



# Galaxy VL

First class power protection in your data center:  
Superior availability, innovation, and sustainability  
200 – 500 kW (400/480 V)



[se.com/ups](https://se.com/ups)

Life Is On

**Schneider**  
Electric

# Maximize availability & sustainability. Minimize total cost of ownership.

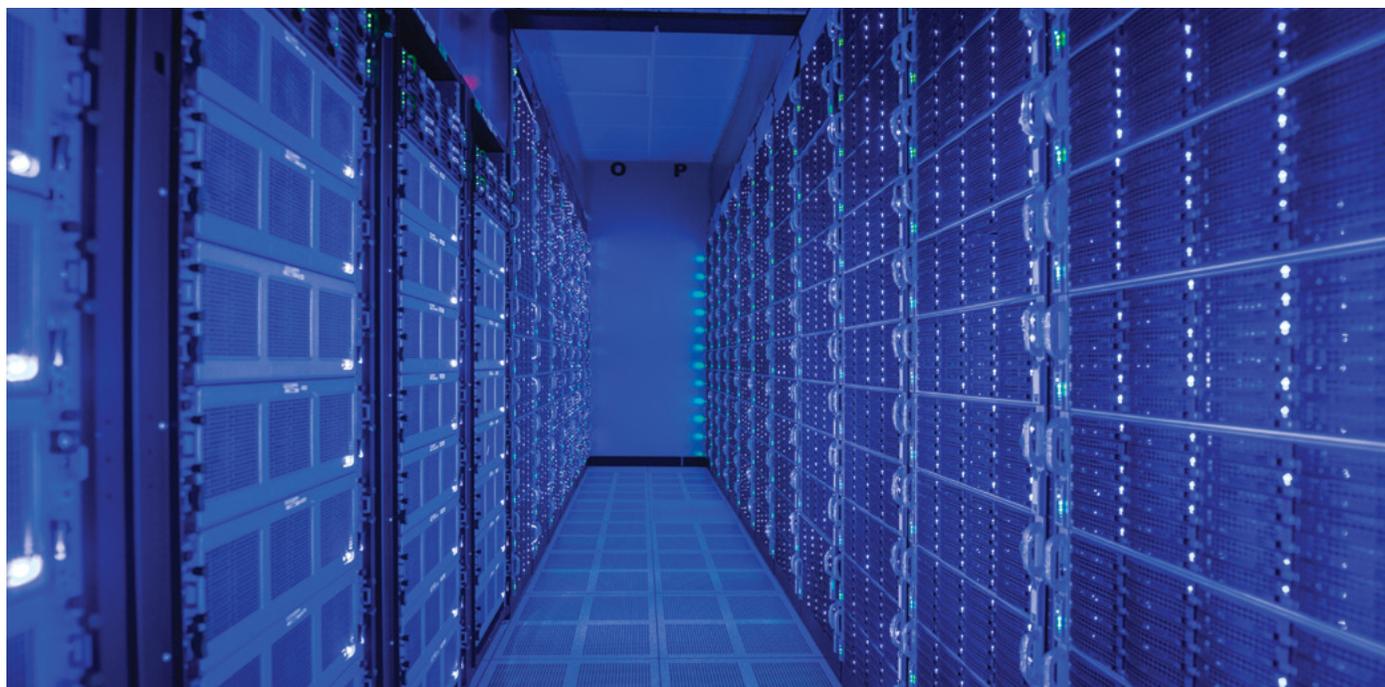
Galaxy VL is a highly efficient, compact, modular, and scalable 200-500 kW (400 V/480 V) 3-phase uninterruptible power supply (UPS) available worldwide that delivers top performance for medium, large, and edge data centers, as well as critical infrastructure in commercial and industrial facilities.

Its industry-leading, compact, high-density technology, and fault-tolerant architecture maximize availability, operational efficiency, and critical load protection while minimizing total cost of ownership (TCO). Thanks to patented technologies, this UPS delivers up to 99% efficiency in ECOConversion™ mode and up to 97% efficiency in double conversion mode.

Galaxy VL's scalability enables you to pay-as-you grow, reducing both capital investment and TCO. You can buy the power modules you need up-front, and enjoy optimized operating efficiency, then add power modules with Live Swap as demand grows. The modular design also enables N+1 internal redundancy, which multiplies by 10 the system's availability with no extra footprint.

Galaxy VL is compatible with Lithium-ion batteries. With our Schneider Electric™ Lithium-ion battery solution, classic VRLA, or NiCad batteries, critical loads have highly predictable runtimes.

Galaxy VL is EcoStruxure™ connected to give you peace of mind anytime, anywhere. Start-up service is included to optimize your system's performance, quality, and safety. With Live Swap, modular design, and superior reliability, Galaxy VL is the ideal backbone for your critical infrastructure.



# Key advantages and innovations



## Most compact design on the market with optimized footprint

High-density technology and full front access make Galaxy VL the best footprint saver of its class well suited for confined spaces.



## Ultra-high efficiency

Provides up to 97% efficiency in double conversion mode; 99% efficient in patented ECONversion™ mode.

\* Contact your local representative for availability.



## 10X system availability with no extra footprint

Scalability enables you to pay-as-you grow, maximizing savings on capital investment and total cost of ownership. One extra power module for N+1 internal redundancy delivers ultra-high availability.



## Innovative Live Swap

Keep your load protected, your business running, and your employees safer. Expand power and maximize uptime, availability, and power continuity by adding or swapping out power modules quickly with no scheduled downtime.



## Battery flexibility, including Lithium-ion batteries\*

Increase availability and reduce TCO with long-life, intelligent energy storage. More than four years experience with Lithium-ion installations across the Galaxy V range platform.



## EcoStruxure IT

Monitor, manage, and model your IT infrastructure, and get service support, anytime, anywhere\*.

## Well-suited for a wide range of data center and industrial applications



### Information technology and commercial buildings

- Edge, small, and medium data centers
- Internet DC
- Cloud computing
- Retail/office space
- Manufacturing facilities



### Healthcare

- Radiology and imaging equipment
- Operating rooms and Intensive Care Units
- Emergency power systems



### Oil & gas

- Refining
- Petrochemicals
- Gas processing control
- Well pumps



### Transportation

- Lighting
- Air traffic control
- Security
- Signaling and communication systems



### Minerals, Metals & Mining

- Furnace process control
- Glass plants



### Power & Grid

- Thermal plants
- Generator protection
- Hydro turbine control
- Wind farm monitoring



Green Premium Certified

Sustainable business performance, by design. Learn more: [se.com/en/work/support/green-premium/](https://se.com/en/work/support/green-premium/)

TAA-compliant UPSs available\*

# Leading performance

Robust and flexible design ideal for demanding environments at maximum performance



## Flexibility and performance

- **Unity Power Factor (PF=1)** allows for right-size protection to real IT needs
- Well suited for different applications thanks to high flexibility on power factor and high overload capability
- Seamlessly integrates into electrical environment:
  - Single and dual mains supported
  - Supports 3- or 4-wire installations
- Increase onsite reliability and reduce start-up costs by using the Smart Power Test feature (SPoT)
  - Simple, easy, and safe method to test the UPS at full power
  - Reduce risk to load and improve product quality



## Higher availability: Maximum uptime, reduced risk.

- One extra power module for **N+1 internal redundancy** keeps your load protected and multiplies system availability by 10 with no extra footprint
- Optimized uptime with wide input tolerance window (+/-15%)
- With **Live Swap**, it is simple and fast to add, replace, or remove power modules
- Parallelable for capacity (2.5 MW)
- Parallelable for redundancy (2 MW N+1)
- N+0 or N+1 module-level redundancy
- N+0 or N+1 system-level redundancy



