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Archimod 120 kVA

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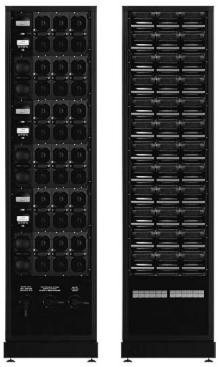

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1. GENERAL SPECIFICATIONS

The Legrand **Archimod**, model 120000VA, is an UPS on line double conversion with PWM Hi-Frequency technology. It has passing trough neutral and Modular Architecture with the possibility to have N+X redundancy. The nominal power is 120.000 VA – 108.000 W. 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** 120000VA has modular architecture, it is composed by identical modules which work in parallel. Modules are:
- Power Modules 6700VA;
- 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 120000VA 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 120000VA The power modules are independently controlled by 3 Command Tunnel. Each Command Tunnel controls 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. The UPS has embedded the manual bypass for service and maintenance and it is possible to connect a dedicated bypass input line.

Control and Monitoring:
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 (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 (CS121 SK) allow the multi server shutdown and UPS remote control on the LAN.
Archimod 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

1. GENERAL SPECIFICATIONS *(continue)*

The UPS allows also the following settings by **display**:

Output
- Voltage
- Frequency
- Phases configuration

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

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

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

The UPS Archimod has the CE Mark accordingly with the EU Directives 73/23, 93/68, 89/336, 92/31, 93/68 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 and electro-mechanic
Transfer time	Zero

Input	
Nominal Voltage	400 V three phase / 230V single phase
Voltage range	-20% +15%
Frequency	50 Hz o 60Hz (autosensing)
$THDI_{in}$	< 3% al 100% of nominal load
Power Factor	> 0.99 from 50% to 100% of nominal load

Output with mains (AC-AC)	
Nominal voltage	400 V three phase / 230V single phase
Nominal power	120.000 VA
Active power	108.000 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 P.F.=0,7)	< 1 %
Frequency	50 Hz o 60 Hz (autosensing or selectable)
Frequency tolerance	Synchronized with input frequency or ± 1% free run
Current Crest Factor	3:1 accordingly with IEC 62040-3
Overload capability: • 5 min • 30 sec	 125% load rate with no bypass intervention 150% load rate with no bypass intervention

Output in battery Run (DC-AC)	
Nominal voltage	400 V three phase / 230V single phase
Nominal power	120.000 VA
Active power	108.000 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 P.F.=0,7)	< 1 %
Frequency	50 Hz o 60 Hz (autosensing or selectable)
Frequency tolerance	± 1% free run
Current Crest Factor	3:1 accordingly with IEC 62 040-3
Overload capability: • 5 min • 30 sec	 125% load rate with no bypass intervention 150% load rate with no bypass intervention

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	Intelligent with boost charge and advanced management
Max Charging Current	2,5 A each power module

Environmental specs	
Noise level @ 1m	60 dBA
Working temperature range	from 0°C to +40°C
Stock temperature range	from -20°C to +50°C (excluded batteries)
Humidity range	20-80% not condensing
Protection degree	IP21

Mechanical an Miscellaneous	
Net Weight without batteries [1]	364 kg
Dimensions (WxHxD) [2]	1 x (570 x 2170 x 912) (mm) (only inverter)
Colour	RAL 7016
Technology rectifier/booster/inverter	MOSFET/IGBT
Communication Interface (for each command tunnel)	2 serial port RS232, 1 logic level port, 5 Dry contacts port
Input/Output connections	3P + N + PE
Number of Command Tunnels	3
Number of Installed Power Modules	18 of 6700 VA
Standards	EN 62040-1, EN 62040-2, EN 62040-3

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