

# Galaxy VM

Three-phase power protection



## Galaxy VM – trusted partner for your business continuity

Highly efficient, easy-to-deploy, three-phase power protection that seamlessly integrates into the electrical, physical, and monitoring environments of customers' medium data centers, industrial, or facilities applications.

- Highly efficient ECOConversion mode
- Flexible battery solutions
- OSHPD and IBC® seismic certified
- Large color touch screen display
- Industry-leading footprint
- Full front access

# Features and benefits

## Highly efficient, easy-to-deploy, three-phase power protection that seamlessly integrates into electrical, physical, and monitoring environments

The Galaxy™ VM is a key component of the fully integrated and comprehensive Schneider Electric™ energy management solution for data centers and industrial applications. Deploying the latest in technology, it lowers energy costs through high efficiency and an EConversion mode. State-of-the-art electrical performance options, such as wide input voltage range, high overload and short-circuit capacities, and integrated back-feed protection allow the Galaxy VM to seamlessly integrate into your electrical network to provide excellent power quality. Highly compact, the Galaxy VM also integrates well with facility monitoring systems and smart grid requirements, offering energy storage flexibility that tailors the solution to your specific needs. It features top and bottom cable entry, full front service access, back-to-the-wall installation, and includes start-up services, making the Galaxy VM one of the easiest UPS units in its class to deploy, install, and maintain.

## Galaxy VM

### Integration

- Schneider Electric StruxureWare™ software applications and suites
- Electrical network earthing systems
- Facilities infrastructure
- Seismic certified
- Monitoring systems – BMS, Modbus, etc.

### Energy and cost savings

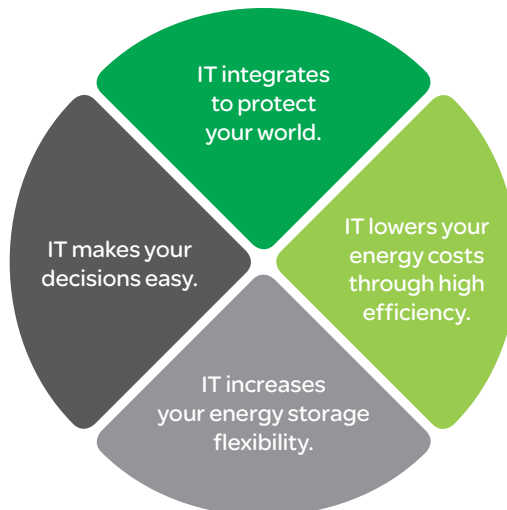
- High efficiency double conversion mode
- ECO mode
- EConversion mode

### Energy storage flexibility

- Traditional (VRLA) and modular battery offer
- Short and long backup times
- Selectable charging modes

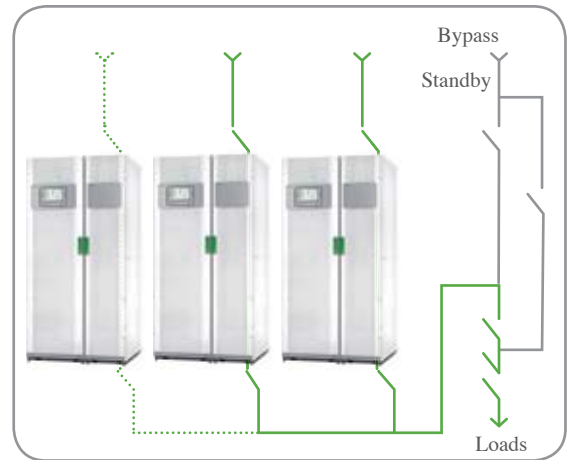
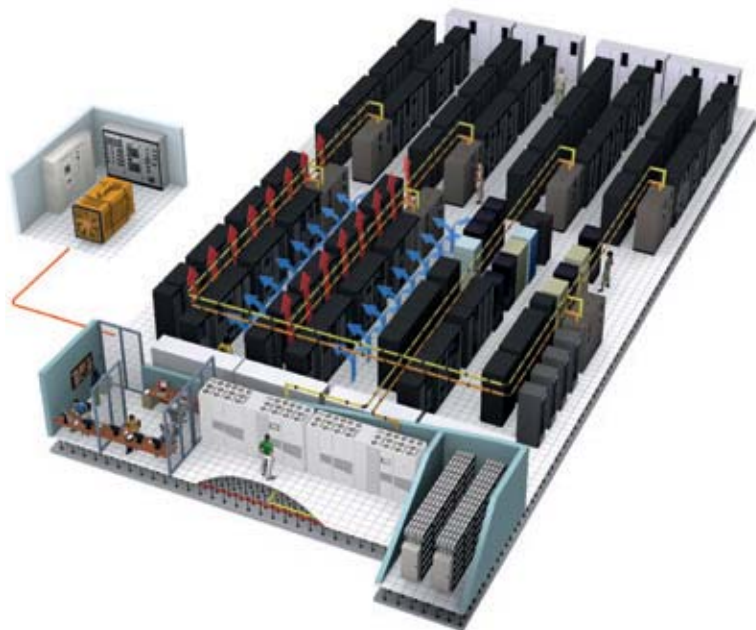
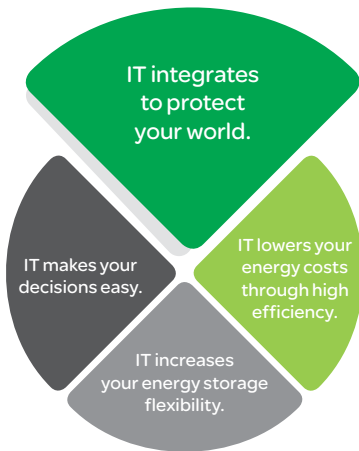
### Ease of installation