## Robust design supports both IT and non-IT environments

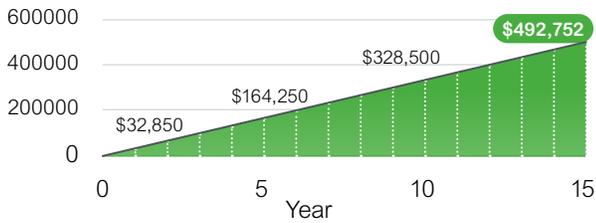
- Fault-tolerant design ensures continuous protection in critical circumstances
- Maximum short circuit rating: 65kA
- Designed to perform in harsh environments with its high-quality air filter
- Static bypass switch with **high I<sup>t</sup> rating** enhances downstream resilience
- Suited for humid environments thanks to **conformal coating**
- **Seismic certified** (with option kit)
- Exceeds industry standards on electromagnetic protection due to EMC Level C2
- **Faster battery charging** capabilities restore back-up time 2 to 3 times faster compared to industry standards

\* Contact your local representative for availability.

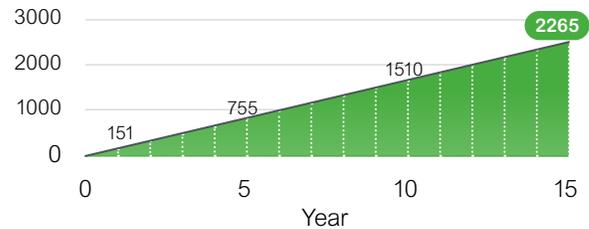
# Best operational efficiency

Galaxy VL in EConversion™ mode delivers **99% efficiency**

Utility/Cooling Savings in EConversion over 15 years



Carbon Emissions (Metric Tons) Savings in EConversion for 15 years



 saving you up to **\$32,850** annually, a **100% ROI** in energy bill savings in **2 years\***

 Equivalent of taking **125** cars off the road every year!

## Sustainably reduce your energy bill

By using EConversion mode, significant savings are achieved every year on your electricity bill. Compared to a legacy design, the savings are equivalent to the UPS acquisition cost after two-three years, and reduces carbon emissions as much as removing 125 cars from the road annually.



\*Model dependent; based on a market electricity price: \$0.15 /kWh

The annual electricity savings are done by comparing the Galaxy VL 500 kW UPS with a 94% efficiency standard UPS.

Calculate your efficiency and carbon emissions savings using the Three Phase UPS Efficiency Comparison Calculator: [schneider-electric.com/upsefficiencycalculator](http://schneider-electric.com/upsefficiencycalculator)

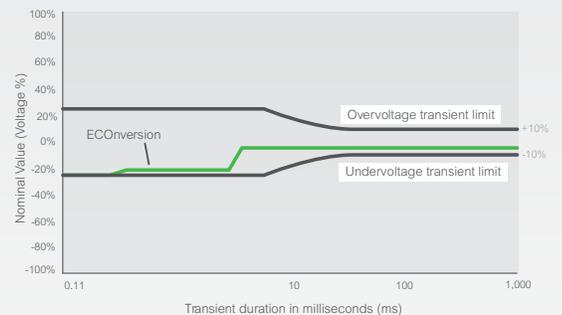
## EConversion: an unbeatable combination of power quality and high efficiency

Enjoy the highest energy savings available today without sacrificing load protection – our patented zero-break transfer design offers peace of mind:

- Certified Class 1 UPS performance per IEC® 62040-3; third-party tested by UL
- World-class efficiency up to 99%
- Zero transfer time to double conversion mode or batteries
- Continuously charged batteries
- Protected against short circuit at input and output, including patented input short circuit protection
- Input power factor correction and low harmonics seen upstream
- Proven savings and robustness, with more than 6 years of deployment at hundreds of sites

## New patented hybrid technology

- Up to 97% efficiency in double conversion online mode even at low load levels
- Uses soft-switch method to reduce losses during double-conversion



Galaxy VL EConversion meets Class 1 of IEC 62040-3: zero-break transfer during power outage.

