



# Galaxy VL 1600-2000 kW (415/480V) UPS

First-class power protection for high density loads:  
Superior availability, innovation, and sustainability  
1600-2000 kW (415/480V)



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

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**Schneider**  
Electric

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

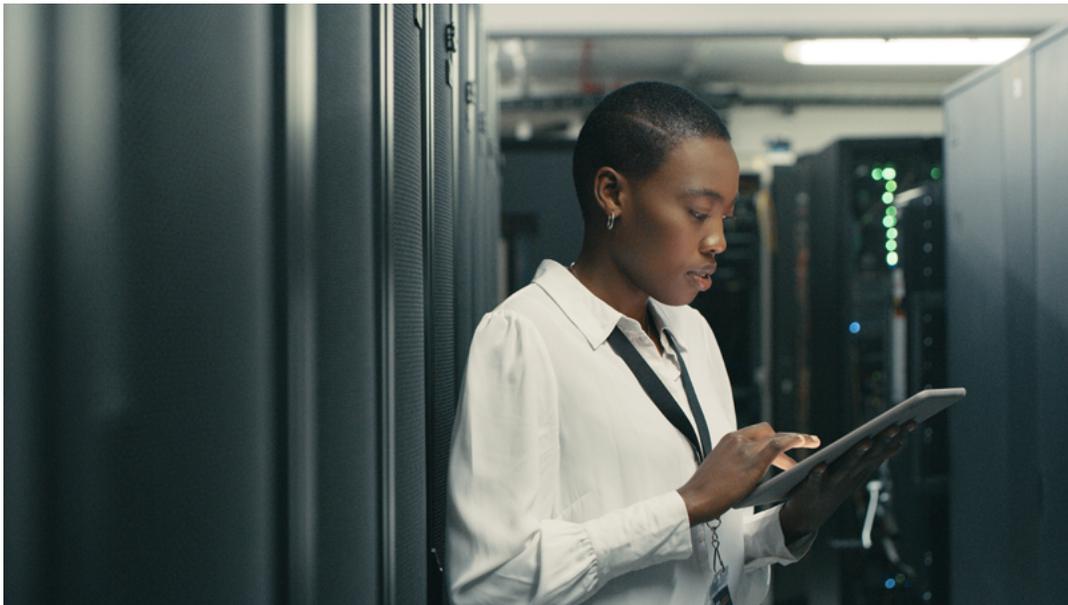
This highly efficient and modular Galaxy VL 3-phase uninterruptible power supply (UPS) scales from 1600 kW to 2000 kW (415/480V), delivering top performance for large and hyperscale data centers, as well as critical infrastructure in commercial and industrial facilities.

As the first 2 MW UPS with Live Swap, its industry-leading, 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 eConversion 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 Galaxy Lithium-ion Battery Systems and VRLA batteries. With these battery solutions, 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, the Galaxy VL 1600 kW to 2000 kW System is the ideal backbone for your critical infrastructure.



## Information technology applications

- Large and hyperscale data centers
- Internet DC
- Computer rooms
- High Performance compute
- Artificial Intelligence



Next-level transparency for better-informed product choices. Learn more about the Environmental Data Program at: [se.com/ww/en/about-us/sustainability/environmental-data-program](https://se.com/ww/en/about-us/sustainability/environmental-data-program)  
[se.com/ups](https://se.com/ups)

# Key advantages and innovations



High density design with 3- and 4-wire single input and output up to 2 MW

High-density technology, streamlined breaker coordination, and full front access make the Galaxy VL 1600 kW to 2000 kW System well suited for low-voltage applications.



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.



Battery flexibility, including VRLA and Lithium-ion batteries\*

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



Ultra-high efficiency

Provides up to 97% efficiency in double conversion mode; 99% efficient in eConversion mode.



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.



EcoStruxure IT

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

\* Contact your local representative for availability.

## Powering the AI revolution with AI-tolerant UPS infrastructure

The high-density requirements of AI workloads are pressuring data center and colocation operators and hyperscalers to expand fast. As operators look for ways to meet demand, one area they must pay close attention to is the power protection infrastructure.

Schneider Electric leads the way in providing AI-tolerant UPSs to help safeguard multimillion-dollar AI investments.

**Our Galaxy VL 1600 kW to 2000 kW UPS solution is an ideal choice for AI infrastructure thanks to:**

- Proven performance: Galaxy VL is rigorously tested for next-generation AI compute demands, ensuring they can support dramatic, rapid power load fluctuations without interruption.
- Scalability and flexibility: A modular, flexible design enables power protection infrastructure to grow alongside AI infrastructure, whether in data centers, colocation facilities, edge computing sites, or hyperscale sites.
- Efficiency and sustainability: Galaxy VL is highly efficient and compact, enabling businesses to leverage their AI investments while remaining energy-conscious and cost-effective.

