

# SPC3 Series Electric Power Controller





## Company Profile

Savch Electric Co., Ltd was set up in Quanzhou, Fujian province in 2001 and established a research and development center in Shanghai. It is one of the first few companies to develop and produce motor drives in China. In 2005, it became China's top ten inverter brands. The company relies on a strong R & D team and world-class power electronics production and quality control system (OEM for top international brand) to provide customers with high-performance servo drives, inverters, computer controllers and other industrial control products.

The company focuses on the frontier technology fields of "industrial intelligence, energy saving, green energy", and adheres to the core goal of "creating value for customers", and establishes a technical R&D team that highly conforms to customer industry characteristics and highly integrated mechatronics and provide more efficient and resource-efficient system solutions for various industries customers. For the pass years, the company has established a global equal and close cooperation agent system, and customer service system with user satisfaction as an indicator, widely used in ceramics, packaging, textile, dyeing and finishing, engineering upgrading, lifting, road, CNC machine tools, glass, mining, petroleum, shipbuilding, military and even farming and animal husbandry and other equipment fields.

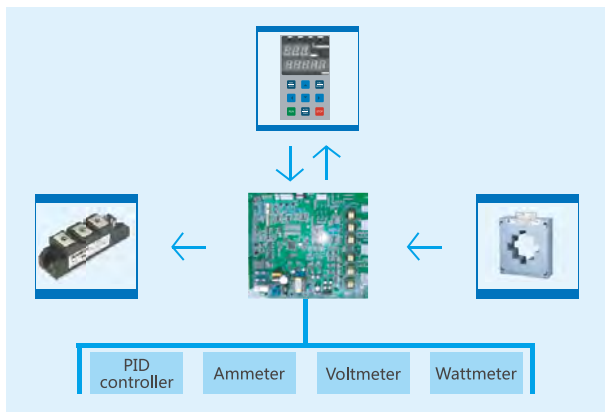


SPC3 series full-digital three-phase thyristor power controller which integrates functions of open-loop, constant voltage/current/power, power control (from 0 degree), control into one and adopting full-digital design to optimize hardware design, and to strengthen software function can be applied widely to control and regulate three-phase, current, power in various industries. Standard communication interface equipped on the controller can meet requirements of high accuracy control. Therefore, it is suitable for resistive load, inductive load and transformer primary side.

## Main features

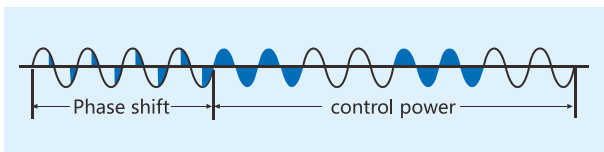
### • Multi-functional integrated

The device which integrates functions of control, display and exterior fittings into one is connected easily and operated conveniently.

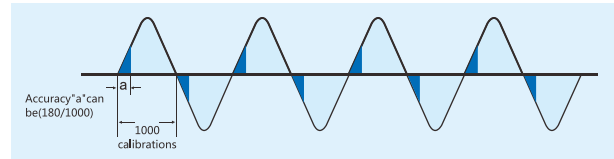


### • Phase shift and voltage regulation firstly, and then control power from 0 degree(LZ Control)

- ▶ Phase shift and voltage regulation: adopt phase shift and voltage regulation within short time after starting (soft starter)
- ▶ Power control (from 0 degree): reduce harmonic pollution to power grid
- ▶ Because the value of cold and hot status resistance changes quickly, it will produce load, the load will have much current surge for the controller, power grid and load. but LZ control could avoid the current surge.

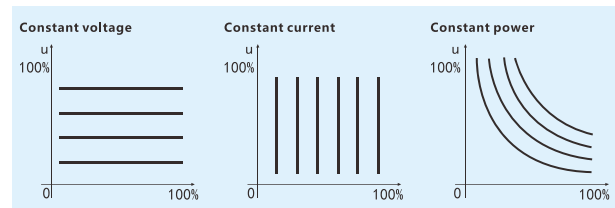


### • Full-digital high accuracy phase shift trigger (phase shift accuracy: 1000 calibrations per 180°)



### • Various control modes

- ▶ Six control modes: open-loop, constant voltage/current/ power, power control (from 0 degree), LZ control; it can be used flexible to reach an optimized load control.
- ▶ Constant voltage/current/power can be controlled by effective value.



### • Strong programmable function

The device which is able to on-line set, debug 118 parameters through MODBUS communication can meet individuation requirements of various industries in largest extent.