# Best-in-class footprint saver

Optimize your data center space; Galaxy VL reduces your power protection footprint by 50% compared to industry average\*



The Galaxy VL is the best footprint saver of its class, thanks to:

- Ultra high density design
- Most compact footprint at only **0.8 m<sup>2</sup>**
- Front service access
- No shadow footprint
- Well-suited for confined spaces

	Industry Average	Galaxy VL
Square footprint	1.6m <sup>2</sup>	0.8m <sup>2</sup>
Dimensions (W x D)	1712.42 x 942.75 mm	850 x 925 mm

\* Based on the average square cm footprint (WxD) of 500 kW modular scalable UPS models offered by top 9 global manufacturers (based on published market share of the UPS category in the last 3 years)

## Save space and the environment

Galaxy Lithium-ion Battery Cabinets achieve total space savings of **up to 70%** compared with VRLA battery solutions. Pair your Galaxy VL UPS with Galaxy Lithium-ion Battery Cabinets to achieve the most compact, high-density footprint in the market.

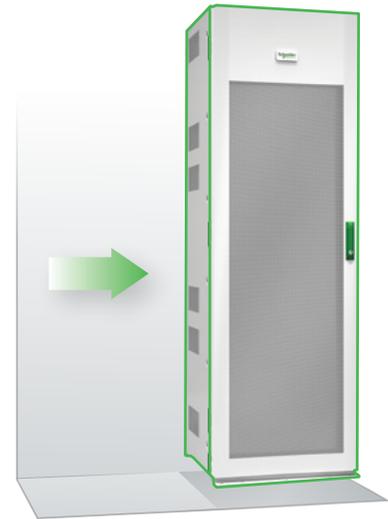
As a first mover with a vast installed base, Schneider Electric has developed our own Galaxy Lithium-ion battery solution that also delivers these benefits:

- Optimize TCO and achieve sustainability targets by **doubling** your battery life
- Recharge **2-3x faster** than VRLA solutions
- Simplify and speed up installation with our internal power supply
- Enhance battery safety with three levels of battery management system (BMS)

Galaxy VL is available with a full range of options and accessories that ensure the best performance in any environment, including Galaxy Lithium-ion and classic battery cabinets to meet any site requirement.

## Lithium-ion compared to VRLA batteries

- Higher** operating temp. (less cooling)
- 2 – 3X** expected life
- 60 – 70%** less weight
- 2 – 3X** Faster recharge



	Classic battery cabinet with VRLA	Galaxy Lithium-ion Battery Cabinet
Square footprint	3.4m <sup>2</sup>	1.1m <sup>2</sup>
Dimensions (W x D)	4000 x 845 mm	1950 x 587 mm

\*Comparison based on Galaxy VL 500 kVA UPS with 10 minutes of runtime

# Future-proof your data center

## Expand power with no scheduled downtime and no extra footprint with Live Swap

Galaxy VL's modular and scalable design supports the Live Swap of power modules, optimizes your up-front capital investment, provides you with power continuity, and gives you more flexibility to expand power and pay as you grow.

### Predict your investment over time with modular, scalable design

Right-size your power protection and redundancy from day one. This maximizes your operating efficiency and sustainably minimizes your energy consumption, optimizing your TCO.

### Scale fast with no scheduled downtime, and keep your employees safer

Modular design and Live Swap make just-in-time data center expansion effortless, with no scheduled downtime, enhancing business continuity.

With Live Swap, it is simple and fast to add, replace, or remove power modules while the Galaxy VL UPS is online and fully operational, increasing protection for your employees.

### Scale and pay as you grow

Scale power instantly in 50 kW increments from 200 kW to 500 kW, as your power requirements evolve.



## Galaxy VL's innovative design supports Live Swap: the new frontier for modularity, scalability, and employee protection

