

NUMERIC

A Group brand | **legrand**

HIGH POWER MODULAR UPS

ARCHIMOD HE 240/400

ARCHIMOD HE

TRIMOD HE



THE ULTIMATE IN CLEAN POWER



Numeric is a Market leader in the Un-interruptible Power Supplies and associated power conditioning products in India with Global installations spanning 12 countries. NUMERIC UPS is now part of the Legrand Group which occupies the fourth position in Global UPS Market.

Numeric is the undisputed Number 1 Indian UPS Manufacturer, with over 13% market share. A reliable power solutions partner for the entire spectrum of user - segments, Numeric provides protection with power continuity at its best, to ensure maximum uptime for all critical equipment by means of world-class power conditioning products.



THE ULTIMATE IN CLEAN POWER

ARCHIMOD HE 240/400

HIGH EFFICIENCY MODULAR UPS



FULLY INTEGRATED HIGH POWER SOLUTIONS

ADVANCED TECHNOLOGY

The connections between the UPS and the distribution Enclosure can be integrated into the same solution making installation easier and tidy.

VISUAL & TECHNICAL COORDINATION

The new ARCHIMOD HE 240/400 is available in 2 colors (RAL7016-RAL7035), to have the same aesthetics for the front panel of the LEGRAND distribution enclosures.

TURNKEY SOLUTIONS

Legrand proposes a UPS range fully coordinated with a power distribution switchboards; One single supplier for any secured power need.



GRANULAR PARALLEL ARCHITECTURE

- ARCHIMOD HE is made up of many Individual single phase modules redundant and «Selfconfiguring»
- Thanks to the load sharing, the Overall load is equally shared between the power modules and in case of failure, the system still working
- Different number of power modules allows to create a huge range of configurations and redundancy Levels

GRANULAR SYSTEM BENEFITS

**PLUG-IN AND
HOT SWAP SYSTEM**

**SIMPLIFIED
INSTALLATION**

**INCREASED
FLEXIBILITY**

**INDEPENDENT
BATTERY STRING**

**HIGHEST
REDUNDANCY LEVEL**

**SCALABILITY
"ON SITE"**

**INCREASED SERVICE
CONTINUITY**

**MULTI OUT
CONFIGURATION**

**DUAL INPUT
SOLUTION**

ARCHIMOD HE 240/400

THE GRANULAR UPS SYSTEM UP TO 400 KW

**HIGH
PERFORMANCE**
Power
Factor **1**

Thanks to their unity power factor the new ARCHIMOD HE UPS guarantee maximum real power; 11% more than competitor products offering 0,9 power factor, fully 25% more than those of 0.8 power factor.

**HIGH
EFFICIENCY**
96%

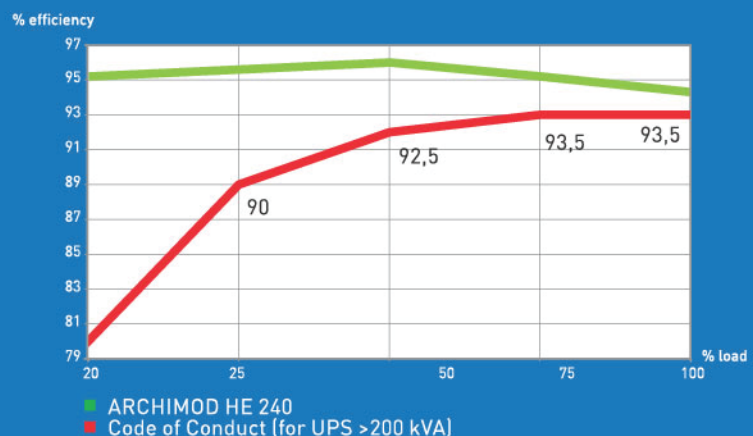
Continuous research combined with modern production methods has led Legrand to offer the market a cutting-edge, top-performing product: certified efficiency up to 96% and unity power factor.

**LOW
ENVIRONMENTAL
IMPACT**
>TCO

Combining high density with a structural design that optimises the space, the new ARCHIMOD HE systems is the ideal solution for advanced energy management and total cost of ownership (TCO) reduced.

CERTIFIED EFFICIENCY ONE OF THE HIGHEST VALUES IN THE MARKET

ARCHIMOD HE'S 96% efficiency, one of the highest in the market, is externally certified by the SIQ. The European Code of Conduct requires a minimum value of 92%. So ARCHIMOD HE is up to 4% more efficient, thus effectively dividing by 2 all UPS energy losses.





Numeric's modular UPS know-how goes back more than 20 years, when the first ever modular UPS were introduced in 1993.

Since then, continuous firmware development and research on control and hardware components have led to no stop improvements in system reliability, quality and technical performance.

