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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

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Superb

MPPT BASED SOLAR PCU

1100VA | 2500VA | 3.2KVA

LITHIUM-ION BATTERY COMPATIBLE



Key Features

- **MPPT Based Advance Technology PCU**
- **Compatible with Lithium-Ion Batteries** (LI-ION)
- **Smart Charging Even During Low Voltage 90V***
- **Grid Charging Enable /Disable Option for Reduced Electricity Bill**

Superb MPPT Solar PCU is an advanced solar hybrid inverter engineered for efficient and reliable power. Powered by MPPT technology and advanced DSP control, it maximizes solar energy utilization while ensuring uninterrupted power supply. Compatible with Lead Acid, Tubular, SMF, and Lithium-Ion (Li-Ion) batteries, it offers greater flexibility to suit a wide range of energy storage needs.

Designed with premium components and intelligent power management, Superb delivers enhanced energy efficiency and dependable performance across varying operating conditions. With an LCD display, 4 DOD levels, 10 ms changeover, independent battery charging, and an inbuilt UPS system, it provides greater flexibility and control.

Its robust design ensures consistent performance, efficient battery management, and reliable backup power. Engineered for long-term operation, Superb MPPT Solar PCU is an ideal solar power solution for residential and commercial applications across global markets.

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SUPERB SOLAR PCU MPPT BASED

1100VA/12V TO 3.2KVA/24V

TECHNICAL SPECIFICATIONS

MODEL NAME	1100VA/12V	2500VA/24V	3.2KVA/24V
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/Li-Ion		
Battery deep Discharge Recovery	Yes (Independent Charger to recover Deep Discharge Battery)		
Adjustable Charging Current Setting (Front Panel)	5A-20A+/-3A		5A-25A+/-3A
BACKUP MODE			
Output Voltage/ Frequency	220VAC+/-10% , 50Hz+/-0.2Hz		
Output Waveform & THD	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 Fuse will blow		
SOLAR CHARGE CONTROLLER			
Solar Charge Controller Type	MPPT TYPE		
Max Panel Wattage Can Be Connected	1200W	2400W	3000W
Max PV Voltage	60V+/-3V	103V+/-3V	105V±2V
Max PV Current	55A ±3A	50A ±3A	70A ±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.		
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 (Depth Of Discharge)	20%- if Batt. Volt. is 12.5V±0.2V*	20%- if Batt. Volt. is 25V±0.2V*	
	30%- if Batt .Volt. is 12V±0.2V*	30%- if Batt. Volt. is 24V±0.2V*	
	40%- if Batt. Volt. is 11.5V±0.2V*	40%- if Batt. Volt.is 23V±0.2V*	
	50%- if Batt. voltage is 11V±0.2V*	50%- if Batt. Volt.is 22V±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**	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		

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Superb

MPPT BASED SOLAR PCU
5.5KVA TO 20KVA



Key Features

- ADVANCED MPPT TECHNOLOGY
- PURE SINE WAVE OUTPUT
- MULTIPLE BATTERY COMPATIBILITY
- INTELLIGENT POWER PRIORITY
- COMPREHENSIVE PROTECTION



Smarten's Superb Series Solar PCU is an advanced MPPT-based power solution designed for efficient solar utilization, reliable backup and intelligent energy management. Its wide operating voltage range and selectable Solar, Grid and Battery priority modes help optimize available solar energy, with intelligent PV and grid sharing when required.

Delivering pure sine wave output, the series supports LA, Tubular and SMF batteries, features deep-discharge battery recovery and offers less than 10 ms changeover time in UPS mode. An informative LCD interface provides real-time visibility of key operating parameters, while comprehensive built-in protections help ensure safe and dependable operation.

Engineered for residential, commercial and professional applications, the Superb Series provides flexible power management across varying energy requirements. Its intelligent charging and priority controls make it a reliable solution for maximizing solar utilization while maintaining continuous power availability.

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SMARTEN POWER SYSTEMS LIMITED
SUPERB SOLAR PCU MPPT BASED
5.5KVA TO 20KVA

TECHNICAL SPECIFICATIONS

MODEL NAME	5.5KVA/48V	5.5KVA/96V	7.5KVA/96V	10KVA/120V	15KVA/180V	15KVA/240V	20KVA/240V
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)						
Adjustable Charging Current Setting (Front Panel)	5A-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	MPPT TYPE						
Max Panel Wattage Can Be Connected	5500W	6500W		8000W	15000W		20KW
Max PV Voltage	160V	250V		350V	450V	550V	
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 (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 (Depth Of Discharge)	20%- if Batt. Volt. is 50V±0.2V*	20%- if Batt. Volt. is 100V±0.2V*		20%- if Batt. Volt. is 125V±0.2V*	Grid Reconnection can be set from 10.7V to 12.5 Per Battery .		
	20%- if Batt. Volt. is 48V±0.2V*	30%- if Batt. Volt. is 96V±0.2V*		30%- if Batt. Volt. is 120V±0.2V*			
	20%- if Batt. Volt. is 46V±0.2V*	40%- if Batt. Volt. is 92V±0.2V*		40%- if Batt. Volt. is 115V±0.2V*			
	20%- if Batt. Volt. is 44V±0.2V*	50%- if Batt. Volt. is 88V±0.2V*		50%- if Batt. Volt. is 110V±0.2V*			
Recommended 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	MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed						
Buzzer	MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed						