Sinexcel

SINEXCEL SPC

Smart Power Quality Correction Device

Authorized Dealer:

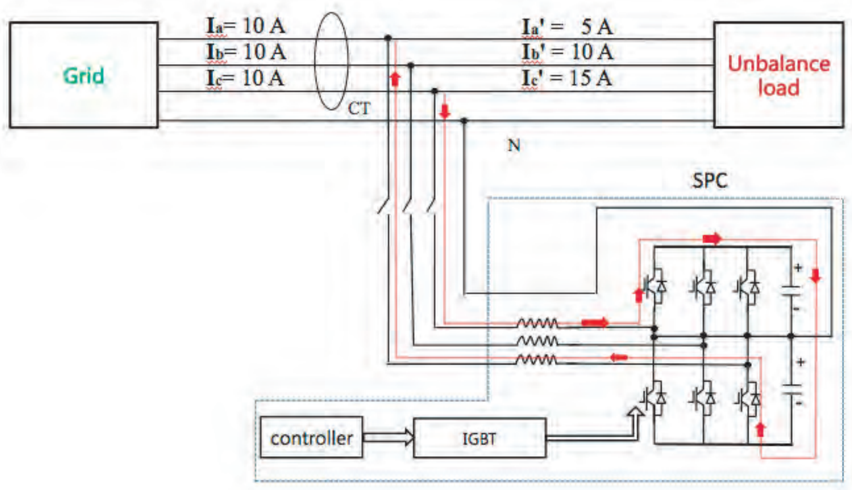
Sinexcel

SE/SPC/1603/1.0

Sinexcel Electric Co.,Ltd

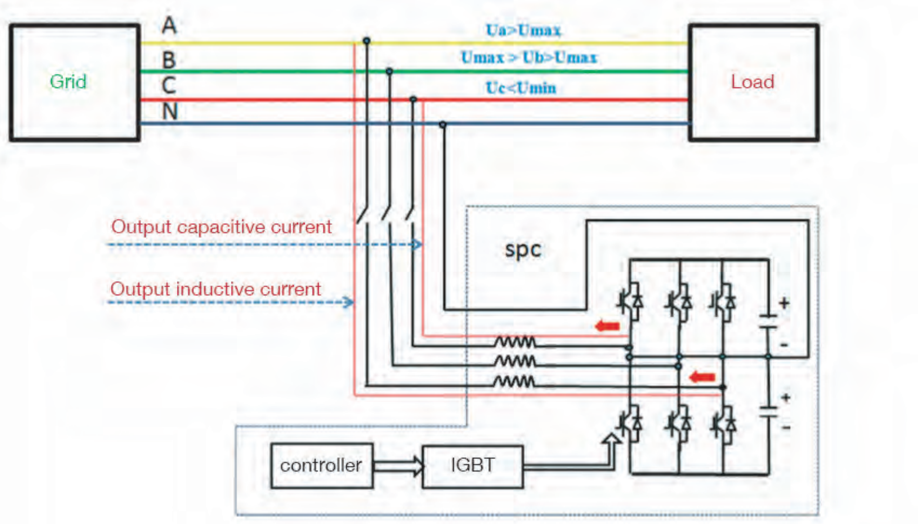
3-phase balancing function

After the SPC being turned on, the system current is detected in real-time by an external current transformer, and the system current information is send to the internal DSP for processing analysis to determine whether the system is in an unbalanced condition. At the same time, the DSP calculates the required current value for each phase and then sends the signal to the internal IGBT and drives it. The unbalanced current is transferred from the large current phase to the small current phase through the conversion process, and the three-phase equilibrium state is obtained.



