

Pitch Products



Clean power for all

Pitch Drivers



High integration

Built-in SSR; Built-in switch
Built-in accelerometers, gyroscopes; Built-in temperature and humidity sensor
Built-in industrial SD card; Built-in dual-drive interface
Integrated charging, braking, holding brake, switching power supply, etc



Strong grid adaptability

80%-130% grid voltage normal operation
Detection of grid-side voltage, frequency, phase sequence
Grid-side harmonics detection
Grid-side resonance protection



Quadruple safety redundant design

Software security chain protection
Communications protection
Hardware security chain protection
Impeller overspeed protection



Multi-function integration

dual drive function
Dual Recording, threshold trigger recording
1ms-level highly accurate recording
Offline upgrade system
Remote online monitoring
Software secondary development

Pitch Drivers

* SPD300 is the same model of SPD100 as the localized pitch drivers



SPD100-45/55
(SPD300-45/55)



SPD101-45/55



SPD102-65



SPD103-65



SPD110-80

SPD100/300/101/102/103/110

Technical Data of Pitch Drivers

* SPD300 is the same model of SPD100 as the localized pitch drivers

Electrical Data

Specifications	SPD100-45/55 (SPD300-45/55)	SPD101-45/55	SPD102-65	SPD103-65	SPD110-80
Number of input phases			3		
Rated input voltage(Vac)			400		
Input voltage range(Vac)			320~520		
Input frequency range(Hz)			45~66		
Min. DC operating voltage(Vdc)			80		
Output voltage range(Vac)			0~0.95Vin		
Rated output current(A)	45/55	45/55	65	65	80
Output peak current(A)	110/140(3s)	110/140(3s)	200(3s)	200(3s)	300(3s)
Current at 0 speed(A)	45/55(duration 3s)	45/55(duration 3s)	65(duration 3s)	65(duration 3s)	80(duration 3s)
Output frequency range(Hz)			0~200		
Charging output voltage(Vdc)			0~510		
Rated charging current(A)			6		
Rated voltage of auxiliary power supply(Vdc)			24		
Rated current of auxiliary power supply(A)			10		

General Data

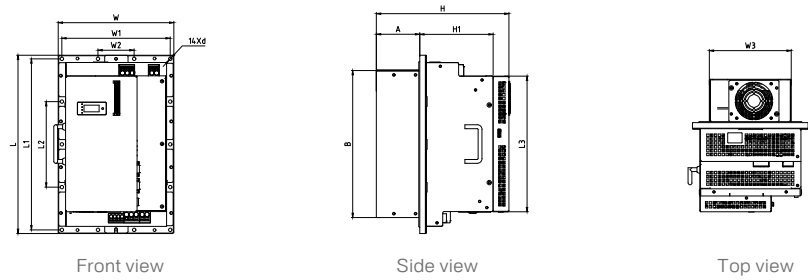
Specifications	SPD100-45/55 (SPD300-45/55)	SPD101-45/55	SPD102-65	SPD103-65	SPD110-80
Weight(kg)	16	16	18.5	18.5	30
Dimensions(mm)	370*240*275.4	370*240*274.6	405*250*280.4	405*250*280.4	555*300*321.4
Cooling method	Forced air cooling/natural cooling				
Operating temperature(°C)	-40~+65				
Storage temperature(°C)	-40~+70				
Relative humidity	5%~95%, no condensation				
Altitude	≤4000m, and the rated current decreases by 1% for every 100m elevation above 1000m				
Anti-corrosion grade	Inside C3, Outside max C				
Degree of protection	IP20				

Port

Specifications	SPD100-45/55 (SPD300-45/55)	SPD101-45/55	SPD102-65	SPD103-65	SPD110-80
DI	16	20	20	16	16
ODI	4	0	0	4	4
DO			9 (1 2A output)		
AI			0~20mA/±10V		
RelayO	5	1	1	5	5
PT100			4		
Communication line interface	CANopen/Profibus-DP				
Low voltage lock(24Vdc)			1		
High voltage lock(80~300Vdc)			1		
Motor temperature sensor			1 KTY/PTC, 1 PT100		
SSI encoder			1		
Resolver			1		
Debug interface/remote monitoring	10M/100M switch interface				
Motor type	Permanent Magnet Synchronous Motor/Asynchronous Motor				