- System designed for ease of cabling in confined installation spaces
- Single cabinet top and bottom cable entry
- Integrated casters for ease of mobility on UPS and modular battery cabinets



# Galaxy VM features

IT integrates to protect your world.



Paralleling capability of up to five UPS units for redundancy and up to four for capacity

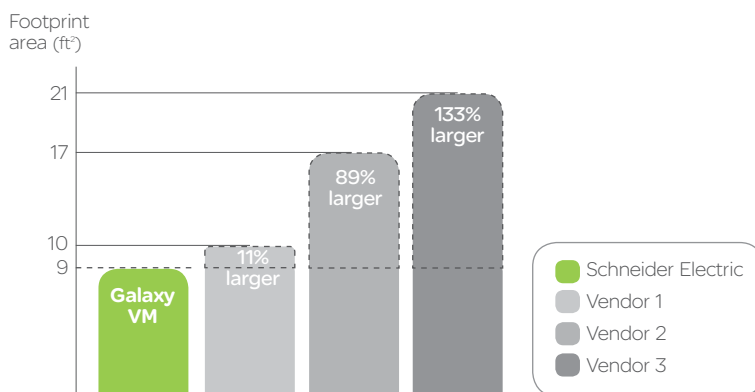
## Integration into your electrical network

- Wide input voltage and frequency ranges
- Genset compliant with adaptive ramp-in
- Integrated parallel capability up to four UPS units
- Built-in integrated and tested back-feed protection

## Full integration with Schneider Electric solutions

- Fully integrates into the comprehensive Schneider Electric energy management solution for data centers and industrial applications

## Galaxy VM – the industry's most compact footprint



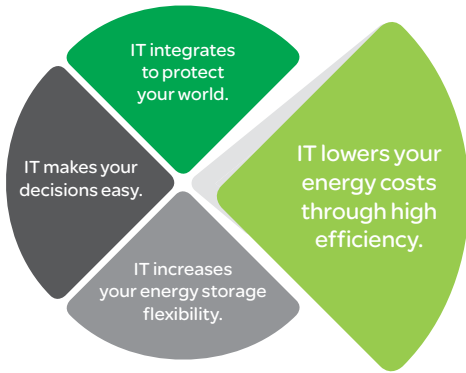
UPS with bypass.

## Integration into your facility infrastructure

- Compact footprint
- Back-to-the-wall installation
- Operates at 40 °C without derating
- Embedded seismic rating, approval for IBC level 2
- Low audible noise levels
- Replaceable dust filter for harsh environments
- Configurable input/output relays

# Galaxy VM features

IT lowers your energy costs through high efficiency.



## High-efficiency operating modes:

### Double conversion mode

- Up to 96.5% efficiency in double conversion online mode even at low load levels
- Less energy losses = cost savings
- Less heat dissipation = lower cooling costs

### ECOConversion mode

- Ultra high efficiency up to 99%
- Keeps excellent load protection
- Continuously charged batteries
- Compliant with IEC 62040-3 class 1 output definition of UPS standard
- Harmonics and input power factor correction

### ECO mode

- Up to 99% efficiency
- Compliant with IEC 62040-3 class 3 output definition of UPS standard

## Cost savings by using Galaxy VM:

Very high efficiency for small to medium data centers, buildings, and facilities

	Alternate UPS	Alternate UPS	Alternate UPS
Efficiency	95%	94%	93%
Savings by using Galaxy VM/ year (in ECOConversion mode)	\$28,567	\$38,089	\$47,611
Five-year savings by using Galaxy VM (in ECOConversion mode)	\$142,835	\$190,445	\$238,055

