

# SmartGen

MAKING CONTROL SMARTER

## SGQ2 SERIES AUTOMATIC TRANSFER SWITCH USER MANUAL



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**Table 1 Software Version**

Date	Version	Note
2025-08-12	1.0	Original release.

## CONTENTS

1 OVERVIEW.....	4
2 STRUCTURE AND CHARACTERISTICS.....	4
3 APPEARANCE AND CLASSIFICATION .....	5
3.1 ILLUSTRATION.....	5
3.2 CASE DIMENSIONS AND TECHNICAL DATA.....	6
3.3 WIRING CONNECTIONS.....	8
4 WORKING REQUIREMENTS.....	9
5 WIRING DIAGRAM.....	9
6 INSTALLATION AND DEBUGGING.....	10
7 ORDER MODELS.....	10

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## 1 OVERVIEW

SGQ2 series automatic transfer switch (ATS) is designed for dual-power supply systems with AC400V 50/60Hz below, and rated operating current up to 100A, featuring an excitation drive structure. This switch offers two positions: Normal (I) and Alternate (II), automatically transferring one or multiple load circuits from one power supply to another to ensure continuous power supply. It is suitable for essential applications including industrial, commercial, high-rise buildings and residential projects.

The product complies with the IEC 60947-6-1 standard: "Low-voltage switchgear and controlgear - Part 6-1: Multiple function equipment - Transfer switching equipment."

## 2 STRUCTURE AND CHARACTERISTICS

The SGQ2 series automatic transfer switch is a new generation of PC class two-position switch product combines advanced digital electronic control technology. Designed with features such as compact size, aesthetical appearance, energy efficiency, easy installation and reliable dual interlock protection, it offers advanced and comprehensive functionality.

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## 3 APPEARANCE AND CLASSIFICATION

### 3.1 ILLUSTRATION

The SGQ2 series automatic transfer switch is available in 2-pole, 3-pole, and 4-pole configurations. The rated current series are: 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A and 100A. Switch appearances are as below.

**Table 2 Switch Appearance**

Type	2P	3P	4P
SGQ2 Series			

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3.2 CASE DIMENSIONS AND TECHNICAL DATA

Unit: mm

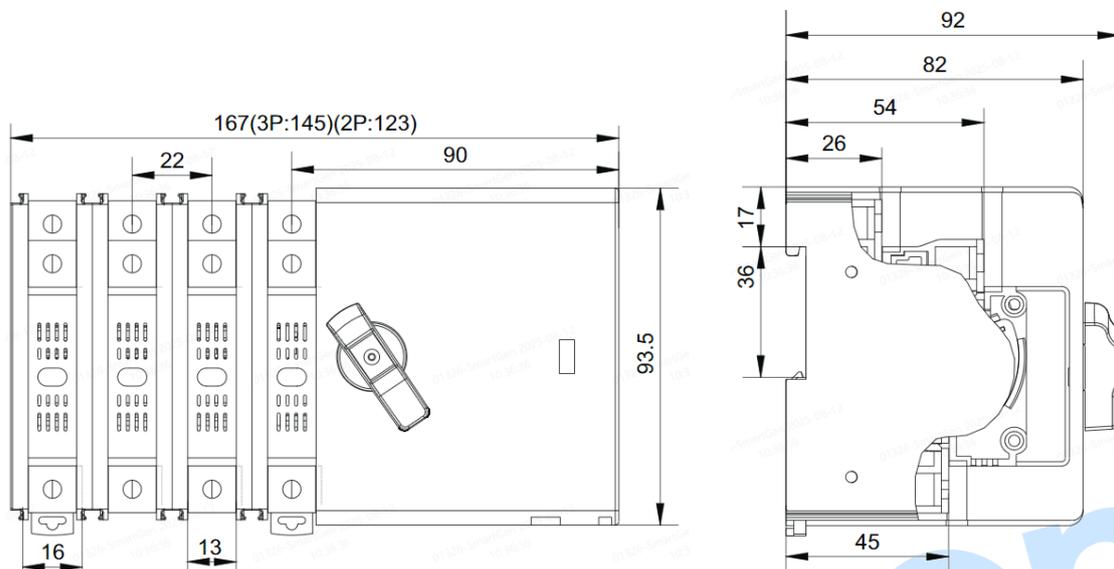


Fig. 1 SGQ2 Frame Diagram

Table 3 SGQ2 Technical Parameters

Item	Parameter
Number of Poles (P)	2P, 3P, 4P
Rated current	16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A
Rated Operating Voltage	AC230V(2P)/AC400V
Rated Insulation Voltage	800V
Rated Impulse Withstand Voltage	8 kV
Utilization Category	AC-33iB
IP Rating	IP20
Rated Impulse Withstand Current	5kA/30ms
Rated Making Capacity	8 kA
Rated Control Supply Voltage	AC230V
Contact Transition Time	Less than 30ms

