



# IT'S TIME FOR NEXT GENERATION TECHNOLOGY

**PRODUCT CATALOGUE**



 /smartenpowersystems





**PRESENCE OVER  
25+ STATES**





Dear Prospective Channel Partner,

Thank you for your interest in Smarten Power Systems Pvt. Ltd. Products. Smarten has been a Solar Solution company since 2014, it specializes in designing and manufacturing high-quality Solar Products. As an authorized dealer, we will consider you to be a valuable part of our long-term success.

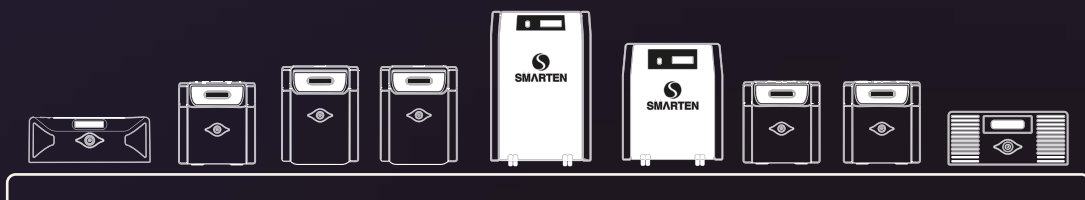
And you will be able to purchase our products at your convenience from our distributors. One of the benefits will be the ability to speak with a qualified representative who would have a thorough knowledge about the complexities of Solar Products. In order to maintain the long-term value of the brand and to promote the product in the best way possible, it is in the best interest of both Smarten and its authorized Distributor.

While there is no initial minimum order, dealer discounts are extended with the understanding that the relationship must be viable and mutually profitable. Therefore, dealer status may be reviewed from time to time, and inactive accounts may be discontinued.

Thank you again for showing interest in becoming an authorized Smarten dealer. If you have any questions, please do not hesitate to contact us.

Sincerely,

RAJNISH SHARMA  
(CEO)  
Smarten Power Systems Pvt. Ltd.






**Shine**  
 Solar Power Conditioning Unit

**SOLAR PCU | 1250**

First time in India Smarten Launched SHINE Solar Power Conditioning Unit Series. Shine is a revolutionary product with smart keypad for our power solutions. Shine is based on the latest & advanced PWM Charge Controller based technology. Its user friendly interface makes it ideal for Home appliances. \*In Shine, we have used advanced key pad solution for customer, its help the user to set PCU with customized settings as per the requirement. And also the customer can select the battery discharge level and solar utilization % which will use the maximum solar power, selection battery charging voltage etc.


**Runs High Intensity Appliances**

**Recover Deep Discharge Battery Even Zero Volt Gravity**

**Smart Charging Even During Low Voltage 90V\***

**Grid Charging Enable/Disable option for reduced electricity Bill**

**LOAD CHART\***

Load on Solar		Solar Panel Capacity
A	4 Fan + 8 LED + 1 TV or 2 Fan + 4 LED + 1 Refrigerator or Juicer Mixer	Upto 600 W
B	2 Fan + 4 LED + 2 Fan + 2 LED + 1 HP Tullu Pump	

\*Conditions apply






**Shine**  
 Solar Power Conditioning Unit

**SOLAR PCU | 2000**

First time in India Smarten Launched SHINE Solar Power Conditioning Unit Series. Shine is a revolutionary product with smart keypad for our power solutions. Shine is based on the latest & advanced PWM Charge Controller based technology. Its user friendly interface makes it ideal for Home appliances. In Shine, we have used advanced key pad solution for customer, its help the user to set PCU with customized settings as per the requirement. And also the customer can select the battery discharge level and solar utilization % which will use the maximum solar power, other setting like grid charging enable-disable, selection battery charging voltage etc.


**Runs High Intensity Appliances**

**Recover Deep Discharge Battery Even Zero Volt Gravity**

**Smart Charging Even During Low Voltage 90V\***

**Grid Charging Enable/Disable option for reduced electricity Bill**

**LOAD CHART\***

Load on Solar		Solar Panel Capacity
A	12 Fan + 15 LED+ 1 TV or Submersible Pump 1 HP + 2 Fan + 2 LED or 3 Fan+ 6 LED+ 1 TV	Upto 1800 W
B	10 Fan + 10 LED+ 1 TV or Refrigerator + 2 Fan + 2 LED or 3 Fan+ 6 LED+ 1 TV+ 1 Washing Machine	

\*Conditions apply






**Shine**  
 Solar Power Conditioning Unit

**SOLAR PCU | 2500**

First time in India Smarten Launched SHINE Solar Power Conditioning Unit Series. Shine is a revolutionary product with smart keypad for our power solutions. Shine is based on the latest & advanced PWM Charge Controller based technology. Its user friendly interface makes it ideal for Home appliances. In Shine, we have used advanced key pad solution for customer, its help the user to set PCU with customized settings as per the requirement. And also the customer can select the battery discharge level and solar utilization % which will use the maximum solar power, other setting like grid charging enable-disable, selection battery charging voltage etc.


