



SMARTEN POWER SYSTEMS PVT LIMITED

PRODUCT SPECIFICATION

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| Model Name | 3.5KVA/48V SOLAR PCU |
| 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 |
| Frequency Output in Mains Mode | Same as input |
| Battery | |
| Battery Type | LA / Tubular / SMF |
| DC input voltage | 48V |
| Battery Quantity 12V 100Ah to 220Ah | 4 |
| Float charging voltage | 54.8V±0.4V |
| Bulk absorption Voltage | 59.2V±0.4V |
| Boost charging voltage for LA Battery | 56.0V±0.4V |
| Boost charging voltage for Tubular and SMF Battery | 58.0V±0.4V |
| Battery deep Discharge Recovery | Yes (Independent Charger to Recover Deep Discharge Battery) |
| Charging Current at Grid priority/Battery priority | 15A ± 3A |
| Backup Mode | |
| Output voltage | 220VAC +5% -10% (until battery low alarm) |
| Output frequency | 50Hz ± 0.2 Hz |
| Output waveform | Pure Sine Wave ≤ 5% THD |
| Capacity | 3500VA |
| Discharging current @ full load | 60A ± 2A |
| Low Battery Warning | 43.2V±0.4V |
| Low Battery Cut | 41.6V±0.4V |
| Change over time UPS mode | < 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 | DC fuse will blown |
| 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 | 3000W |
| Max PV current | 50A |
| Reverse PV protection | Yes provided, it will also display on LCD panel |
| Reverse current flow to PV | Yes provided, it will also display on LCD panel |
| 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. |
| Option for Grid and Battery priority | Yes, provided, user can set priority for Battery or Grid. Hence user can set system in electricity bill saving. |
| 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, |
| 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, Mains Low Cut, Mains High Cut, Mains Not Available, Mains Frequency Cut |
| 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 | >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 |