

Modular & scalable UPS systems

EDITION
2017



your energy
our expertise



socomec
Innovative Power Solutions



DELPHYS Xtend GP

Real hot-scalable UPS system

Green Power 2.0 range up to 2.4 MVA/MW

Three-phase UPS



DELPHYS XTEND GP combines all the benefits of the Green Power 2.0 technology and the flexibility of a modular system and provides easy adaptation to evolving requirements, without impacting the surrounding electrical infrastructure. DELPHYS XTEND GP is a real scalable UPS system designed to provide power scalability that can be built up with power blocks to extend the system according to the maximum power requirement.

DELPHYS XTEND GP power scalability is provided by Xmodule power blocks docked onto prewired Xbay docks. The installation and the positioning are easy with secured operation both for operators and the application. During system extensions or maintenance, the load is fully protected in online double conversion mode.

Real hot-scalable solution

- Reliable power that can be increased when needed.
- Load fully protected in VFI mode during system extensions and maintenance.
- Prewired system providing quick and safe power scalability.

Total system adaptability

- Many disposition possibilities.
- Distributed or centralised static bypass.
- Shared or distributed batteries.
- AC and DC power connections flexibility.

Optimized capital employed

- Lower initial and operating costs.
- No modification to the site's electrical infrastructure during power upgrading.
- Optimized maintenance expenditure.
- BCR (Battery Capacity Re-injection), innovative battery discharge test.

Full set of services

- Preventive maintenance.
- 24 / 7 Hot-Line and remote monitoring.
- Quick response time to site and availability of new modules.
- Cabling & docking.
- OPEX-based costing models.

The solution for

- > Large data centers
- > Telecommunications
- > Healthcare sector
- > Service sector
- > Infrastructure
- > Processes
- > Industrial applications

Attestations and certifications

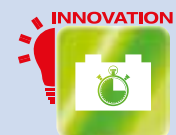


**BUREAU
VERITAS**
DELPHYS Xtend GP Xmodule
power blocks are attested by
Bureau Veritas

Advantages



Better performance
than the EU Code of Conduct
on efficiency of AC UPS



Battery Capacity
Re-injection



Xmodule - designed to save costs

Energy performance

Based on DELPHYS GP 200 kW, the system has all the advantages of the Green Power 2.0:

- > Minimised energy consumption and cooling costs in VFI mode,
- > Unitary power factor provides the best €/kW ratio,
- > Performance attested by Bureau Veritas.

Flexible UPS architecture

- Scalable power and energy storage capability.
- Distributed or centralised static bypass.
- Common or separated rectifier and bypass mains.
- Can be connected to shared or distributed batteries for energy storage optimisation.
- Compatible with different energy storage technologies.
- Systems parallelisation up to 2,4 MW

Standard electrical features

- Integrated maintenance bypass
- Backfeed protection: detection circuit.
- EBS (expert Battery System) for battery management.
- Battery temperature sensor.

Electrical options

- Extended battery charger capability.
- Flywheel compatible.
- ACS synchronisation system.
- BCR (Battery Capacity Re-injection).
- FAST ECOMODE.

Standard communication features

- User-friendly multilingual interface with graphic display.
- 2 slots for communication options.
- Ethernet connection (WeB/SNMP/email).
- USB port for event log access.

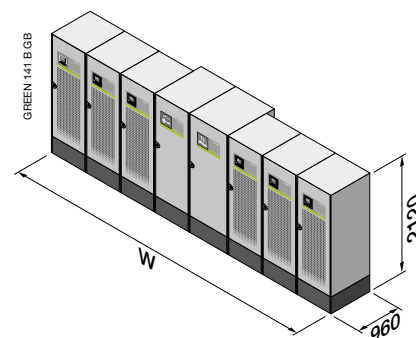
Communication options

- Advanced server shutdown options for stand-alone and virtual servers.
- ADC interface (configurable voltage-free contacts).
- MODBUS TCP.
- MODBUS RTU.
- BACnet/IP interface.

Remote monitoring service

- LINK-UPS, remote monitoring service that connects your UPS to your Critical Power specialist 24/7.

Dimensions



Integration ⁽¹⁾	Number of Xbay dock	W (mm)
Distributed bypass (common or separated input)	4	4340
	5	5050
	6	5760

⁽¹⁾ For any other configuration (centralized bypass, "U" shape, "L" shape, etc.), please contact us.