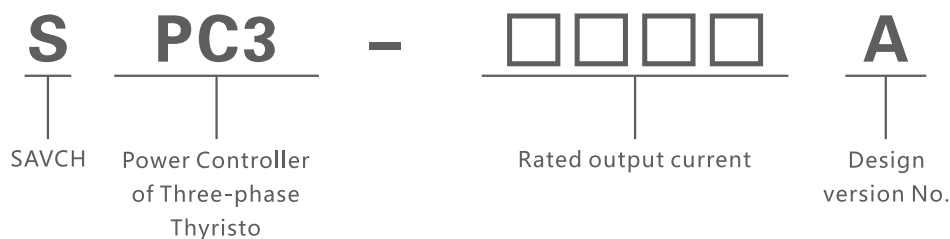
### • Mighty anti-interference ability

The device which adopts isolation technology in output and input has mighty anti-interference ability.

### • Safe and reliable operation

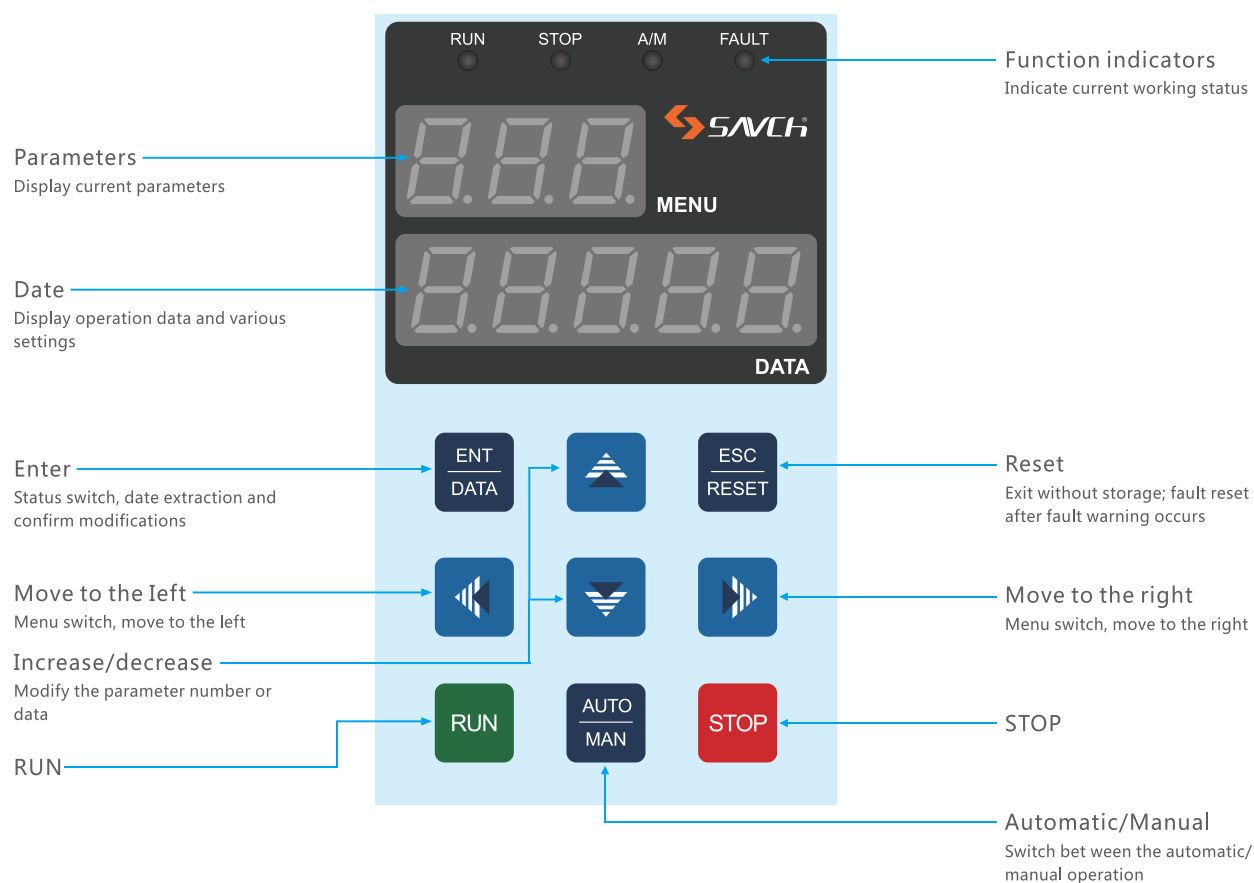
Users can operate the device safely and reliably as the device is equipped with safety isolation in control, power part, relay output warning, and of twice rating current protection and SCR overheat prevention.

