SMARTEN®
FUSION IS THE FUTURE

TECHNICAL SPECIFICATION

MODEL - SUPERB 15KVA/180V MPPT SOLAR PCU

DOC REF NO.	**RD/SUP/15KVA/180V/R.01**
PRODUCT FG CODE	**SPD-SB-152-180-01**
MAINS INPUT MODE	
Mains AC low cut UPS mode	175VAC ± 10VAC
Mains AC low cut recovery UPS mode	185VAC ± 10VAC
Mains AC high cut UPS mode	265VAC ± 10VAC
Mains AC high cut recovery UPS mode	255VAC ± 10VAC
Mains AC low cut WUPS mode	90VAC ± 10VAC
Mains AC low cut recovery W.UPS mode	110VAC ± 10VAC
Mains AC high cut WUPS mode	295VAC ± 10VAC
Mains AC high cut recovery W.UPS mode	285VAC ± 10VAC
Input Frequency Range	48Hz to 52Hz
Voltage Output in Mains Mode	Same as input
Mains Charging Current Selection Mode	User can set mains charging current as per requirement 10Amp. /5Amp./Enable/Disable
Frequency Output in Mains Mode	Same as input
BATTERY	
Battery Type	LA / Tubular / SMF
DC input voltage	180V
Battery Quantity 12V 100Ah to 220Ah	15
Float charging voltage	205.5V±0.4V
Boost charging voltage for LA Battery	210V±0.4V
Boost charging voltage for Tubular and SMF Battery	217.5V±0.4V
Battery Boost Mode	220.5V±0.4V
Bulk Absorption Battery Voltage	222V±0.4V
Battery deep Discharge Recovery	Yes (Independent Charger to Recover Deep Discharge Battery)
Charging Current By Grid	15A±3A
BACKUP MODE	
Output voltage	220VAC±10%
Output frequency	50Hz ± 0.2 Hz
Output waveform	Pure Sine Wave ≤ 5% THD
No Load current	<1.8A
Capacity	15KVA
Discharging current @ full load	65A ± 2A
Low Battery Warning	162V±0.4V
Low Battery Cut	159V±0.4V
Change over time UPS mode	< 4msec
Change over time WUPS mode	< 25msec
Cooling	Temp. Controlled Fan
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	DC fuse will blown
Phase to Phase protection in mains mode	Yes, provided by electronic
SOLAR CHARGE CONTROLLER	
Solar Charge Controller type	MPPT
Max Panel wattage can be connected	Approx 10000 WATT
Maximum PV Voltage	450V
Maximum Battery current	50 Amp.
Efficiency	> 93%
Reverse PV protection	Yes provided, it will also display on LCD panel
Switches	Menu(Select),up,Down,Esc.
Reverse current flow to PV	Yes provided
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.
Mode Selection	User can select any mode as per requirement SOLAR>GRID>BATTERY SOLAR>BATTERY>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 187.5V±0.2V
	30%- if battery voltage is 180V±0.2V
	40%- if battery voltage is 172.5V±0.2V
	50%- if battery voltage is 165V±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, DOD.
LCD Status Display	Mains ON, Input Voltage, Input Frequency, Battery Voltage, Battery Charging, Battery Charged, Charging Current, Backup Mode, UPS ON, UPS OFF, Battery Voltage, Load %, Output Voltage, Output Frequency, Battery Current, PV Current,PV Voltage. Mains Low Cut, Mains High Cut, Mains Not Available, Mains Frequency Cut
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
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	>5MΩ between @ 500VDC
IR Test Output to Earth	>5MΩ between @ 500VDC
Earth Leakage current in Mains mode	< 2.5mA
Earth Leakage current in Backup mode	< 2.5mA
ENVIRONMENT	
Operating Temperature	0°C to 50°C
Storage Temperature	0°C to 50°C
Operating Relative Humidity	90% Non-Condensing
DIMENSIONS	