

SP200 SERIES PV PUMP CONTROLLER

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Company Profile

SINOVO, established in 2006, is committed to be globally leading provider for products and service of industrial automation and new energy. We are specialized in the products of AC Drive, Electric vehicle motor controller, Solar Inverter, Servo and soft starter, etc, which are widely used in machine tools, textiles, packaging, printing, plastics, paper making, pharmaceuticals, oil field, chemicals, elevator, crane, cables, ceramics, building automation, Fans & Water pumps, vehicles, rail traction and other fileds.

SINOVO has set up more than 30 offices domestically and internationally including 200 employees, and one-third of them are R&D professionals. With 10 years of developing and marketing a consolidated sales and after-sales service network has been established nation widely which can provide customers with solutions, technological training and specialized support and now we are ready to bring our professional products and service to the international market.

SINOVO has received more than 10 fiscal incentives and policy support in energy saving and environment protection, technology development and advanced manufacturing from Shenzhen Municipal Government and also Baoan administrative District over the years by the virtue of leading capacity of independent innovation, and also registered more than thirty invention patents, utility model patents, appearance patents, and Software copyright patents inSIPO(State Intellectual Property Office). We've passed ISO9001 : 2008 quality management system certification , CE certification, awarded the National Innovation Fund , Shenzhen High-tech research subsidies, product Innovation Award and so on. "Innovation" is the soul we strive for, "Customer first, honesty and integrity, hand in hand advance together, win-win cooperation" is the business philosophy we stick in, we are destined to improve ourselves, to serve customers, to contribute society, to build a better earth with our technology strength.



SP200 Series PV Pump Controller

Product Features

Product Description

SP200 series controller is a newly developed controller specialized for PV pump, it is mainly used for water supply in remote areas where without power supply or supply is unstable. PV pump controller can drive all kinds of water pumps by changing direct current which to be issued by PV module into alternating current. Systems continuously pump in good weather. For systems without batteries and other energy storage devices, it is recommended that the water should pump to the cistern for coming use.

SP200 PV Pump Controller adds MPPT algorithm to ensure the system run at the MPPT of solar modules in real-time.

Features and Functions

- SP200 PV Pump Controller continuously monitors the performance of the system and can detect a variety of anomalies.
- SP200 PV Pump Controller automatically detects the ambient temperature. When the temperature is too high, the controller will reduce the output power to maintain running as far as possible; When the controller temperature is cooled to a safe level, return to full power output.
- SP200 PV Pump Controller integrate improved MPPT algorithm, variable step size in real time tracking the MPP. Compared to a conventional constant-voltage control (CVT) method, it is more precise in tracking, response speed is much quicker, and overcomes the shortage of conventional disturbances tracking method near the MPP wide fluctuated running.
- When SP200 PV Pump Controller fails, the panel LED will display fault types, automatically reset regular failure, and enter into sleep and wake status according to the degree of light to ensure the controller run automatically the whole day.

Naming Rules

SP **200** - **4** **T** **2.2**
① ② ③ ④ ⑤

Field	Mark	Content
controller series	①	Solar water pump controller
Series number	②	Series second generation
Voltage Level	③	2: Three-phase 220V 4: Three-phase 380V
voltage range	④	S: Rated voltage310VDC,Recommended voltage range (MTTP) 180VDC~360VDC T: Rated voltage540VDC,Recommended voltage range (MTTP) 500VDC~600VDC
Pump rated power	⑤	2.2: 2.2KW

SP200 Series PV Pump Controller

Technical Data

Model		SP200-2S-0.7	SP200-2S-1.5	SP200-2S-2.2
SP200-2SXXX INPUT/OUTPUT PARAMETER				
PV array input parameter	Max input voltage (V)	DC 450V		
	Min input voltage (V)	DC 180V		
	Recommended voltage (mpp)	DC 280~360V		
	Recommended PV power(KW)	0.9~1.2	1.8~2.4	2.7~3.5
Spare AC generator	Input voltage (V)	Singel phase AC 200-240(+10%)(kVA)		
	Max current (A)	8.2	14	23
	Generator capacity(KVA)	1.5	3	4
Output parameter	Rated output voltage	3-phase AC 200-240V		
	Max current(A)	4.7	7.5	10
	Rated output power(KW)	0.75	1.5	2.2
	Output frequency	0~50Hz/60Hz		