Technical data

DELPHYS Xtend GP													
SYSTEM CONFIGURATION													
Xmodule rated power		200 kVA/kW											
Number of Xbay docks		4			5				6				
Number of Xmodule power blocks (200 kVA/kW)		2	3	4	2	3	4	5	2	3	4	5	6
Power (kVA/kW)	N configuration	400	600	800	400	600	800	1000	400	600	800	1000	1200
	N+1 redundant configuration	200	400	600	200	400	600	800	200	400	600	800	1000
Max. power (systems in parallel)		up to 2400 kVA/kW (12 Xmodule)											
RECTIFIER INPUT ⁽¹⁾													
Voltage		400 V 3ph (200 to 480 V ⁽²⁾)											
Frequency		50/60 Hz											
Power factor		> 0.99											
Total harmonic distortion (THD) at full load and rated voltage		2.5% ⁽³⁾											
INVERTER													
Power factor		1 (according to IEC/EN 62040-3)											
Rated output voltage		400 V 3ph + N (380 / 415 V configurable)											
Rated output frequency		50/60 Hz (selectable)											
Harmonic voltage distortion		ThdU ≤ 1.5 % with rated linear load											
BYPASS													
Rated voltage		nominal output voltage ±15 % (settable)											
Rated frequency		50/60 Hz (selectable)											
XMODULE EFFICIENCY													
Online double conversion mode		up to 96%											
Fast EcoMode		up to 99%											
ENVIRONMENT													
Operating ambient temperature		from 10 °C up to +40 ⁽²⁾ °C (from 15 °C to 25 °C for maximum battery life)											
Relative humidity		0 % - 95 % without condensation											
Maximum altitude		1000 m without derating (max. 3000 m)											
STANDARDS													
Safety		IEC/EN 62040-1, AS 62040.1.1, AS 62040.1.2											
EMC		IEC/EN 62040-2, AS 62040.2											
Performance		IEC/EN 62040-3, AS 62040.3											
Product declaration		CE, RCM (E2376)											

(1) IGBT rectifier. (2) Conditions apply. (3) With input THDV < 1 %.

DELPHYS Xtend GP

Three-phase UPS

Green Power 2.0 range up to 2.4 MVA/MW

An innovative way to provide scalability



AC CABINET

System input and output.

- General input(s) and output power connection.
- Centralised static bypass, if required.
- System input(s) and output⁽¹⁾ switches.
- Maintenance manual bypass switch⁽¹⁾.

DC CABINET

Prewired coupling for energy storage.

- Energy storage power and control cable connections.
- Connection of up to 6 batteries per system, with dedicated coupling switches.

⁽¹⁾ Please consult us for systems above 1200 kVA/kW (systems in parallel).

Xbay

Easy power block docking.

- Each Xbay dock is prewired to AC and DC cabinets.
- Ready for Xmodule power and control cables connection.
- Includes individual switches for Xmodule AC coupling.
- Hot-plug parallel bus connection.
- The number of Xbay docks depends on the final power required (up to 6 per system).

Xmodule

Hot-scalable 200 kVA/kW power block.

- Power block ensuring load protection and battery management.
- Up to 6 Xmodule power blocks per system.
- Easy positioning.
- Dedicated switches for easy power block servicing.
- Secured installation both for operators and the application.

Real hot-scalable solution

- Quick and safe scalability to meet evolving demands for energy performance.
- Reliable power that can be increased when needed to rapidly meet changing capacity demands.
- Easy adaptation to site evolutions and constraints thanks to movable blocks.
- Prewired system for additional Xmodule connection and coupling within the system.
- Standard tools required to place and connect the power block.
- Online double conversion mode for load protection during system extensions or maintenance.



