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MAKE IN INDIA

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SOLAR ENERGY

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COMPLETE ENERGY SOLUTIONS

INNOVATIVE • RELIABLE • SUSTAINABLE



PRODUCT CATALOGUE
2026

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POWERING
31+
COUNTRIES WORLDWIDE

SMARTEN®
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SAVER

SOLAR HYBRID PCU

900VA/12V TO 3.5KVA/48V



Key Features

- **MAXIMUM SOLAR UTILIZATION**
- **INTELLIGENT HYBRID OPERATION** — SOLAR + GRID + BATTERY
- **HIGH-EFFICIENCY SOLAR CHARGE CONTROLLER**
- **SMART LCD DISPLAY WITH REAL-TIME MONITORING** — SMARTEN WELCOMES YOU
- **DEEP DISCHARGE BATTERY RECOVERY**

The Smarten SAVER Series is a next-generation Hybrid Solar PCU engineered to deliver reliable backup power while maximizing the use of clean solar energy. Designed for residential, commercial, and small business applications, the SAVER Series intelligently manages solar, grid, and battery power to ensure uninterrupted performance with reduced electricity consumption.

With advanced energy management technology, the system prioritizes solar power whenever available, automatically switching between multiple power sources for seamless operation. Its intelligent charging algorithm enhances battery life, while the high-efficiency solar charge controller ensures faster charging and optimum energy utilization.

Built to perform even in challenging power conditions, the SAVER Series offers dependable backup, lower operating costs, and long-term energy savings-making it the ideal choice for modern solar power systems worldwide.

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SMARTEN POWER SYSTEMS LIMITED

