

Solar Pumping Inverter

SP3000

Solar Pumping

Model: SP3000 Solar Pumping



The **SP3000** Solar Pumping Inverter is a high-performance solar pumping drive designed to operate water pumps directly from photovoltaic (PV) power, providing an efficient and reliable solution for agricultural, irrigation, water supply, and remote pumping applications.

The inverter supports MPPT technology to continuously optimize available solar energy and maximize pump output under changing solar radiation conditions, while enabling stable and efficient motor operation without the need for conventional grid power.

The **SP3000** supports a wide range of pump motors and provides comprehensive protection functions, including dry-run protection, overvoltage, undervoltage, overload, overcurrent, and overheating protection, ensuring reliable operation and extended system life.

With its robust design, intelligent pump control, and compatibility with PV solar systems, the **SP3000** Solar Pumping Inverter provides a cost-effective and low-maintenance pumping solution suitable for both standalone and hybrid solar pumping installations.

Key Features

1. Maximum Energy Efficiency

Equipped with advanced MPPT (Maximum Power Point Tracking) technology, the system maximizes solar energy harvesting and enables operation earlier in the day and longer into the evening. The hybrid power function intelligently combines solar and generator power, reducing fuel consumption and lowering overall operating costs.

2. Easy Installation & Operation

Designed for simplicity, solar pumping systems offer easy transportation, quick installation, remote monitoring capabilities, and fully automatic operation with minimal user intervention.

3. Long Service Life

Built for reliability, the system can operate for more than 10 years with minimal maintenance. Advanced protection features safeguard equipment against dust, water, and harsh environmental conditions.

4. Environmentally Friendly

Operate anywhere without dependence on the utility grid or diesel generators. Solar pumping provides a clean, renewable energy solution that reduces carbon emissions and supports sustainable development.

5. Simple & Fast

Designed for maximum ease of use, the system can be installed, commissioned, and operational in just a few minutes. Users can quickly monitor system status, perform diagnostics, and restore operation with a single-click restart function.

6. Intelligent Protection

Advanced control algorithms automatically start and optimize pump operation while providing comprehensive protection against common faults. This helps extend pump and system lifespan by up to 20%, reducing maintenance requirements and operational downtime.

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7. Hybrid Operation Mode

seamlessly integrates solar energy with generator power, allowing both sources to operate simultaneously when required. This ensures uninterrupted water pumping, maximizes utilization of available solar energy during low-sunlight periods, and significantly reduces fuel consumption and generator operating costs.

To protect valuable pumping equipment, the inverter incorporates an intelligent Dry-Run 8. Protection function that continuously monitors operating conditions and automatically stops the pump when insufficient water is detected. This prevents damage caused by dry running and extends pump service life.

8. Water Level Control

function supports direct connection to water level sensors, enabling automatic start and stop operation based on tank or well water levels. This ensures reliable water management while eliminating the need for additional control equipment. In addition, the inverter features

SP3000	Solar pumping series
T4 T2 T1	T4: Input DC or AC 380V three phase/output AC three phase T2: Input DC or AC 220V single phase/output AC three phase T1: Input DC or AC 220V single phase/output AC single phase
5R5	Rated Power : 0R7:0.75W 250:250kW

Model	T1	T2	T4
Input DC	Input DC		
Max DC(V)	450	450	800
Mini DC(V)	170	170	270
MPPT Range(V)	170-800	170-800	270-800
Input AC	Input AC		
Rated AC(V)	220	220	380
Frequency(Hz)	47-63	47-63	47-63
Connect Method	Single Phase	Three Phase	Three Phase
Output AC	Output AC		
Rated Power(kW)	0.75-2.2	0.75-4	0.75-250
Rated Current(A)	4-14	2.5-18	2.5-480
Frequency(Hz)	0-60	0-60	0-60
Connect Method	Single Phase	Three Phases	Three Phases
Others	Others		
Motor Type	IM and PM motor	IM and PM motor	IM and PM motor
Ingress Protection	IP20	IP20	IP20
Certification	CE	CE	CE
Temperature	0-50°C	0-50°C	0-50°C

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Inverter model	Voltage(V)	Inverter(kW)	Panel(kW)	Pump(kW)
SP3000-0R7T1	220	0.75	0.8	0.75
SP3000-1R5T1	220	1.5	1.7	1.5
SP3000-2R2T1	220	2.2	2.4	2.2
SP3000-4R0T1	220	4	4.4	4
SP3000-5R5T1	220	5.5	6	5.5
SP3000-0R7T2	220	0.75	0.8	0.75
SP3000-1R5T2	220	1.5	1.7	1.5
SP3000-2R2T2	220	2.2	2.4	2.2
SP3000-4R0T2	220	4	4.4	4
SP3000-5R5T2	220	5.5	6.1	5.5
SP3000-7R5T2	220	7.5	8.3	7.5
SP3000-0R7T4	380	0.75	0.8	0.75
SP3000-1R5T4	380	1.5	1.7	1.5
SP3000-2R2T4	380	2.2	2.4	2.2
SP3000-4R0T4	380	4	4.4	4
SP3000-5R5T4	380	5.5	6	5.5

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Inverter model	Voltage(V)	Inverter(kW)	Panel(kW)	Pump(kW)
SP3000-7R5T4	380	7.5	8	7.5
SP3000-011T4	380	11	12	11
SP3000-015T4	380	15	17	15
SP3000-018T4	380	18.5	20	18.5
SP3000-022T4	380	22	24	22
SP3000-030T4	380	30	33	30
SP3000-037T4	380	37	41	37
SP3000-045T4	380	45	50	45
SP3000-055T4	380	55	61	55
SP3000-075T4	380	75	83	75
SP3000-090T4	380	90	99	90
SP3000-110T4	380	110	121	110
SP3000-132T4	380	132	145	132
SP3000-160T4	380	160	176	160
SP3000-200T4	380	200	220	200
SP3000-220T4	380	220	242	220
SP3000-250T4	380	250	275	250

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