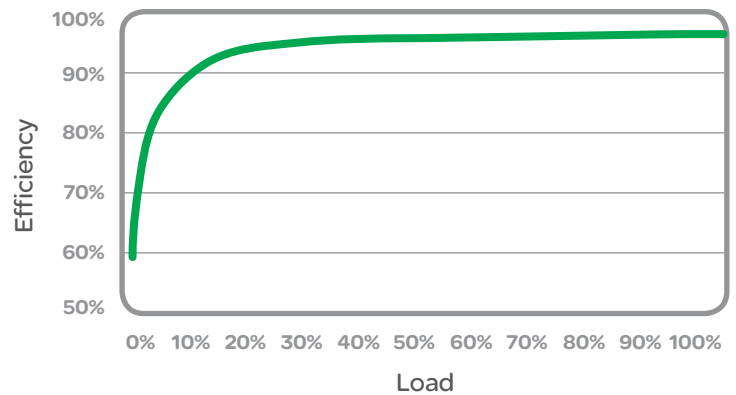
Considering a total UPS load of 810 kW (4 x 225 kVA running at 100 percent load).

At the national average rate of \$0.10/ kWh, a 810 kW Galaxy VM installation running in ECOConversion mode (99 percent efficiency) can save \$190,445 for five years compared to a 810 kW UPS with 94 percent efficiency.\*

In the same scenario, a Galaxy VM operating in double conversion mode (> 96 percent efficiency) has cost savings equal to \$104,745 over five years compared to a 810 kW UPS with 94 percent efficiency.

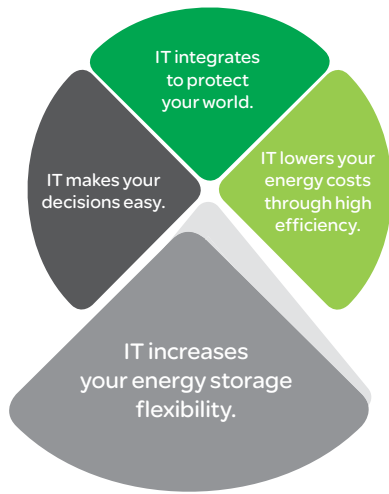
\*Figures calculated using APC™ UPS efficiency comparison calculator are estimates. Individual savings could vary.

## Galaxy VM efficiency curve



# Galaxy VM features

IT increases your energy storage flexibility.



Battery cabinets

## Energy storage options:

- Traditional (VRLA) battery offer
- Modular battery offer (battery redundancy when load is less than 100%)
- Short and extended backup times

## Different charging modes:

- New modular battery offer allows the replacement of batteries without the need to go to bypass, increasing availability. The loads are still protected by the UPS during maintenance.
- Traditional battery offers allow you to choose multiple runtime options and charging modes.



Modular battery cartridge



Management cards

## Galaxy VM options

- Management cards
- Battery cabinets
- Fuse kit
- Wall mounted battery breaker boxes
- Parallel system bypass cabinets
- Dust filter kit



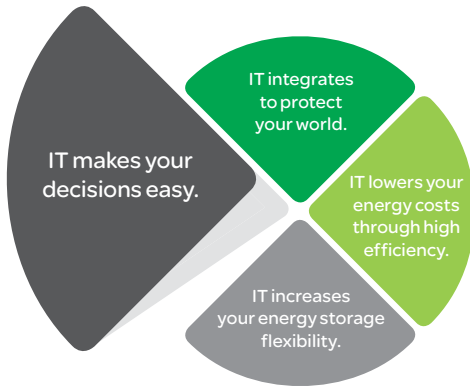
Wall mounted battery breaker box



Dust filter kit

# Galaxy VM features

IT makes your decisions easy.



LCD display



UPS with input/output cabinet

From ordering to installation, the Galaxy VM makes your solution choice easy:

## Start-up

- 5 x 8 start-up services are included, allowing for full coverage of factory warranty

## Installation

- Casters allow UPS configurations to be moved easily and installed up against the wall
- Separate cabinet for input and output cabling ensures quick and easy installation
- Top and bottom entry standard provides great flexibility to the installer

## Monitoring

- 7 inch touch screen color display
- Integrated network management capability for easy access to the network
- Integrated battery monitoring capability included for modular battery offer
- Modbus (SCADA and ION-E) capability
- Customizable dry contacts and relays



UPS network management card (AP9631)



Dry contact I/O accessory (AP9810)



# StruxureWare for Data Centers software suite

In the data center environment, our Galaxy VM is fully managed through StruxureWare for Data Centers software, an integrated suite of data center infrastructure management (DCIM) applications. It enables businesses to prosper by managing their data centers across multiple domains, providing actionable intelligence for an ideal balance of high availability and peak efficiency throughout the entire data center life cycle. StruxureWare software applications and suites are key elements of Schneider Electric EcoStruxure™ integrated hardware and software system architecture — a system designed for intelligent energy management.