Model		SP200-4T-2.2	SP200-4T-3.7	SP200-4T-5.5	SP200-4T-7.5
SP200-4TXXX INPUT/OUTPUT PARAMETER					
PV array input parameter	Max input voltage (V)	DC 800V			
	Min input voltage (V)	DC 350V			
	Recommended voltage (mpp)	DC 500~600V			
	Recommended PV power(Kw)	2.7~3.5	4.8~6.4	6.6~8.8	9~12
Spare AC generator	Input voltage (V)	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	5.8	10.5	14.6	20.5
	Generator capacity(KVA)	4	5.9	8.9	11
Output parameter	Rated output voltage	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	5.1	9	13	17
	Rated output power(KW)	2.2	3.7	5.5	7.5
	Output frequency	0~50Hz/60Hz			

Model		SP200-4T-11	SP200-4T-15	SP200-4T-18.5	SP200-4T-22
SP200-4TXXX INPUT/OUTPUT PARAMETER					
PV array input parameter	Max input voltage (V)	DC 800V			
	Min input voltage (V)	DC 350V			
	Recommended voltage (mpp)	DC 500~600V			
	Recommended PV power(Kw)	13.2~17.6	18~24	22.2~29.6	26.4~35.2
Spare AC generator	Input voltage (V)	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	26	35	38.5	46.5
	Generator capacity(KVA)	17	21	24	30
Output parameter	Rated output voltage	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	25	32	37	45
	Rated output power (KW)	11	15	18.5	22
	Output frequency	0~50Hz/60Hz			

Technical Data

Model		SP200-4T-30	SP200-4T-37	SP200-4T-45	SP200-4T-55
SP200-4TXXX INPUT/OUTPUT PARAMETER					
PV array input parameter	Max input voltage (V)	DC 800V			
	Min input voltage (V)	DC 350V			
	Recommended voltage (mpp)	DC 500~600V			
	Recommended PV power(KW)	36~48	44~59.2	54~72	66~88
Spare AC generator	Input voltage (V)	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	62	76	92	113
	Generator capacity(KVA)	40	57	69	85
Output parameter	Rated output voltage	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	60	75	91	112
	Rated output power(KW)	30	37	45	55
	Output frequency	0~50Hz/60Hz			

Model		SP200-4T-75	SP200-4T-90	SP200-4T-110	SP200-4T-132
SP200-4TXXX INPUT/OUTPUT PARAMETER					
PV array input parameter	Max input voltage (V)	DC 800V			
	Min input voltage (V)	DC 350V			
	Recommended voltage (mpp)	DC 500~600V			
	Recommended PV power(Kw)	90~120	112~149	132~176	159~211
Spare AC generator	Input voltage~V~	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	157	180	214	256
	Generator capacity(kVA)	114	134	160	192
Output parameter	Rated output voltage	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	150	176	210	253
	Rated output power(kW)	75	90	110	132
	Output frequency	0~50Hz/60Hz			

Model		SP200-4T-160	SP200-4T-200	SP200-4T-220	SP200-4T-250
SP200-4TXXX INPUT/OUTPUT PARAMETER					
PV array input parameter	Max input voltage (V)	DC 800V			
	Min input voltage (V)	DC 350V			
	Recommended voltage (mpp)	DC 500~600V			
	Recommended PV power(KW)	192~256	240~320	264~352	300~400
Spare AC generator	Input voltage (V)	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	307	385	430	256
	Generator capacity(KVA)	231	250	280	355
Output parameter	Rated output voltage	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	304	377	426	456
	Rated output power(KW)	160	200	220	250
	Output frequency	0~50Hz/60Hz			