600 kW, online double conversion mode



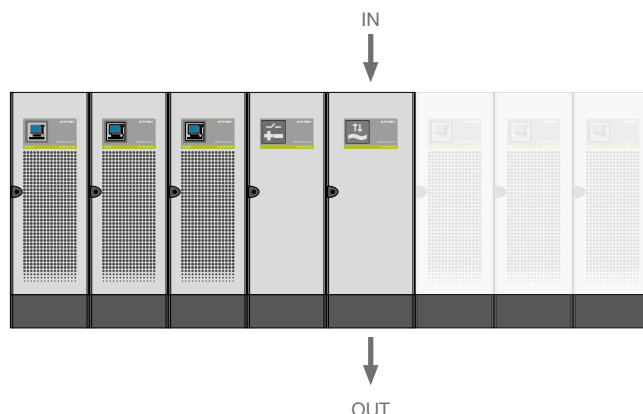
600 kW, online double conversion mode



30 minutes later: 800 kW, online double conversion mode

A complete solution

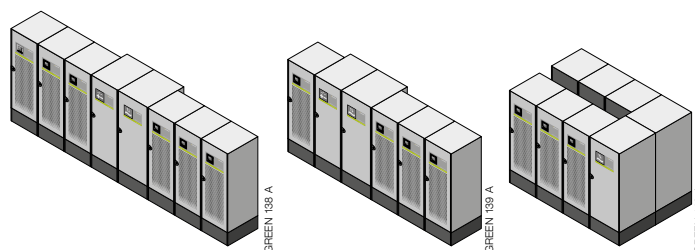
- Simplifies the In / Out switchboard. The system integrates localised coupling capability.
- Fast and cost-effective scalability as there is no need to connect the additional Xmodule power block(s) to any upstream or downstream panel.
- Keeps the critical applications protected in online double conversion mode during power extension.
- Possibility to parallelise systems up to 2400 kVA/kW (12 Xmodules).



Adaptable disposition

The system disposition and physical connection is easily adapted to your plant:

- Many disposition possibilities (Linear, "U" shaped, "L-shaped").
- The number of Xbay docks can be 6 or fewer per system, depending on the rated power of the infrastructure.
- General input/output AC connections available for top or bottom entry.
- Back-up storage DC connection available for top or bottom entry.



Example of configurations (left to right): linear with 6 Xmodule power blocks, linear with 4 Xmodule power blocks, "U-shape" with 6 Xmodule power blocks.

Innovative battery discharge test

DELPHYS Xtend GP allows a periodical complete and safe battery discharge test without using a resistive load for the back-up time or availability check.

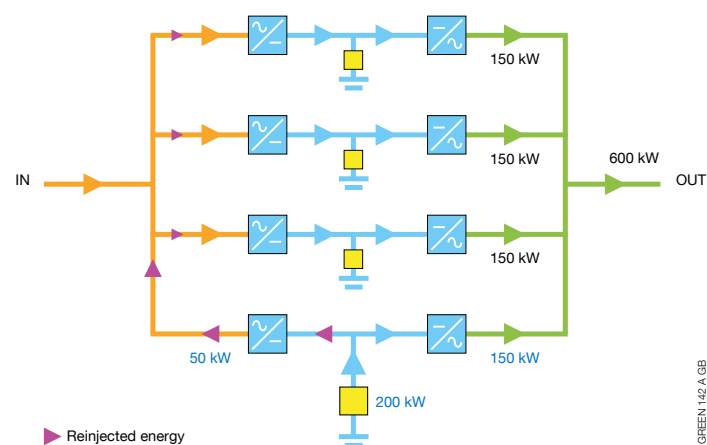
Battery Capacity Re-injection allows significant cost savings and reduces the TCO:

- No need to rent or buy load banks.
- Simplified infrastructure, as there are not any dedicated test bus bars.
- No wasted energy because it is re-used to supply other UPS or applications.
- Less time needed to perform the test as it is easy to programme.

The test is performed at a constant rate of power (full power or partial load). Each individual Xmodule power block is tested separately and feeds back the energy stored in the battery. The energy to be fed back upstream through the rectifier will correspond to the difference between the discharged power and the load consumption.

Example of a battery discharge test.

The test is performed on the 4th Xmodule power block at 200 kW constant power.





MODULYS GP

Unique, fully modular and redundant solution
Green Power 2.0 range from 25 to 600 kVA/kW

Three-phase UPS



GREEN 117 A - GREEN 157 A

With its flexible modularity providing seamless and risk-free power scalability up to 600 kW, the MODULYS GP range is the ideal solution for unscheduled site upgrades or incremental power evolutions. The installed power can be increased up to 600 kW by adding hot-swap plug-in power modules for incremental steps of 25 kW.

Designed with no single point of failure, the MODULYS GP offers all the advantages of the Green Power 2.0 technology.

Fully modular system

- Plug-in power module.
- Plug-in battery module.
- Plug-in bypass module.
- Top or bottom connection.
- Top-air exhaust module.