## A comprehensive portfolio of services

Schneider Electric Critical Power & Cooling Services (CPCS) provides the expertise, services, and support you need for your building, industry, power, or data center infrastructure. Our world-class life cycle services offer a smart way to install and maintain your critical applications, ensuring your systems are always running at peak performance.

Assembly and Start-Up Service by a certified Field Service Engineer (FSE) allows full factory warranty coverage. A Schneider Electric-certified installation makes certain your equipment is properly configured for optimal performance. This service features a standard eight-hour, five-day response time, with upgrades available for off-business hours.

### On-site warranty extension service

In the case of a system event, an FSE will arrive by the next business day (or faster with upgrades) to isolate, diagnose, and correct in as little time as possible, minimizing downtime.

### Advantage plans

Flexible service packages offer hassle-free system maintenance to improve uptime at a predictable cost. The Advantage Plus, Prime, Ultra, and Max are full-service packages that include technical support, preventive maintenance, quick on-site response, and remote monitoring. Response time upgrades are available.

### Remote monitoring service (RMS)

RMS is an economical and easy-to-use Web-based service that lets you quickly respond to environmental or system changes. Trained technicians provide secure 24-hour monitoring of your physical infrastructure to diagnose and resolve events before they become critical.

### Preventive maintenance

Preventive maintenance on-site examinations keep your critical systems running at maximum efficiency.

# Technical specifications

Rated power (kVA/kW)	180/162	225/202.5
<b>Normal AC supply input</b>		
Input voltage (V)	360 – 576 (480 V three-phase)	
Normal and bypass AC inputs	Single input standard, dual input optional	
Frequency (Hz)	40 – 70 Hz	
Input power factor	0.99 at greater than 40% load	
THDI	< 3% full load	
<b>Bypass AC input</b>		
Input voltage range	480 V	
Frequency	50 Hz or 60 Hz	
<b>Output</b>		
Phase-to-phase output voltage (V)	480 V	
Load power factor	0.9	
Output frequency	50/60 Hz +/- 0.1% (free-running)	
Overload capacity utility operation at 40 °C	150% for 1 minute and 125% for 10 minutes	
Output voltage regulation	+/- 1%	
Total harmonic distortion (THDU)	< 2% at 100% linear load; < 3% at 100% non-linear load	
Output voltage tolerance	Symmetric load (0 – 100%): +/- 1% static; asymmetric load: +/- 3% static	
<b>Overall efficiency</b>		
Efficiency at full load (AC-AC) at 100% load	Up to 96.5%	
ECONversion mode	Up to 99%	
Standard ECO mode	Up to 99%	
<b>Communication and management</b>		
Control panel	Multifunction 7" touch screen color LCD display with built-in NMC, Modbus (SCADA and ION-E), two empty NMC card slots	
<b>Dimensions and weights</b>		
UPS (H x W x D)	77.56 x 39.45 x 33.62 in.	
Weight in lb. (UPS)	1,497	1,552
450 kVA system bypass cabinet (H x W x D), weight	77.56 x 59.25 x 32.95 in. 1,069 lb.	
675 kVA system bypass cabinet (H x W x D), weight	77.56 x 59.25 x 32.95 in. 1,113 lb.	
<b>Regulatory</b>		
Safety	UL 1778 Fourth Edition	
EMC/EMI/RFI	FCC 47 Part 15	
Markings	UL 1778	
Transportation	ISTA® 2B	
Seismic zone	IBC Level 2:2006	
<b>Environmental</b>		
Operating temperature	0 °C – 40 °C (32 °F – 104 °F) <sup>1</sup>	
Storage temperature	-25 °C to 55 °C (-77 °F to 131 °F) – without batteries -15 °C to 40 °C (5 °F to 104 °F) – with batteries	
Relative humidity	0% – 95% non-condensing	
Operating elevation	3,280 ft. at 100% load	
Storage elevation	0 – 49,212 ft.	
Max. audible noise at 1 m from unit	55 dB at 70% load, 65 dB at 100% load	

<sup>1</sup>For ambient operating temperature from 40 °C to 50 °C (104 °F to 122 °F), derate the load with 2.5 percent per 1 °C (2.5 per 1.8 °F).