SAVER SOLAR PCU

900VA/12V TO 3.5KVA/48V

PRODUCT SPECIFICATIONS

MODEL NAME	900VA/12V	1100VA/12V	1700VA/24V	2KVA/24V	2.5KVA/24V	3.2KVA/24V	3.5KVA/48V
MAINS MODE							
Mains AC Input Voltage Range (UPS Mode)	185VAC to 255VAC ± 10VAC						
Mains AC Low Cut/High Cut Voltage (UPS Mode)	175VAC/265VAC ± 10VAC						
Mains AC Low Cut/-High Cut Recovery Voltage (UPS Mode)	185VAC/255VAC±10VAC						
Mains AC Input Voltage Range (WUPS Mode)	110VAC to 285VAC ± 10VAC						
Mains AC Low Cut/High Cut Voltage (WUPS Mode)	90VAC/295VAC ± 10VAC						
Mains AC Low Cut/-High Cut Recovery Voltage (WUPS Mode)	110VAC/285VAC ± 10VAC						
Input Frequency Range	40Hz to 60Hz						
BATTERY							
Battery Type	Tubular/SMF/Li-Ion		LA/Tubular/SMF/Li-Ion				
Battery deep Discharge Recovery	Yes (Independent Charger to recover Deep Discharge Battery)						
Charging Current	20A+/-3A					25A+/-3A	20A+/-3A
Mains Charging Enable / Disable	Yes Provided, user can set mains charging ENABLE / DISABLE from front switch						
BACKUP MODE							
Output Voltage/ Frequency	220VAC+/-10% , 50Hz+/-0.2Hz						
Output Waveform	Pure Sine Wave ≤ 5% THD						
Low Battery Warning	10.8V+/-0.2V Per Battery						
Low Battery Cut	10.4V+/-0.2V Per Battery						
Change Over Time UPS Mode	<10ms						
Change Over Time WUPS Mode	<25ms						
Cooling	Temp. Controlled Fan						
PROTECTIONS							
Overload In Backup Mode	Yes provided, System will Display Overload Indication at 101% Load.						
Short Circuit in Backup Mode	System will shutdown after 3 retries in case of Output Short Circuit.						
Short Circuit in Mains Mode	Mains Fuse will blow		Mains MCB will trip				
Backfeed	System will shutdown & there will be no retry						
Phase To Phase Protection In Mains Mode	Yes, Provided by Electronic means						
Over Temperature	Yes provided, if heat sink temp. goes above 100 degree C. System will shut down.						
Reverse Battery	DC Fuse will blow						MCB will trip
SOLAR CHARGE CONTROLLER							
Solar Charge Controller Type	PWM TYPE						
Max Panel Wattage Can Be Connected	800W		1500W		2400W		3000W
Max PV Voltage	40V		60V				100V
Max PV current	40A ±3A		50A+/-3A		70A+/-3A		60A+/-3A
Reverse PV Protection/ Reverse Current Flow To PV	Yes provided, it will also display on LCD panel						
Sharing Of Current When PV & Grid Both Are Available	If PV power is not sufficient enough to charge the battery, system will start sharing battery charging from PV & grid.						
BATTERY CHARGING CURRENT BY SOLAR							
30%			20A+/-3A	20A+/-3A			
40%			30A+/-3A	30A+/-3A			
50%			40A+/-3A	40A+/-3A			
100%			50A+/-3A	70A+/-3A			
Mode Option	1. Solar >> Grid >> Battery (In this condition firt priority is Solar then Grid and Battery) 2. Solar >> Battery >> Grid (in this condition first priority is solar then Battery and Grid) 3. Grid >> Solar >> Battery (In this condition first priority is Grid then Solar and Battery, Mains will not be disconnect in this condition)						
DOD Definition(Depth Of Discharge)	Mains will be connect when battery voltage reach at defined value of the battery voltage.*						
DOD 20%, If Battery Voltage is :			25V±0.2V*				50V±0.2V*
DOD 30%, If Battery Voltage is :			24V±0.2V*				48V+/-0.2V
DOD 40%, If Battery Voltage is :			23V±0.2V*				46V+/-0.2V
DOD 50%, If Battery Voltage is :			22V±0.2V*				44V+/-0.2V
Mains Disconnect SOC (State Of Charge)**			65%- of Battery Capacity*** Default SOC is 40%				
			75%- of Battery Capacity*** Default SOC is 30%				
			85%- of Battery Capacity*** Default SOC is 30%				
			95%- of Battery Capacity*** Default SOC is 30%				
Mains Disconnect SOC definition (State Of Charge)**	Mains will disconnect if battery will charge defined SOC level						
Mains Connect SOC (State Of Charge)**			30%- of Battery capacity				
			40%- of Battery capacity				
			50%- of Battery capacity				
			60%- of Battery capacity				
Mains Connect SOC Definition (State Of Charge)**	Mains will be connect when battery use defined SOC value of full capacity						
Recommended Battery Capacity**	Up to 260AH						
DISPLAYS & ALARMS							
LCD Status Display	Mains ON, I/P Voltage/Frequency, Battery Voltage/Charging/Charged, Charging Current, Backup Mode, UPS ON/OFF, Battery Voltage, Load %, Output Voltage/Frequency, Battery Current, PV Current/Voltage , Mains Low Cut/High Cut, Mains Not Available, Mains Frequency Cut Etc						
LCD Fault / Protection Status Display	Mains Fuse Blown / MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed						
Buzzer	Mains Fuse Blown / MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed						

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SAVER

SOLAR HYBRID PCU

5.5KVA/48V / TO 10KVA/120V



Key Features

- MAXIMUM SOLAR UTILIZATION
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SAVER SERIES

Advanced Hybrid Solar PCU
The Smarten SAVER Series is a high-performance Hybrid Solar PCU engineered for intelligent and efficient power management across solar, grid and battery sources.

Featuring an advanced MPPT Solar Charge Controller, SAVER maximizes solar energy utilization while intelligently managing available power sources to deliver reliable backup and optimized energy performance.

Designed for demanding residential, commercial and small-business applications, the SAVER Series combines intelligent hybrid operation, efficient solar charging, smart system monitoring and deep-discharge battery recovery in a robust, high-performance power solution.
Engineered for smarter energy. Designed for dependable power.