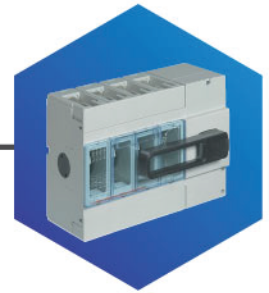
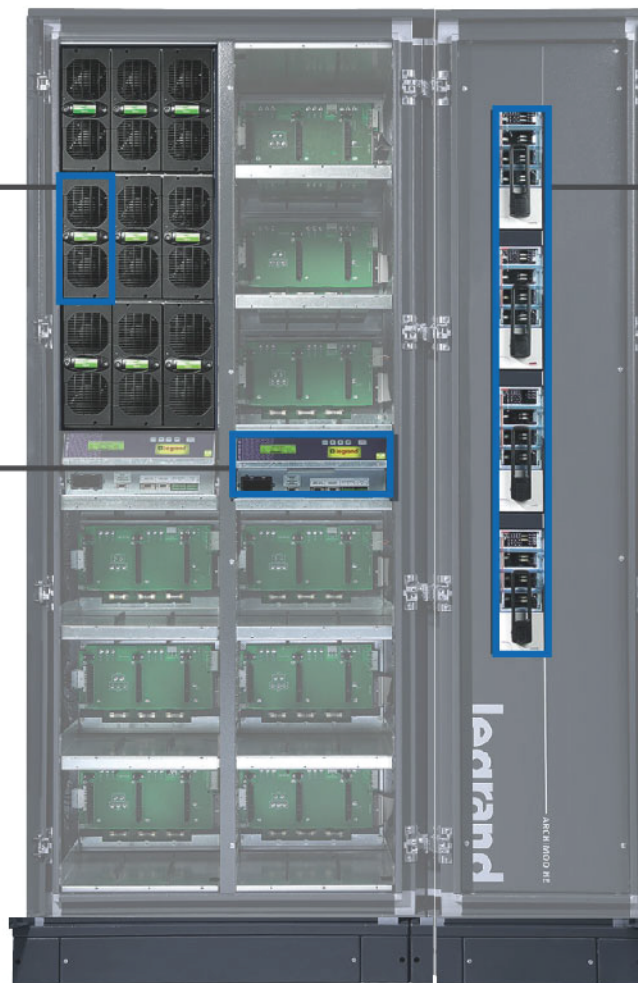
ARCHIMOD HE 240/400

THE MODULAR ARCHITECTURE



Power modules

Each power module is single UPS with nominal power 6.7 kW, extremely compact and easy to handle (only 8,5 kg). They have a plug-in hot swap system, work in parallel with all modules that are present to ensure optimum system performance. The power module is the same for all range from 20 to 400kW.



Switches

The UPS is provided with two input switches. These two switches are bridged by default but the connection can be easily removed obtaining two independent input lines. In the front of UPS there are also one switch for manual by-pass and one for batteries.



Control drawer

Each control drawer manages up to 30 power modules (for the 400 kW); composed by some control board is equipped by removable system with safety block. The front panel has a diagnostic multicolors LED for instant visual communication of the UPS status and of all communication ports: SNMP slot, logic level and RS232 communications port and 5 dry contacts.

THE FRONTAL INSTALLATION



Dedicated connection solutions

The connection cabinet has been developed to fit several cables with large section. The switches are fitted with special terminals to simplify the connection of the cables.



Friendly user interface

The display position makes it easy to read and navigate in the menu. All communication ports are fitted on the front panel below the display, allowing a faster operation for control and test. A cable management system is available for the communication cables. An acoustic signal and high-visibility flashing on the backlit front panel ensure that any alarm signal is noticed immediately. The signals can be split into various categories based on their severity.



Designed to fit any location

Compact and lightweight components simplify and optimise the installation in any location. The structure without the power modules weighs only 300 kg, simplifying the positioning of the UPS in the technical room or in its final destination.

ARCHIMOD HE 240/400

THE FRONTAL MAINTENANCE



Front access to control boards

Like the Power Modules, also Control Boards can be replaced from the front. The technician just needs to have a front access to the ARCHIMOD HE 240/400 in order to be able to operate on the control boards. This ensures safety for the operator and best maintenance results for the user.



One power module throughout the range

Archimod HE 240/400 employs the same Power Modules as Trimod HE and Archimod HE, thus leading to significant advantages in terms of maintenance. First of all, one single spare part, the Power Module itself, that can be replaced by a single technician in less than 5 minutes, ensuring the maximum MTTR (Mean Time To Repair). Second, if many UPS are installed in the same site, the possibility of sharing the spare parts stock, reducing its cost and its management issues. And third, being replaceable from the front, the Power Modules do not require any lateral access to the UPS, permitting a safe maintenance also in very small rooms.

ARCHIMOD HE 240/400

FLEXIBLE SOLUTIONS



Scalable solution
from 20kW up to 240kW



Scalable solution
from 20kW up to 400kW

Many possible
configurations



Thanks to the ARCHIMOD HE240/400 granular parallel architecture you can program several type of configuration and set various redundancy levels to ensure maximum continuity of service for all installations.