'Forever Young' concept

- Exclusive life cycle extension programme.
- Eliminates end-of-life criticality.
- Based on an electronics-free cabinet + a set of plug-in parts.
- Module compatibility guaranteed for 20+ years.
- Allows for the implementation of future module technology.

Totally redundant design

- N+1, N+x redundancy level.
- Designed for no single point of failure.
- No centralised parallel control.
- Totally independent power modules.
- Redundant parallel bus connection (ring configuration).

Enhanced serviceability performance

- Fast & safe maintenance based on hot-swap parts (power modules, bypass, electronic boards).
- Battery can be hot-swapped without shutting down the connected equipment.
- Ready for concurrent maintenance.

The solution for

- > Computer rooms
- > Data centres
- > Banks
- > Healthcare facilities
- > Insurance
- > Telecom

Advantages

- > Ensures absolute business continuity
- > Aligns capacity to business demand
- > Optimises costs over the full life cycle

Certifications and attestations



Green Power 2.0 MODULYS GP is certified by TÜV SÜD with regard to product safety (EN 62040-1)

Green Power 2.0 MODULYS GP efficiency & performance are tested and verified by TÜV SÜD



Green Power 2.0 MODULYS GP power module MTBF is calculated and verified higher than 1,000,000 hours by SERMA TECHNOLOGIES (IEC 62380)



Advantages



Ready for Li-Ion battery



Standard electrical features

- Dual input mains.
- Internal maintenance bypass.
- Backfeed protection: detection circuit.
- EBS (Expert Battery System) for battery management.
- Battery temperature sensor.

Electrical options

- External battery cabinet.
- High capacity battery charger.
- ACS synchronisation system.
- Internal backfeed isolation device.

Standard communication features

- User-friendly multilingual interface with colour graphic display.
- Commissioning wizard.
- 2 slots for communication options.

Communication options

- Dry-contact, RS232/485 interfaces.
- MODBUS RTU.
- MODBUS TCP.
- BACnet/IP interface.
- NET VISION: professional WEB/SNMP interface for UPS monitoring and shutdown management of several operating systems.

Remote monitoring service

- LINK-UPS, remote monitoring service that connects your UPS to your Critical Power specialist 24/7.

Technical data

	MODULYS GP UPS SYSTEM		
Power (Sn)	25 to 200 kVA	25 to 400 kVA	25 to 600 kVA
Power (Pn)	25 to 200 kW	25 to 400 kW	25 to 600 kW
Number of power modules	1 to 8	1 to 16	1 to 24
Input / output	3/3		
Redundant configuration	N+x		
INPUT			
Voltage	400 V 3ph+N (340 V to 480 V)		
Frequency	50/60 Hz ±10%		
Power factor / THDI	> 0.99 / < 3%		
OUTPUT			
Power factor	1 (according to IEC/EN 62040-3)		
Voltage	380/400/415 V ±1% 3ph+N		
Frequency	50/60 Hz ±0.1%		
Voltage distortion	< 1% (linear load), < 4% (non-linear load according to IEC 62040-3)		
Short-circuit current	up to 3 x In		
Overload	125% for 10 minutes, 150% for 1 minute		
Crest factor	3:1		
BYPASS			
Voltage	rated output voltage ±15% (configurable with from 10% to 20%)		
Frequency	50/60 Hz ±2% (configurable for GenSet compatibility)		
EFFICIENCY (TÜV SÜD VERIFIED)			
Online double conversion mode	up to 96.5%		
ENVIRONMENT			
Ambient temperature	0 °C to 40 °C (15 to 25 °C for maximum battery life)		
Relative humidity	0 to 95% without condensation		
Maximum altitude	1000 m without derating (3000 m max)		
Acoustic level at 1 m	< 55 dBA		
SYSTEM CABINET			
Width	600 mm	2 x 600 mm (combinable system) 2010 mm (fully integrated solution)	3 x 600 mm (combinable system) 2610 mm (fully integrated solution)
Depth	890 mm		
Height	1975 mm		
Weight (empty cabinet)	210 kg	2 x 210 kg (combinable system) 780 kg (fully integrated solution)	3 x 210 kg (combinable system) 1010 kg (fully integrated solution)
Degree of protection	IP20		
STANDARDS			
Safety	IEC/EN 62040-1, AS 62040.1.1, AS 62040.1.2		
EMC	IEC/EN 62040-2 Class C2, AS 62040.2		
Performance	IEC/EN 62040-3, AS 62040.3		
Seismic compliance	On request according to Uniform Building Code UBC-1997 Zone 4		
Environmental	IEC/EN 62040-4		
Product declaration	CE, RCM (E2376)		
POWER MODULE			
Height	3U		
Weight	34 kg		
Type	Hot plug-in / Hot-swappable		
MTBF	> 1 000 000 hours (calculated and verified)		

Best practice award



Frost & Sullivan has awarded SOCOMEC with its prize for Innovation & Excellence in Developing Scalable, Best-in-Class Products and Solutions.

