

OEM Customization Platform

● Project Voltage

PV DC and 220V AC single-phase input, 380V AC 3-ph output, or project-defined per specification.

● Flexible Power

2.2–600kW scalable power range for OEM/ODM systems.

● Brand Customization

OEM/ODM logo, label and enclosure color available.

● Project Engineering

Application-specific protection and I/O setup on request.

Solarseeker



SP5 SERIES

Custom PV Pump Controller

220V Single Phase Input And 380V Three Phase Output

SMART · SIMPLE · EFFICIENT

Application Scenarios & Key Features

Designed for 220V single-phase input and 380V 3-phase output pump systems

Ideal Applications

- OEM/ODM brand projects
- Custom voltage systems
- High-power industrial pumps
- Special project engineering

System Positioning

The SP5 series is a customizable PV pump controller platform designed for 220V single-phase input and 380V 3-phase output pump project. Support OEM/ODM and special project applications with project-defined voltage and power.

Core Value

One controller platform supports solar, AC, and hybrid power models, multiple project specifications, reducing customization cost and shortening delivery time. Helping pumps working longer while reducing fuel and grid power costs.

Key Features

- **Project-Defined Voltage**
Custom PV/AC voltage per project specification.
- **Wide Power Range**
2.2–600kW flexible power scalability for diverse systems.
- **OEM/ODM Branding**
Custom logo, label, enclosure and packaging available.
- **Smart MPPT Tracking**
Up to 99% MPPT efficiency for stable output in changing sunlight.
- **Multi-Input Compatibility**
PV DC and 220V AC single-phase input, hybrid supported.
- **Flexible Protection**
Customizable protection thresholds and I/O logic per project.
- **Fast Engineering**
Dedicated engineering support for project customization.

Technical Specifications

SP5 custom PV pump controller platform data

Category	Parameter	Specification Detail
Input DC	Max DC Voltage	800 V
	Min DC Voltage	270 V
	MPPT Range	270 - 800 V
Input AC	Rated AC Voltage	220 - 240 V (single phase)
	Frequency	47 - 63 Hz
	Connect Method	Single Phase
Output AC	Rated Power	2.2 - 200 kW (customizable)
	Rated Current	9 - 380 A (customizable)
	Frequency	0 - 60 Hz
	Connect Method	Three Phase
Others	Motor Type	Asynchronous and Synchronous
	Ingress Protection	IP20 / IP54 / IP55
	Certification	CE
	Operating Temperature	0°C - 45°C

System Notes

Input Independent PV input and 220V AC single-phase input make DC-only, AC-only, and hybrid wiring possible.

Output Directly drives a three-phase 380V-440V AC water pump motor (project-customizable).

Protection Built-in smart start, dry-run protection, and water sensor signal compatibility, customizable per project.

Efficiency MPPT up to 99% helps maximize panel utilization under changing sunlight.

Recommended Panel Voltage

For 380V pump systems, keep solar array Vmp over 530V. This improves MPPT efficiency and supports stable operation.

SP5 Series Specifications & Matching Table

Solar DC or 220-240V single-phase input and 380V 3-phase output

Inverter Model	Inverter Power	Output Current	Pump Power	Panel Power	DC Input Range	Recommended DC Input	600W Panel Matching
SP5004	4.0 kW	9 A	2.2 kW	7.8 kW	220-800 V	530-800 V	13 pcs / 1P x 13S
SP5005	5.5 kW	13 A	4.0 kW	7.8 kW	220-800 V	530-800 V	13 pcs / 1P x 13S
SP5007	7.5 kW	17 A	5.5 kW	7.8 kW	220-800 V	530-800 V	13 pcs / 1P x 13S
SP5011	11 kW	25 A	7.5 kW	16.8 kW	220-800 V	530-800 V	28 pcs / 2P x 14S
SP5015	15 kW	32 A	11 kW	18 kW	220-800 V	530-800 V	30 pcs / 2P x 15S
SP5018	18.5 kW	37 A	15 kW	31.2 kW	220-800 V	530-800 V	52 pcs / 4P x 13S
SP5022	22 kW	45 A	18.5 kW	36 kW	220-800 V	530-800 V	60 pcs / 4P x 15S
SP5030	30 kW	60 A	22 kW	42 kW	220-800 V	530-800 V	70 pcs / 5P x 14S
SP5037	37 kW	75 A	30 kW	63 kW	220-800 V	530-800 V	105 pcs / 7P x 15S

Selection Reminder

SP5 is a customizable platform — 220VAC single phase input and 380V three phase output, or customized final voltage, power and I/O are confirmed by project design. For system sizing, send pump nameplate data (kW/hp, voltage,single/three phase) and we will recommend a matching model or a custom configuration.