High levels of redundancy

Standard working

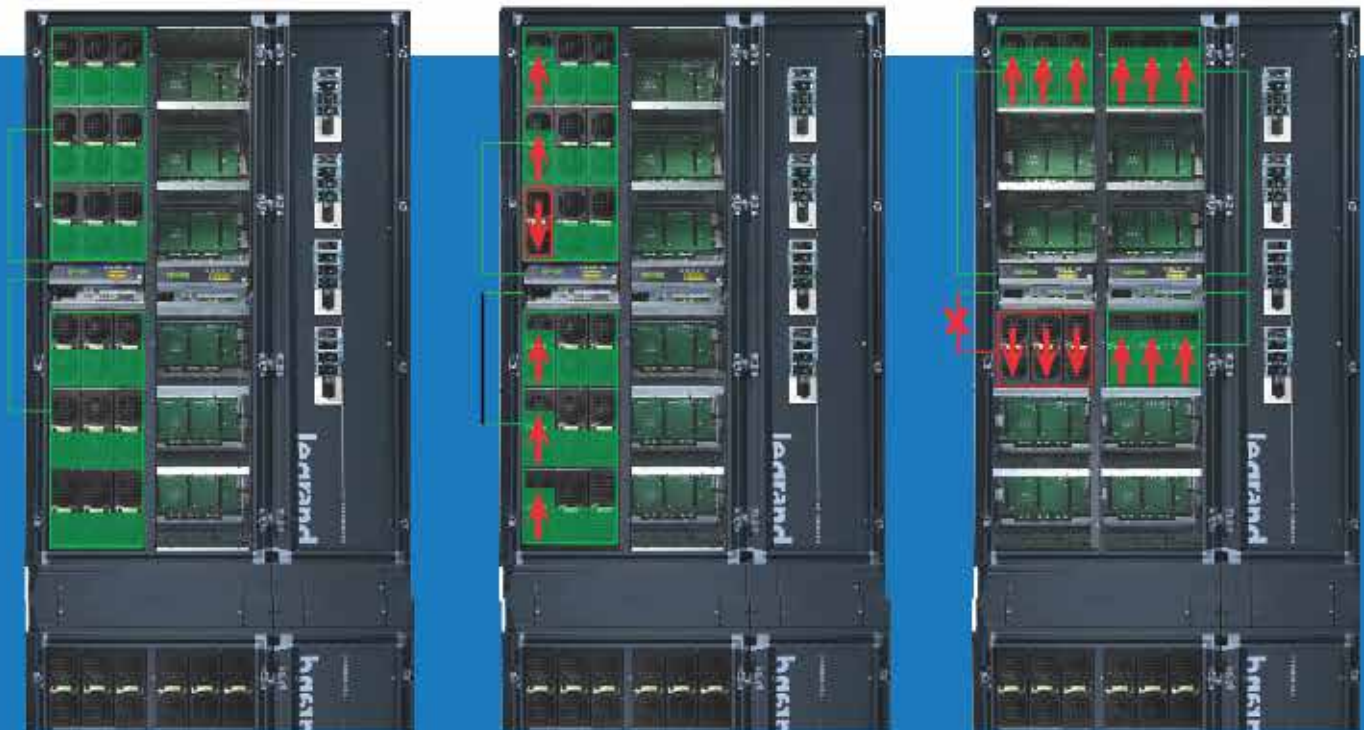
We can reach redundancy thanks to the load sharing, the overall load is equally shared between the power modules and in case of failure the still working modules will back up the faulty one.

Redundancy on the phases

In a system with three-phase outputs, it is possible to create redundancy on each individual phase. If one of the power modules fails, the other modules for this phase take over from the faulty module.

Redundancy on the control

In UPS that include several control modules, the failure of one of the control board results in the modules it controls being stopped. However continuity of service is assured by the automatic distribution of the lost power over the other modules.



ARCHIMOD HE 240/400

DOUBLE CONVERSION VFI THREE-PHASE MODULAR UPS



3 104 75

3 108 73

EXAMPLE CONFIGURATIONS



ARCHIMOD HE160
Power: 160 kW scalable
up to 240
1 Cabinet distribution
24 Power modules



ARCHIMOD HE240
Power: 240 kW
1 Cabinet distribution
36 Power modules



ARCHIMOD HE320
Power: 320 kW
scalable up to 400
1 Cabinet distribution
48 Power modules