## Model Description

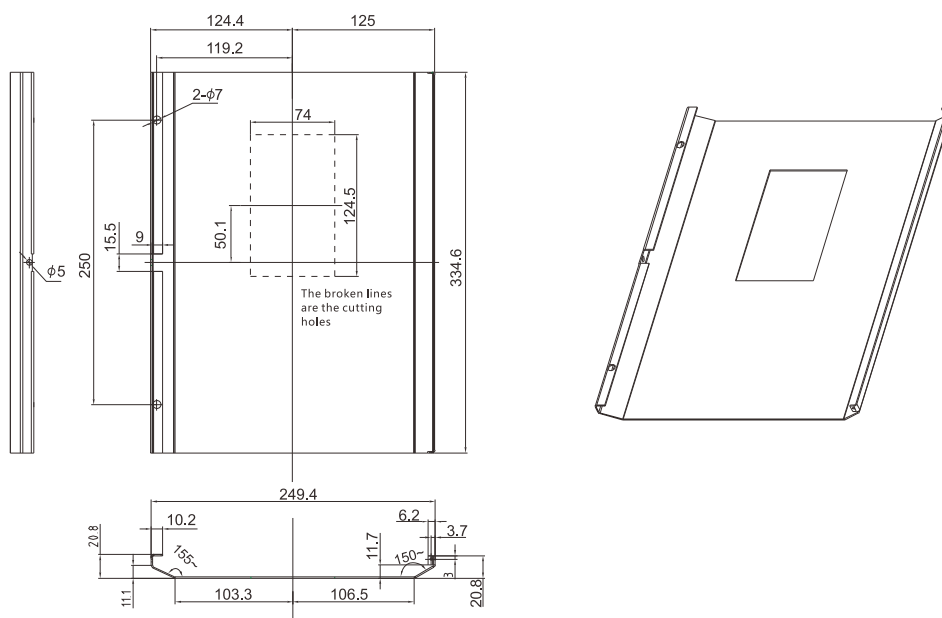


# Operation Keypad

## • Function Description



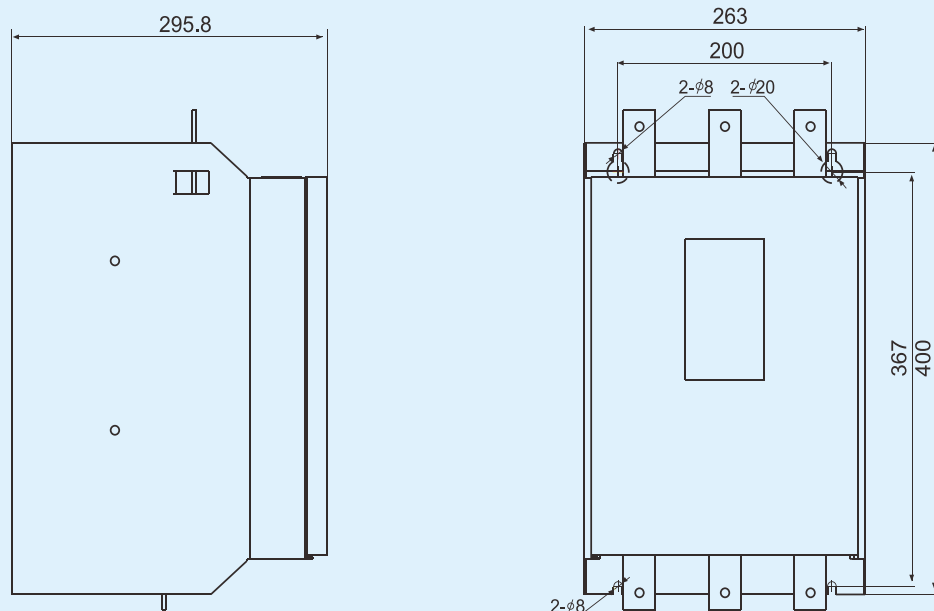
## • Operation Keypad Dimensions (Unit: mm)



