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|--|--|---|----------------|
|  |  | <b>SMARTEN POWER SYSTEMS LIMITED</b><br><b>PRODUCT SPECIFICATION</b>  |                |
| <b>Model Name</b>  |  | <b>Superb 2675/24V SOLAR PCU</b>  |                |
| <b>Mains Input mode</b>  |  |   |                |
| Mains AC low cut UPS mode  |  |   | 165VAC ± 10VAC |
| Mains AC low cut recovery UPS mode   |  |   | 175VAC ± 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 Enable/Disable  |  | Yes Provided,you can set by front switch  |                |
| Frequency Output in Mains Mode   |  |   | Same as input  |
| <b>Battery</b>   |  |   |                |
| Battery Type   |  | LA / Tubular / SMF  |                |
| DC input voltage   |  | 24V   |                |
| Battery Quantity 12V 100Ah to 220Ah  |  | 2   |                |
| Float charging voltage   |  | 27.4V±0.2V  |                |
| Boost charging voltage for LA Battery  |  | 28V±0.3V  |                |
| Boost charging voltage for Tubular and SMF Battery                               |  | 28.8V±0.3V  |                |
| Bulk Absorption Battery Voltage  |  | 29.6±0.2V   |                |
| Battery deep Discharge Recovery  |  | Yes (Independent Charger to Recover Deep Discharge Battery)   |                |
| Charging Current By Grid   |  | 15A±3A  |                |
| <b>Backup Mode</b>   |  |   |                |
| Output voltage   |  | 220VAC±10%  |                |
| Output frequency   |  | 50Hz ± 0.2 Hz   |                |
| Output waveform  |  | Pure Sine Wave ≤ 5% THD   |                |
| No Load current  |  | <1.8A   |                |
| Discharging current @ full load  |  | 70A ± 2A  |                |
| Low Battery Warning  |  | 21.6V±0.2V  |                |
| Low Battery Cut  |  | 20.8V±0.2V  |                |
| Change over time UPS mode  |  | < 10msec  |                |
| Change over time WUPS mode   |  | < 25msec  |                |
| Switching Element  |  | MOSFET  |                |
| Cooling  |  | Temp. Controlled Fan  |                |
| <b>Protections</b>   |  |   |                |
| 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  |                |
| <b>Solar Charge Controller</b>   |  |   |                |
| Solar Charge Controller type   |  | MPPT  |                |
| Max Panel wattage can be connected   |  | 1500WATT  |                |
| Maximum PV Voltage   |  | 103±2V  |                |
| Maximum Battery current  |  | 50Amp.  |                |
| 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.  |                |
| 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 25.0v±0.2V   |                |
|  |  | 30%- if battery voltage is 24.0v±0.2V   |                |
|  |  | 40%- if battery voltage is 23.0v±0.2V   |                |
|  |  | 50%- if battery voltage is 22.0v±0.2V   |                |
| <b>Display and Alarms</b>  |  |   |                |
| LCD Initial Display  |  | Welcome, SMARTEN Website Address, System Capacity, Charging Till 90VAC and Deep Discharge Battery,<br>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.<br>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  |                |
| <b>Safety</b>  |  |   |                |
| 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   |                |
| <b>Environment</b>   |  |   |                |
| Operating Temperature  |  | 0°C to 50°C   |                |
| Storage Temperature  |  | 0°C to 50°C   |                |
| Operating Relative Humidity  |  | 90% Non-Condensing  |                |