ARCHIMOD HE400
Power: 400 kW
1 Cabinet
60 Power modules
1 Cabinet distribution

ARCHIMOD HE 240/400

Double conversion VFI three-phase modular UPS

General characteristics		
Nominal power [kW]	240	400
Module power [kW]	6.7 per power module (20 kW with 3 modules), $\cos\phi$ 1	
Technology	On-line double conversion VFI-SS-111	
System	Modular, expandable and redundant system in a single cabinet	
Input characteristics		
Input voltage	380, 400, 415 3PH+N+PE	
Input frequency	45-65 Hz (autosensing)	
Input voltage range	+ 15 %/-20%	
THD of input current	< 3%	
Compatibility with gensets	Configurable for synchronisation between the input and output frequencies, even for the highest frequency ranges, \pm 14%	
Input power factor	> 0.99	
Output characteristics		
Output voltage	380, 400, 415 3PH+N+PE	
Efficiency	Up to 96%	
Nominal output frequency	50/60 Hz	
Peak factor	3.5:1	
Tolerance on output voltage	\pm 1%	
Permitted overload	10 minutes at 115% and 60 seconds at 135%	
Efficiency in Eco mode	99%	
Bypass	Static, electro-mechanic and maintenance bypass	
Batteries		
Battery range type/voltage	VRLA - AGM/252 VDC	
Backup time	Configurable and extendable, with additional battery cabinets	
Battery charging	Smart Charge technology 3-step advanced cycle	
Communication and management		
Screen and signalling	for each control drawer, 1 Display 4 x 20-character lines, 4 menu navigation buttons, multi-coloured LED status indicator	
Communication ports	2x RS232 communications port, 2x 5 Dry contacts 2x logic level port, N.2 SNMP slot	
Back-feed protection	N/C + N/O auxiliary contact	
Emergency stop	Yes	
Physical characteristics		
Dimensions (W x H x D) (mm)	1350 x 2040 x 780	2490 x 2040 x 780
Installable power modules	up to 36	up to 60
Net weight (kg)	610	1050
Ambient conditions		
Operating temperature/humidity	0 - 40 °C / 0 - 95% non condensing	
Protection index	IP 21	
Maximum noise audible at 1 m (dBA)	<80	
Conformity		
Certifications	EN 62040-1, EN 62040-2, EN 62040-3	

ARCHIMOD HE

HIGH EFFICIENCY
MODULAR UPS



HIGH
performance

HIGH
efficiency

LOW
ENVIRONMENTAL
impact

Numeric offers a whole new array of innovative power management solutions driven by superior technology that is in sync with the ever evolving market needs. At Numeric, we always desire to mark our distinction in the industry through continuous market research and product innovation that results in delivering quality.

Built to perform and designed to perfection, Archimod HE from Numeric has certified efficiency up to 96% and unity power factor. With a structural design that optimizes space, the new Archimod HE is the perfect solution for advanced energy management and cost containment.

ARCHIMOD HE

ARCHIMOD HE: expandable, modular architecture UPS, power from 20 to 120 kVA, in a 19 rack cabinet.

The system comprises a set of standard, pre-assembled components which simplify and optimise the design and building of critical power infrastructures.

The innovative modular design of these UPS means that the availability of the power can be optimised, the flexibility of the system increased and the total cost of ownership (TCO) reduced.



ARCHIMOD HE



1 Control module

Equipped with a microprocessor, it manages 3 power modules. If it is used with a power expansion module, it can manage up to 6 power modules, thus increasing the power from 20 to 40 kVA. It has a screen and a multifunction keypad for monitoring the operating parameters of the UPS and for configuring numerous functions. It can be connected in parallel to other control modules and used with power expansion modules. The front panel has a backlit status indicator for immediate checking of the operating status of the system and an RS 232 port for connecting a PC for maintenance.

2 Power modules

The power modules (nominal power 6.7 kVA) are extremely compact and easy to handle. They have a plug-in hot swap system, making them quick to install and maintain. They work in parallel with all modules that are present to ensure optimum system performance.

3 Power expansion module

This must be used with a control module. It increases the power from 20 to 40 kVA and can be used to establish individual redundancy on each phase.

4 Distribution module

This is used to configure the distribution type of the UPS (three-phase/three-phase, three-phase/single phase, single phase/single phase or single phase/three-phase). It has I/O connection blocks, handling and protection devices, and the connection for additional battery cabinets. The power supply can be configured on two separate input sources (main and backup).

5 Cable entry

Special sleeves enable entry and exit of the input and output cables, via the top and via the bottom.

EXPANDABLE
SCALABLE **VERSATILE**

The power can be increased very quickly and easily inside the cabinet itself, without the need to reconfigure the installation or the UPS.



ARCHIMOD HE 20



ARCHIMOD HE 40



ARCHIMOD HE 60



ARCHIMOD HE 80



ARCHIMOD HE 100



ARCHIMOD HE 120

GRANULAR PARALLEL ARCHITECTURE

The 3pH UPS are made up of individual single phase modules which are redundant and "selfconfiguring" so that power can be increased quickly and safely.



OPTIMISATION OF WORK

The compact and lightweight power modules (only 5 Kg) make the UPS easy to transport, install and maintain.