SOCOMEC's vast expertise and technological know-how in modular UPS solutions have enabled it to develop a new modular, three-phase UPS that employs the latest cutting-edge technology combined in a unique design and architecture.

The benefit of a fully modular system

Easy to manage

- Totally modular system for power scaling or for quickly adapting to business changes.
- Standardised system and modules covering a wide range of power and back-up times.
- Repeatable and standardised scalable architecture for time-saving design for different configuration & architecture requirements.

Pay as you need

- No prior expenditure for unpredictable future extensions in power and back-up time.
- Space saving thanks to reduced footprint and front access.
- Eliminates installation rework costs when new capacity is required from IT physical infrastructure.
- No risk of design oversizing due to project data uncertainty.

Everything front-access

- Connections, switches, manual bypass, static bypass, power modules and all the electric parts have front-access.
- Total footprint is not increased as rear extra clearance for maintenance is not needed.
- Easy, quick, comfortable, safe and risk-free installation and maintenance.
- More reliable system.

The benefit of a totally redundant design

Total resilience

- Electronics-free (failure-free) cabinet.
- Totally independent and self-sufficient modules.
- Real module selective disconnection with galvanic separation.
- No centralised control for parallel and load sharing management.
- Totally segregated, fully sized and centralised bypass.
- Configurable N+1 to N+x redundancy (power & battery).
- No single point of failure.
- Redundant parallel bus connection (ring configuration).

Optimum reliability

- Power module designed for superior robustness proved by an independent body (MTBF > 1,000,000 hr).
- Highly robust bypass (MTBF > 10,000,000 hr).
- Acid leak-proof modular battery box.

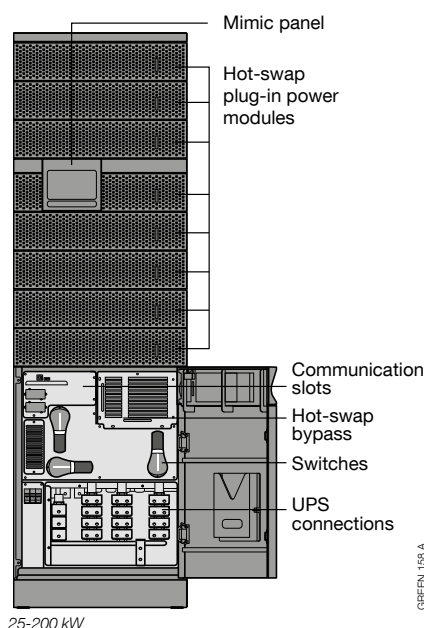
Maximum availability

- Fast recovery of lost redundancy thanks to minimum MTTR (Mean Time To Repair).
- No risk of downtime during power upgrading and maintenance.
- No risk of failure propagation.

Cost-effective redundancy

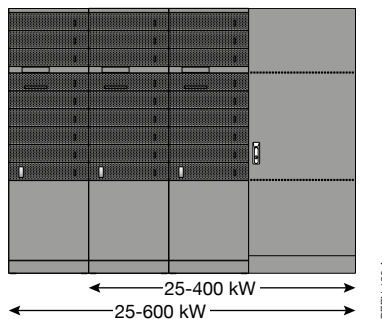
- No need to duplicate the system hardware to get redundancy.
- Redundancy achievable simply by adding one more power and battery module.
- Redundancy can be easily combined with power scalability.

A flexible modular UPS system



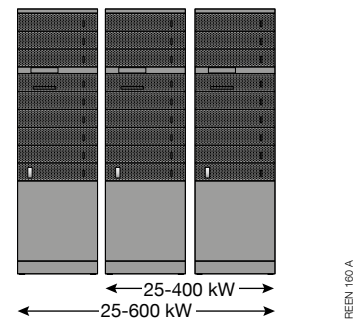
Fully integrated solution

- UPS system cabinets + coupling cabinet + base plates.
- It allows a complete, simple and very reliable installation, with unique IN/OUT and fully sized manual bypass.
- Innovative base plates simplify the installation and allow a tidy and segregated cabling for higher system reliability.

