UPSaver

HIGH-POWER UPS

Hot scalable up to 2.67 MVA
parallelable up to 21 MVA

GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

SUSTAINABILITY

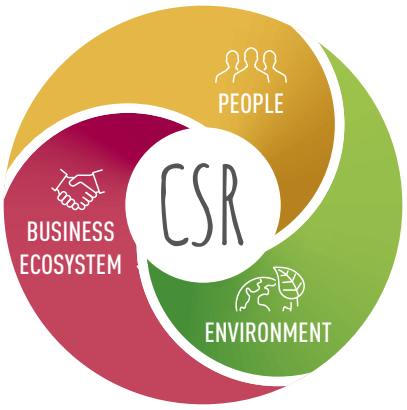
Corporate Social Responsibility

Green management and sustainable supply chain: these concepts are part of Legrand's Corporate Social Responsibility, which is the company's commitment to drawing up a strategy and implementing it with practical actions aimed at socially responsible behaviour towards everything around it, such as people, things and environment.
CSR involves the management of human resources, the organization and division of labour and the management of natural resources. CSR aims to assess the impact that the company's actions and decisions have internally, but also externally, on the stakeholders and the environment.

BUSINESS ECOSYSTEM
or how Legrand interacts ethically with the whole ecosystem of its activities.

PEOPLE
or how Legrand engages with all of its employees and stakeholders.

ENVIRONMENT
or how Legrand intends to limit the Group's environmental impact.



Circular economy

We are committed to creating a system that involves all stakeholders to share values, objectives and actions in order to control and reduce the environmental impact of all our economic and production processes, reduce waste and environmental impact and transform what would once have been defined as «waste» into new resources. Controlling these aspects has an impact on the entire life cycle of the product, starting from the design of new concepts and new specifications for the materials the UPS is made of; this is possible through responsible design and procurement processes (so-called «green procurement»), with a strong focus on research and the use of innovative materials from the circular economy and alternative raw materials. When a product ends its life, all these materials can become high value-added resources that can be used in other production cycles.

Digitalization

New information technologies allow us to reduce the use of several paper documents in favor of the digital format: in this way the information is always and everywhere accessible from a PC or smartphone and at the same time we can avoid the felling of many trees.
Digitization also becomes an important driver of the circular economy, since it allows the use of tools for performance data analysis and preventive diagnostics, both useful for optimizing the life cycle and durability of the product.

Efficiency

Our R&D team is constantly working on the development of increasingly efficient UPSs that allow high and incremental performance with minimum energy dissipation; with regard to CO_2 emissions, we are implementing processes and products that represent an improvement in the percentage of carbon footprint compared to the past.
But efficiency is not only synonymous with high performance.
For us, efficiency also means ecodesign: this implies that the UPS is designed to be easily repaired, maintained and it's easy to separate its components.
This means increasing the durability of our UPSs and the possibility of reusing and recycling them at the end of their life.

EPD/PEP

For each product family we draw up an EPD (Environmental Product Declaration) or PEP (Profil Environnemental Produit) in line with ISO 14025: it is a declaration that is a sort of environmental photograph of the product.
The EPD is drawn up according to the concept of Life Cycle Assessment: it examines the environmental impact of a product throughout its life cycle, from the development of product specifications to the choice of materials to be used and the end-of-life destination of the product itself.

UPSaver

SCALABLE ARCHITECTURE

UPSaver is a high power UPS for data center and IT business critical applications, providing the highest reliability and availability. The flexibility of the system is designed to adapt to the critical and changing data center demands. With state-of-the-art components we have produced one of the most compact, efficient and fully adaptable power protection system.

Highlights

- 97.2% VFI efficiency (certified by third part) and high efficiency operating modes.
- Hot scalable 333 kVA power units up to 2.67 MVA in a single unit.
- Power parallel scalable up to 21 MVA.
- Very small footprint.
- System design flexibility.
- Total installation adaptability.
- VRLA and Li-Ion compatible.
- Peak shaving capable.
- 10'' touch screen display.

Reduced TCO

- Pay as you grow through hot scalability.
- Tailored to the room layout with total flexibility in design and installation.
- Quick upgrade and maintenance thanks to hot scalability, serviceability and minimal spare parts.
- Enhanced efficiency thanks to automatic output power control.
- Always delivering maximum performance with high efficiency operating modes.
- Less consumption to reduce carbon footprint.

Current-Controlled Modules

- No circulating currents between power units.
- System efficiency improvement.
- Stable high power parallel system.
- No stress on battery and power components.
- Distributed redundancy easily achieved.

