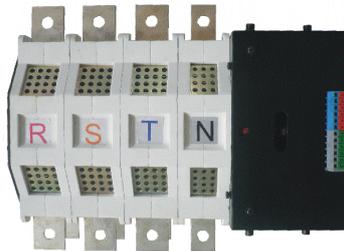


# Smartgen<sup>®</sup>

Automatic Transfer Switch

(ATS)



Smartgen Electronic

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## 1 SUMMARY

Smartgen SGQ Automatic Transfer Switch (ATS) is used in conditions from AC660V 50/60HZ to DC250V which under structure of electromagnetism driving. SGQ ATS can make fast loading transfer (transfer time  $\leq 80\text{ms}$ ) under two ways power supply. Also ATS can be widely used in Hi-buildings, post, telecommunications, mines, ships, medical, public health, military installations, and so on. Two ways power can be mains, gens and storage battery.

## 2 OPERATING CONDITIONS

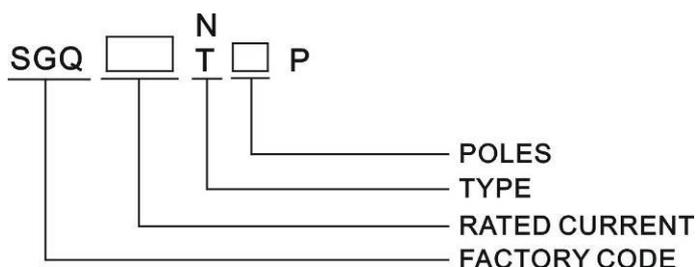
Items	Specifications
Operating voltage	AC220V (176~265)V
Ambient air temperature	(-40~+70) $^{\circ}\text{C}$
Air Humidity	(20~90)%
Elevation	$\leq 5000\text{m}$
Pollution Class	3
Installation gradient	$\leq 22.5^{\circ}$

## 3 SPECIFICATION

Type	Volume	Specification
N	$\leq 125\text{A}$	63A, 125A
T	160A~630A	160A, 200A, 250A, 400A, 630A
M	630A~1250A	630A, 800A, 1000A, 1250A

Note: All types of Smartgen ATS series have 3 poles and 4 poles (only 63A and 125A have 2 poles).

