SMARTEN®
FUSION IS THE FUTURE

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 conditionfirt priority is Solar then Grid and Battery) 2. Solar > > Battery > > Grid (in this conditionfirst 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**	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 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						

MAKE IN INDIA

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