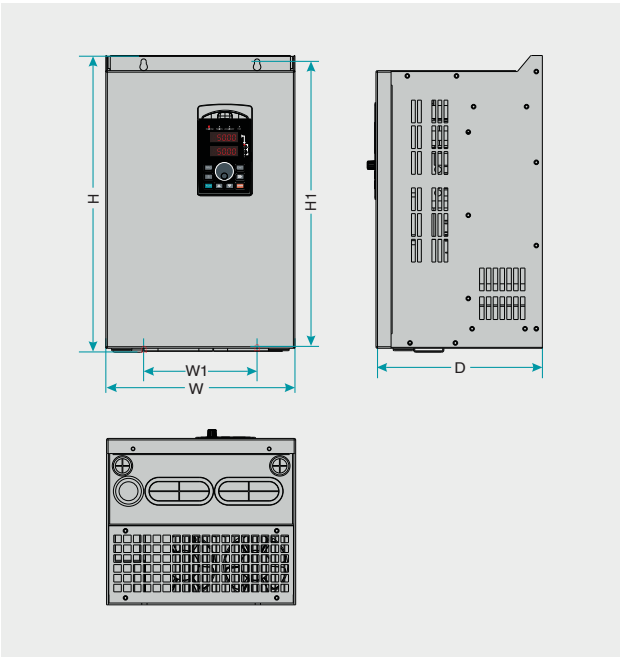
SP200 Series PV Pump Controller

Technical Data

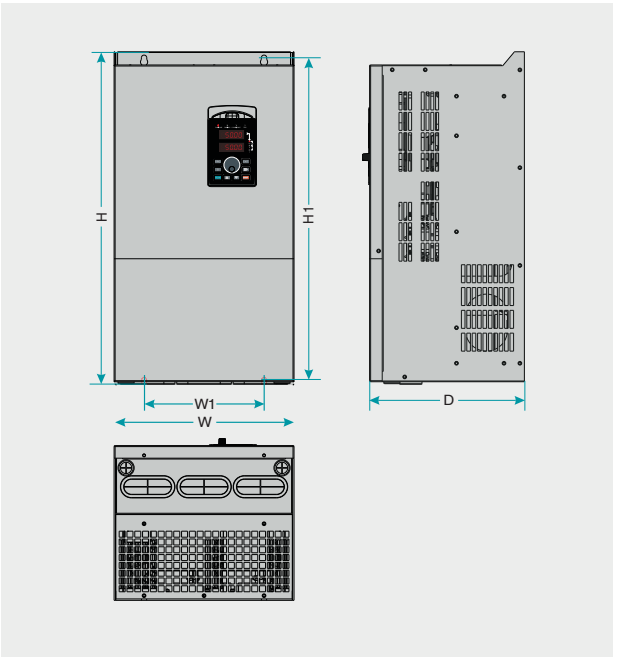
Model		SP200-4T-280	SP200-4T-315	SP200-4T-355	SP200-4T-400
SP200-4TXXX INPUT/OUTPUT PARAMETER					
PV array input parameter	Max input voltage (V)	DC 800V			
	Min input voltage (V)	DC 350V			
	Recommended voltage (mpp)	DC 500~600V			
	Recommended PV power(Kw)	336~448	378~504	426~568	480~640
Spare AC generator	Input voltage (V)	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	525	590	665	785
	Generator capacity(KVA)	396	445	500	565
Output parameter	Rated output voltage	3-phase AC 380/400/415/440V(+15%)			
	Max current(A)	520	585	650	725
	Rated output power(KW)	280	315	355	400
	Output frequency	0~50Hz/60Hz			

Note:
According to the different illumination in different regions, recommended PV array power is 1.2 to 1.6 times of the controller power.

Outline Diagram

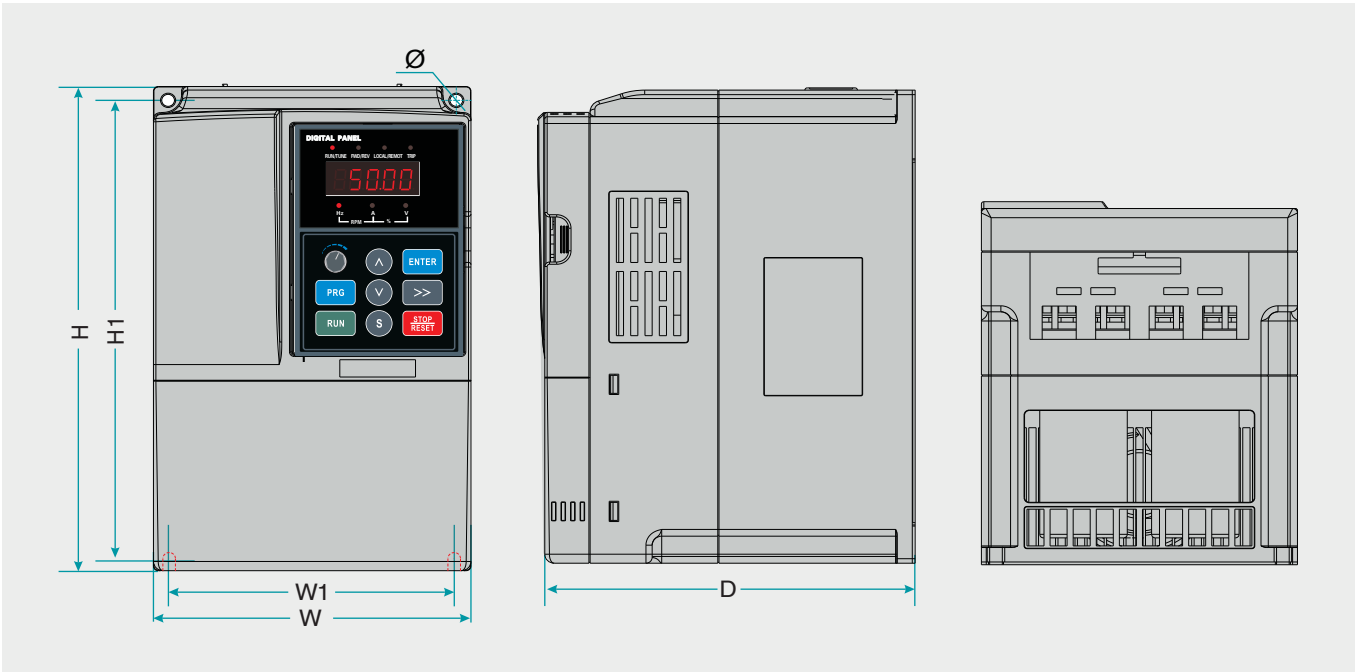


SP200(11KW-45KW)outline and installing dimension

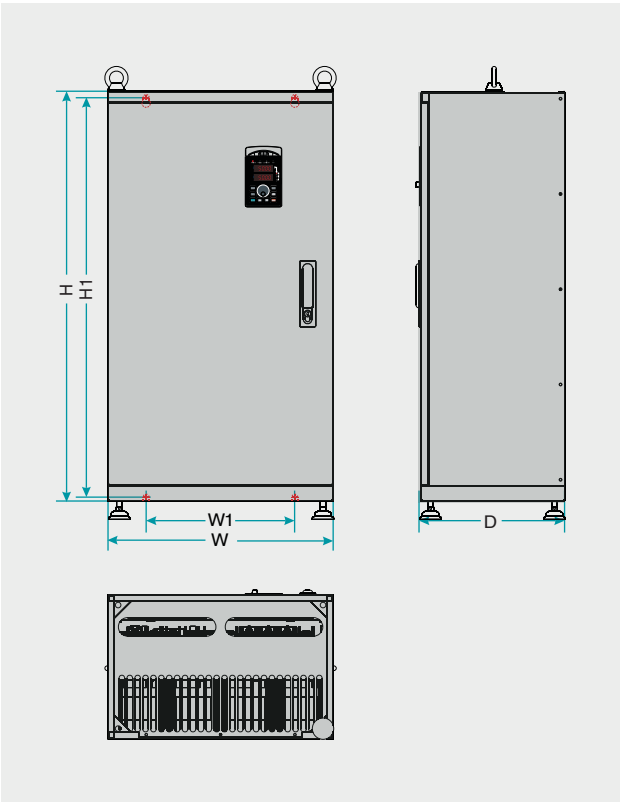


SP200(55KW-110KW)outline and installing dimension

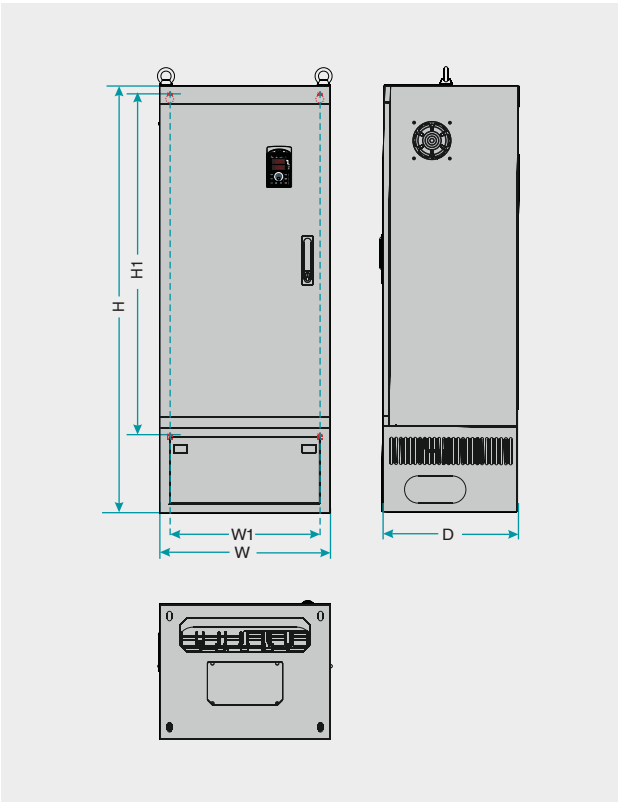
Outline Diagram



SP200 (7.5KW the following) outline and installing dimension



SP200 (132KW-185KW) outline and installing dimension



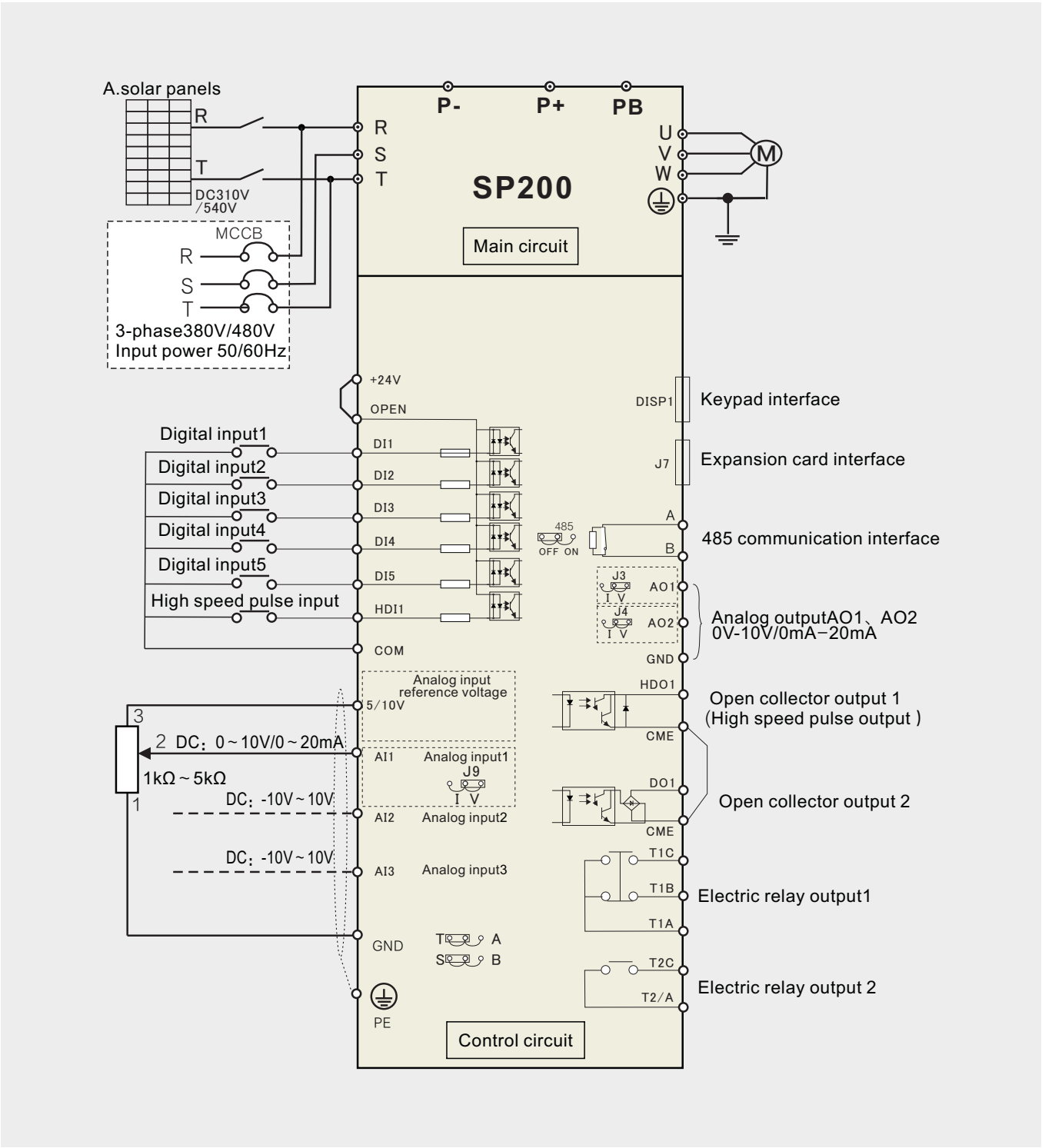
SP200 (200KW-500KW) outline and installing dimension

SP200 Series PV Pump Controller

Installation Size

Controller Model	H(mm)	W(mm)	D(mm)	H1(mm)	W1(mm)	Diameter (mm)	GW(kg)
SP200-2S-0.7	190	110	150	178	98	Ø5	2.4
SP200-2S-1.5							
SP200-2S-2.2							
SP200-2T-0.7	190	110	150	178	98	Ø5	2.4
SP200-2T-1.5							
SP200-2T-2.2							
SP200-4T-0.7	190	110	150	178	98	Ø5	2.4
SP200-4T-1.5							
SP200-4T-2.2							
SP200-4T-4.0	210	130	160	198	118	Ø5	3.5
SP200-4T-5.5	250	155	176	236	141	Ø5	4.5
SP200-4T-7.5							
SP200-4T-11	285	170	184	270	135	Ø6	6.0
SP200-4T-15	332	220	214	318	140	Ø7	9.3
SP200-4T-18.5							
SP200-4T-22	387	250	220	373	150		14
SP200-4T-30							19
SP200-4T-37	440	270	252	426	180	Ø7	25
SP200-4T-45							
SP200-4T-55	550	300	258	534	200	Ø9	32
SP200-4T-75	650	370	282	625	250		52
SP200-4T-90							55
SP200-4T-110							58
SP200-4T-132	880	485	310	860	320	Ø13	99
SP200-4T-160							
SP200-4T-185							
SP200-4T-200	1250	500	400	1000	440	Ø13	167
SP200-4T-220							
SP200-4T-250							
SP200-4T-280	1350	650	400	1105	513	Ø13	206
SP200-4T-315							
SP200-4T-350							
SP200-4T-400	1810	850	405	1410	513	Ø13	415
SP200-4T-450							
SP200-4T-500							

Basic Wiring Diagram



Note:

3. The figure “O” is Control circuit terminal “●” is main circuit terminal.