**Runs High Intensity Appliances**

**Recover Deep Discharge Battery Even Zero Volt Gravity**

**Smart Charging Even During Low Voltage 90V\***

**Grid Charging Enable/Disable option for reduced electricity Bill**


SUBMERSIBLE PUMP



DENTAL CHAIR



PHOTOCOPIER



WASHING MACHINE



PC



LED TV



AIR COOLER



REFRIGERATOR

**LOAD CHART\***

Load on Solar		Solar Panel Capacity
A	12 Fan + 15 LED+1 TV or Submersible Pump 1 HP + 2 Fan + 2 LED or 3 Fan + 6 LED+1 TV	Upto 2000 W
B	10 Fan + 10 LED+1 TV or Refrigerator + 2 Fan + 2 LED or 3 Fan+6 LED+1 TV+ 1 Washing Machine	

\*Conditions apply





**Shine**  
Solar Power Conditioning Unit



**SOLAR PCU | 4000**

First time in India Smarten Launched SHINE Solar Power Conditioning Unit Series. Shine is a revolutionary product with smart keypad for our power solutions. Shine is based on the latest & advanced PWM Charge Controller based technology. Its user friendly interface makes it ideal for Home appliances. In Shine, we have used advanced key pad solution for customer, its help the user to set PCU with customized settings as per the requirement. And also the customer can select the battery discharge level and solar utilization % which will use the maximum solar power, other setting like grid charging enable-disable, selection battery charging voltage etc.



**Runs High Intensity Appliances**



**Recover Deep Discharge Battery Even Zero Volt Gravity**



**Smart Charging Even During Low Voltage 90V\***



**Grid Charging Enable/Disable option for reduced electricity Bill**



SUBMERSIBLE PUMP



DENTAL CHAIR



PHOTOCOPIER



WASHING MACHINE



PC



LED TV



AIR COOLER



REFRIGERATOR

### LOAD CHART\*

	Load on Solar	Solar Panel Capacity
A	10 Fan + 20 LED + 1 TV or Submersible Pump 1 HP + 6 Fan + 10 LED or 3 Fan + 5 LED, 8 LED + 1 TV or 1 Petrol Pump Nozel	Upto 3000 W
B	5 Fan + 10 LED + 1 TV or Submersible Pump 1 HP + 3 Fan + 5 LED or 2 Fan + 3 LED, 4 LED + 1 Refrigerator + 1 Wahing Machine	

\*Conditions apply




**Shine**  
 Solar Power Conditioning Unit

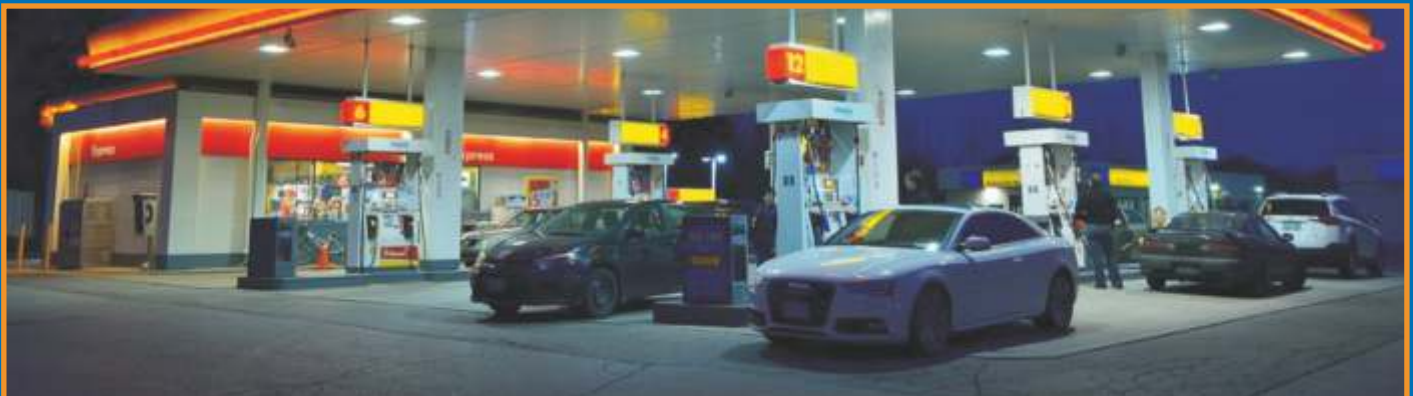
**SOLAR PCU | 5.2 KVA-10 KVA**

First time in India Smarten Launched SHINE Solar Power Conditioning Unit Series. Shine is a revolutionary product with smart keypad for our power solutions. Shine is based on the latest & advanced PWM Charge Controller based technology. Its user friendly interface makes it ideal for Home appliances. In Shine, we have used advanced key pad solution for customer, its help the user to set PCU with customized settings as per the requirement. And also the customer can select the battery discharge level and solar utilization % which will use the maximum solar power, other setting like grid charging enable-disable, selection battery charging voltage etc.