Item	Parameter
Transfer Time	Less than 100ms
Power-off Time	Less than 30ms
Working Mode	Auto Trans. Auto Restore
Electrical Class	PC Class
Normal Operating Range	85%Ue~110%Ue
Operation Mode	Auto/Manual
Switch Position	Normal (I), Alternate (II)
Mechanical Life	8000 Operations
Electrical Life	2000 Operations

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3.3 WIRING CONNECTIONS

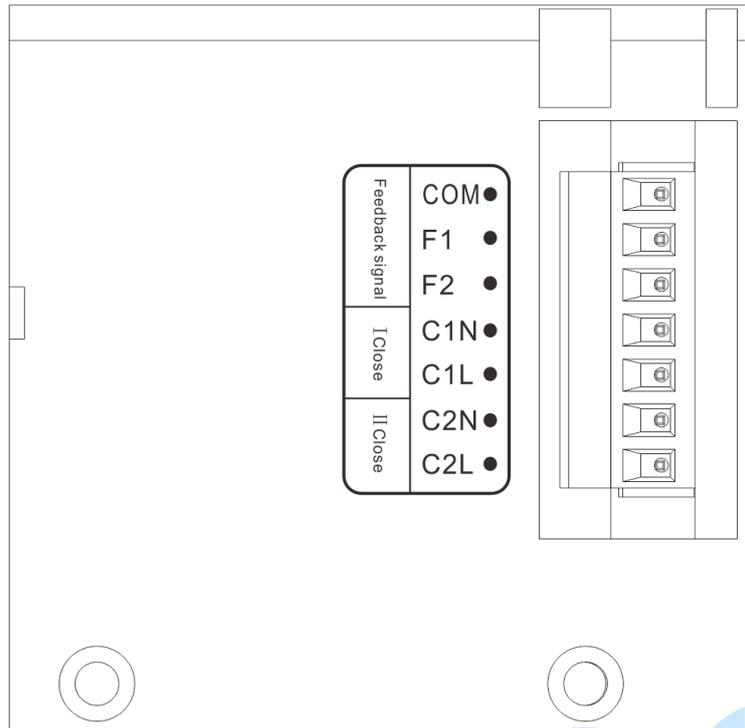


Fig. 2 SGQ2 Terminals

Table 4 SGQ2 Terminal Connections

No.	Marking	Function	Remarks	
Control Terminals	1	C1N	N-phase input for close control of #I	AC230V close control for #I.
	2	C1L	L-phase input for close control of #I	
	3	C2N	N-phase input for close control of #II	AC230V close control for # II.
	4	C2L	L-phase input for close control of # II	
Feedback Terminals	1	COM	Common terminal for close feedback	Common terminals for passive feedback.
	2	F1	Close feedback output for #I	Passive feedback output.
	3	F2	Close feedback output for # II	Passive feedback output.
Mode Selection	Manual	Manual Mode	When the DIP switch is set to the "Manual" position, the unit is in manual mode. Automatic control is disabled. The switch cannot be operated via the control terminals and can only be switched manually.	
	Auto	Auto Mode	When the DIP switch is set to the "Auto" position, the unit is in automatic mode. The switch can be controlled via the control terminals.	