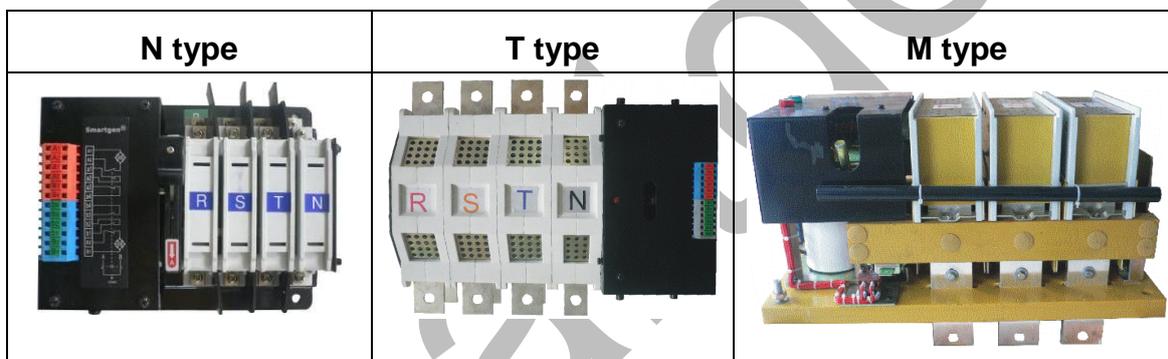
## 4 TYPE INSTRUCTION



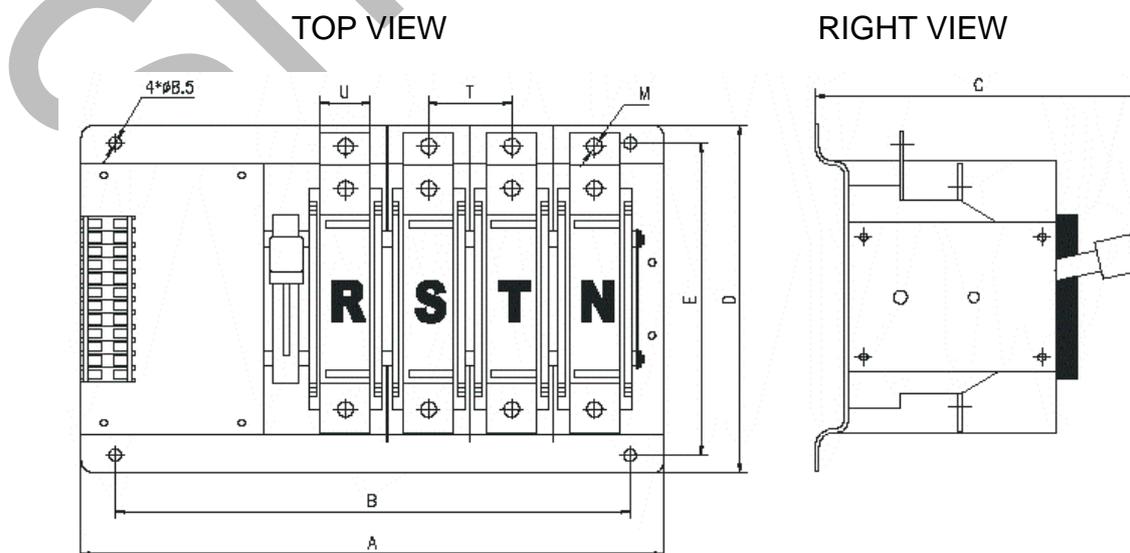
## 5 STRUCTURE

Smartgen SGQ Automatic Transfer Switch (ATS) apply for structure of magnet coil driving and two ways interlocking of electric and mechanical. And ATS's major contact structure is two-stable and one-moving, and the moving contact is "V" type design, in order to ensure there is no short circuit of the two-ways power supply. "N" and "T" apply for structure of single coils operation and the coil only have current while it is transferred, and this can extremely extend the using life of switch. The control power of coil is supplied from mains and backup, and no use to add up other control power. The switch has close indication of electric and mechanical by itself and also offers 2 ways NO/NC voltage free auxiliary contacts at the same time.

## 6 CASE DIMENSIONS



### 6.1. TYPE "N" CASE DIMENSIONS AND TECHNICAL DATA



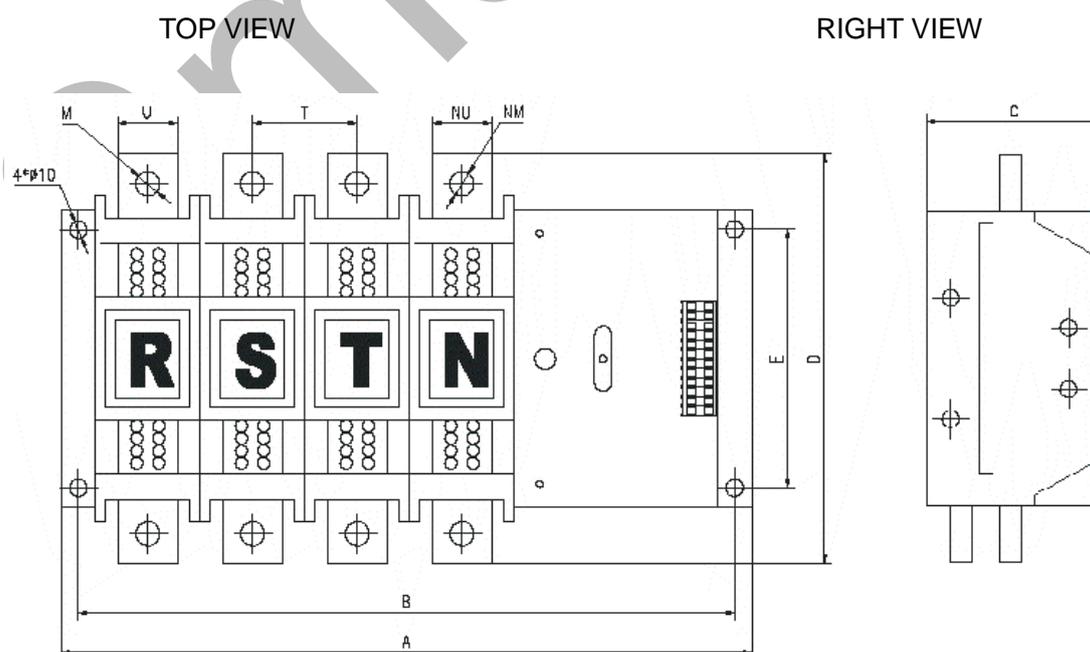
“N” case dimensions (mm)