**Runs High Intensity Appliances**

**Recover Deep Discharge Battery Even Zero Volt Gravity**

**Smart Charging Even During Low Voltage 90V\***

**Grid Charging Enable/Disable option for reduced electricity Bill**

**SUBMERSIBLE PUMP**

**DENTAL CHAIR**

**PHOTOCOPIER**

**WASHING MACHINE**

**AIR CONDITIONER**

**PETROL PUMP NOSEL**

**AIR COOLER**

**REFRIGERATOR**
**LOAD CHART\***

	Load on Solar	Solar Panel Capacity
5.2 KVA	25 Fan+25 CFL+1 TV or Submersible Pump 2HP+6 Fan +10 CFL or 5 Fan+8 CFL+1 TV or 1 Petrol Pump Noshel	Upto 3000W
7.5 KVA	5 Fan+10 CFL+10 LED Bulb 7W + 2 Room Cooler+3 TV 32" + 2 AC 1.5 Ton	Upto 6500W
10 KVA	35 Fan+36 CFL+3 TV or Submersible Pump 2HP+ 10 Fan +10 CFL 2 AC 1.5 Ton + 1 TV or 4 Petrol Pump Noshel+ 10 CFL	Upto 8000W

\* Conditions apply



### PRODUCT SPECIFICATIONS

MODEL NAME	1250VA/12V	2000VA/24V	2500VA/24V	4000VA/48V	5.2 KVA/48V	7.5 KVA/96V	10 KVA/120V
Mains AC low/high cut UPS mode	175VAC - 265 VAC ± 10VAC						
Mains AC low/high cut recovery UPS mode	185VAC - 255 VAC ± 10VAC						
Mains AC low/high cut WUPS mode	90VAC - 295VAC ± 10VAC						
Mains AC low/high cut recovery WUPS mode	110VAC - 285VAC ± 10VAC						
Input Frequency Range	40Hz to 60Hz						
Voltage Output in Mains Mode	Same as input						
Frequency Output in Mains Mode	Same as input						
Grid Charging Enable/Disable	Yes Provided, you can set by front switch						
BATTERY							
Battery Type	LA / Tubular / SMF						
DC input voltage	12V	24V		48V		96V	120V
Battery Qty. 12V 100Ah to 220Ah	1	2		4		8	10
Float charging voltage	13.7V±0.2V	27.0V±0.2V		54.8V±0.4V		109.6V±0.4V	137V±0.4V
Bulk Absorption Voltage	14.8V±0.2V	29.6V±0.2V		59.2V±0.4V		118V±0.4V	148V±0.4V
Boost charging volt. for LA Battery	14.0V±0.2V	28.0V±0.2V		56.0V±0.4V		112V±0.4V	140V±0.4V
Boost charging volt. for Tub/SMF Battery	14.5V±0.2V	29.0V±0.2V		58.0V±0.4V		116V±0.4V	145V±0.4V
Battery deep Discharge Recovery	Yes (Independent Charger to Recover Deep Discharge Battery)						
BACKUP MODE							
Output Voltage	220VAC +5% -10% (until battery low alarm)						
Output frequency	50Hz ± 0.2 Hz						
Capacity	1100VA	2000VA	2500VA	3500VA	5000VA	7500VA	10000VA
Discharging current @ full load	60A± 2A		70A± 2A	60A± 2A	70A± 2A	66A± 2A	
Low Battery Warning	10.8 ± 0.2V	21.6V±0.2V		43.2V±0.4V	43.2V±0.4V	86.4V±0.4V	108V±0.4V
Low Battery Cut	10.4 ± 0.2V	20.8V±0.2V		41.6V±0.4V	42.4V±0.4V	84.8V±0.4V	104V±0.4V
Change over time UPS mode	< 10msec					< 4msec	
Change over time WUPS mode	< 25msec						
PROTECTIONS							
Overload in backup mode	Yes provided, system will indicate on display 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						
Back feed	System will shutdown in case of back feed and there is no retry						
Over temperature	Yes provided, if heat sink temperature goes above 100°C System will shut down						
Reverse Battery	Battery MCB will trip						
Phase to Phase protection in mains mode	Yes provided by electronic						
SOLAR CHARGE CONTROLLER							
Solar Charge Controller type	PWM Type						
Max Panel wattage can be connected	500W	1500W		3000W		6500W	8000W
Max PV current	25A	50A					
Reverse PV protection		Yes provided, it will also display on LCD panel					
Solar, Battery and Grid	Yes, provided, user can set priority for Battery or Grid. Hence user can set system in electricity bill saving.	When Solar Power is available					
Sharing of current when PV and Grid Both are available	If PV power is not sufficient enough to charge the battery, system will start sharing battery charging from PV and grid.						
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 battery voltage is 12.5V±0.2V per battery						
	30%- if battery voltage is 12V±0.2V per battery						
	40%- if battery voltage is 11.5V±0.2V per battery						
	50%- if battery voltage is 11V±0.2V per battery						
Display and Alarms							
LCD Initial Display	Welcome, SMARTEN Website Address, System Capacity, Charging Till 90VAC and Deep Discharge Battery, System Setting, UPS / WUPS mode, I/P range 90-295VAC / 170-265VAC, Battery Type Selected LA / SMF / Tubular, Battery Capacity Selected 100-135Ah / 150-200Ah,						
Buzzer	Audible beep for Overload, Short Circuit, Back feed, Low Battery, Over Temperature, Mains Fuse blown / MCB Trip						