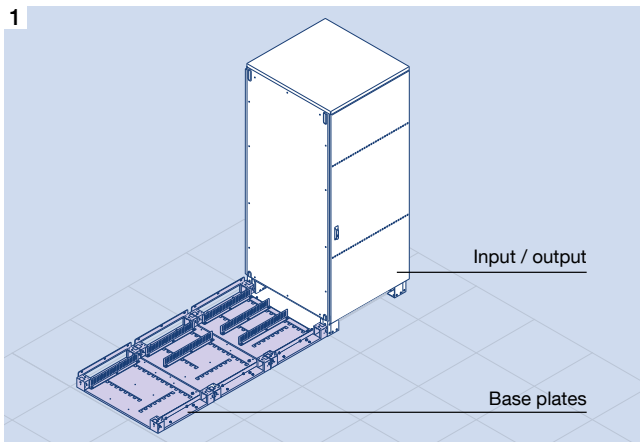


Combinable system

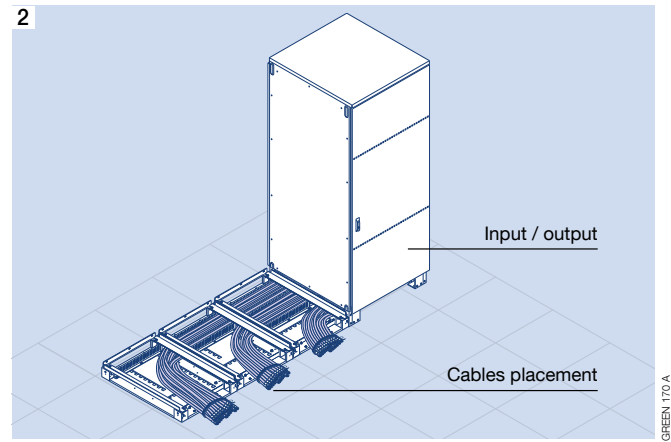
- It allows the creation of a system when:
 - an external coupling cabinet is already present (i.e. in case of replacement of an existing UPS),
 - a coupling cabinet with a special configuration is required and it has to be developed specifically,
 - the UPS system cabinets cannot be installed side-by-side.



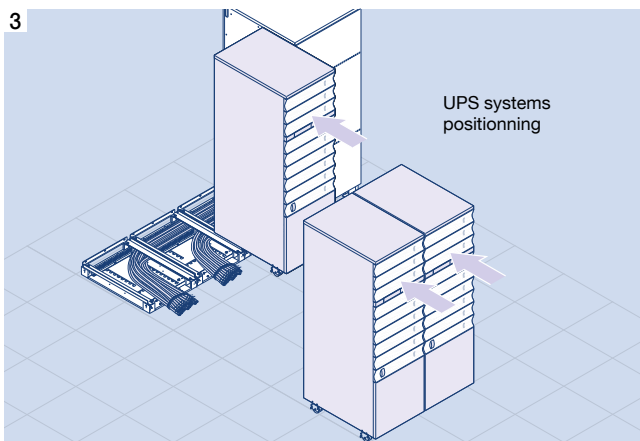
Fully integrated solution: easy and safe installation



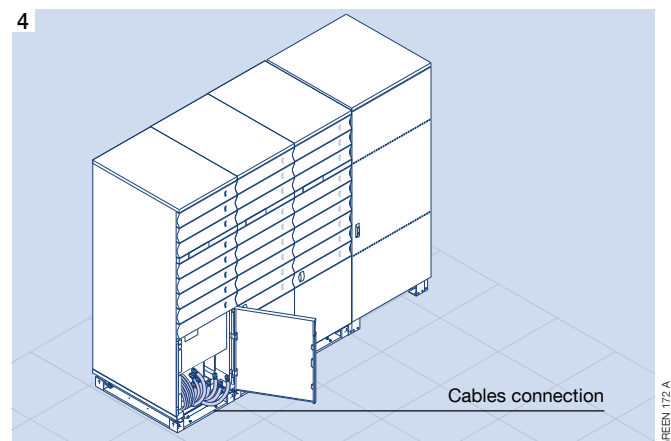
Innovative base plates simplify the installation.