ARCHIMOD HE

CAN HAVE THREE SINGLE PHASE OUTPUT WHICH CAN BE MANAGED INDEPENDENTLY



HIGH LEVELS of REDUNDANCY

REDUNDANCY ON THE SINGLE PHASE LOAD

In a three-phase power supply system with single phase loads, if one of the modules fails, there is no loss of power as the power is distributed over the other modules that are still operational.



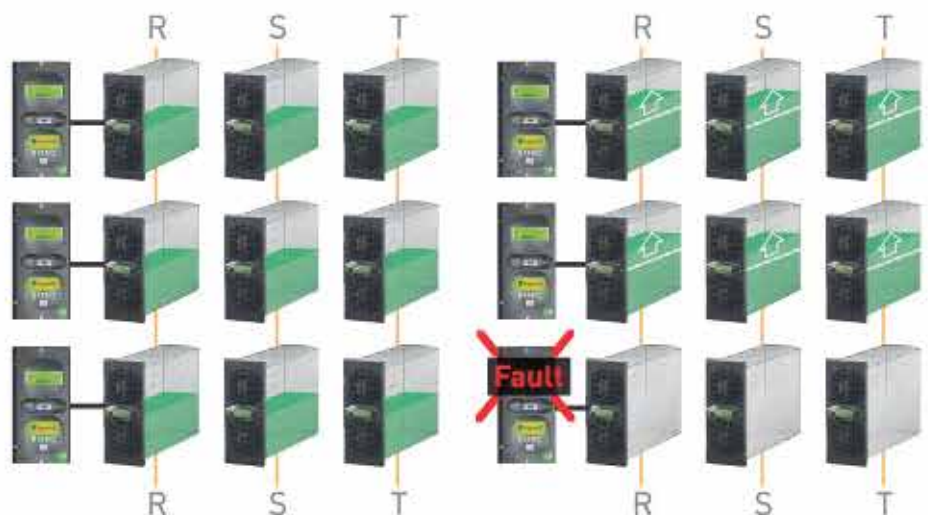
REDUNDANCY ON THE PHASES

In a system with three-phase outputs, it is possible to create redundancy on each individual phase. If one of the power modules fails, the other modules for this phase take over from the faulty module.



REDUNDANCY ON THE CONTROL

In UPS that include several control modules, the failure of one of the control modules results in the modules it controls being stopped. However continuity of service is assured by the automatic distribution of the lost power over the other modules.



Thanks to the construction technology of the ARCHIMOD HE UPS systems, you can set various redundancy levels so that maximum service continuity is always guaranteed.

ARCHIMOD HE

DOUBLE CONVERSION VFI THREE-PHASE MODULAR UPS

CONFIGURATIONS



20
Power: 20 kVA
Backup time: 65 min
1 Cabinet
1 Control module
3 Power modules
30 Battery modules
1 Distribution module



40
Power: 40 kVA
Backup time: 21 min
1 Cabinet
2 Control modules
6 Power modules
24 Battery modules
1 Distribution module



60
Power: 60 kVA
Backup time: 8 min
1 Cabinet
3 Control modules
9 Power modules
18 Battery modules
1 Distribution module



80
Power: 80 kVA
Backup time: 14 min
2 Cabinets
4 Control modules
12 Power modules
36 Battery modules
1 Distribution module



100
Power: 100 kVA
Backup time: 10 min
2 Cabinets
3 Control modules
2 Power expansion modules
15 Power modules
36 Battery modules
1 Distribution module



120
Power: 120 kVA
Backup time: 8 min
2 Cabinets
3 Control modules
3 Power expansion modules
18 Power modules
36 Battery modules
1 Distribution module



NOTE: The backup times, expressed in minutes, are measured under optimum operating conditions.

COMMUNICATION ACCESSORIES (OPTIONAL)

The Trimod comes with communication accessories in order to improve the management and maximise output of the system. These accessories help in supervising the function of the system - Network interface, Sensors & Load Management Control unit.

NETWORK INTERFACE

Network interface are used for remote control of UPS.



- Fire safety system
- Air conditioning systems
- Smoke detectors
- Relay IN
- Relay OUT
- Configuration via the terminal

- Rs. 232 pipe-through
- MODBUS over RS 232/ Rs. 485
- Temperature sensors
- Sensor Manager
- MOBBUS over IP
- HTTP/ Java/ UPSMON

- Remote program execution
- SNMP / SNMP Trap management
- Sending e-mails (SMTP)
- Telnet, FNP, adjustments/ updates
- Log file, historical data file

SENSORS AND OTHER SENSOR ACCESSORIES:

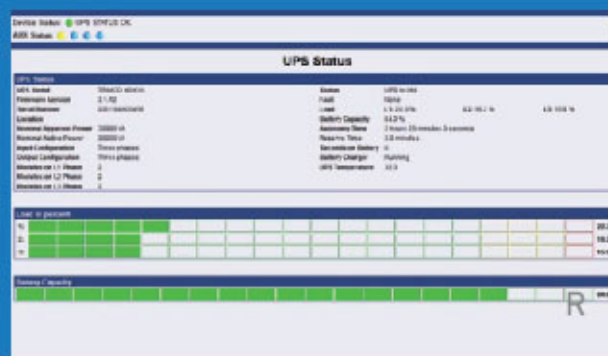
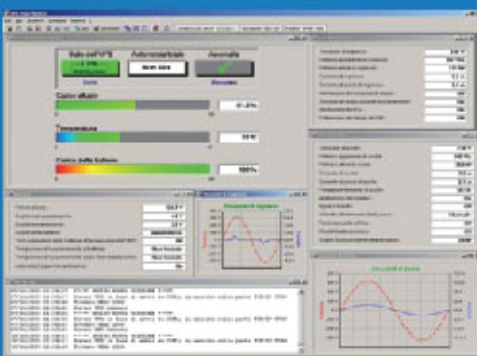
Sensors are used to monitor the ambient temperature and humidity.

- Smoking detectors
- Fire safety system control
- Temperature and/or humidity sensors
- Air Conditioning system fault detector
- "Custom" analog and digital sensors
- Intrusion detectors



COMMUNICATION AND SUPERVISION SOFTWARE:

Communication and supervision software for accessing the operating parameters of the UPS, carrying out full diagnostics and configuring specific functions.



ARCHIMOD HE

Double conversion VFI three-phase modular UPS

General characteristics						
Nominal power (kVA)	20	40	60	80	100	120
Active power (kW)	20	40	60	80	100	120
Module power (kVA)	6.7 per power module (20 kVA with 3 modules) $\cos\phi = 1$					
Technology	On-line double conversion VFI-SS-111					
System	Modular, expandable and redundant system in a single cabinet, 19" rack					
Hot Swap capacity	The power and/or battery modules can be replaced without switching off the UPS					
Input characteristics						
Input voltage	380, 400, 415 3PH+N+PE (o 220, 230, 240 1PH)		380, 400, 415 3PH+N+PE			
Input frequency	45-65 Hz \pm 2% autosensing					
Input voltage range	230 V + 15%/-20% 1P 400 V + 15 %/-20% 3P		400 V +15%/-20% 3P			
THD of input current	< 3%					
Compatibility with gensets	Configurable for synchronisation between the input and output frequencies, even for the highest frequency ranges, \pm 14%					
Input power factor	> 0.99					
Output characteristics						
Output voltage	380, 400, 415 3PH+N+PE (o 220, 230, 240 1PH)		380, 400, 415 3PH+N+PE			
Efficiency	Up to 96%					
Nominal output frequency	50/60 Hz \pm 0.1					
Peak factor	3.5:1					
Tolerance on output voltage	\pm 1%					
Permitted overload	10 minutes at 113% and 60 seconds at 135%					
Efficiency in Eco mode	99%					
Bypass	Automatic and maintenance bypass					
Batteries						
Battery range type/voltage	VRLA - AGM/252 VDC					
Backup time	Configurable and extendable, both internally and with additional battery cabinets					
Battery charging	Smart Charge technology 3-step advanced cycle					
Communication and management						
Screen and signalling	4 x 20-character lines, 4 menu navigation buttons, multi-coloured LED status indicator					
Communication ports	For each control module 2 x RS232 serial ports, 1 logic level port, 5 volt-free contact ports, 2 slots for SNMP interfaces (optional)					
Back-feed protection	N/C + N/O auxiliary contact					
Emergency stop	Yes					
Remote control	Available					
Physical characteristics						
Dimensions (W x D x H) (mm)	570 x 912 x 2080 (42 U)					
Installable power modules	3	6	9	12	15	18
Net weight (kg)	205	240	276	272	318	364
Ambient conditions						
Operating temperature/humidity	0 - 40 °C/0 - 95%non condensing					
Protection index	IP 21					
Maximum noise audible at 1 m (dBA)	50 to 65					
Conformity						
Certifications	EN 62040-1, EN 62040-2, EN 62040-3					

THE ULTIMATE IN CLEAN POWER

TRIMOD HE

MODULAR
HIGH EFFICIENCY UPS



HIGH
performance

HIGH
efficiency

LOW
ENVIRONMENTAL
impact

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TRIMOD HE

100% Compatible

Trimod HE was developed to guarantee 100% compatibility with the previous version, hence, simplifying the service management of the installed UPS systems.

EXPANDABLE SCALABLE MODULAR VERSATILE

The innovative concept of 3Ph modularity, composed of **INDIVIDUAL SINGLE-PHASE MODULES** which are featured in the entire TRIMOD HE range, allows you to optimise the power availability, increase system flexibility and reduce the overall management costs (TCO).