## PRODUCT SPECIFICATIONS

MODEL NAME	1250VA/12V	2000VA/24V	2500VA/24V	4000VA/48V	5200VA/48V	7500VA/96V	10000VA/120V	15KVA/240V	20KVA/240V
Mains AC low/high cut UPS mode	175VAC - 265 VAC ± 10VAC								
Mains AC low/high cut recovery UPS mode	185VAC - 255 VAC ± 10VAC								
Mains AC low/high cut WUPS mode	90VAC - 295VAC ± 10VAC								
Mains AC low/high cut recovery WUPS mode	110VAC - 285VAC ± 10VAC								
Input Frequency Range	40Hz to 60Hz								
Voltage Output in Mains Mode	Same as input								
Frequency Output in Mains Mode	Same as input								
Grid Charging Enable/Disable	Yes Provided, you can set by front switch								
BATTERY									
Battery Type	LA / Tubular / SMF								
DC input voltage	12V	24V		48V		96V	120V		240V
Battery Qty. 12V 100Ah to 220Ah	1	2		4		8	10		20
Float charging voltage	13.7V±0.2V	27.0V±0.2V		54.8V±0.4V		109.6V±0.4V	137V±0.4V		230V±0.2V
Bulk Absorption Voltage	14.8V±0.2V	29.6V±0.2V		59.2V±0.4V		118V±0.4V	148V±0.4V		280V±0.2V
Boost charging volt. for LA Battery	14.0V±0.2V	28.0V±0.2V		56.0V±0.4V		112V±0.4V	140V±0.4V		310V±0.2V
Boost charging volt. for Tub/SMF Battery	14.5V±0.2V	29.0V±0.2V		58.0V±0.4V		116V±0.4V	145V±0.4V		290V±0.2V
Battery deep Discharge Recovery	Yes (Independent Charger to Recover Deep Discharge Battery)								
BACKUP MODE									
Output Voltage	220VAC +5% -10% (until battery low alarm)								
Output frequency	50Hz ± 0.2 Hz								
Capacity	1100VA	2000VA	2500VA	3500VA	5000VA	7500VA	10000VA	15 KVA	20 KVA
Discharging current @ full load	60A± 2A		70A± 2A	60A± 2A	70A± 2A	66A± 2A		50A± 2A	60A± 2A
Low Battery Warning	10.8 ± 0.2V	21.6V±0.2V		43.2V±0.4V	43.2V±0.4V	86.4V±0.4V	108V±0.4V		214V±0.4V
Low Battery Cut	10.4 ± 0.2V	20.8V±0.2V		41.6V±0.4V	42.4V±0.4V	84.8V±0.4V	104V±0.4V		210V±0.4V
Change over time UPS mode	< 10msec					< 4msec		< 10msec	
Change over time WUPS mode	< 25msec								
PROTECTIONS									
Overload in backup mode	Yes provided, system will indicate on display 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								
Back feed	System will shutdown in case of back feed and there is no retry								
Over temperature	Yes provided, if heat sink temperature goes above 100°C System will shut down								
Reverse Battery	Battery MCB will trip						DC MCB will trip		
Phase to Phase protection in mains mode	Yes provided by electronic								
SOLAR CHARGE CONTROLLER									
Solar Charge Controller type	PWM Type						MPPT Type		
Max Panel wattage can be connected	500W	1500W		3000W	6500W	8000W	300V-600V		
Max PV current	25A			50A			60A		
Reverse PV protection	Yes provided, it will also display on LCD panel								
Solar, Battery and Grid	Yes, provided, user can set priority for Battery or Grid. Hence user can set system in electricity bill saving.	When Solar Power is available							
Sharing of current when PV and Grid Both are available	If PV power is not sufficient enough to charge the battery, system will start sharing battery charging from PV and grid.								
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 battery voltage is 25V ± 0.2V						Grid Reconnect Can set 214V To 250V (10.7V To 12.5 per battery )		
	30%- if battery voltage is 24V ± 0.2V								
	40%- if battery voltage is 23V ± 0.2V								
	50%- if battery voltage is 22V ± 0.2V								
Display and Alarms									
LCD Initial Display	Welcome, SMARTEN Website Address, System Capacity, Charging Till 90VAC and Deep Discharge Battery, System Setting, UPS / WUPS mode, I/P range 90-295VAC / 170-265VAC, Battery Type Selected LA / SMF / Tubular, Battery Capacity Selected 100-135Ah / 150-200Ah,								
Buzzer	Audible beep for Overload, Short Circuit, Back feed, Low Battery, Over Temperature, Mains Fuse blown / MCB Trip								





## NOVA PURE SINE WAVE HOME UPS

**NOVA**  
 PURE SINE WAVE HOME UPS

**HOME UPS I 1250**

Smarten Launched Nova Pure Sine Wave HOME UPS in India with unique features. Nova is effective and efficient product. Its user friendly interface makes it ideal for Home appliances. you forget cuts disturb you life, and life is so much easier with NOVA Home UPS.

### SALIENT FEATURES

**LCD Display** :User Friendly LCD Display which is easy to understand. You can see the messages like battery status load%, Battery charging status, Overload, Short Circuit, Mains Low and High Voltage Protection.