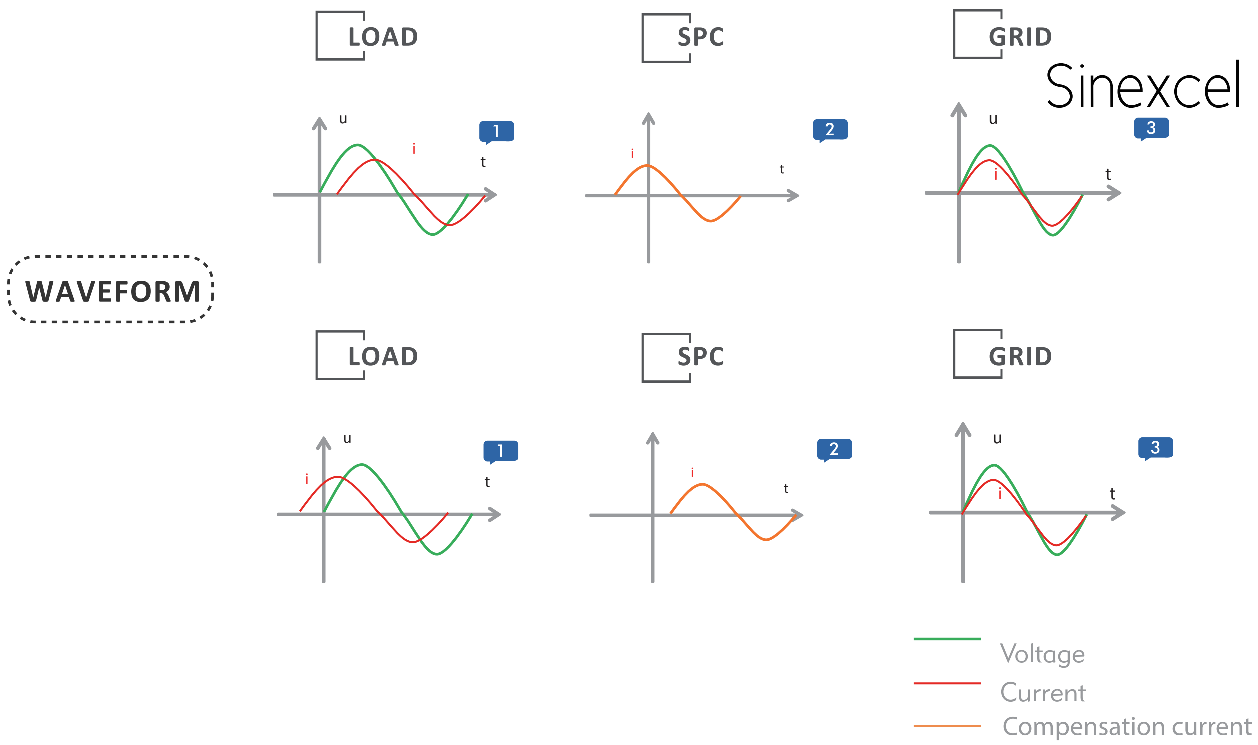
Voltage Support Function

The SPC performs voltage sampling at the compensation point and sends voltage information to the internal DSP to determine if the voltage exceeds the set value. When the upper limit is exceeded, the SPC will output inductive reactive power current to lower the voltage. When it is at the lower limit, the SPC will output the capacitive reactive power current to increase the voltage. In the end it will keep the voltage of each phase stable.