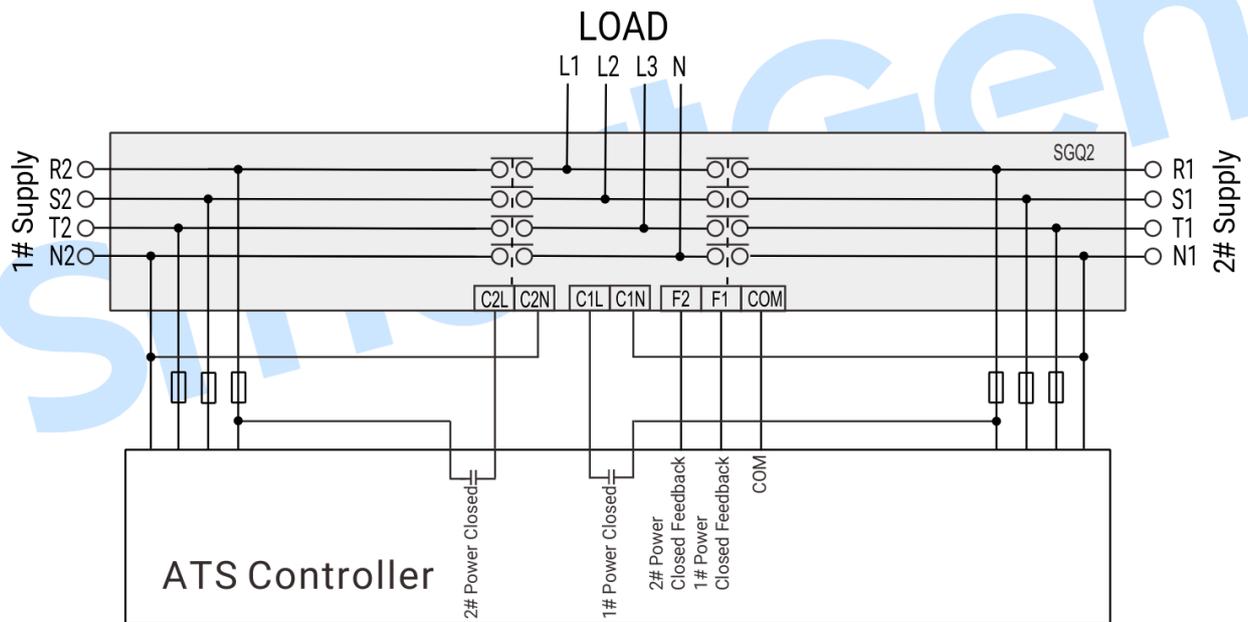
No.	Marking	Function	Remarks
Manual Operating Handle	I- II	Position Indication	In manual mode, rotate the operating handle to the # I close position or the # II close position. Note: Do not operate the handle in automatic mode.

## 4 WORKING REQUIREMENTS

**Table 5 Working Requirements**

Item	Specification
Working Temperature	(-25~+70)°C
Storage Temperature	(-40~+80)°C
Installation Altitude	≤2000m
Pollution Class	III

## 5 WIRING DIAGRAM

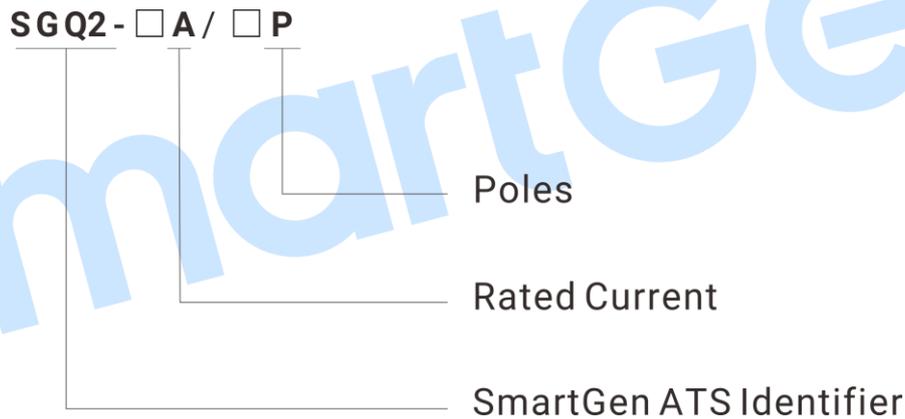


**Fig. 2 SGQ2 Wiring Diagram**

## 6 INSTALLATION AND DEBUGGING

All operations about ATS installation and debugging shall be conducted by professionals or persons knowing the switch device and protection and precaution measures must be considered during the operation. Wiring connection of main loop must make sure leading wire is not taking any pressure or force. Before installation and debugging please check firstly whether switch is damaged or whether there is harmful environment effect on it. At the same time please check whether there is loose wire resulting from transportation; clear the smudge, especially the smudge on the surface of insulating parts. The smudge probably is caused by the packing materials in the transportation process or in the storage process. Please make sure the phase sequences are in accordance at connecting the first circuit; please observe the wiring connection diagram of user manual strictly at connecting the second circuit and pay attention to control power voltage class at the same time. Ground must be well connected on switch installation. During routine maintenance or troubleshooting of the load circuit, the automatic control function of the transfer switch must be deactivated. The switch should be set to the open (OFF) position on both sources to cut off power supply to the load, thereby preventing unnecessary property damage and personal injury. For maintenance or periodic inspection of the automatic transfer switch, always use the "Manual" mode for debugging.

## 7 ORDER MODELS



NOTE: The ordering models are based on the actual product models of SmartGen.

**Fig. 4 Order Models**

**Table 6 Packing List**

No.	Item	Qty.
1	Automatic Transfer Switch	1
2	Installation Instruction	1