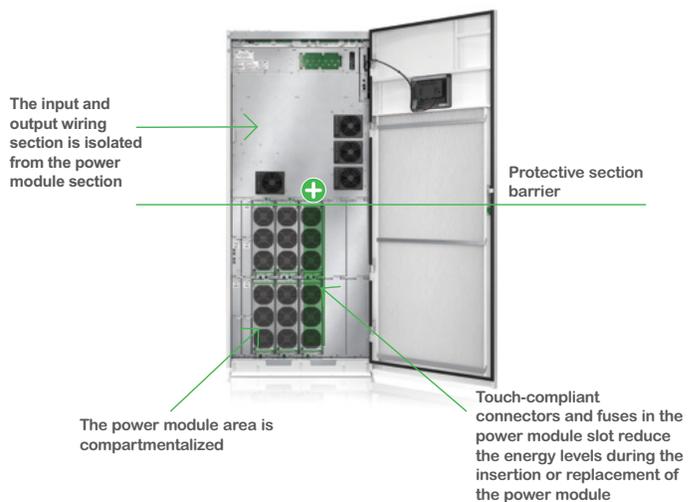
Galaxy VL with Live Swap is a pioneering innovation, driven by Schneider Electric's strong safety culture, delivering a touch safe design through the entire process of adding or replacing the power modules in the Galaxy VL, while the UPS is online.

This innovative capability enables fast and simple insertion and replacement of the power modules in the Galaxy VL 200-500 kW UPS, while the UPS is online and fully operational, without having to transfer the UPS to maintenance bypass or to battery operation and with increased protection for your employees.

Galaxy VL has been designed to reduce the risk of shock and potential arc flash during the insertion or removal of power modules, as well as to ensure touch safety throughout the entire Live Swap operation. In practical terms, the power modules can be added or replaced while the Galaxy VL is online, and the energy incident levels are kept below 1.2 cal/cm<sup>2</sup>.

The numerous and rigorous tests completed have been witnessed and verified by a recognized third-party laboratory.

Galaxy VL has been engineered to ensure touch safety and to mitigate risks of arc flash and shock:



Galaxy VL with Live Swap is Schneider Electric's response to national and local electrical safe work practices regulations. For more information, you can read [WP-13. Mitigating Electrical Risk While Swapping Energized Equipment.](#)

# Faster installation and serviceability



## Quick to install and fits everywhere

- Lightweight, small footprint
- Everything you need is included – Network Management Card (NMC), Modbus, single and dual mains, air filters, and dry contacts
- Precise and reliable battery configuration, thanks to predefined battery parameters
- Use an external maintenance and system bypass cabinet to configure parallel installations for capacity or redundancy
- Enables standard top cable entry. For bottom cable entry, Bottom Entry Cabinet (BEC) or Maintenance Bypass Cabinet (MBC) can be used

## Simple to maintain and fast to service thanks to its modular architecture and Live Swap design

- Full front access for simple and fast connection and service
- Fast mean time to repair thanks to Live Swap power modules
- Reduces risk of human error and load drop, and enhances employee protection
  - With Live Swap, it is simple and fast to add, replace, or remove power modules while the Galaxy VL UPS is online and fully operational, increasing protection for your employees
  - Galaxy VL self-detects the new power module and automatically updates its configuration settings for more uptime and convenience

### 1 Intelligence module

“System brain” contains critical control and signal wire interfaces.

### 2 Scalability option

Add new power modules anytime as your load evolves.

### 3 Power modules

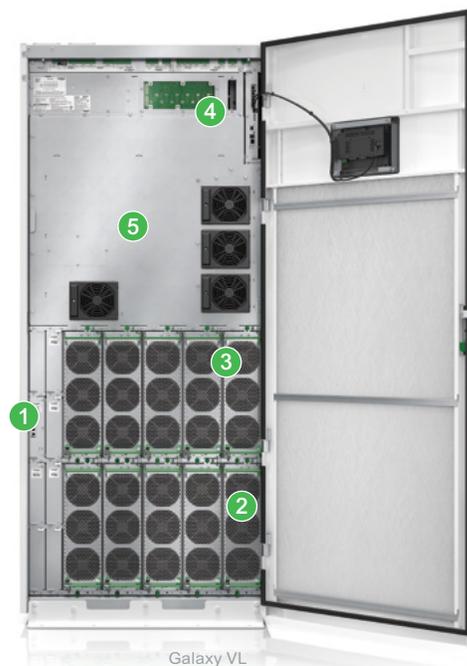
N+1 redundancy, Live Swap, slide in/slide out modules with rear connectors. Includes fan box for simple replacement. Superb core performances (PF=1, high-density, high-efficiency) and fault-tolerant design.