Specification	Case size					Installation size				Copper bar		
	(A)	A2P	A3P	A4P	D	C	B2P	B3P	B4P	E	M	U
Q63N	172	200	228	186	155	139	167	195	165	5	12	27
Q125N	193	228	265	186	155	159	195	231	165	7	20	37

“N” technical data

Type		Q63N			Q125N		
Rated current(A)		63			125		
Operating current(A)					3.5		
Rated short-time withstand current (A)					35		
Working time(times)	Mechanical				5000		
	Electric				1000		
Number of pole		2P	3P	4P	2P	3P	4P
Net weight (kg)		4	4.5	4.7	4.5	5	5.65
Operation cycle (times/min)					1		

6.2.TYPE “T” CASE DIMENSIONS AND TECHNICAL DATA



“T” case dimensions (mm)

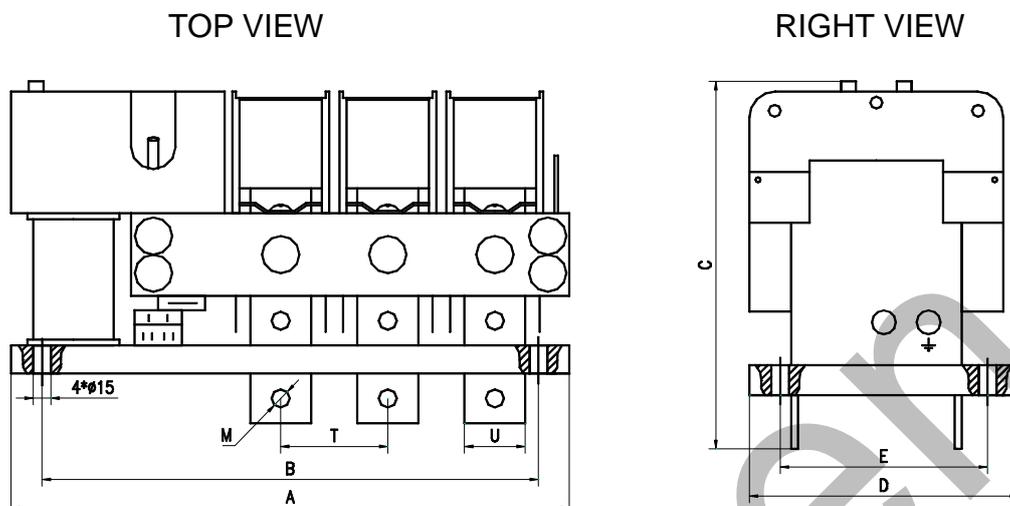
Type	Case size				Installation size			Copper bar				
	(A)	A3P	A4P	D	C	B3P	B4P	E	M	NM	U	NU
Q160T	326	375	292	150	309	357	200	9	9	20	20	50
Q200T	326	375	292	150	309	357	200	9	9	20	20	50
Q250T	326	375	292	150	309	357	200	9	9	20	20	50
Q400T	355	406	292	150	337	387	200	11	9	30	20	60
Q630T	364	424	310	150	345	408	200	15	15	40	30	64

(NM and NU is corresponding N bar's relative sizes of 4P switch)

“T” technical data

Type		Q160T		Q200T		Q250T		Q400T		Q630T	
Rated current(A)		160		200		250		400		630	
Operating current(A)		7									
Rated short-time withstand current(A)		35									
Working time(times)	Mechanical	5000						3000		2500	
	Electric	1000						1000		500	
Number of pole		3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
Net weight (kg)		16.5	18.5	16.5	18.5	16.5	18.5	18	20	20	22
Operation cycle (times/min.)		1									

### 6.3.TYPE “M” EXTERNAL DIMENSIONS AND TECHNICAL DATA



“M” case dimensions (mm)