The highly standardised structure, composed of size- and weight-reduced modules, makes it easier to transport and install the UPS systems.

All of the components are self-configurable and integrate a Plug&Play connection system to make all diagnosis, maintenance and future expansion phases easier.



Because the TRIMOD HE system is versatile and programmable, it is also possible to:

- supply three independent single-phase lines, assigning a different priority to each one, in terms of operating time;
- offer three different input/output configurations in a single cabinet: upto 30kVA
- increase the duration of the average battery life thanks to the Smart Charging System.



Compact and lightweight single-phase power module (only 8.5 kg)

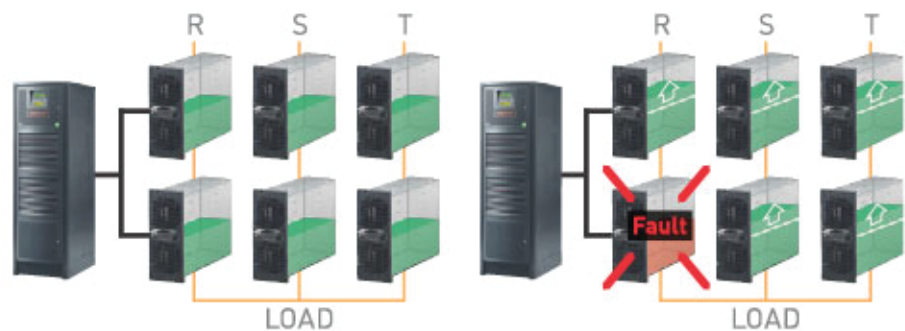


HIGH LEVELS of REDUNDANCY

Thanks to the construction technology of the TRIMOD HE UPS systems, you can set various redundancy levels so that maximum service continuity is always guaranteed.

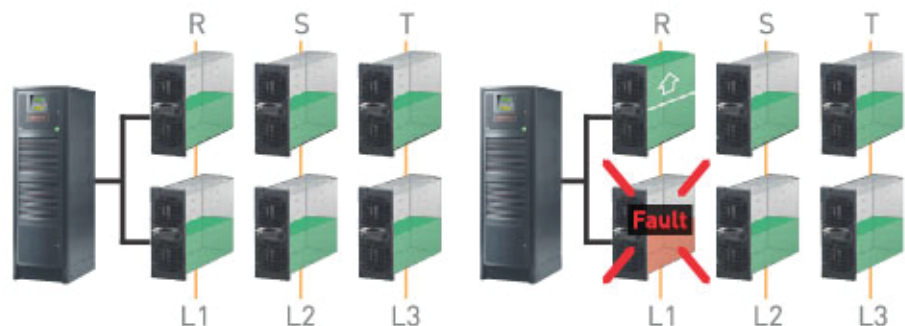
REDUNDANCY ON SINGLE-PHASE LOAD

In a system with a threephase power supply and a single-phase load there will be no power loss if one of the modules fails, as the power will be delivered by the other modules in operation.



REDUNDANCY ON THE PHASES

In a system with three independent outputs, it is possible to set the redundancy on the single phases. If one of the power modules fails, the modules in the same phase take over for the module that is down.

