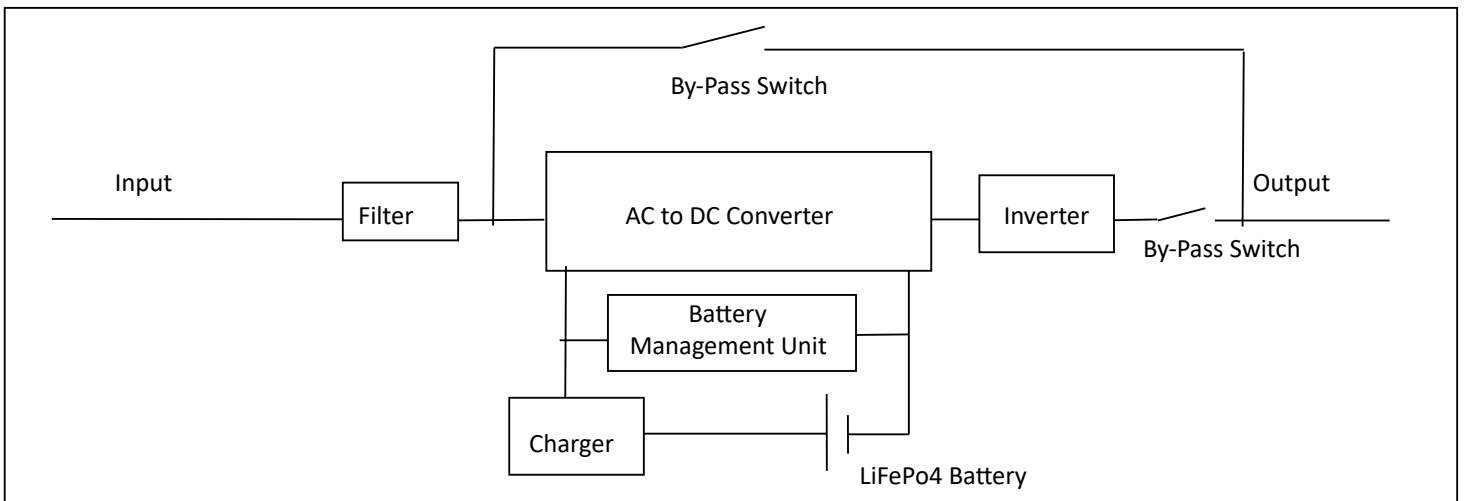


PM11-HF10LFP-050 - 10KVA On-Line UPS With a 9,6KWh Lithium-Iron Battery Pack (LiFePo4)

The PowerMan PM11-HF UPS range is manufactured using a double conversion design principal, and operates using a 220/240V 50Hz, single phase AC input and output. The use of state of the art high frequency, transformer-less technology keeps the UPS small and compact. The incoming mains is converted directly into DC which is used to charge the batteries and to drive the inverter, which in turn runs the load. **This means that your sensitive electronic equipment will be protected from any potentially damaging spikes, surges or dips.** Should the mains fail completely, the batteries will simply carry on driving the inverter, and start to discharge as opposed to charging. There is no break on the output on transfer to or from the mains. This design concept offers the best possible protection as your equipment is supplied clean power from the inverter at all times.

The UPS has a built in Static By-Pass feature which enables the machine to transfer the load to normal mains under certain emergency conditions, such as an overload. Once the condition causing the by-pass has been corrected the unit will automatically return to its normal operating mode.



Features	Benefits
On-Line, double conversion technology	Computer equipment is protected from typical commercial power problems such as spikes, surges, dips or failures due to the isolation of the input from the output. A double conversion is the only type of UPS that will be able to recreate a clean, steady voltage and frequency output.
Transformer-less	This technology has been tried and tested over the years and has proven itself to be reliable. The use of high frequency technology dramatically reduces the size of the equipment and improves efficiency which reduces the running cost.
3-Step inverter design	The unique 3-step inverter design ensures that the UPS can run all loads including laser printers.
Lithium Iron Battery Technology (LiFePo4)	The Lithium-Iron Phosphate battery is the latest and so far safest technology in batteries for multiple cycle applications. The LiFePo4 battery offers user a compact solution that is smaller and weighs less than the equivalent Lead Acid based designs. The battery is supplied with a 5 year or 3000 cycle warranty
Battery Management Unit (BMU)	The battery pack is constructed from 4 x 48VDC50Ah LiFePo4 battery packs connected in series providing the UPS with a 192VDC battery pack. Each battery pack has an internal battery management unit (BMU), which in turn is controlled by a central BMU. The entire battery pack is controlled down to each cell ensuring an even sharing of charge and discharge across the cells and ensuring maximum protection and reliability for the system.

Features	Benefits
Recharge	The UPS is equipped with a 10A (2,2KW) battery charger that will recover the battery from 80% discharge to fully charged within 4 to 5 hours.
LCD Display (UPS)	Gives users accurate information on the input and output voltages on the UPS, frequency as well as load levels and available battery capacity.
LCD Display Battery Management Unit (BMU)	Gives accurate information on the status of each cell within each battery pack, cell voltage, temperature and state of charge.
USB and SNMP as standard Communication ports.	Allows the UPS to connect to the computer system or network, and in conjunction with various software packages, can supply information on the status of the UPS and perform shut down.
Generator compatible input	The output power from the generator can vary as different loads come on and go off, the UPS will ensure that your equipment is not be damaged by the voltage fluctuations from the generator.
DC start capability	Units are able to start and run with no mains input.

Specifications

Model No.	PM11-HF10LFP-050
Capacity VA (Watts)	10 000 (9 000)
Input Voltage	230V AC \pm 25%
Input Frequency	50 Hz \pm 10%
Transfer Time	Zero
Output Voltage On Inverter	230V AC \pm 3%
Frequency on Inverter	50 Hz Crystal Controlled
Inverter Wave Form	Sine
Total Harmonic Distortion (THD)	\leq 1% (Linear Load)
Efficiency At Full Load	> 95%
Overload Capability	150% For 30 seconds, then by-pass
Batteries	Internal battery pack 192V50Ah (9,6KWh) LiFePo4
Re-Charge to 80 % (from 80% DOD)	\pm 4 Hours
Backup Time With 50% Load to 80% DOD (4500 watts)	\pm 1,7 Hours
Backup Time With 25% Load to 80% DOD (2250 Watts)	\pm 3,5 Hours
Battery Cycles	6000 Cycles @ 80% DOD
Ambient Operation	3000M Max Elevation, -10 to 40 C, 0 to 90% Humidity
Audible Noise At 1 M	< 60% Load 52 dbA / > 60% Load 56 dbA
Short Circuit Protection	Yes
Low Battery Shut down	Yes
Controls	Mains Fail Alarm (Slow intermittent beep), Low Battery Alarm (Continuous beep), Mains on indicator, Charging indicator, By-Pass Indicator, LCD Display (Full UPS Status reporting), Diagnostic software via USB port and SNMP with Megatec Protocol
UPS Dimensions (w x d x h) mm & Weight	438mm x 550mm x 86mm @ 14Kg
Battery Dimensions (w x d x h) mm & Weight	435mm x 500mm x 140mm @ 29Kg
BMU Dimensions (w x d x h) mm & Weight	435mm x 500mm x 90mm @ 15Kg
Cabinet Dimensions (w x d x h) mm & Weight	600mm x 800mm x 1375mm @ 190Kg (Populated)