Basic Wiring Architecture

PV pump controller with 220V-240VAC or project-defined input and three-phase output.

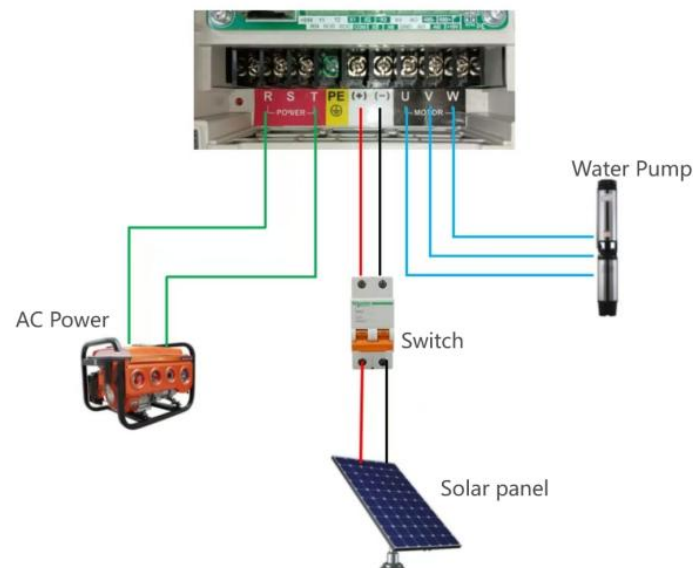
Special Circumstances

Suitable for OEM/ODM projects, custom voltage, and special industrial pump applications.
Specifically designed for 220V AC single-phase input with project-defined power range, no parameter modification needed for project use.

Input Mode Reminder

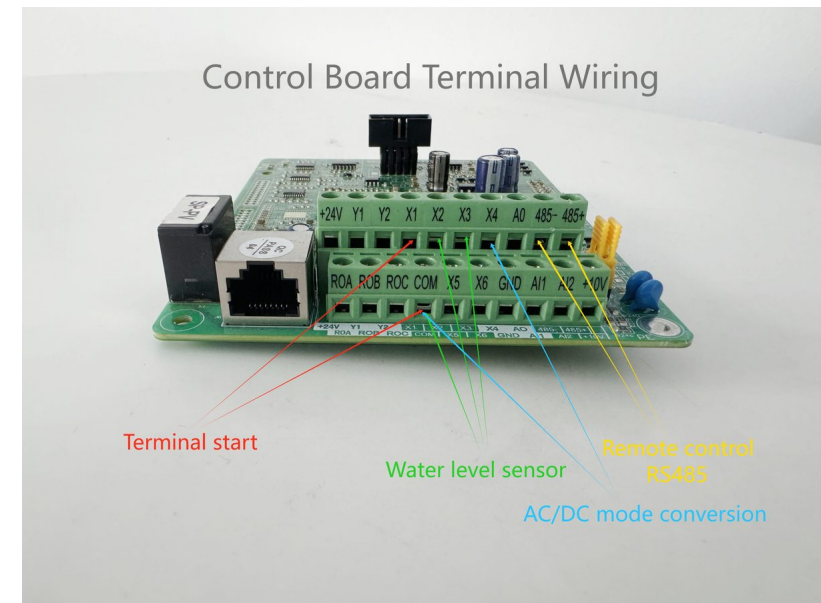
Only solar DC input: Please don't connect X4 & COM.
Only grid AC input: Please connect X4 & COM.
Hybrid input (input solar and AC power at the same time): Please connect X4 & COM.

Three-Phase Pump Inverter Wiring



AC power + Solar DC power + Water pump wiring

Control Board Terminal Functions



Terminal start | Water level sensor | RS485 | AC/DC mode