

## TECHNICAL SPECIFICATIONS

Mains Input mode	HELIO 1500
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 WUPS mode	110VAC ± 10VAC
Mains AC high cut WUPS mode	295VAC ± 10VAC
Mains AC high cut recovery WUPS 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	LI-ION
DC input voltage	12V
Battery Quantity 12V 100Ah LI-ION	1
Bulk absorption Voltage	14.2±0.2V
Boost charging voltage for LI-ION Battery	14.2V±0.2V
Battery deep Discharge Recovery	Yes (Independent Charger to Recover Deep Discharge Battery)
Charging Current LI-ION Battery	20A ± 3A
Charging mode	5Amp 5A ± 1A
	10Amp 10A ± 2A
	Enable 20A ± 3A
	Disable
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	1250VA
Discharging current @ full load	73 ± 3A
Low Battery Warning	10.8V±0.2V
Low Battery Cut	10.4V±0.2V
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
Battery High Protection	Yes provided by Firmware
Solar Charge Controller	
Solar Charge Controller type	MPPT type
Max Panel wattage can be connected	1200W
Max PV Voltage	60 ± 3V
Max PV current	55A
Reverse PV protection	Yes provided, it will also display on LCD panel
Reverse current ow 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
Mode Option	1. Solar >> Grid >> Battery (In this condition first priority is Solar then Grid and Battery)
	2. Solar >> Battery >> Grid (in this condition first 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)
Mains Disconnect SOC (State of charge)**	65% of battery capacity*** Default SOC is 40%
	75% of battery capacity*** Default SOC is 30%
	85% of battery capacity*** Default SOC is 30%
	95% of battery capacity*** Default SOC is 30%
SOC definition (State of charge)**	Mains will disconnect if battery will charge denied SOC level
SOC (State of charge)**	20%- of battery capacity
	30%- of battery capacity
	40%- of battery capacity
	50%- of battery capacity
SOC definition (State of charge)**	Mains will be connect when battery use defined SOC value of full capacity
Battery Capacity**	100Ah
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/LI-ION, Battery
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,
Buzzer	Audible beep for Overload, Short Circuit, Back feed, Low Battery, Over Temperature, Mains Fuse blown / MCB Trip
Mains Chargin Enable and Disable	
	Yes, Provided user can set mains charging Enable/Disable from front keypad
UNIT SAVING IN DISPLAY	
	LCD Display will show the toal saving unit from Solar
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
Definition	
	* This option is enabled only for the LA/SMF/TUB batteries
	** This option is enabled only for the Li-Ion Batteries