**WUPS/UPS  
Selectable  
Switch**



**Recover Deep  
Discharge Battery  
Even Zero Volt Gravity**



**Smart Charging Even  
During Low Voltage  
90V\***



**Compatible  
with all Type  
Battery\***


**RUN 1 HP TULLU PUMP EASILY**

### LOAD CHART\*

A	4 Fan + 4 LED, + 5 LED, 1 Computer or Juicer Mixer
B	1 TV, 3 Fan + 3 Tube Light, 5 LED + 1 HP Tullu Pump

\* Conditions apply



FAN



LED



TULLU PUMP



JUICER MIXER



PC



LED TV



TUBE LIGHT



REFRIGERATOR





## NOVA PURE SINE WAVE HOME UPS

**NOVA**  
 PURE SINE WAVE HOME UPS

**HOME UPS | 2500**

Smarten Launched Nova Pure Sine Wave HOME UPS in India with unique features. Nova is effective and efficient product. Its user friendly interface makes it ideal for Home appliances. you forget cuts disturb you life, and life is so much easier with NOVA Home UPS.

### SALIENT FEATURES

**LCD Display** :User Friendly LCD Display which is easy to understand. You can see the messages like battery status load%, Battery charging status, Overload, Short Circuit, Mains Low and High Voltage Protection.



**WUPS/UPS  
Selectable  
Switch**



**Recover Deep  
Discharge Battery  
Even Zero Volt Gravity**



**Smart Charging Even  
During Low Voltage  
90V\***



**Compatible  
with all Type  
Battery\***



**RUN 1 HP SUBMERSIBLE EASILY**



**SUBMERSIBLE PUMP**



**DENTAL CHAIR**



**PHOTOCOPIER**



**WASHING MACHINE**



**PC**



**LED TV**



**AIR COOLER**



**REFRIGERATOR**

### LOAD CHART\*

A	1 TV, 5 Fan, 4 Tube Light, 10 LED, 1 Refrigerator
B	1 TV, 4 Fan, 6 Tube Light, 8 LED, 1 0.8 Ton AC, 1 Air Cooler

\* Conditions apply



## PRODUCT SPECIFICATIONS

MODEL NAME	1100VA/12V	1250VA/12V	2500VA/24V
Mains AC low/high cut UPS mode	175VAC - 265 VAC ± 10VAC		
Mains AC low/high cut recovery UPS mode	185VAC - 255 VAC ± 10VAC		
Mains AC low/high cut WUPS mode	90VAC - 295VAC ± 10VAC		
Mains AC low/high cut recovery WUPS mode	110VAC - 285VAC ± 10VAC		
Input Frequency Range	40Hz to 60Hz		
Voltage Output in Mains Mode	Same as input		
Frequency Output in Mains Mode	Same as input		
Grid Charging Enable/Disable	Yes Provided, you can set by front switch		
BATTERY			
Battery Type	LA / Tubular / SMF		
DC input voltage	12V	24V	
Battery Qty. 12V 100Ah to 220Ah	1	2	
Float charging voltage	13.7V <sub>±</sub> 0.2V	27.4V <sub>±</sub> 0.2V	
Bulk Absorption Voltage	14.8V <sub>±</sub> 0.2V	29.6V <sub>±</sub> 0.2V	
Boost charging volt. for LA Battery	14.0V <sub>±</sub> 0.2V	28.0V <sub>±</sub> 0.2V	
Boost charging volt. for Tub/SMF Battery	14.5V <sub>±</sub> 0.2V	28.8V <sub>±</sub> 0.2V	
Battery deep Discharge Recovery	Yes (Independent Charger to Recover Deep Discharge Battery)		
Charging Current 100 Ah-135AH Setting (Input range 135VAC to 295 VAC)	12 A ± 3A		
Charging Current 150 Ah-220AH Setting (Input range 135VAC to 295 VAC)	15 A ± 3A		
BACKUP MODE			
Output Voltage	220VAC ±10%		
Output frequency	50Hz ± 0.2 Hz		
Output Waveform	Pure Sine Wave ≤ 5% THD		
No Load Current	< 1.8 A		
Low Battery Warning	10.8 ± 0.2V	21.6V±0.2V	
Low Battery Cut	10.4 ± 0.2V	20.8V±0.2V	
Change over time UPS mode	< 10msc		
Change over time WUPS mode	< 25msc		
PROTECTIONS			
Overload in backup mode	Yes provided, system will indicate on display 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 Blown	Mains MCB will trip	
Back feed	System will shutdown in case of back feed and there is no retry		
Over temperature	Yes provided, if heat sink temperature goes above 100°C System will shut down		
Reverse Battery	DC fuse will blown		
Display and Alarms			
LCD Initial Display	Welcome, SMARTEN Website Address, System Capacity, Charging Till 90VAC and Deep Discharge Battery, System Setting, UPS / WUPS mode, I/P range 90-295VAC / 170-265VAC, Battery Type Selected LA / SMF / Tubular, Battery Capacity Selected 100-135Ah / 150-200Ah,		
Buzzer	Audible beep for Overload, Short Circuit, Back feed, Low Battery, Over Temperature, Mains Fuse blown / MCB Trip		
SAFETY			
HV Test Input to Earth	Leakage current < 5mA when 1.5kV applied for 1 min		
HV Test Output to Earth	Leakage current < 5mA when 1.5kV applied for 1 min		
IR Test Input to Earth	> 5M'Ω between @ 500VDC		
IR Test Output to Earth	> 5M'Ω between @ 500VDC		
Earth Leakage current in Mains mode	< 2.5mA		
Earth Leakage current in Backup mode	< 2.5mA		
ENVIRONMENT			
Operating Temperature	0°5 to 50°C		
Operating Relative Humidity	0°5 to 50°C		
Operating Relative Humidity	90% Non condensing		



## PRIME+

### SOLAR CHARGE CONTROLLER

MPPT BASED  
12V to 120V/50 Amp

Prime+ is MPPT based solar charge controller which is an efficient current regulator that prevents your batteries from deep discharging. It performs controlled discharges, depending on the battery. It also saves 30% more power than other charge controllers it comes with a friendly user interface which makes it easy to control.