### 4 Service flexibility

Makes installation and cabling work particularly simple. Copper or aluminum cables. Suitable for 3- or 4-wire installation (with or without neutral) for more flexibility.

### 5 Full front access

Full front access for simple and fast connection and service.



# Modular Data Centers with Galaxy VL

A powerful, efficient, and compact solution that evolves with your business

Modular data center solutions combine power, cooling, and IT data center infrastructure into individual or configurable modules that are built off-site in a factory environment. These modules are then delivered to the site to provide a cohesive data center solution, providing quick-to-deploy compute capacity even in remote areas, unused warehouse space, or outdoor spaces.

Not only does the Galaxy VL with Live Swap allow you to increase your power capacity as your business grows, but provides the best footprint in the market with over 50% footprint savings, allowing you to truly optimize your space. Customers can get additional benefits and even more peace of mind when they select Schneider Electric EcoStruxure IT, a cloud-based monitoring platform that enables IT staff to proactively monitor and manage the data center from anywhere they have an Internet connection, via a smart phone app or web browser.

Increase your infrastructure capacity; shrink your infrastructure footprint by over 50%

Reduce your deployment time; maintain the predictability of your design's performance

Legacy 13.7m 500 kW Modular Solution utilizing legacy UPS



Galaxy VL 6m 500 kW Modular Solution utilizing Galaxy VL UPS



# Visibility and peace of mind

Monitor, manage, and model your Galaxy VL from anywhere, at any time, on any device, thanks to EcoStruxure IT software and services

EcoStruxure leverages advancements in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level. EcoStruxure IT Expert, EcoStruxure IT Advisor, and EcoStruxure Asset Advisor are cloud-based solutions that provide you with data-driven insights to optimize data center resiliency and performance.

When it comes to IT critical equipment monitoring, are you more hands-on or hands-off?



## Visibility anywhere, anytime

**EcoStruxure IT Expert** provides you a hands-on approach with cloud-based monitoring software that synthesizes and analyzes performance and alert data into proactive recommendations and enables wherever-you-go visibility from any device.

Try it now: [www.ecostruxureit.com/ecostruxure-it-expert/#trial](http://www.ecostruxureit.com/ecostruxure-it-expert/#trial)



## 24/7 remote monitoring and troubleshooting

**EcoStruxure Asset Advisor\*** for secure power and cooling provides you a hands-off approach with 24/7 remote monitoring service by the Schneider Electric Connected Services Hub experts. We monitor and troubleshoot, you relax.

What about planning and modeling?



## Insights for better operations efficiency

**EcoStruxure IT Advisor** is a data center infrastructure planning and modeling solution that provides Data Center Managers in large enterprises and colocation data centers with full insights into their infrastructure to improve profitability, efficiency, and availability.

## Comprehensive on-site services

Start-up service: included with UPS

- Commission the installation in accordance with manufacturer's recommendations. Ensure optimal system performance from Day 1.

## Schneider Electric-certified installation services

- Expert configuration of your equipment for optimal performance and reliability.

## Maintenance services

- Ensure proper care of your mission-critical applications.
- Preventive maintenance and response time upgrades, where available.

## Flexible service plans/on-site extended warranty

- Hassle-free system maintenance.
- Improve uptime at a predictable cost.

*\*Country dependent. Contact your local representative for availability. Subject to terms and conditions.*