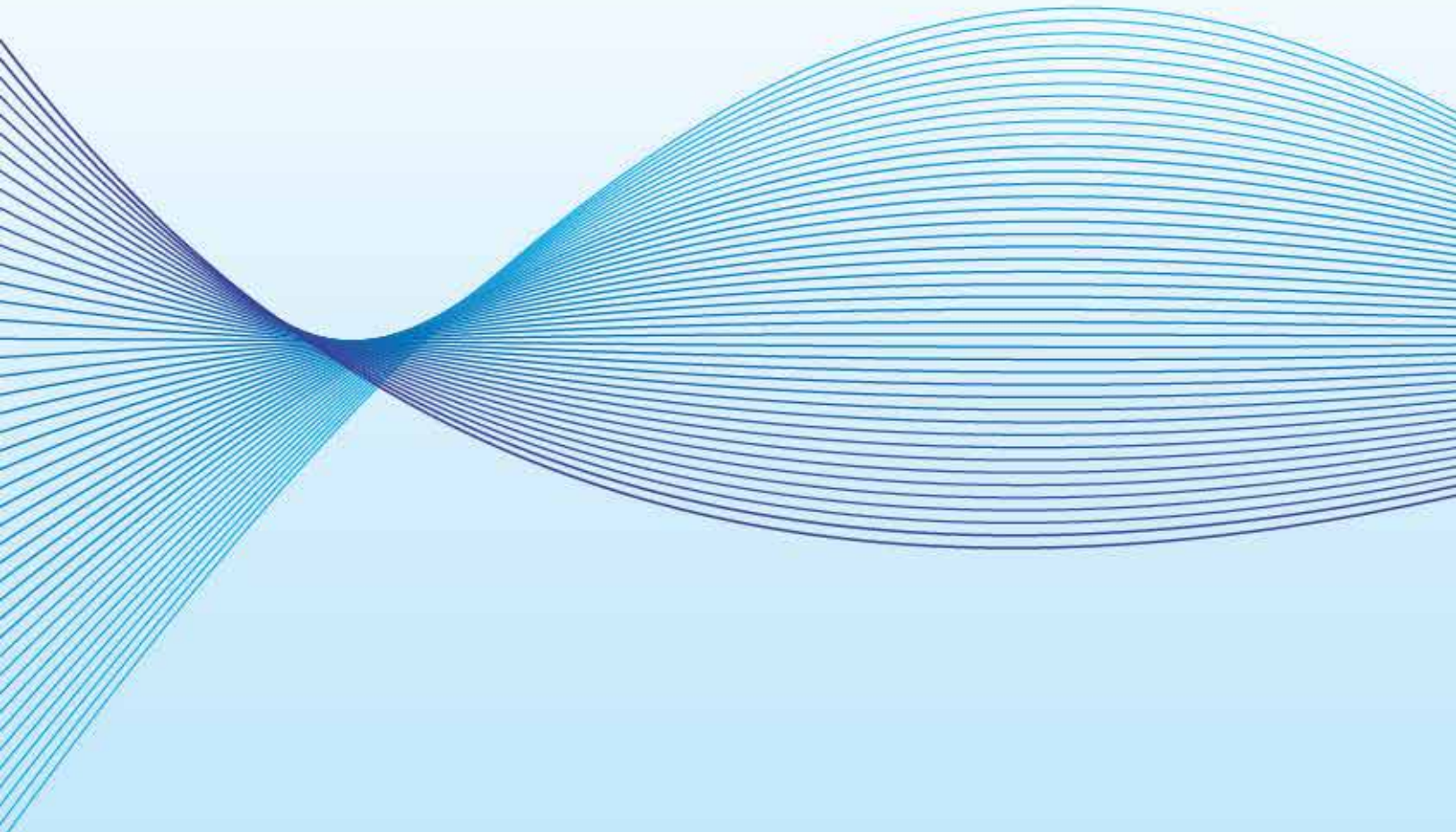


TRIMOD HE

Double conversion VFI three-phase modular UPS

General Specifications							
Nominal Power (kVA)	10	15	20	30	40	60	
Active power (kW)	10	15	20	30	40	60	
Module Power (kVA)	3.4	5	6.7	5	6.7	6.7	
Classification	On-Line Double Conversion VFI-SS-111						
System	Modular, expandable and redundant UPS system						
Input Specifications							
Input Voltage	230V 1P+N, 400V 3P+N				400V 3P + Neutral		
Input Frequency	50-60 Hz (43,0+ 68.4 Hz)						
Input Voltage Range	400V +15%/-20% - 230V +15%/-20%				400V +15%/-20%		
THD Input Current	< 3% (at full load)						
Compatibility with Power-Supply Units	Yes						
Input Power Factor	> 0.99						
Output Specifications							
Output Voltage	230V, 400V 3P +N				400V 3P + Neutral		
Efficiency	Up to 96%						
Efficiency in Eco Mode	99%						
Nominal Output frequency	50/60 Hz selectable by the user ± 2 % (standard), ± 14 % (extended)						
Crest Factor	3:1						
Waveform	Sinusoidal						
Output Voltage tolerance	± 1 %						
THD Output voltage	<1%						
Allowed Overload	10 minutes at 115%, 60 seconds at 135%						
Bypass	Automatic bypass (static and electromechanical) and manual maintenance bypass						
Batteries							
Battery Series Type/Voltage	VRLA - AGM / 240 Vdc						
Operating time	Configurable						
Battery Charge	Smart Charge technology. 3-stage advanced cycle						
Communication and management							
Display and Signals	4 20-character lines, 4 menu navigation buttons, LED multi-colour status indicator, alarms and audio signals						
Communication Ports	2 RS232 serial ports, 1 Logical gate, 5 ports with dry contacts, 1 slots for interfaces						
Back feed protection	NC/NO auxiliary contact						
Emergency Power Off (EPO)	Yes						
Remote Management	Available						
Physical Specifications							
Width x Depth x Height	414 x 628 x 1370						
Installed Power Modules	3		6		6		9
Net Weight kg	120		146		146		165
Ambient Conditions							
Operating Temperature/Humidity	0 - 40 °C / 20 - 95% non condensing						
Protection rating	IP21						
Maximum Audible Noise at 1 m from the Unit (dBA)	46						
Conformity							
Reference standard	EN 62040-1, EN 62040-2, EN 62040-3						

□ Standard configurations with 3-3 distribution (multi IN/OUT conf available on request)



NUMERIC

A Group brand |  **legrand**

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