TYPICAL APPLICATIONS
Data center
Cloud
Networking services
Critical application

98.5% AVERAGE EFFICIENCY

VFI High Efficiency:
all the on-line double conversion protection (VFI-Voltage frequency independent mode), at
97.2%

Enhanced Efficiency Mode:
Load matched power provision to extend service life to enhance performance

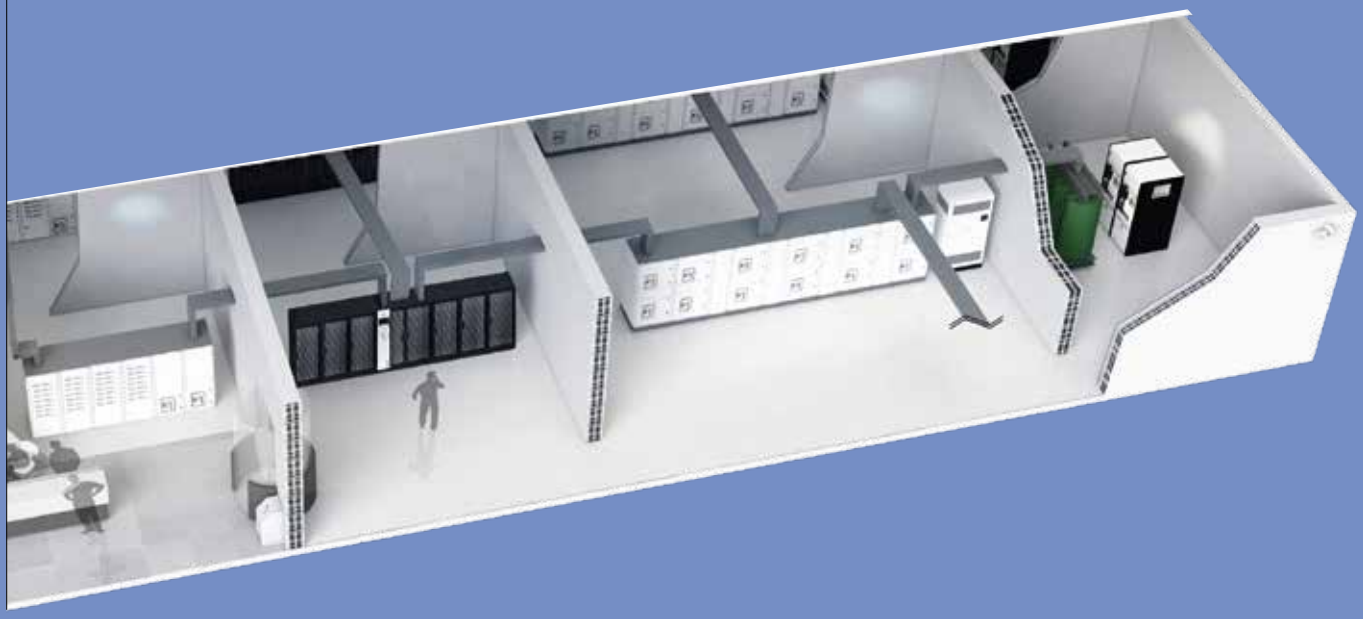
ECO mode:
suitable for stable mains, in VFD (Voltage Frequency Dependent) mode of operation achieving
98.5%
efficiency

Ultra High Efficiency (UHE):
innovative technology for data center with
99%
efficiency and minimum total cost of ownership

UPSaver

Infrastructure integration

The versatility of **UPSaver** allows you to choose between different grounding systems, upper or lower input lines, cable or busbar connections, centralized or distributed batteries and much more. All of these features make **UPSaver** exceptionally suitable and adaptable for integration into a wide range of infrastructures. **UPSaver** can be perfectly integrated with the offer of the Legrand Group.