# Technical specifications

Galaxy VL	Features
Nominal power rating (kVA = kW)	200, 300, 400, 500
Scalability	From 200 kW to 500 kW with 50 kW power module increments
N+1 power ratings	Up to 450 kW N+1
Technical rating	500 kW
Topology	On-line double conversion, UL-verified EConversion
<b>Key features</b>	
Modular design	Power module, control module, power supply unit
3rd-party verified Live Swap	Power module
Display	7-inch color touch display, mimic diagram on display
Cabinet Type	Standalone, White (RAL9003)
<b>Efficiency</b>	
Double conversion mode	> 97%
EConversion	Up to 99%
ECO mode	Up to 99%
<b>Input</b>	
Rated voltage	380/400/415/440/480 VAC
Input voltage range (phase to phase)	331-552 V
Single mains/dual mains	Single mains as standard. Easily converted to dual mains.
Input current total harmonic distortion (THDI)	<3%
Input power factor	>0.99 at load >25%
Cable entry	Top as standard. Optional bottom cable entry cabinet available.
Input backfeed protection	Input backfeed protection: Included. Bypass backfeed protection: External or internal with kit.
Short circuit withstand	65 kA I <sub>cw</sub>
<b>Output</b>	
Nominal output voltages	380/400/415/440/480 VAC
Load power factor	PF=1 @ 40°C (104°F) without derating
Voltage regulation	+/- 1% (symmetrical load)
Frequency	50/60Hz +/-0.1% free running
Overload normal operation	1 min @ 150%; 10 min @ 125% (110% continuous at 30°C (86°F))
Overload battery operation	1 min @ 125%
Output THDU on linear load	<1%
Output THDU on non-linear load	<3%
Output Voltage classification	VFI-SS-111

Galaxy VL	Features
<b>Paralleling</b>	
Parallel capability	Parallelable for capacity (2.5 MW) or redundancy (2 MW N+1)
<b>Batteries</b>	
Battery type	VRLA/Lithium-ion/NiCad
DC Bus/Number of VRLA battery blocks	480-576 V (40-48 blocks)
Float Voltage, 2.27 V/cell	545-654 V
Backup time	5 minutes to 1 hour (longer runtime available*)
Maximum charging power (0-40% load)	80%
Maximum charging power (100% load)	20%
Number of supported battery breakers	4
Breaker trip function	UV coil on the battery breaker
Temperature compensation	-3.3 mV/°C/cell, for T >= 25°C 0 mV/°C/cell, for T < 25°C
Maximum short-circuit level	30 kA
Battery test	Manual/automatic (selectable)
Battery runtime estimation	Yes
Battery deep discharge protection	Yes
<b>Environment</b>	
Operating temperature	0-40 °C without derating
Storage temperature	-25° to 55°C (-13-131°F)
Humidity	0% to 95%
Elevation/altitude	1000m: 100% load up to 3000m with derating
Audible noise at 100% load	400 V: 69.5 dB; 480 V: 68 dB
IP level (Ingress Protection)	IP20
Dust	Supports harsh environments Pollution degree 2 (IEC 62040). Air filter included.
Conformance coating	On PCBA

Dimensions	
200-500kW UPS (HxWxD)	1970 x 850 x 925 mm (77.6 x 33.5 x 36.4 in)
Weight	200 kW UPS: 495 kg (1091 lb); 500 kW UPS: 720 kg (1587 lb)

Options and accessories	
Lithium-ion battery cabinet	Parallel communications kit
Maintenance bypass cabinet	Network management card
Bottom cable entry cabinet	Internal backfeed kit
Battery breaker kit	Kirk key kit (480V)*
Air filter kit	Classic battery cabinet (400V)*
Seismic kit	Battery breaker box (400V)*
Common VRLA battery bank	

Preliminary specifications – can be subject to changes.

\*Contact your local representative for availability

\*\*Contact your sales representative for any custom-built requirements

Life Is On



To learn more about the Galaxy VL UPS, EcoStruxure IT cloud-based software, and EcoStruxure Asset Advisor 24x7 Remote Monitoring Services, contact your Schneider Electric representative or visit [se.com/GVL](https://se.com/GVL)

### **About Schneider Electric**

At Schneider Electric, we believe **access to energy and digital** is a basic human right. We empower all to **make the most of their energy and resources**, ensuring **Life Is On** everywhere, for everyone, at every moment. We provide **energy and automation digital** solutions for **efficiency and sustainability**. We combine world-leading energy technologies, real-time automation, software and services into integrated solutions for Homes, Buildings, Data Centers, Infrastructure and Industries. We are committed to unleash the infinite possibilities of an **open, global, innovative community** that is passionate about our **Meaningful Purpose, Inclusive and Empowered** values.

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