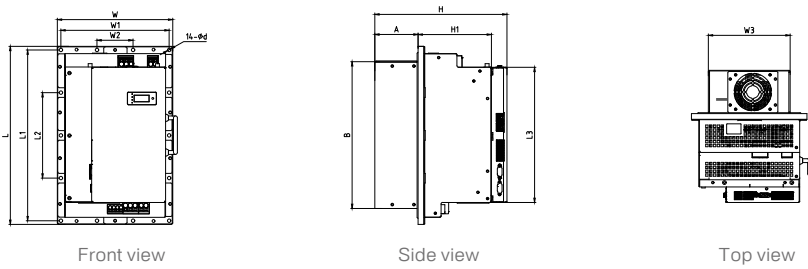
Specification

SPD100-45/55 & SPD300-45/55



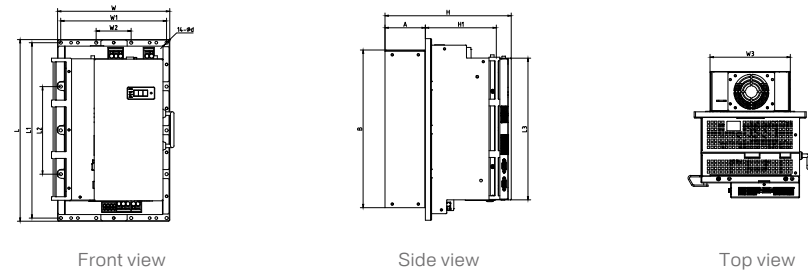
Product dimensions(mm)					Mounting dimensions(mm)				Heat sink dimensions(mm)			Mounting holes	Weight
L	L3	W	H	H1	L1	L2	W1	W2	A	B	W3	(mm)	(kg)
370	281.5	240	275.1	152.4	355	177.5	225	75	90	305.2	170	Φ7	16

SPD101-45/55



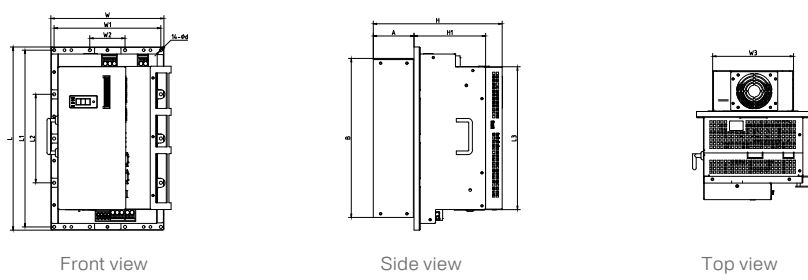
Product dimensions(mm)					Mounting dimensions(mm)				Heat sink dimensions(mm)			Mounting holes	Weight
L	L3	W	H	H1	L1	L2	W1	W2	A	B	W3	(mm)	(kg)
370	281	240	274.6	152.4	355	177.5	225	75	90	305.2	170	Φ7	16

SPD102-65



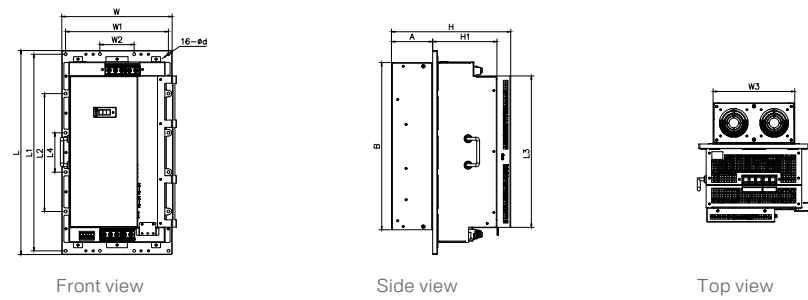
Product dimensions(mm)					Mounting dimensions(mm)				Heat sink dimensions(mm)			Mounting holes	Weight
L	L3	W	H	H1	L1	L2	W1	W2	A	B	W3	(mm)	(kg)
405	316	250	281.6	158.4	391	195.5	236	78	90	351.7	179	Φ7	18.5

SPD103-65



Product dimensions(mm)					Mounting dimensions(mm)				Heat sink dimensions(mm)			Mounting holes	Weight
L	L3	W	H	H1	L1	L2	W1	W2	A	B	W3	(mm)	(kg)
405	316	250	281.5	158.4	391	195.5	236	78	90	351.7	179	Φ7	18.5