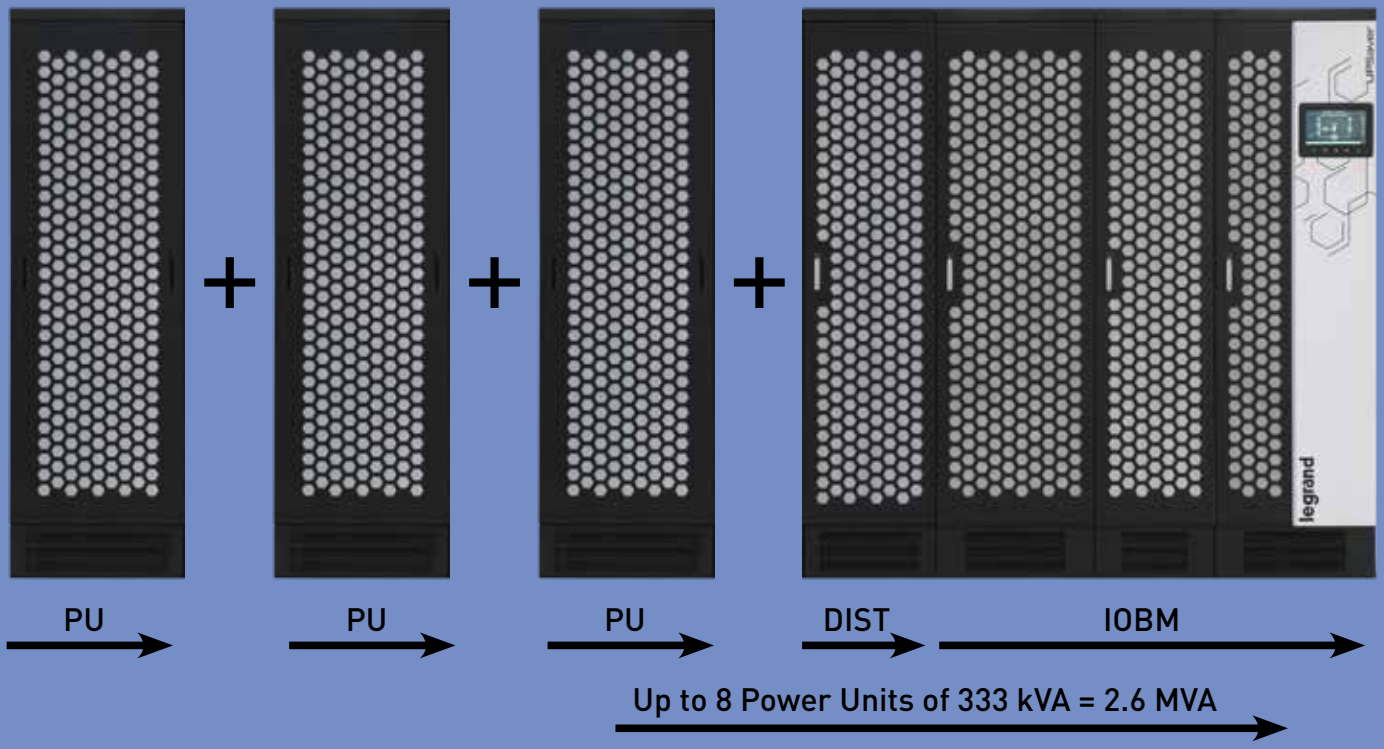


Smart Display

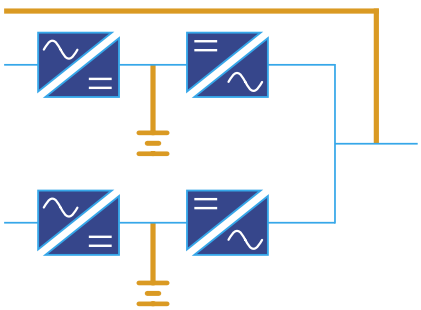
The 10'' touch screen display, with intuitive and user friendly interface, allows the user to fully monitor and control both the overall system and the single power units.
The display also provides full diagnostics, systems logs and a wide set of advanced settings and fine tuning functions in 10 different languages.

From 670 kVA to 2.67 MVA

UPSaver scalable design allows easy system resizing by addition of power units.
Maintenance operations can be done without powering down the system and without switching to bypass line.

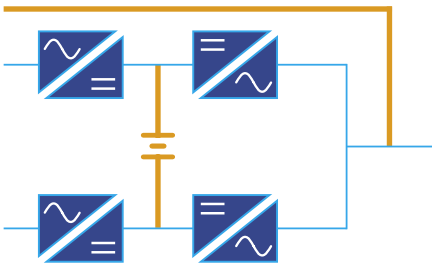


DISTRIBUTED BATTERY
for maximum power scalability



Each PU module is equipped with a dedicated battery bank. This ensures high flexibility in battery management and power scalability.

CENTRAL BATTERY
minimum MTTR and footprint



A single battery bank is connected to the UPS. This simplifes installation and service and reduces MTTR and footprint.

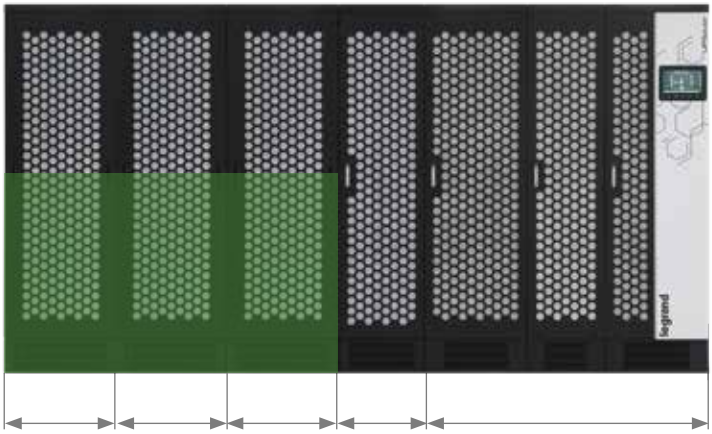
A central static bypass switch is fitted, sized for the whole UPS power.
This ensures high fault current which might be needed when the UPS is installed next to the MV/LV switchboard.

UPSaver

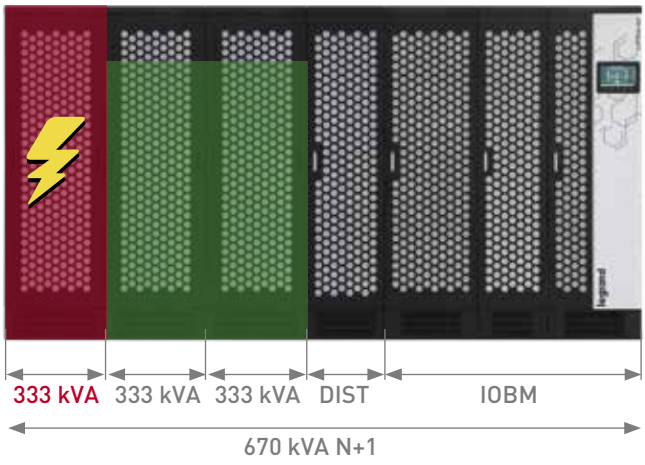
Redundancy and Hot Service

In case of redundant configurations including distribution cabinets, **UPSaver** is hot serviceable for each of its components.

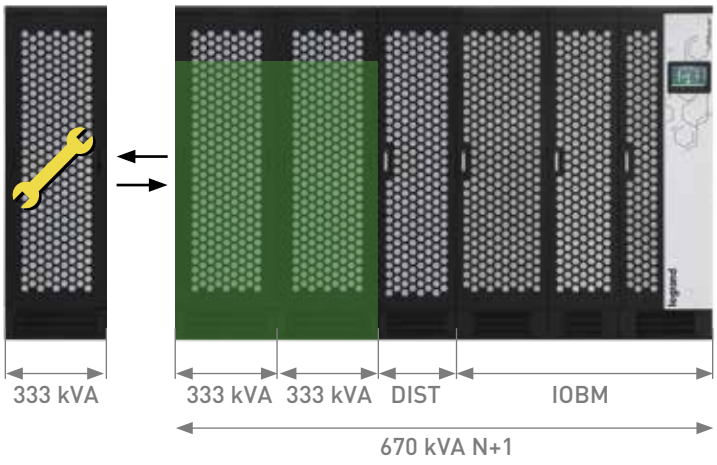
The power units can be connected, removed or replaced while the rest of the system is continuously feeding and protecting the critical load.



RUN IN REDUNDANCY



RUN IN FAILURE



REPAIR/REPLACEMENT

Hot Scalability & Serviceability (on demand)

UPSaver can be configured with distribution including switches for rectifiers, output and battery per each 333 kVA power units. By this option, the unit can be upgraded and maintained while operating online level, typical of hyper critic data center.

Minimal spare parts: one fits all

Same power pack up to 2.67 MVA allowing you to secure the whole range of units with minimal spare part set.

Replacing all power components and no firmware to update

All serviceable components are fitted in power packs and no firmware to update upon replacement, ensuring Periodical Preventive Maintenance in no time.

Power packs

PU internal view

Only 3 main components

To create and customize the system, you only need to combine three types of units, choosing their number, order and physical layout within the room.

Power units 333 kVA up to 8 units

Distribution cabinet for hot scalability

In/Out-Bypass module

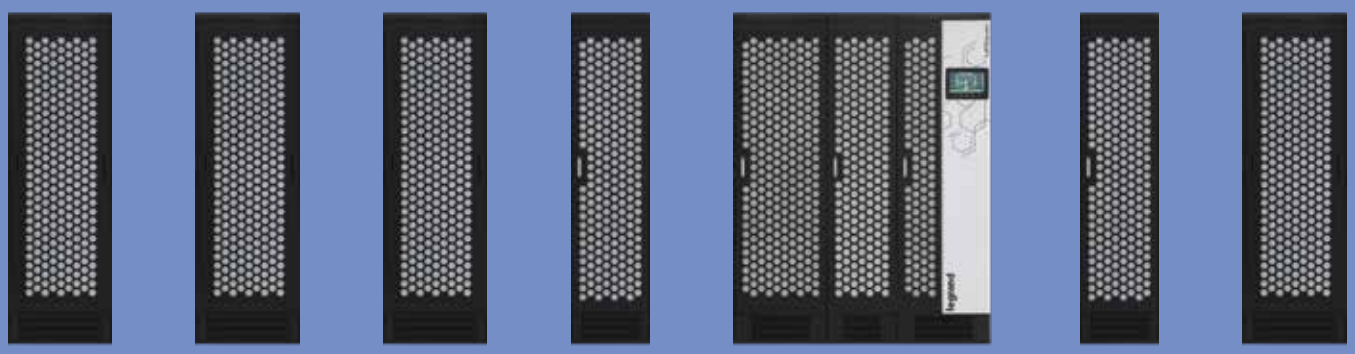
Possible configurations

- TNC/TNS grounding system
- Dual/Single input
- Top/Bottom entry line
- Cable/Busbar connection
- Centralized/Distributed battery
- Lithium battery compatible
- Icw 50-100 kA short circuit capability
- Various layouts
- Hot Scalability
- I/O Switches

Full communication interfaces

- USB-RS232
- ModBus 485 (optional accessory)
- SNMP net card (optional accessory)
- EPO contact
- Dry contacts port
- Backfeed contact
- Input terminal board for bypass contact
- Input terminal board for battery switch
- GenSet friendly
- Battery temperature sensor

Configuration example: UPSAVER 1 MVA N+1 Hot Swap



UPSaver

3D SCALABILITY

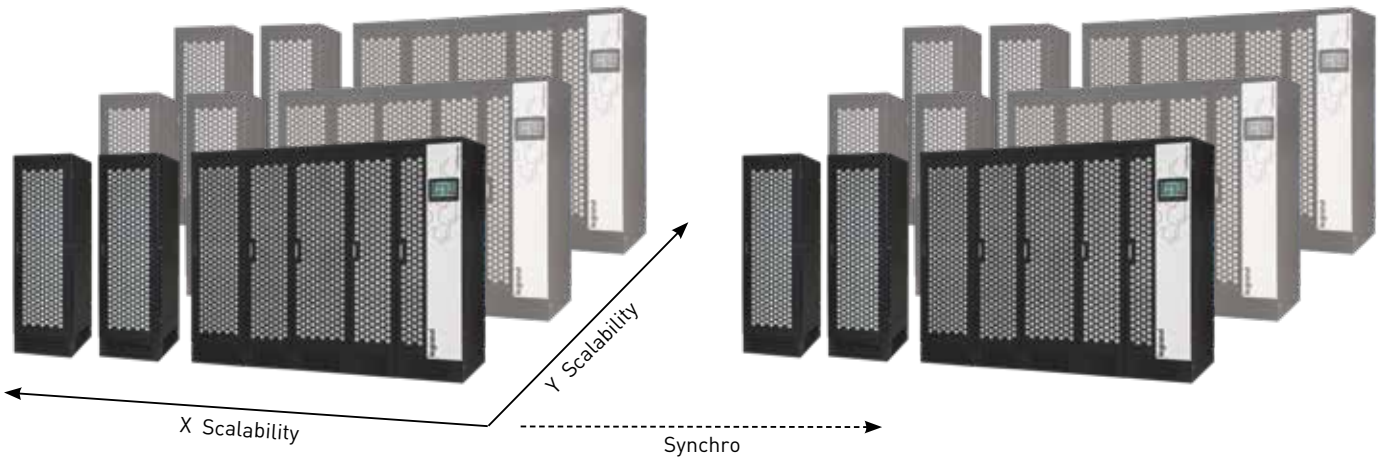
Hot VFI scalability up to 2.67 MVA in a single unit, up to 21 MVA in a parallel system and synchronized dual feed systems.

Flexible power upgrade up to 21 MW

- X- Hot Swap Module Scalability to 2.67 MVA.
- Y- Parallel Power Scalability up to 21 MVA.
- Synchro of two parallel system for A and B lines dual energy supply systems - Scalability for distributed redundancy.

Designed for versatility

UPSaver is an extremely versatile system, allowing for any maintenance or power resizing to be carried out while units are online. Top or bottom entry for cables or busbar and adaptive terminal boards ensure robust design in any data center electrical infrastructure.

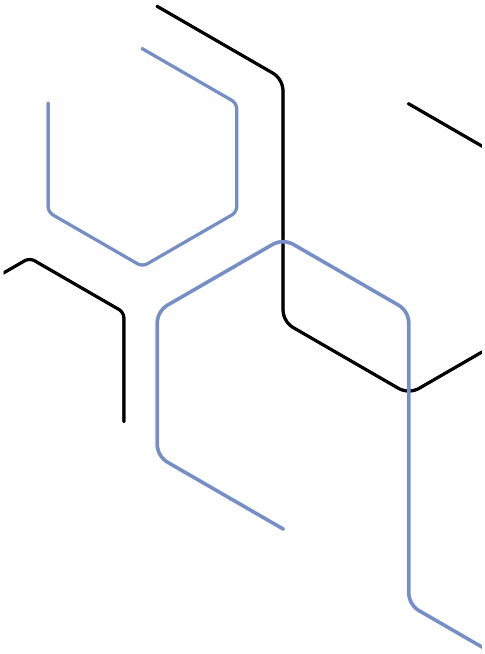


Synchro configuration for reliability and availability

The possibility to keep two independent **UPSaver** in synchro allows to supply 2 independent and redundant lines in order to reach the highest availability level, typical of hyper critic data center.

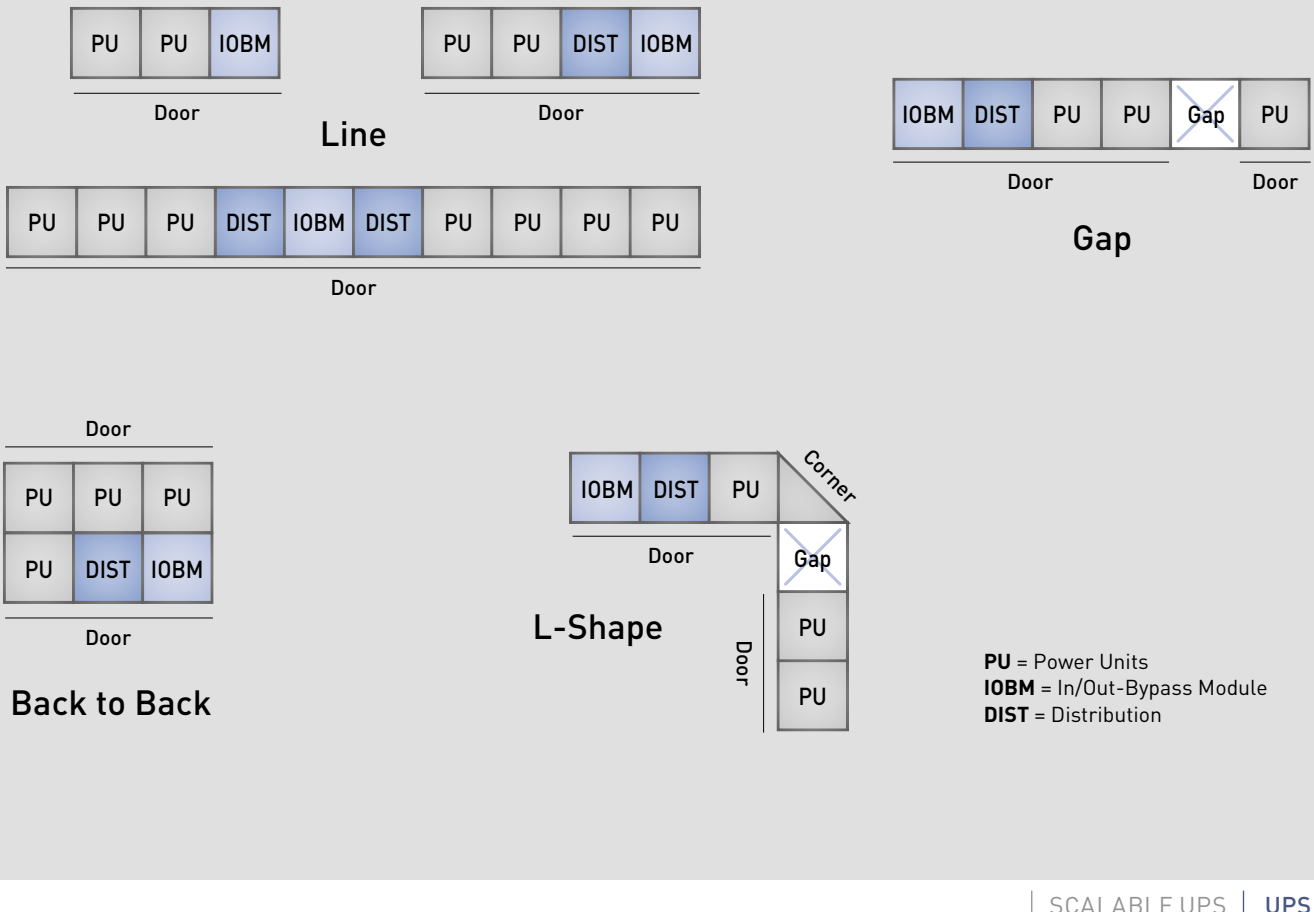
OPTIMISED FOOTPRINT

Extreme layout flexibility allows you to free space up for other equipment or overcome room constraints like pillars, walls or other devices.
UPSaver is designed around your new or existing data center.



Constraint-free layout and positioning

333 kVA power units are connected to the IOBM unit by internal flexible connections, allowing constraint-overcoming positioning like back to back layout, L-shape and gap layout.



