1. GENERAL SPECIFICATIONS

The Legrand ARCHIMOD HE, model 100, is an UPS on line double conversion with PWM Hi-Frequency technology. It has passing through neutral and Modular Architecture with the possibility to have N+X redundancy. The nominal power is 100 kVA – 100 kW. Batteries are lead acid, sealed, free maintenance, valve regulated, and arranged, inside the UPS or external battery cabinet, in dedicated Drawers, in order to guarantee compact dimensions reducing weights and DC voltage level.

1.1 Modularity
The UPS ARCHIMOD HE 100 has modular architecture, it is composed by identical modules which work in parallel. Modules are:
• Power Modules 6.7 kVA;
• Battery Drawers of seven batteries (9Ah), in dedicated cabinet.
These modules are installed inside the UPS and have identical functions.
Power Modules are composed by the following circuits:
• Rectifier/PFC
• Inverter
• Battery Charger
• Command Logic circuit
• Automatic By-pass

Battery drawers contain 7 batteries, and are easy to be move and replace.

1.2 Scalability
The modularity of ARCHIMOD UPS allows to execute Power and Autonomy upgrade. Thanks to the intelligent Plug N' Play connection, no HW and SW settings are needed to increase or decrease the power or the autonomy.

1.3 Redundancy
The modularity of the UPS allows the N+X redundant configurations. The Redundancy is achieved using more modules than needed, modules will run in “load sharing”.

1.4 Architecture
The UPS ARCHIMOD HE 100 is three–phase input and output, the architecture is distributed parallel architecture in each phase (there are more modules in the same phase).
In case of redundant configuration, whenever one module fails, the other modules in the same phase will guarantee the energy supply and protection to the load. The available power in each phase will be always the sum of the power of the modules installed in that phase.

1.5 Hot-plug
The UPS ARCHIMOD HE 100 The power modules are independently controlled by 3 Command Tunnel. Each Command Tunnel controls three (or six) power modules. It is possible to turn off only one command tunnel and install or replace modules inside of it, when the other tunnel is still running. This allows the service on a part of the UPS without turn off the complete system, losing only the power of the tunnel in maintenance. In case of redundancy or scalability, the load is protected by the UPS also during the replace or upgrade of power modules.

1.6 By-pass
In each Power Module there is a static By-pass system which, in case of overload or other anomaly, automatically transfer the load to the mains.

A dedicated software of remote monitoring and management, installed on a PC connected to the UPS, allows to check and set all working parameters of ARCHIMOD HE (the same functions available on the UPS control panel) and, furthermore, to schedule and program computer remote shutdown.
Optional software (UPS SuperviSor) or Net Interface card (CS141SK) allow the multi server shutdown and UPS remote control on the LAN. ARCHIMOD HE is controlled by a main microprocessor which works together with microprocessors in each power modules; By display is possible to check all measurements, working parameters and status of the system.
Here follow the measurements and working parameters available on the display:

Input
Current:
• RMS value
• Peak value
• Crest Factor
Voltage:
• Ph-N RMS value
• Ph-Ph RMS value
• Bypass Line Voltage
Power:
• Nominal (VA)
• Active (W)
• Power Factor
Frequency

Output
Current:
• RMS value
• Peak value
• Crest Factor
Voltage:
• Ph-N RMS value
• Ph-Ph RMS value
Power:
• Nominal (VA)
• Active (W)
• Power Factor
Frequency

Batteries
• Voltage
• Capacity
• Current
• History data
• Residual Capacity
• Charging status

Misc.
• Internal Temperature
• Fan Speed
• HV DC BUS Voltage

DATA LOG.
• By-pass intervention
• Overheats
• Overloads
• Battery interventions
• Total discharge
• Events (info, warning, critical)
• Alarms

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1. GENERAL SPECIFICATIONS (continue)

The UPS allows also the following settings by display:

Output
• Voltage
• Frequency
• Phases configuration

BY-PASS
• Enabling
• Forced
• DIP Speed
• ECO Mode

Input
• Enable freq. synchronizing
  (PLL)
• Extended synchronizing range
  (Extended PLL)

Batteries
• Start up on Battery
• Threshold value
• Auto restart
• Max Time on battery

The UPS ARCHIMOD HE has the CE Mark accordingly with the EU Directives 2006/95, 2004/108 and it comply with following standards:
• EN 62040-1 "General rules for electric safety"
• EN 62040-2 "Electromagnetic compatibility and immunity (EMC)"
• EN 62040-3 "Performances and testing rules"

2. TECHNICAL SPECIFICATIONS

General Specifications

UPS Topology On line double conversion VFI SS 111
Architecture of the UPS Modular, scalable, redundant based on 6.7kVA Power Modules
In/Out phase Configuration Three phase-Three phase
Neutral Neutral Passing through
Output wave form on mains run Sinusoidal
Output wave form on battery run Sinusoidal
Bypass type Static, electro-mechanic and maintenance bypass
Transfer time Zero

Input
Nominal Voltage 380, 400, 415 3ph+N+PE
Voltage range -20% +15%
Frequency 45-65Hz (autosensing)
THDin < 3%
Power Factor > 0.99

Output with mains (AC-AC)
Nominal voltage 380, 400, 415 3ph+N+PE
Nominal power 100,000 VA
Active power 100,000 W
Efficiency (VFI) 96%
Voltage variation (static) ± 1%
Voltage variation (dynamic 0-100%; 100-0%) ± 1%
THDv on nominal power (linear load) < 0,5 %
THDv on nominal power (not linear load PF=1) < 1 %
Frequency 50 Hz 60 Hz (autosensing or selectable)
Frequency tolerance ± 1 % free run
Current Crest Factor 3:1 accordingly with IEC 62 040-3
Overload capability:
• 10 min
  115%
• 60 sec
  135%

Output in battery Run (DC-AC)
Nominal voltage 380, 400, 415 3ph+N+PE
Nominal power 100,000 VA
Active power 100,000 W
Voltage variation (static) ± 1%
Voltage variation (dynamic 0-100%; 100-0%) ± 1%
THDv on nominal power (linear load) < 0,5%
THDv on nominal power (not linear load PF=1) < 1 %
Frequency 50 Hz 60 Hz (autosensing or selectable)
Frequency tolerance ± 1 % free run
Current Crest Factor 3:1 accordingly with IEC 62 040-3
Overload capability:
• 10 min
  115%
• 60 sec
  135%

Battery
Type Lead Acid, sealed, free maintenance VRLA
Unit Capacity 9 Ah (12V)
Nominal UPS Battery Voltage 252 Volt DC
Battery charger type PWM hi efficiency, one in each power module
Charging Cycle Smart Change technology 3-step advanced cycle
Max Charging Current 2.5 A each power module

Environmental specs
Noise level @ 1m 58 dBA
Working temperature range from 0°C to +40°C
Stock temperature range from -20°C to +50°C (excluded batteries)
Humidity range 0-95% not condensing
Protection degree IP21

Mechanical an Miscellaneous
Net Weight without batteries 1 318 kg
Dimensions (WxHxD) 2 1 x (570 x 2080 x 912) (mm) (only inverter)
Colour RAL 7016
Technology rectifier/booster/inverter MOSFET/IGBT
Communication Interface 2 serial port RS232, 1 logic level port, 5 Dry contacts port, 1 slot for SNMP optional interfaces
Input/Output connections 3Ph+ N + PE
Number of Command Tunnels 3
Number of installable Power Modules 15 of 6700 VA
Standards EN 62040-1, EN 62040-2, EN 62040-3

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1 The weigh depends by the number of the installed batteries accordingly with the required autonomy.
2 The battery cabinet dimension can change depending battery set accordingly with the required autonomy.