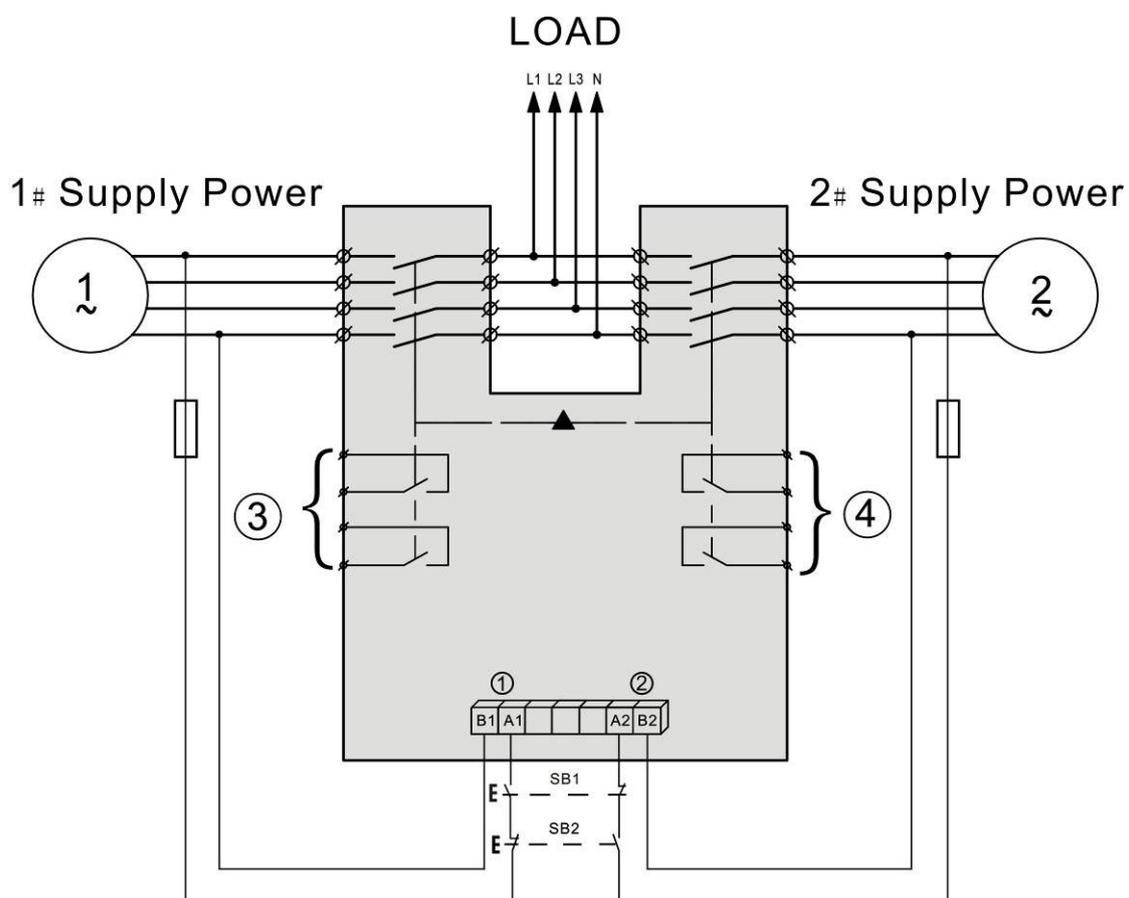
Specification	Case size				Installation size			Copper bar		
	(A)	A3P	A4P	D	C	B3P	B4P	E	M	U
Q630M	510	600	260	340	470	562	210	12	30	90
Q800M	510	600	260	340	470	562	210	15	40	90
Q1000M	510	600	260	340	470	562	210	15	45	90
Q1250M	510	600	260	340	470	562	210	15	55	90

“M” technical data

Type		Q630M	Q800M	Q1000M	Q1250M				
Rated current(A)		630	800	1000	1250				
Operating current(A)		16							
Rated short-time withstand current(A)		50							
Working time(times)	Mechanical	2500							
	Electric	500							
Number of pole		3P	4P	3P	4P	3P	4P	3P	4P
Net weight (kg)		42.3	49.7	45.3	54.4	48.3	59.4	51.3	64.5
Operation cycle (times/min.)		1				3			