UPSaver

Scalable High-Power UPS up to 2,67 MVA

Power Units (PU)

Distribution Cabinet (Optional)

In/Out-Bypass Module (IOBM)

Characteristics

- Hot swappable 333 kVA power units on VFI mode
- Hot scalable 333 kVA power units to 2.67 MVA
- 97.2% efficiency
- Flexibility in system design and installation
- Power parallel scalable up to 21 MVA
- Low audible noise level <65 dB
- Top busbar entry
- Low input capacitive power for genset flexibility
- Peak shaving capable
- Lithium battery compatible

UPSaver Components

Model	Nominal power (kVA)	Active power (kW)	Max dimensions full option W x D x H (mm)	Max weight full option (kg)
POWER UNIT (PU)	333	333	650x970x2150	570
IOBM 670	670	670	2500x970x2150	1000
IOBM 1000	1000	1000	2500x970x2150	1000
IOBM 1340	1340	1340	3950x970x2150	1925
IOBM 1670	1670	1670	3950x970x2150	1925
IOBM 2000	2000	2000	3750x1200x2150	2350
IOBM 2340	2340	2340	4250x1200x2150	2640
IOBM 2670	2670	2670	*	*

*** contact our sales team**

Optionals

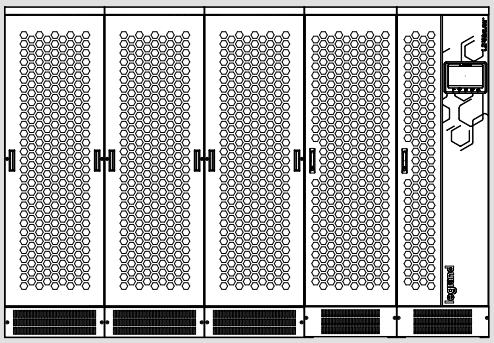
Description
Hot Scalability
Input Line: Dual/Single
Connection Entrance: Bottom/Top
Connection Type: Cable/Busbar
Grounding System: TNC/TNS
Icw limitation kit
Battery set: Centralized/Distributed

Accessories

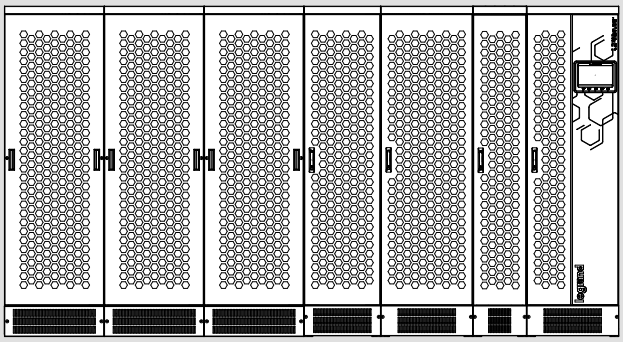
Description
Battery Cabinets
Battery fuse switch box
Synch Box
Net Interface Ethernet Cards

For configuration details and accessories, please contact Legrand.

UPSaver 1000 kVA Basic



UPSaver 1000 kVA Full



UPSaver

Scalable High-Power UPS up to 2.67 MVA

Characteristics

General specifications	IOBM 670	IOBM 1000	IOBM 1340	IOBM 1670	IOBM 2000	IOBM 2340	IOBM 2670
Nominal Power = Active Power (kW)	670	1000	1340	1670	2000	2340	2670
Power Unit power (kW)	333	333	333	333	333	333	333
Number of Power Units (+1 if Redundant)	2+1	3+1	4+1	5+1	6+1	7+1	8
Technology	On-line double conversion VFI-SS-111						
Architecture	Centralized Static Bypass, Scalable, Redundant, Hot Service (Hot Swap Optional)						
Input							
Input Voltage	400 Vac 3-phase (rectifier), 380/400/415 Vac 3-phase (Bypass)						
Input Frequency	50/60 Hz; range 45-65 Hz						
Input Voltage Range (Ph-Ph)	-20%, +15% (rectifier); ±10% (bypass)						
THD of input current	< 3%						
Compatibility with Diesel Generators	Yes						
Input power factor	> 0.99						
Output							
Output Voltage	380-400-415 Vac 3-phase with neutral						
Efficiency Online	up to 97.2%						
Efficiency in UHE mode	up to 99%						
Output frequency (nominal)	50 /60 Hz (Adjustable from front panel)						
Output frequency tolerance	±0,1%Synch with Mains; ±0,01% Free Run						
Crest Factor	up to 3:1						
THD of output voltage	< 1% at full linear load						
Output power factor	up to 1, without power derating						
Output voltage Regulation VFI	Static ± 1%; Dynamic: IEC/EN 62040-3, Class 1						
Overload Capability	Inverter: 105% continuous at 30°C, 125% for 10 min; 150% for 1 min; bypass: 110% continuous; 150% for 1 min; 700% for 100 ms; 1000% for 10 ms						
Bypass							
Type	Static Automatic no break, Manual Bypass optional						
Input Voltage	380-400-415V ± 20%; (3Ph+N+PE)						
Input Frequency	50/60Hz ± 10%						
Nominal Current (A)	971	1449	1942	2420	2899	3391	3870
Max Icw	50 kA as per IEC 62040-1 (100 kA Optional)						
Batteries							
Battery/Storage Compatibility	VRLA, NiCd, Li-Ion						
Battery Connection	Distributed or Centralized						
Communication and management							
Control Panel Display	10'' Touch screen, 1024x600 pixels						
Communication ports	Serial RS232 and USB; ModBus-RTU (RS485). Net Card Slot (SNMP & ModBus-TCP/IP) (Optional)						
Input signal ports and aux.contact.	Remote emergency power off (REPO), diesel mode, Temperature Probe, battery circuit breaker. Auxiliary contact of external circuit breakers: battery, external maintenance bypass, output remote transfer to bypass mode						
Output signal ports	5 dry contacts, external BackFeed						
Physical characteristics							
Connection Lines	Hardwired 3PH TNC or TNS Output, rectifier and bypass (single input as optional)						
Connection Entrance and Type	Bottom (top as optional), cable (busbars as optional)						
Color	RAL9005 (Black) RAL9003 (White)						
UPS dimensions WxDxH (mm)*	3800 x 970 x 2150	4450 x 970 x 2150	6550 x 970 x 2150	7200 x 970 x 2150	7650 x 1200 x 2150	8800 x 1200 x 2150	(***)
UPS weight (kg)*	2140	2710	4205	4775	5770	6630	(***)
Environmental conditions							
Operating Temperature (°C)	0 - 40 °C (Recommended temperature for longer Battery Life: 20-25°C)						
Relative Humidity Range	20-95% (Non-Condensing)						
Protection degree	IP20 (IP21 Optional)						
Acoustic Noise at 1m (dBA)	< 65						
Estimated content of circular economy derived materials (%)	**32%**						
Recyclability rate calculated using the method described in technical report IEC/TR 62635 (%)**	**90.2%**						
Compliance							
Reference product standards	IEC/EN 62040-1, IEC/EN 62040-2, IEC/EN 62040-3						
Quality assurance, environment, health and safety	ISO 9001:2015, ISO 14001:2015, ISO 45001:2018						