SPD110-80



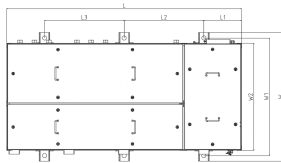
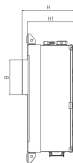
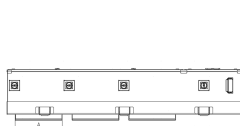
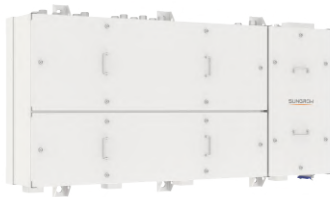
Product dimensions(mm)						Mounting dimensions(mm)				Heat sink dimensions(mm)			Mounting holes	Weight
L	L3	4	W	H	H1	L1	L2	W1	W2	A	B	W3	(mm)	(kg)
555	412	107	300	324.4	174.7	535	321	280	93.3	112	455	222	Φ7.5	30

SPS1000 Pitch System-Single Cabinet Integrated

Features

- Modular design simplifies manufacturing and eases maintenance.
- Increase capacity and applications, capable for connection to battery storage unit.
- Parallel IGBT groups, independently controlled allow for ultra-high power output.
- Four-quadrant operation connects to the grid, reducing braking resistance.
- Fully integrated single cabinet design reduces volume and weight by over 40%.

Specification



Specification(mm)					Mounting dimensions(mm)				Heat sink dimensions(mm)		Mounting holes
L	W	W2	H	H1	L1	L2	L3	W1	A	B	(mm)
2211	1211	1011	486	436	355.5	750	750	1110	433	326	Φ40

General Data

Specification	SPS1000
Dimensions (mm)	2211*1011*436
Cooling method	Forced air cooling/natural cooling
Operating temperature(°C)	-40~+55
Storage temperature(°C)	-40~+70
Relative humidity	5%~95%, no condensation
Altitude	≤4000m, and the rated current decreases by 1% for every 100m elevation above 1000m
Anti-corrosion grade	Max C5
IP grade	IP55

Electrical Data

Specification	SPS1000
Number of input phases	3
Rated input voltage(Vac)	400
Input voltage range(Vac)	320~520
Input frequency range(Hz)	45~66
Rectifying	IGBT bridge rectifying
Min. DC operating voltage(Vdc)	80
Output voltage range(Vac)	0~0.95Vin
Rated output current(A)	120~240
Output peak current(A)	360~600(duration 3s)
Current at 0 speed(A)	120~240(duration 3s)
Rated power(kW)	60~120
Grid-side current(A)	120~240(drag/connection)
Rated charging current(A)	8

Port

Specification	SPS1000
Communication line interface	CANopen/Profibus-DP/Profinet/EtherCAT
Low voltage lock(Vdc)	24
High voltage lock(Vdc)	80~300
Motor temperature sensor	KTY/PTC/PT100
Motor encoders	rotary/Absolute/Incremental

SPS100 Pitch System

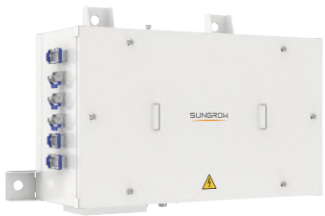
Functions

- Highly integrated, environment-ready
- Strong interference resistance, wide grid compatibility
- Supports 1MW-10MW turbines
- Position error <0.05°, tracking <1°, sync <0.5°
- Four layers of safety protection: software, hardware, communication, and rotor overspeed.
- Supports Profibus/CANopen/RS485
- MS-level dual logging in drive & control modules
- Built-in industrial SD card for easy development
- In-house HMI: intuitive, full-featured, easy to use

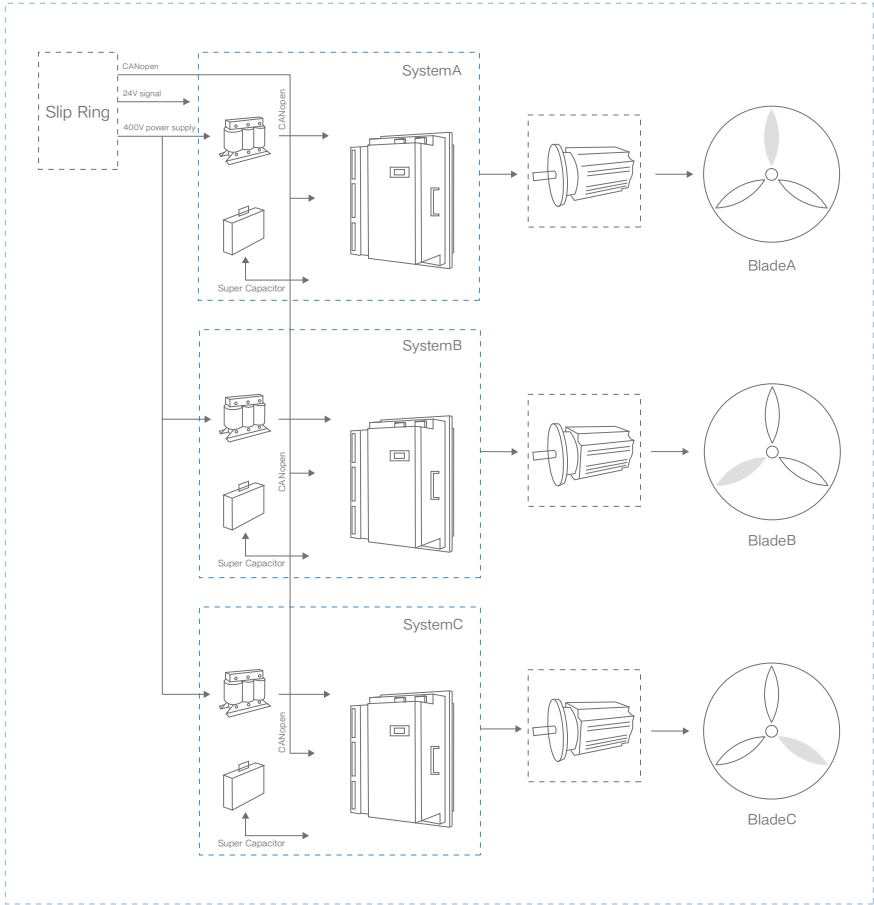
Technical Specifications

Name	SPS100 series
Operating temperature	-30 ~ 55°C
Survival temperature	-40 ~ 70°C
Altitude	3000m
Relative humidity	≤95%%, short-term 100% without condensation
Grid voltage	380VAC±10%
Grid frequency	45Hz ~ 55Hz
Design lifetime	200 years
Corrosion protection level	C3 / Offshore C4
Cabinet material	Carbon steel
Protection rating	Cabinet: IP54; Heavy-duty components/lighting/sensors/motor: IP65
Drive type	Servo drive
Motor type	Permanent Magnet Synchronous Motor / Asynchronous Motor
Backup power type	Supercapacitor / Lead-acid Battery
Cooling method	Cabinet: enclosure cooling; Motor: self-cooled; Drive: external heatsink + air cooling

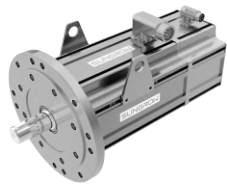
Product Image



Topology Diagram



Customized Permanent Magnet Synchronous Motor



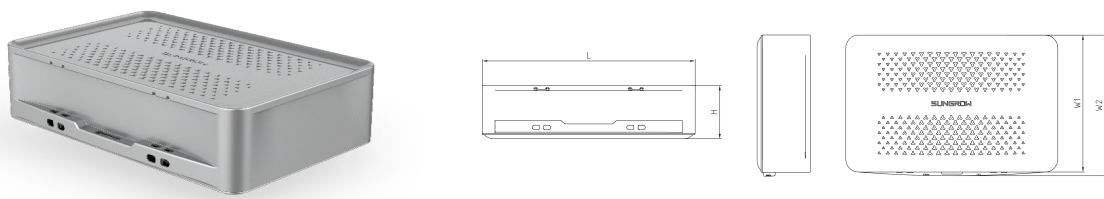
- High torque density, fast dynamic response
- Resolver-based feedback with high resistance to interference and vibration, ensuring long service life
- Excellent low-speed performance with high torque output
- Low heat generation, compact size due to natural cooling
- Light weight, easy maintenance and replacement

Super Capacitor Module

Features

- 160V DC working voltage
- Passive voltage balancing
- Over-voltage detecting capability
- Over-temperature detectiing capability
- Stack more relevant
- Provide wire harness bracket

SUCM100-160V010C0110A-1



Data

Name	SUCM100
Capacity/F	10 / 12 / 13.3 / 15
Capacity Tolerance	0% ~ +20%
Rated Voltage/V	160
Surge Voltage/V	170
Resistance (initial max)/mΩ	180
Max peak current(within 1s, not repeated within a day)/A	389 / 467 / 490 / 463
Energy storage/Wh	36 / 42 / 48 / 54
Energy density/Wh/kg	7.2 / 5.83 / 6.48 / 7.29
Power density/W/kg	5700 / 4600 / 4600 / 3800
Working temperature/°C	-40~+65
Dimensions(mm)	
L	369.1
W1	256.1
W2	263.1
H	98.4 / 133.4 / 133.4 / 133.4

Application Situtation

-  Wind Pitch Control System
-  Short-term UPS Power Supply System
-  Renewable Energy System

RE100 EP100

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