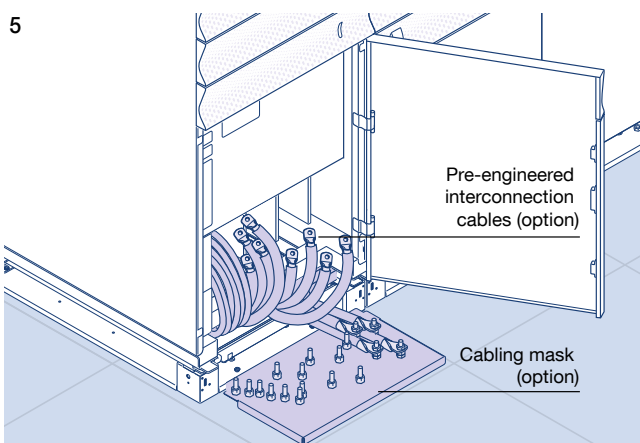
Safe, reliable and time-saving cabling management.



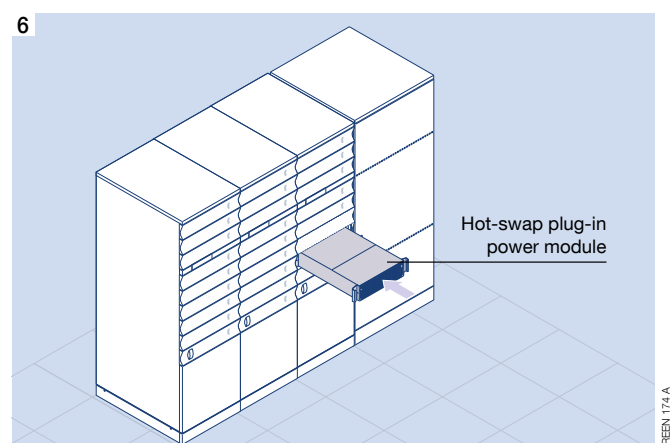
Cabinets are easy to move (no pallet truck required), position and assemble.



Easy cabling for a tidy and reliable solution.



Simplified cable positioning and risk-free connections.



Automatic self-configuring hot-swap plug-in power modules.

MODULYS GP

Three-phase UPS

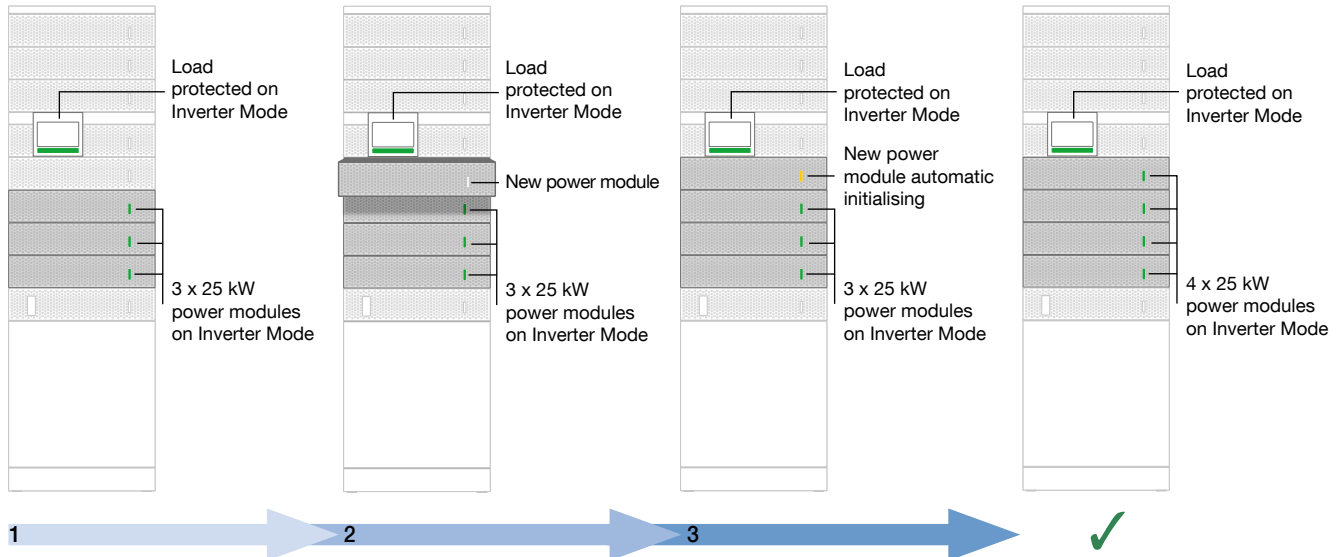
Green Power 2.0 range from 25 to 600 kVA/kW

Seamless and risk-free scalability & upgrading

- MODULYS GP protects critical loads in all conditions, including power upgrading and maintenance procedures.
- No risk of human error and downtime.