[Learn more](#)

# Leading performance

Robust and flexible design ideal for demanding environments at maximum performance



## Flexibility and performance

- Streamline breaker coordination with **single input/output connection** for up to 2 MW of power protection
- **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 mains supported
  - Supports 3- or 4-wire installations



## 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
- Scalability supported at 1600/1800 kW with expansion up to 2000 kW
- N+0 or N+1 module-level redundancy up to 1550/1750/1950 kW N+1



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

- Fault-tolerant design ensures continuous protection in critical circumstances
- Maximum short circuit rating: 65kAIC
- Designed to perform in harsh environments with its high-quality air filter
- Distributed static bypass switch within each 500 kW UPS frame with **high I<sup>2</sup>t rating** enhances downstream resilience
- Suited for humid environments thanks to **conformal coating**
- **Seismic certified**
- Exceeds industry standards on electromagnetic protection due to EMC Level C2 for each 500 kW section in the system
- **Faster battery charging** capabilities restore back-up time 2 to 3 times faster compared to industry standards

# Premium protection and sustainability

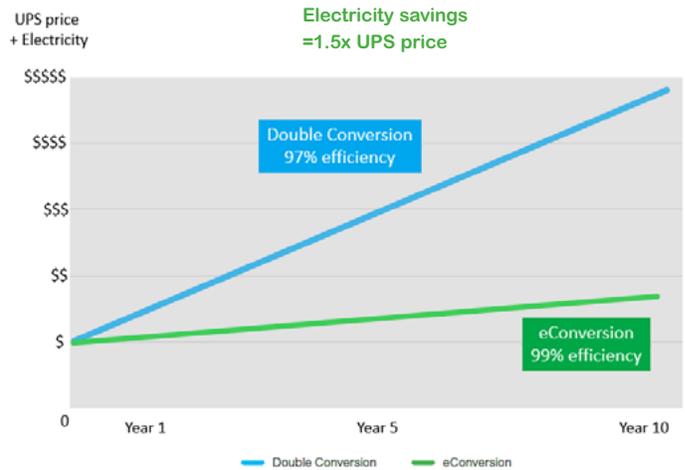
eConversion: an unbeatable combination of power quality and high efficiency



## Sustainably reduce your operating costs

Protect power to your load, reduce your total cost of ownership and electricity consumption, and meet your sustainability goals with up to 99% efficient, Class 1-compliant eConversion mode for Galaxy V-series UPSs, the recommended operating mode for your Galaxy V-series UPS.\*

- By operating at up to **99% efficiency**, the electricity savings in eConversion within 10 years typically equals **1.5x the price of the UPS**.
- The inverter operates continuously, protecting the load with **no transfer time**. eConversion performance has been certified with the same IEC 62040-3 **Class 1** rating as double conversion mode.
- eConversion mode recharges batteries and provides power factor correction and harmonics compensation, making it a **versatile solution for IT and non-IT loads**.
- Since its launch in 2014, eConversion has been successfully deployed all over the world. Join thousands of customers who use it daily to protect their critical loads.
- Additional savings due to reduced cooling requirements.



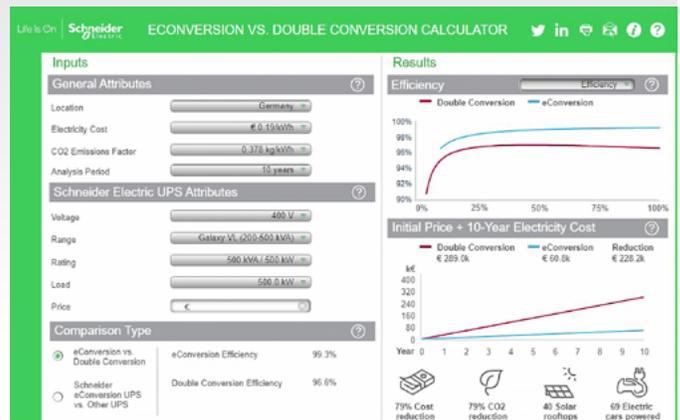
## Calculate your savings

Use our eConversion vs. Double Conversion Calculator to quickly assess your potential energy savings, operating cost optimization, and CO<sub>2</sub> emissions reduction by comparing the cost of running your Galaxy V-Series UPS in eConversion mode vs. double conversion mode.