(*) Full option version including top busbar entry module, main switches, hot swap distribution modules. (**) Conditions apply. (***) Contact our sales team. (****) This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for end-of-life of this product.

CUSTOMER SERVICES

Reliable

Directly present in more than 70 countries and servicing its products in more than 150 countries worldwide, a team of qualified engineers is available to support your UPS system to ensure power quality and availability to the most critical loads.

Excellent

Legrand's competitive edge lies in its ability to provide high value-added UPS systems and services for both end users and business partners.
For Legrand, creating value means coming up with solutions for lower energy consumption, but also integrating product design into the overall development process. With around 200 000 catalogue items, the Group also provides all products required for electrical and digital building installations, particularly as integrated systems, finding solutions to fit everyone's needs.

Tailor-made

Legrand offers a complete range of specific solutions and services to meet customer requirements:
- Technical pre-sales support at the project design stage
- Factory acceptance test
- Supervision of installation, testing and commissioning, site acceptance test
- Operator training
- Site audit
- Warranty extension
- Annual maintenance contract
- Fast intervention on emergency call

SUPPORT

SITE INSPECTION, INSTALLATION SUPERVISION.
We perform a comprehensive check of the UPS environment to ensure safety and fault-free operation.
Our technical experts give manufacturer's recommendations to the site engineer or electrical contractors, and supervise the UPS installation before load power-up.

SITE TEST, COMMISSIONING.
Our Service Engineers conduct rigorous site tests and full setting-up of the UPS system before going live. They also perform site acceptance tests according to your requirements.
Commissioning operations for all UPS are carried out by qualified engineers to guarantee seamless start-up.
After the final handing over of the UPS system, a Test and Commissioning report is delivered to you.

TRAINING

We offer on-site training to ensure your equipment's safe and efficient operation.
Troubleshooting courses are also available in our plants for intensive hands-on practice on UPS training equipment.

MAINTENANCE

PREVENTIVE MAINTENANCE
Electronic equipment and power systems, such as UPS, contain life-limited components and parts that must be replaced according to the manufacturer's specifications.
To ensure optimal performance and to protect your critical application from potential downtime, it is crucial to perform preventive maintenance operations on a regular basis and replace parts when needed. Our Service Contracts include cleaning, IR thermography, measurements, functional tests, event log and power quality analysis, battery health check, hardware and software upgrades, and technical reports.
A Preventive Maintenance Plan is one of the most cost-effective actions that can preserve your initial investment and ensure your business continuity.

CORRECTIVE MAINTENANCE, EMERGENCY CALL
In the event of an Emergency Call, our worldwide service network, with engineers and spare-parts stocks strategically located as close as possible to your site, guarantees a fast intervention time with 24/7/365 assistance.
After connecting his laptop to your UPS, very powerful diagnostic software helps our engineer to identify the fault, thus ensuring short MTTR (Mean Time To Repair).
Corrective actions are performed such as part replacement, adjustments and upgrades to return the UPS system back to normal operation.

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