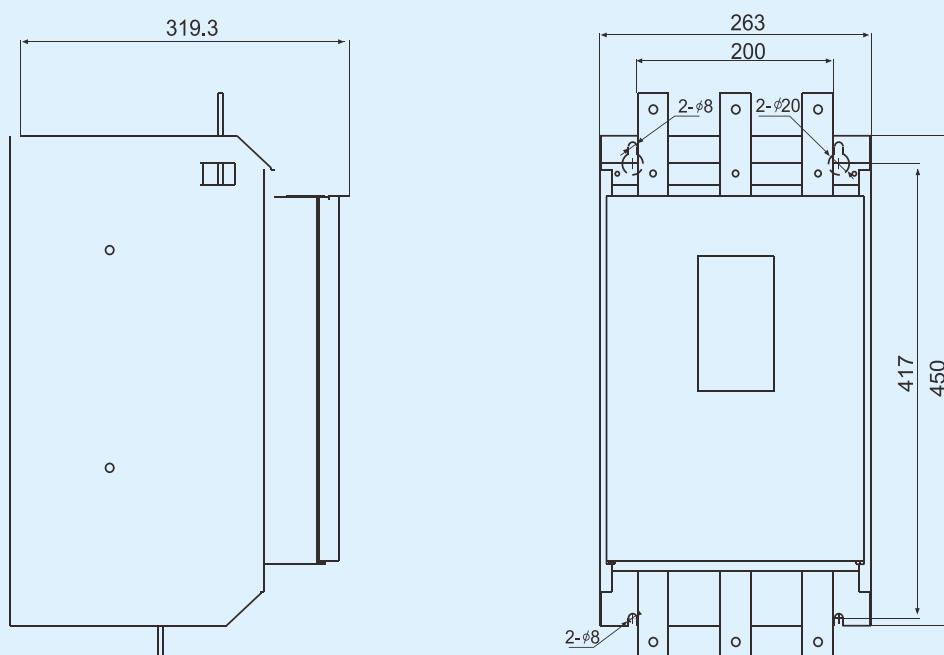


## External Dimensions

- External & installation dimensions for 25A-50A and 75A-150A (Unit: mm)



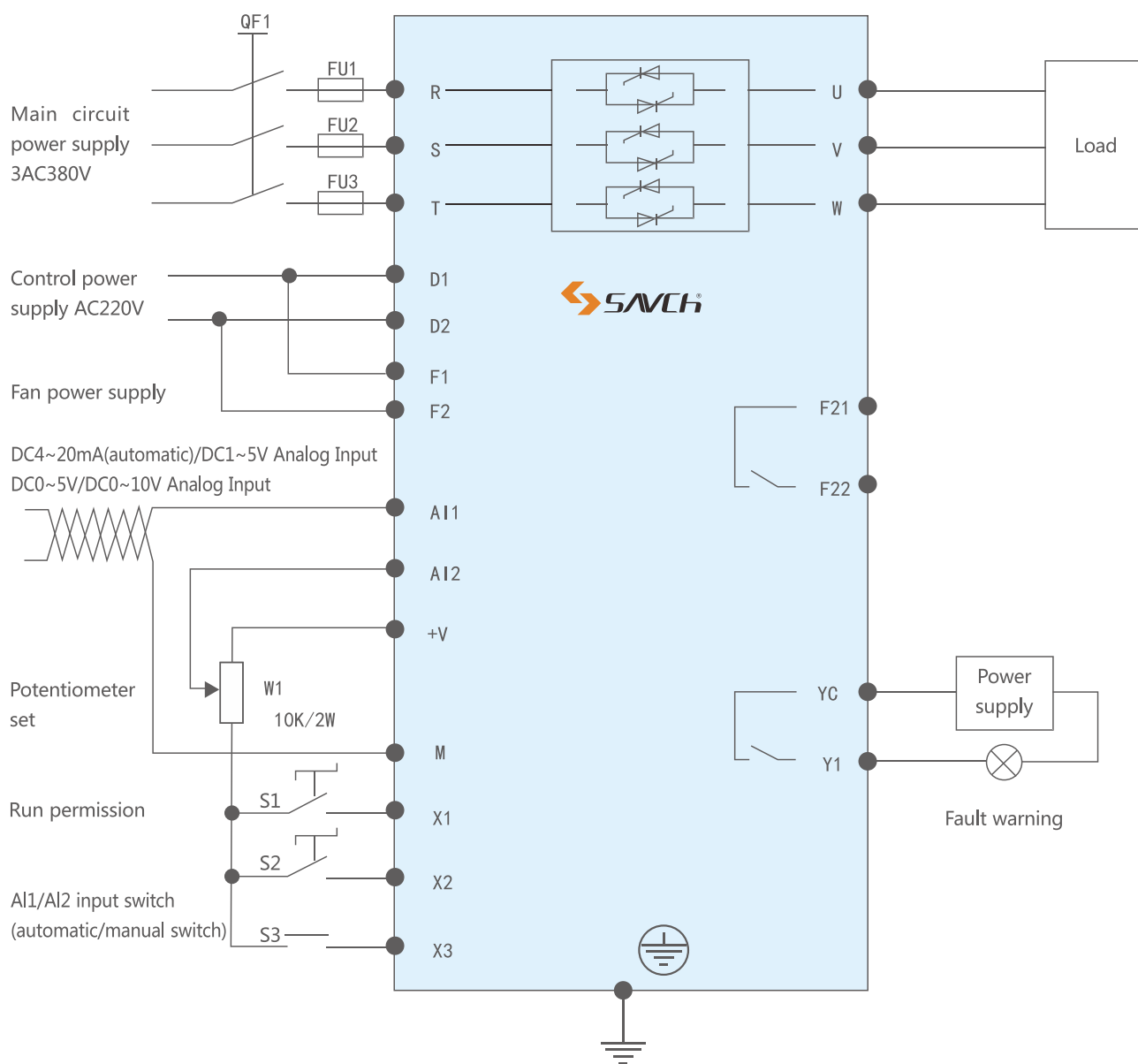
- External & installation dimensions for 250A-450A (Unit: mm)



## Product Specification

Model		Rated voltage ( AC V )	Rated current ( AC A )	Rated capacity ( kVA )	Cooling way
SPC3-0025A		380	25	16	natural air cooling
SPC3-0050A			50	33	
SPC3-0075A			75	49	
SPC3-0100A			100	66	
SPC3-0150A			150	99	
SPC3-0200A			200	132	
SPC3-0250A			250	165	
SPC3-0350A			350	230	
SPC3-0450A			450	296	
Input	Main circuit voltage	3AC100~500V, 45~65Hz			
	Control power supply	AC220V±15%, 45~65Hz			
	Fan power supply	AC220V±15%, 45~65Hz			
Output	Output voltage	0 to 95% of the input voltage(phase-shifting control)			
	Output current	See “Product series”			
	Control mode	Open-loop,constant voltage.constant current, constant power, power regulation (zero-crossing) and LZ control			
	Load feature	Resistance, primary side of the transformer			
Main control features	Control signal	Analog and digital determined			
	Parameter setting	Keyboard setting			
	Analogue value input	5-channel programmable input (2-channel linear Opto-coupler Isolation, 3-channel non-isolation)			
	Switch value input	1-channel fixed, 4-channel programmable input			
	Relay output	3-channel programmable output			
	Analogue output	4-channel programmable output			
	Fan control	Automatically start/time-delay and stop fan cooling device			
Protections	Phase-missing protection	Protect at main circuit input power supply phase-missing			
	Over-current protection	Protect when the current e"two times of the rated current			
	Frequency fault	Protect when power supply frequency is beyond the range (45-65Hz)			
	SCR overheat protection	Protect when SCR temperature 75℃			
	SCR fault	Protect when SCR is in fault			
	Load broken line	Protect when load line broken or partial broken line			
Environment	Operation environ- ment temperature	-10~45℃			
	Storing temperature	-30~60℃			
	Humidity	90% RH, No condensation			
	Vibration	<0.5G, no severe vibration and collision			
	Altitude	Lower than 1000m;derating when altitude exceed 1000m, according to GB/T3859. 2-93			
	Protection grade	IP00			
Insta- llation	Vertical installation	Wall-hang is favorable for ventilation(1500A, chassis type)			

## Basic Wiring Diagram



## Application

SPC3 series three-phase full-digital thyristor controller which is able to operate easily, debug simply, run stably has widely applied in industrial heat control field.

### • Applicable for various industries:


- Glass production line, glass fiber, coating industry, metal heat treatment, color picture tube production, vacuum device etc;
- Magnetic steel production, diamond production, crystal production, ceramics production and nonferrous metal refining;
- Stepless smoothing regulation of voltage, current, power, light and so on, semiconductor industrial boat steam resource;
- Avigation power source voltage regulator, textile machinery, crystal production, AC/DC motor dragging, petrochemical machine;
- Electrical wire/cable machine, plastic machine, food production machinery, electroheat copper furnace, constant voltage/current/power control field.

## COOPERATIVE CLIENT




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**Qualification**  
 Received **ISO9001** and **CE** recognition  
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