Scan the QR code with your phone camera, or [click here](#) to access the calculator from the Schneider Electric Data Center Trade Off Tools™ Web page.

[Learn more about eConversion](#)



\*Model dependent; based on a market electricity price: \$0.15 /kWh. The annual electricity savings are calculated by comparing the UPS efficiency in eConversion mode vs. double conversion mode.

# 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 1600-2000 kW 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 its 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



	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 (157 x 33 in)	1950 x 587 mm (77 x 23 in)

# Future-proof your data center

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

Galaxy VL 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 up to 1800 kW with 9 power modules per cabinet
- ➕ Scale up to 2000 kW with 10 power modules per cabinet

## Scale and pay as you grow

With support of 50 kW power modules, scale power instantly in 200 kW increments from 1600 kW to 2000 kW, as your power requirements evolve.

## 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.

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

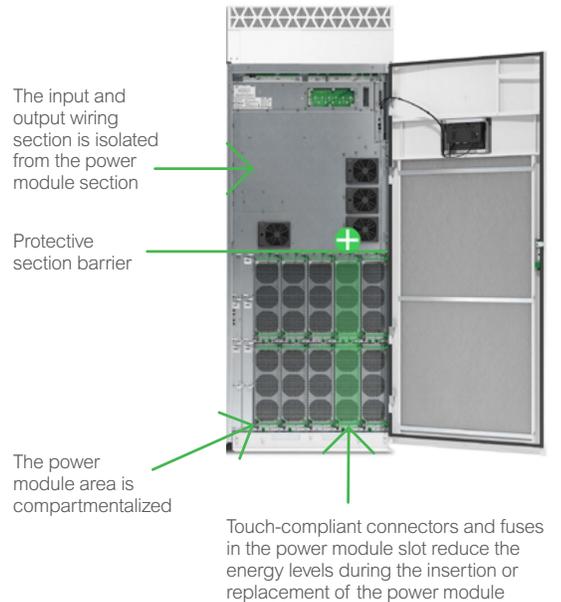
Galaxy VL with Live Swap is a pioneering innovation, driven by Schneider Electric's strong safety culture, delivering a touch safe design through the entire process of adding or replacing the power modules in the Galaxy VL, while the UPS is online.

This innovative capability enables fast and simple insertion and replacement of the power modules in the Galaxy VL 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 serviceability

## 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 module anytime as your load evolves
- 3 Power modules**  
N+1 redundancy up to 1950 kW, 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.

# Visibility and peace of mind

## Secure Network Management Card System

Bolster your cybersecurity strategy with firmware updates  
As cybersecurity is a leading concern for business interruptions, the **Secure Network Management Card (NMC) System** is our commitment to deliver secure products, utilizing secure development processes, and reliable update management reducing exposure to cybersecurity attacks.

The Schneider Electric Network Management Card is independently certified to the IEC 62443-4-2 standard by TÜV Rheinland. Additionally, our development processes are certified to both IEC and ISA Security Standards.



## 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
- Includes the Secure Network Management Card System\* with NMC firmware updates

### 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

\* Learn more about Secure Network Management Card System [here](#)

## Updating your NMC firmware matters



### Monitoring and alarming

#### Remote monitoring

and visibility across IT infrastructure is mission critical, because it reduces the risk of unexpected issues and downtime.



### Wherever-you-go visibility

The Schneider Electric Network Management Card enables essential and secure remote monitoring and management of your Galaxy VL.



### Preventative management

Connecting your devices will improve the availability, resiliency, and efficiency of your power infrastructure systems and the IT workloads they support.



### Ongoing security compliance

More and more cybersecurity breaches are linked to neglected firmware. Our new Secure NMC System\* will help you:

- Reduce exposure to attack and minimize downtime — protect your connected devices with the latest security updates.
- Achieve consistent compliance — protect your business with the only NMC firmware independently certified to the highest cybersecurity compliance level (IEC 62443-4-2).
- Never become out of date — During commissioning of your Galaxy VL 2MW and during maintenance activities, Schneider Electric qualified service personnel update the NMC firmware as defined in all applicable field advisories and field modifications.

Learn more at <https://www.se.com/secure-nmc>

\*Requires an Advantage Plan service contract or EcoCare for 3-Phase UPS membership with on-site maintenance; contact your Schneider Electric representative for availability.