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SMARTEN POWER SYSTEMS LIMITED

SAVER SOLAR PCU

5.5KVA/48V / TO 10KVA/120V

PRODUCT SPECIFICATIONS SAVER SOLAR PCU (PWM BASED)

MODEL NAME	5.5KVA/48V	5.5KVA/96V	6KVA/72V	7.5KVA/96V	10KVA/120V
MAINS MODE					
Mains AC Input Voltage Range (UPS Mode)	185VAC to 255VAC ± 10VAC				
Mains AC Low Cut/High Cut Voltage (UPS Mode)	175VAC/265VAC ± 10VAC				
Mains AC Low Cut/-High Cut Recovery Voltage (UPS Mode)	185VAC/255VAC±10VAC				
Mains AC Input Voltage Range (WUPS Mode)	110VAC to 285VAC ± 10VAC				
Mains AC Low Cut/High Cut Voltage (WUPS Mode)	90VAC/295VAC ± 10VAC				
Mains AC Low Cut/-High Cut Recovery Voltage (WUPS Mode)	110VAC/285VAC ± 10VAC				
Input Frequency Range	40Hz to 60Hz				
BATTERY					
Battery Type	LA/Tubular/SMF				
Battery deep Discharge Recovery	Yes (Independent Charger to recover Deep Discharge Battery)				
Charging Current	15A +/-3A				
BACKUP MODE					
Output Voltage/ Frequency	220VAC+/-10% , 50Hz+/-0.2Hz				
Output Waveform	Pure Sine Wave ≤ 5% THD				
Low Battery Warning	10.8V+/-0.2V Per Battery				
Low Battery Cut	10.4V+/-0.2V Per Battery				
Change Over Time UPS Mode	<10ms				
Change Over Time WUPS Mode	<25ms				
Cooling	Temp. Controlled Fan				
PROTECTIONS					
Overload In Backup Mode	Yes provided , System will give Overload Indication at 101% Load.				
Short Circuit In Backup Mode	System will shutdown after 3 retries in case of Output Short Circuit.				
Short Circuit In Mains Mode	Mains MCB will trip				
Backfeed	System will shutdown & there will be no retry				
Phase To Phase Protection In Mains Mode	Yes, Provided by Electronic means				
Over Temperature	Yes provided, if heat sink temp. goes above 100 degree C. System will shut down.				
Reverse Battery	DC MCB will trip				
SOLAR CHARGE CONTROLLER					
Solar Charge Controller Type	PWM TYPE				
Max Panel wattage can be connected	5500W	6500W	4500W	6500W	8000W
Max PV Voltage	100V	230V	150V	230V	230V
Max PV current	70A	50A			
Reverse PV Protection/ Reverse Current Flow To PV	Yes provided, it will also display on LCD panel				
Sharing Of Current When PV & Grid Both Are Available	If PV power is not sufficient enough to charge the battery, system will start sharing battery charging from PV & grid.				
Mode Option	1. Solar >> Grid >> Battery 2. Solar >> Battery >> Grid 3. Grid >> Solar >> Battery	This function not available			
DOD Definition(Depth Of Discharge)	Mains will be connect when battery voltage reach at defined value of the battery voltage.*				
DOD 20%, If Battery Voltage is :	50V±0.2V*	This function not available			
DOD 30%, If Battery Voltage is :	48V+/-0.2V				
DOD 40%, If Battery Voltage is :	46V+/-0.2V				
DOD 50%, If Battery Voltage is :	44V+/-0.2V				
Battery Capacity**	upto 260AH				
DISPLAYS & ALARMS					
LCD Status Display	Mains ON, I/P Voltage/Frequency, Battery Voltage/Charging/Charged, Charging Current, Backup Mode, UPS ON/OFF, Battery Voltage, Load %, Output Voltage/ Frequency, Battery Current, PV Current/Voltage , Mains Low Cut/High Cut, Mains Not Available, Mains Frequency Cut Etc				
LCD Fault / Protection Status Display	Mains Fuse Blown / MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed				
Buzzer	Mains Fuse Blown / MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed				