



Multi-Level Switching (MLS) Technology

REECO's MLS technology online UPS is a transformer-less UPS with front end PFC, harmonic reduction, common neutral, high efficiency three level inverter stage

- Absolute transformer-less design – no iron core transformer and no ferrite transformer used. Only light weight high frequency inductors are used. This results in very easy manufacturing.
- No isolation transformer needed because neutral is common
- Static bypass for uninterrupted bypass during hazard condition
- 4-level battery charging. Charging current up to 15A
- Suitable for all kinds of batteries – Lithium, lead acid etc
- 4-line LCD and graphic display
- Wifi connectivity with Android
- Temperature sensor and fan control
- Suitable for 110V
- Suitable for frequency converters – 50Hz input 60Hz / 400Hz output, 60Hz input 50Hz /400Hz output, 400Hz input 50Hz /60Hz output

Features:

- Input front end PFC to correct the current waveform to pure sine wave, power factor will be close to unity 0.99
- Very low harmonics < 4%
- Three level inverter stage results in very low switching loss and requires compact magnetics.
- Inverter stage and the PFC stage will process only the difference power which makes the efficiency very high and light weight.
- Efficiency >98%



Technical Specification

Capacity	1KVA, 2KVA, 3KVA, 4KVA, 5KVA single phase input, single phase output
Nominal AC Input	230V / 110 V
AC input range	170V to 270V / 80V to 130V
Input frequency	50Hz / 60Hz
Input power factor	>0.98 (full load)
Input current harmonics	< 4% (full load)
Current crest factor ratio	3:1 max
Nominal output voltage	230V / 110V
Output frequency	50Hz / 60Hz
Output voltage regulation	< +/-1%
Output waveform	Pure sinewave
Output voltage harmonic distortion (THD)	< 2%
Transfer time in UPS mode	Mains to battery – 0ms Battery to mains – 0ms
Automatic bypass	Static bypass using SCR
Static bypass transfer time	Inverter to mains bypass – 0ms Mains to inverter bypass – 0ms
Topology	True online with double conversion with high efficiency three level inverter and APFC. Neutral common, no isolation transformer required
Efficiency	>98%
Input power factor	0.99
Input current total harmonic distortion (THD)	<4%
Battery voltage	2KVA 96V to 240V 3KVA 144V to 240V 4KVA 192V to 240V 5KVA 192V to 300V
Number of battery banks	Single battery bank system
Battery type	Lithium / lead acid batteries
Charging current	1 to 15A settable
Charger type	CCCV + float cum boost + trickle charging. 4-level and 2-level settable
Interface and connectivity	Wifi with Android and net connectivity
Protection	Overload, surge load, short circuit, battery low, mains low voltage, mains high voltage, high temperature