## EcoStruxure IT enables resilient, secure, and sustainable data centers and IT environments

Schneider Electric's comprehensive Data Center Infrastructure Management (DCIM) solution, EcoStruxure IT, ensures business continuity by enabling secure monitoring, management, insights, planning, and modeling – whether from a single IT rack to hyper-scale IT – on-premises, in the cloud, and at the edge.

### Easy visibility

Monitoring and management software streamlines data center device management:



**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: <https://community.se.com/t5/Get-started-with-EcoStruxure-IT/Get-started-with-EcoStruxure-IT/ta-p/447135>



**EcoStruxure Data Center Expert** is a scalable end-to-end **on-premise** monitoring software that collects, organizes, and distributes critical device information, providing a comprehensive view of your company-wide, multi-vendor physical infrastructure.

\* Contact your local representative for availability.

### 24/7 peace of mind

Digital services proactively monitor your critical devices:



**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.

### Operations, optimized

Planning and modeling software transforms data into performance insights:



**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, sustainability, and resiliency.

# Technical specifications

Galaxy VL	Features
Nominal power rating (kVA = kW)	1600 kW, 1800 kW, 2000 kW
Scalability	From 1600 kW to 2000 kW with minimum 200 kW increments (scale from 1600 kW to 1800 kW or 2000 kW; 1800 kW to 2000 kW) with the support of 50 kW power modules
N+1 power ratings	Up to 1550, 1750, or 1950 kW N+1
Technical rating	2000 kW
Topology	On-line double conversion, UL-verified eConversion
<b>Key features</b>	
Modular design	Power module, control module, power supply unit
Third-party verified Live Swap	Power Module additions for expansion and replacements
Display	Centralized 10-inch color touchscreen display; 7-inch color touch display for each 500 kW section; mimic diagram on display
Cabinet type	Standalone, white (RAL9003)
<b>Efficiency</b>	
Double conversion mode	> 97%
eConversion mode	Up to 99%
ECO mode	Up to 99%
<b>Input</b>	
Rated voltage	480V 3-wire, 480/277V and 415/240V 4-wire
Input voltage range (phase to phase)	353-552V
Input connection	Single mains: 3- and 4-wire supported
Input current total harmonic distortion (THDI)	<3%
Input power factor	>0.99 at load >25%
Cable entry	Top
Input backfeed protection	Input backfeed protection and Bypass backfeed protection included
Maximum short-circuit rating	65AIC
<b>Output</b>	
Nominal output voltages	480V 3-wire, 480/277V and 415/240V 4-wire
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>Batteries</b>	
Battery type	VRLA/Lithium-ion
DC Bus/Number of VRLA battery blocks / Number of Galaxy Lithium-ion battery blocks within one cabinet	480-576V (40-48 blocks) / 17 modules Galaxy Lithium-ion Batteries
Float Voltage (VRLA), 2.27 V/cell	545-654V
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 Galaxy Lithium-ion Battery Cabinets for direct connection	10 cabinets without pull box For 5 min runtime, 8 cabinets for 1600 kW load, 9 cabinets for 1800 kW load, 10 cabinets for 2000 kW load
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 runtime estimation	Yes
Battery deep discharge protection	Yes
<b>Environment</b>	
Operating temperature	0-40 °C without rating
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	415V: 69.5 dB; 480V: 68 dB
IP level (Ingress Protection)	IP20
Dust	Supports harsh environments Pollution degree 2 (IEC 62040) Air filter included
Conformal coating	On PCBA
<b>Standards and approvals</b>	
Safety	UL 1778, 5th Edition; CSA C22.2 No. 107.3-14, 3rd Edition
ESS Safety	UL 9540A (Galaxy Lithium-ion Battery) UL9540 (Galaxy VL + Galaxy Lithium-ion Battery) EMC emission: Individual 500 kW sections tested for FCC Part 15 Subpart B, Class A
Seismic	OSHPD; CBC 2022; IBC 2021
<b>Dimensions</b>	
1600-2000 kW UPS (HxWxD)	2270 x 5100 x 1050 mm (89.3 x 200.7 x 41.3 in)
Weight	1600 kW UPS: 4865 kg (10725 lb) 1800 kW UPS: 5017 kg (11060 lb) 2000 kW UPS: 5169 kg (11396 lb)
<b>Options and accessories</b>	
Lithium-ion battery cabinet	
Network management card	
Air filter kit	

Preliminary specifications – can be subject to changes.

\*Contact your local representative for availability

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

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To learn more about the Galaxy VL UPS and EcoStruxure IT DCIM, contact your Schneider Electric representative or visit [se.com/GVL](https://www.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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