## 7 ATS CONNECTING DIAGRAM AND OPERATING PRINCIPAL

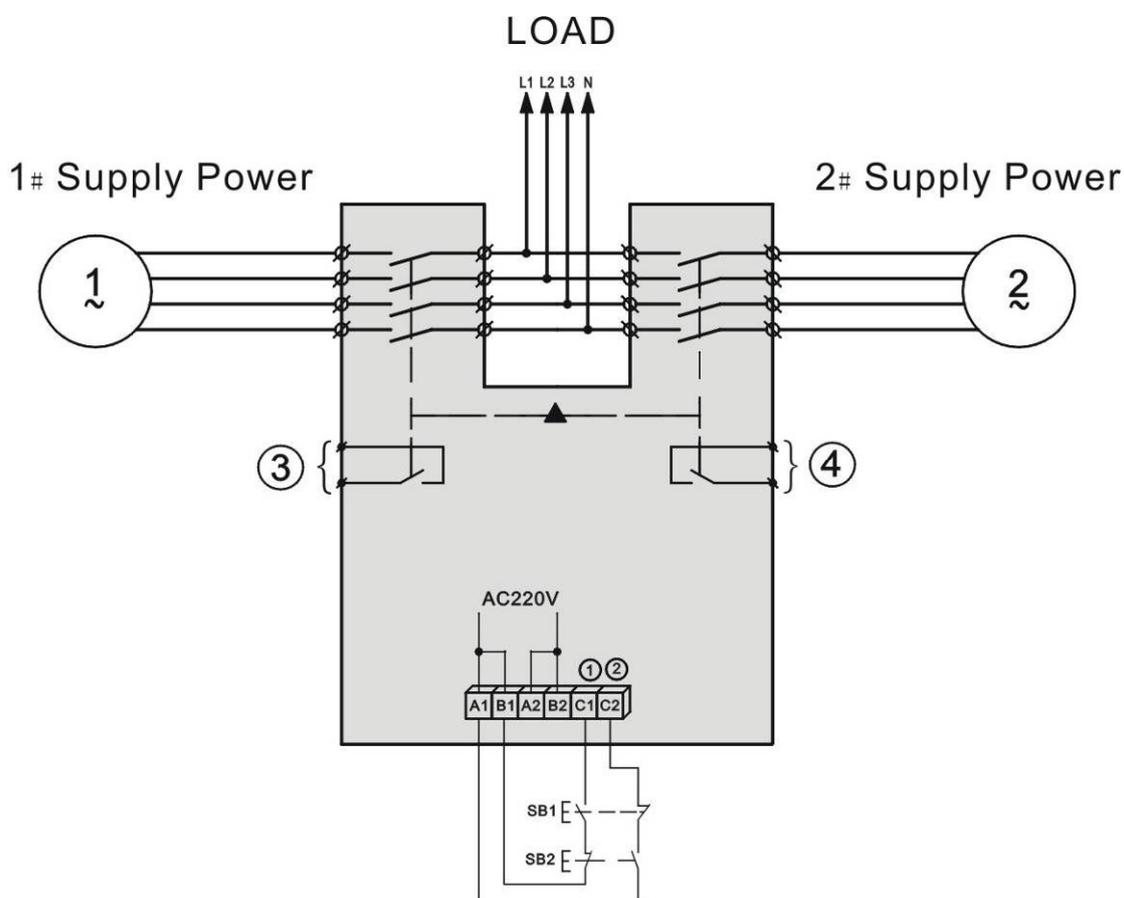
### 7.1. "N" AND "T" SIMPLE CONNECTING DIAGRAM



**Note:**

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1. Position control I                | 2. Position control II               |
| 3. Aux. contact of position I        | 4. Aux. contact of position II       |
| SB1 as No.1 power's switch on button | SB1 as No.2 power's switch on button |

## 7.2. "M" SIMPLE CONNECTING DIAGRAM



**Note:**

- |  |                                |
|--|--------------------------------|
| 1. Position control I  | 2. Position control II         |
| 3. Aux. contact of position I  | 4. Aux. contact of position II |
| SB1 as No.1 power's switch on button    SB1 as No.2 power's switch on button |                                |

## 8 INSTALLATION AND TESTING

The installation and testing of ATS must be operated by experts and people who much learn about switch equipments. Protection and preventive measures must be considered during the operation. The wires connection of switch major loop must make its down lead prohibit from any pressure and strong force. Should inspect if have any damage to switch or any harmful environment before installation or debugging. Meanwhile, should check the wires connection if loose during transportation. Also should make the switch is clean and clean way smudge, special prohibit any smudges on the surface of

insulation parts. The smudges could be caused from the packing materials during transportation or in storage. When connect main loop, should make the two-ways power phase sequence as same. Also should strictly follow to wires diagram in manual when connect to second loop and pay attention to control the voltage grade of power. There must be have excellent ground-connection when installation. Considering the personal safety and quickness of switch transfer, the debugging handle for testing only and users never operate it with load. Should use handle to operate the switch first when debugging. If everything goes well, using manual button to power-driven operation. And ATS is normal running after there is no error.

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