Wall Mounting  
option



User Friendly  
Display



Smart Auto detect  
Battery Function



Compatible with  
all type of batteries\*

#### DISPLAY MESSAGES

Welcome To  
Smarten World

Website  
[www.smartenpowersystems.com](http://www.smartenpowersystems.com)

Prime MPPT SCC  
12V/30 Amp

Reverse PV  
Connected

Solar PV Current  
10 Amp

Mains Available  
200 V

Batt Volt 12.2V

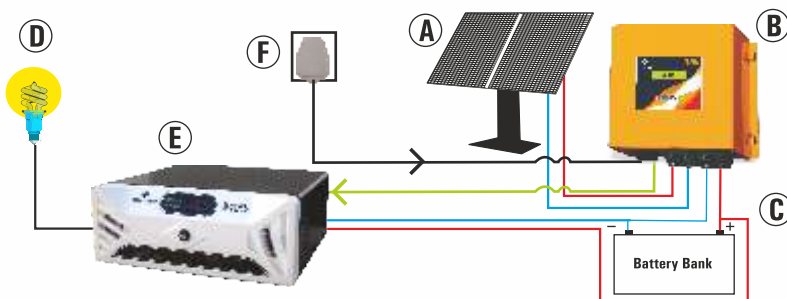
Saving Unit  
010

Batt Type Switch  
Lead Acid / Tubular Battery

Solar Power  
Available/ Not Available

PV Voltage

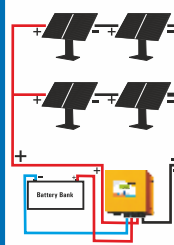
#### BLOCK DIAGRAM OF PRIME+ MPPT SOLAR PCU KIT



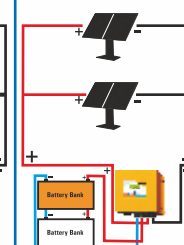
A. Solar Module B. MPPT Prime+ C. Battery Bank D. Load E. Home UPS F. Mains

#### FOR 12V SYSTEM

150W Solar Panel  
will connect in  
below series

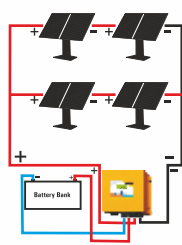


250W Solar Panel  
will connect in  
below series



#### FOR 24V SYSTEM

250W Solar Panel  
will connect in  
below series





**Superb**  
SERIES

**MOST ADVANCED TECHNOLOGY  
(3 IN 3 OUT) ONLINE PCU  
WITH MPPT CHARGE CONTROLLER**

**5 KVA - 50 KVA**



**MPPT BASED ADVANCE  
TECHNOLOGY PCU**



**30% MORE  
EFFICIENT**



**SMART CHARGING  
EVEN DURING LOW  
VOLTAGE 90V\***



**GRID CHARGING ENABLE  
/DISABLE OPTION FOR  
REDUCED ELECTRICITY  
BILL**

## **SALIENT FEATURES**

- Big Date Big Display.
- Built-in Energy Meter.
- Safety and Protections.
- Wide range MPPT Input.
- Sleek & Aesthetic design.
- 6 Stage Battery Charging.
- Multiple Battery Selection.
- IGBT based design and Fast Charging.
- RS-232 (Industrial Standard MODBUS)
- 40% less panel required than other PCUs.
- Maximized Solar Usage through Intelligent modes.
- Incorporated with Microchip and ST DSP Engines.
- Works as standalone Solar Inverter in case of No-Grid.