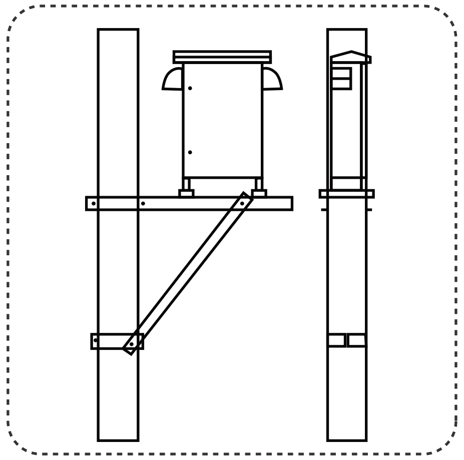


Power Factor Correction Function

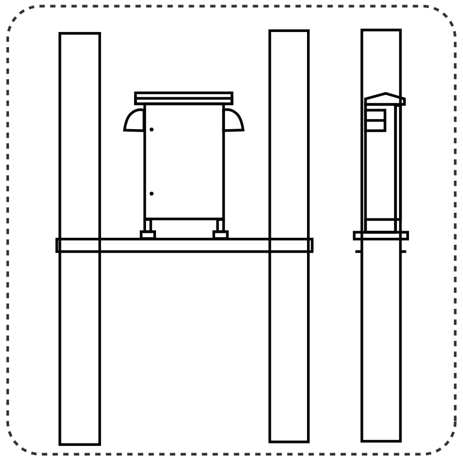
The Sinexcel SPC checks the load current through external CT and performs calculations through the internal DSP to analyze the reactive content of the load current. After that, the DSP controls the PWM signal generator according to the setting to send the control signal to the internal IGBT. This generates reactive power compensation current to achieve dynamic reactive power compensation.



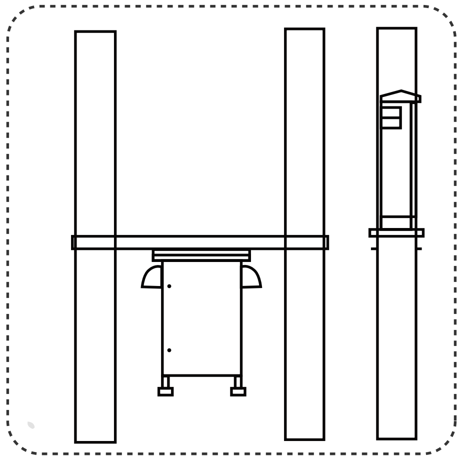
Installation



'F' installation



'H' installation

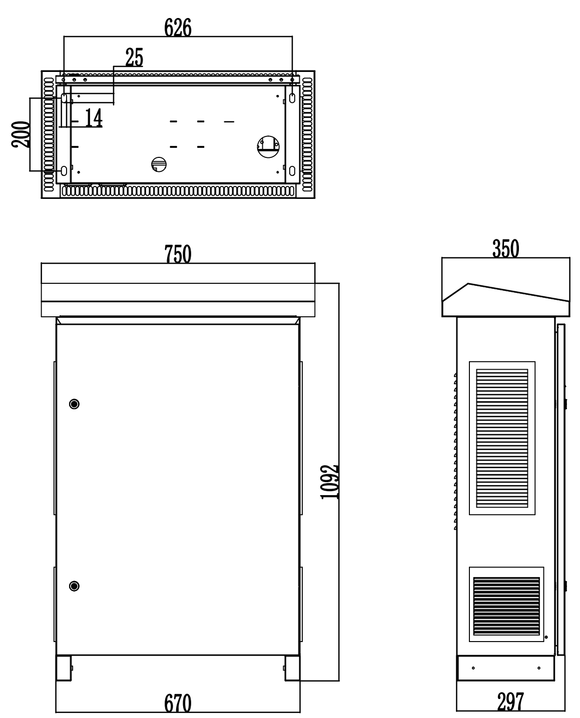


Holding pole installation

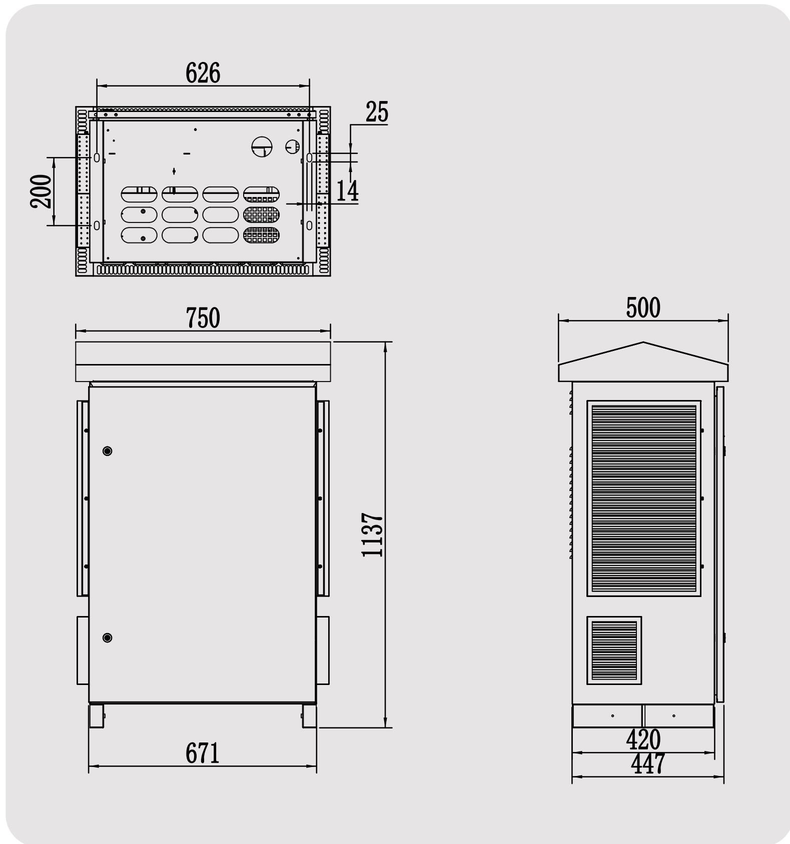
SPC sizing

Transformer capacity(KVA)	Second side voltage(KV)	Second side rated current(A)	SPC capacity (KVAr)
80	0.4	115	30
100	0.4	144	30
125	0.4	180	30
160	0.4	230	30
200	0.4	288	50
250	0.4	360	50
315	0.4	454	100
400	0.4	577	100
500	0.4	721	100
630	0.4	909	100

Chassis Dimension



50kvar



100kvar

Technical Specification

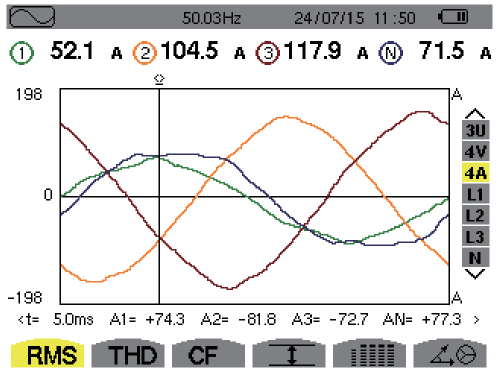
	Sinexcel SPC-30	Sinexcel SPC-50	Sinexcel SPC-100
System parameters			
Rated voltage level	400V		
Input phase voltage range	-40%~+20%		
Grid frequency	50Hz (range: 45Hz~55Hz)		
Overall efficiency	> 97%		
Network structure	Three-phase three-wire, three-phase four-wire		
Circuit topology	Three-level		
Performance indicators			
Three-phase equilibrium compensation capability	Imbalance <5%		
Rated current	45A	75A	150A
Reactive power compensation range	-1~1 adjustable		
Reactive power compensation capacity	30Kvar	50Kvar	100Kvar
Reactive power compensation rate	>99%		
Response time	<15ms		
Protection	Overvoltage protection, undervoltage protection, short circuit protection, reverse polarity protection for inverter bridge, over-compensation protection, double lightning protection		
Power distribution function	Single channel power distribution with C-class lightning protection		Two channel power distribution with C-class lightning protection

Technical Specification

	Sinexcel SPC-30	Sinexcel SPC-50	Sinexcel SPC-100
Communications monitoring capabilities			
Display	Voltage, current, frequency, power factor, operating temperature and other real-time information		
Communication interface	RS485/CAN/ Ethernet port		
	Wireless wi-fi/GPRS - (optional)		
Communication protocol	Modbus protocol / background protocol		
Mechanical properties			
Dimensions	W750*D350*H1092		W748*D498*H1090
Color	Stainless steel		
Weight	58KG	72KG	135KG
Installation method	Outdoor floor/hanging		
Installation tilt angle	<5 °		
Environmental requirements			
Operating temperature	-10~45 ℃		
Elevation	<1500m; derate in accordance with GB/T3859.2 or contact the dealer if above 1500m		
IP rating	IP44		
Seismic capacity	8		

Sinexcel SPC Application

Sinexcel SPC Compensation Performance



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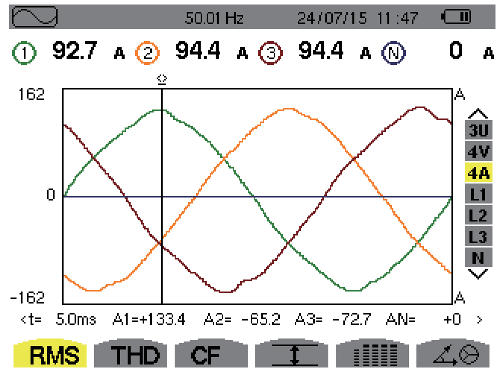

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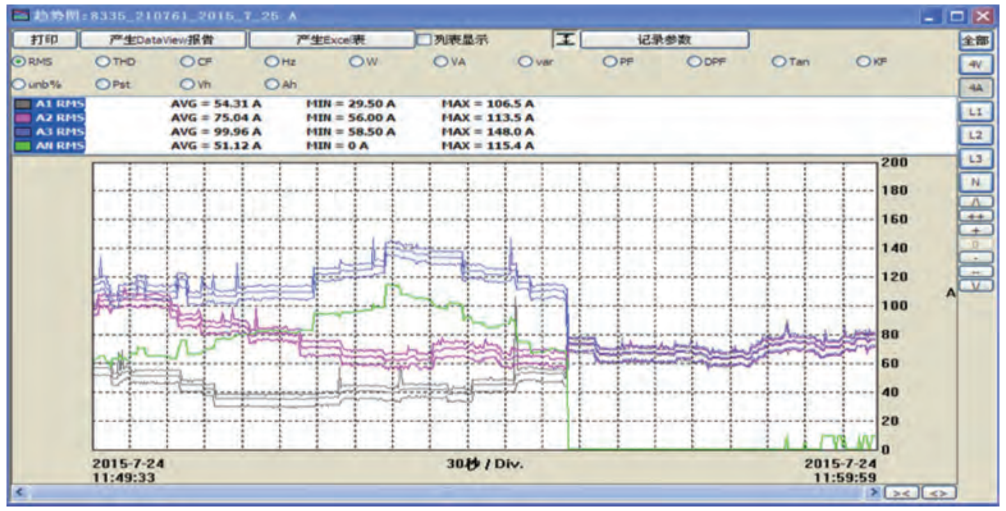

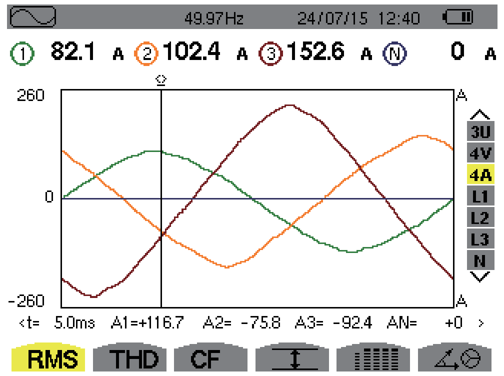

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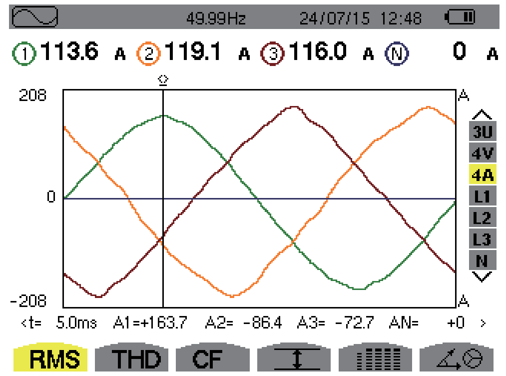

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