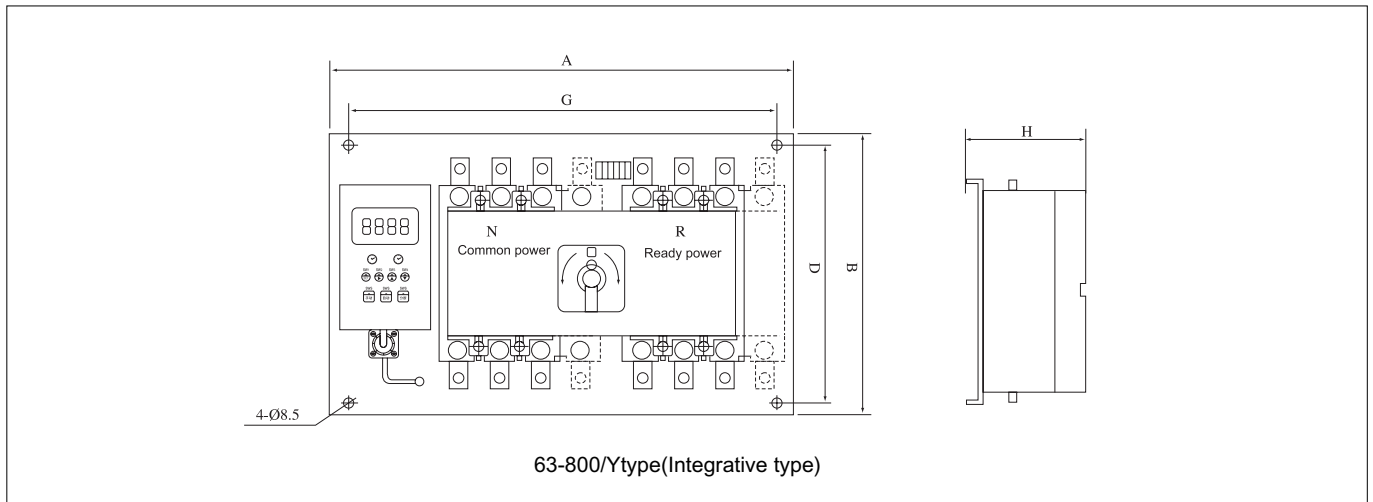
## The specification

unit: mm

Type	MCCB	Frame current (A)	Rated working voltage(V)	Rated current(A)	Rated limit short circuit breaking capability(KA)	
NQ1-63W	MM5-63	63	400	6、10、16、20、25、32、40、50、63		6
NQ1-63Type	MM1-63	63	400	(6)、10、16、20、25、32、40、50、63	L M	35 50
NQ1-100Type	MM1-100	100	400	10、16、20、25、32、40、50、63、80、100	L M	35 50
NQ1-160Type	MM1-160	160	400	100、125、140、160	L M	35 50
NQ1-225Type	MM1-225	225	400	100、125、140、160、180、200、225	L M	35 50
NQ1-400Type	MM1-400	400	400	225、250、315、350、400	L M	50 65
NQ1-630Type	MM1-630	630	400	400、500、630	L M	50 65
NQ1-800Type	MM2-800	800	400	630、700、800	S H	65 100

Notice: M type is 690V, W is MM5; L, M are MM1; S, H are MM2.

## Overall and mounting dimension



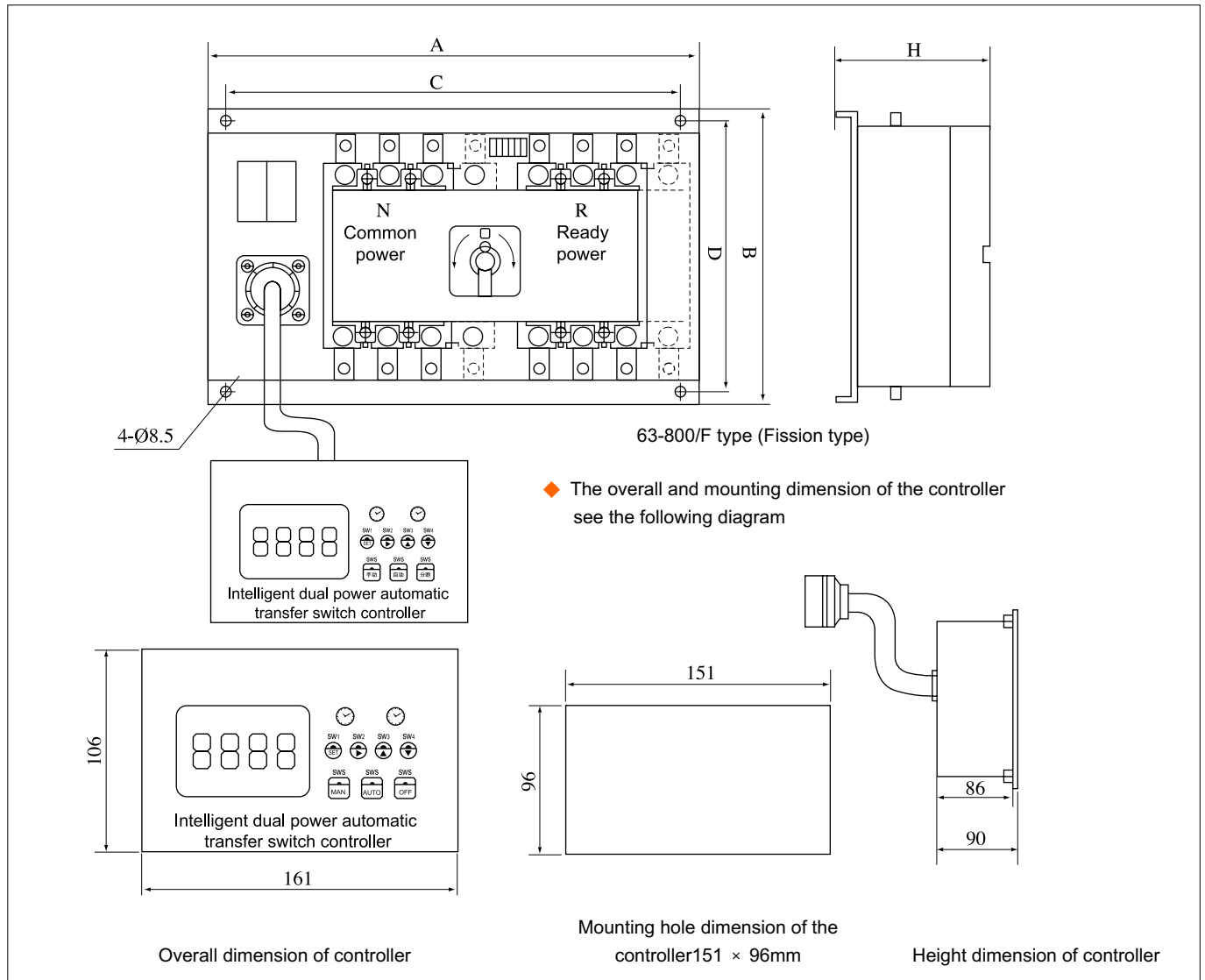
## Integrative type(Y)Type

unit: mm

Specification	Dimensions				
	A(L) 3P/4P	B(W)	C(L) 3P/4P	DW	H(H) 3P/4P
NQ1-63(W)	420/420	220	390/390	90	120/120
NQ1-63Type	440/470	220	410/440	190	125/135
NQ1-100Type	440/470	220	410/440	190	120/135
NQ1-160Type	480/520	240	450/490	210	140/160
NQ1-225Type	480/520	240	450/490	210	140/160
NQ1-400Type	620/670	300	590/640	270	235/235
NQ1-630Type	660/800	300	630/770	270	240/250
NQ1-800Type	680/840	300	650/810	270	250/250

Notice: The height of M H type of 3 poles is the same as 4 poles.

### Overall and mounting dimension



### Fission type(F)type

Unit: mm

Dimensions	A(L)	B(W)	C(L)	DW	H(H)
Specification	3P/4P		3P/4P		3P/4P
NQ1-63(W)	370/370	220	340/340	180	125/125
NQ1-63 type	380/410	210	350/380	180	130/140
NQ1-100 type	380/410	210	350/380	180	125/140
NQ1-160 type	420/470	230	390/440	200	145/165
NQ1-225 type	420/470	230	390/440	200	145/165
NQ1-400 type	570/620	300	540/590	270	235/235
NQ1-630 type	610/750	300	580/720	270	240/250
NQ1-800A type	630/790	300	600/760	270	250/250

Notice: The height of M H type of 3 poles is the same as 4 poles.