**PRODUCT SPECIFICATIONS**

MODEL NAME	Units	15KVA	20KVA	30KVA	40KVA	50KVA
Operating DC Voltage	Volts	240V/360V		360V/384V	420V/480V	
SPV Parameters						
Max SPV Power	KW	15KW	20KW	30KW	40KW	50KW
VOC range	V	360-600		540-750	630-750	
	V	540-750		576-750	720-750	
Compatible SPV Panels	36 / 60 / 72 Cell					
MPPT Based Charge Controller						
Switching Element	IGBT Module					
Controller	DSP					
Efficiency	> 95%					
Max Charging Current from Solar	60 Amps					
Battery Charging Stages	5 (Softstart, Boost, Absorbtion, Float, Equalise)					
BATTERY						
Low Cut Off	Volts	10.5 / Battery +/-2%				
Low Cut Off Recovery	Volts	11.5 / Battery +/-2%				
Low Buzzer	Volts	10.7 / Battery +/-2%				
High Cut Off	Volts	15.5 / Battery +/-2%				
High Cut Off Recovery	Volts	15.0 / Battery +/-2%				
Boost Charging Volt by SPV(TUB)	Volts	14.5 / Battery +/-2%				
Boost Charging Volt by Grid(TUB)	Volts	14.0 / Battery +/-2%				
Charging Current by Grid	Amps	10A +/-2%				
No Load Battery Current	%	0.02				
OUTPUT						
Output@ No load	Volts	415 VAC +/- 2%				
Output Frequency	Hz	50 +/-2%				
Overload Capacity	—	100% - 120% : 60 Seconds with 3 Times Auto Reset,				
Output Low Retry	—	1 Time				
Output Short Circuit	—	1 Time				
GRID						
No of Phase	—	380V-480V 3 PHASE 4 WIRE(R,Y,B,N)				
Frequency Range	Hz	45-55 Hz +/-10%				
Power Factor		0.95				
Charger Topology	—	Buck/ Buck-Boost				
DISPLAY						
Display	Alphanumeric	20X4 LCD				
Frequency Range	Output (Inverter)	Voltage (R,Y,B) , Current (R,Y,B), Power (R,Y,B) and Frequency (R,Y,B)				
Parameters	Input (Grid)	Voltage(R,Y,B) and Frequency(R,Y,B)				
	Solar	Voltage, Current, Power and Energy (Optional)				
	Battery	Voltage, Current, Level (Bar Graph)				
	Status/Faults	Inverter Status, Mains Status, Charger Status, Solar Status and Battery Status/Charging Stages				
INVERTER						
Switching Element	—	IGBT Module				
Output Waveform	—	Digitally Filtered Pure Sine Wave				
Changeover (Mains to Inverter)	ms	0 ms				
Output Power Factor	pf	0.8				
Overload Retry	—	3 Times				
Indication (LED)	—	Inverter On, Mains In Range, Battery Low/High, Charger On, Overload, Faults				
Alarm (Audible)	—	Battery Low, Overload, Charger On, Inverter On, Solar Charger On				
Protection	—	Overload, Short Circuit Protection, Over Voltage, SPV Surge and Transient protection (MOV Varistors), Reverse Polarity of Battery, Over temperature Protection, Under Voltage and Over Voltage Protection				
Cooling	—	Forced Air cooling (Temp Controlled)				
Operating Temp	C	0-50				
Operating Humidity	%	95				
Protection class	—	Ip20				





## **Shine** **TUBULAR BATTERY** | 170 Ah - 200 Ah

Under the supervision of Smarten's quality experts, Shine battery is manufactured using cutting-edge technology and premium grade raw materials at our in-house well-equipped manufacturing unit.

It is made with LSP Technology to handle high surge current of loads. The offered battery is a programmable battery. Hence, it can be used in a wide variety of applications.



**LOW SELF DISCHARGE**



**LONG CYCLE LIFE.**



**SUPERIOR HIGH RATE DISCHARGE FEATURE.**



**LEVEL INDICATOR FOR EASY MAINTENANCE**

S. No.	Model	Volts	Capacity @C20	Capacity @C10	Initial Charging Current (Amps)	Dimensions (H x W x L) mm
1.	SSTT 1800	12	170 AH	150 AH	15A	503 x 193 x 412
2.	SSTT 2000	12	200 AH	170 AH	15A	503 x 193 x 412





## NOVA TUBULAR BATTERY | 180 Ah - 200 Ah

Under the supervision of Smarten's quality experts, Nova battery is manufactured using cutting-edge technology and premium grade raw materials at our in-house well-equipped manufacturing unit.

It is made with LSP Technology to handle high surge current of loads. The offered battery is a programmable battery. Hence, it can be used in a wide variety of applications.



**LOW SELF DISCHARGE**



**LONG CYCLE LIFE.**



**SUPERIOR HIGH RATE DISCHARGE FEATURE.**



**LEVEL INDICATOR FOR EASY MAINTENANCE**

S. No.	Model	Volts	Capacity @C20	Capacity @C10	Initial Charging Current (Amps)	Dimensions (H x W x L) mm
1.	NVTT 1800	12	180 AH	150 AH	15A	503 x 193 x 412
2.	NVTT 2000	12	200 AH	170 AH	15A	503 x 193 x 412




**SOLAR**  
 MONOCRYSTALLINE

**40W - 400W**

With the highest quality materials and based on the latest solar technology from Germany and Taiwan, Smarten SOLAR PANELS are completely immune to India's extreme heat, cold, dust and heavy rainfall. Whatever the weather, these panels are crafted to serve you reliably for 25 years or more.

Authentic, durable, with the highest efficiency of solar cells, Smarten Solar Panels offer the best performance in cloudy weather, and don't even get damaged in winds of 120 km/hr.

Smarten SOLAR PANELS help you cut down your electricity bills and also friendly to the environment. We urge you to invest in this very best of investments, both for yourself and your planet.

### Technical Specifications

Wattage Wp	40W	50W	60W	75W	100W	150W	160W	190W**	260W	265W	320W	380W**
Voltage at max. Power, Vmax	17.00	18.00	18.00	18.00	18.00	18.20	18.20	18.20	30.92	30.92	38.12	39.92
Open circuit Voltage, Voc	21.00	21.00	21.00	22.00	22.00	22.20	22.20	22.20	37.95	37.95	45.15	49.20
current at max. Power, Imax	2.36	2.78	3.33	4.17	5.56	8.30	8.30	8.30	8.58	8.58	8.39	9.53
short circuit current, Isc	2.54	3.20	3.83	4.67	6.06	8.50	8.50	8.50	9.18	9.18	8.98	9.9
FF	0.75	0.74	0.75	0.73	0.75	0.80	0.80	0.80	0.76	0.76	0.75	0.75

Note: \*STC(1000W/AM1.5/cell temperature 25°C)

Module Mechanical Details												
Module Length (mm) +2mm	470	545	645	775	1010	1490	1490	1490	1645	1645	1963	1963
Module width (mm) +2mm	665	665	665	665	665	665	665	665	985	985	985	985
Module efficiency (%)	13.99	13.80	13.99	14.55	14.89	15.14	15.14	16.35	16.35	16.35	16.55	19.58
Mounting hole Pitch X axis in mm +2mm	637	637	637	637	637	630	630	630	945	945	945	945
Mounting hole Pitch Y axis in mm +2mm	210	300	300	400	500	750	750	750	860/1360	860/1360	1175/1400	1175/1400
Module weight (Aprox in kg)	3	4	5	6.5	7.75	10.6	10.6	10.6	17.5	17.5	22	22.5
Packing Type	5 in 1	5 in 1	5 in 1	5 in 1	5 in 1	4 in 1	4 in 1	4 in 1	1 in 1	1 in 1	1 in 1	1 in 1

Power Tolerance -0/+3%, Electrical Parameters Tolerance +5%

\*Conditions apply \*\* These are Monocrystalline Panel.

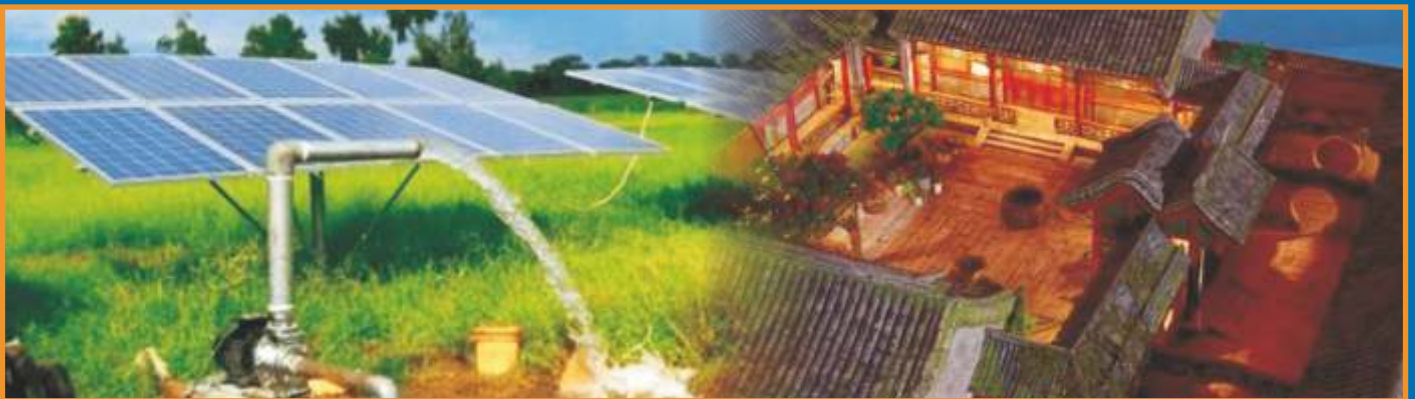




## **Kranti** ⚡ PV CHANGER

# A POWERFUL PV CHANGER TO MAKE YOU ENERGY-INDEPENDENT.

YOU CAN USE THE PANEL MOUNTED ON THE SOLAR PUMP BY KRANTI  
PV CHANGER IN YOUR HOME AS PER YOUR REQUIREMNT



### **SALIENT FEATURES**

- Can use solar pump panels to run house load.
- Can use same unit from 12V PCU to 120V PCU.
- Avoid the hassle of frequently changing the panel connections.
- Selectable rotary switch to change Pump to PCU-PCU to Pump.
- Diagram and panels connection method depend on existing pump panel connections.

Note: This is only a Panel voltage change over not to run AC load directly. This will give only DC voltage to PCU as per required.



**SMARTEN®**  
**Kranti** ⚡ **PV CHANGER**

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**SMARTEN®**  
F U S I O N   I S   T H E   F U T U R E



***Smarten Power Systems Pvt. Ltd.***

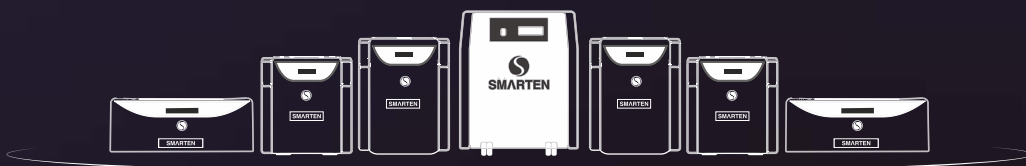
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