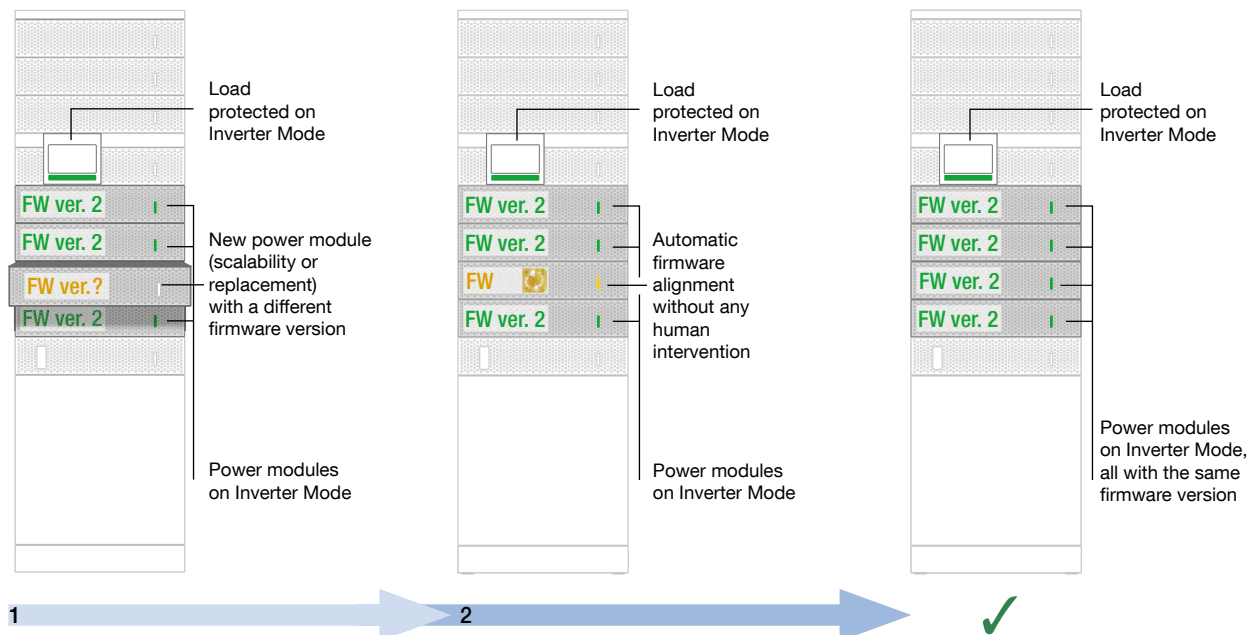
On-line power scalability

- MODULYS GP allows you to increase power scalability and redundancy while keeping the load protected on inverter mode simply by plugging-in a new power module and waiting for its automatic self-configuration, without any human intervention.



Power module automatic firmware alignment

- Even the power module firmware alignment is totally risk free.
- When a new power module is plugged in, the system checks what firmware version is embedded and if it is different automatically aligns it to one of the other modules. The load is protected at all times while running on inverter mode.



On-line global firmware update

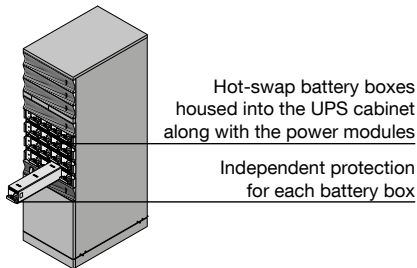
- It is also possible to upgrade the global firmware without switching to bypass to keep the load protected on Inverter mode.
- Automatic procedure for a risk-free firmware upgrade.

Flexible and modular back-up times

MODULYS GP offers modular solutions to meet all your requirements for back-up times (whether a few minutes or several hours) without compromising flexibility and scalability.

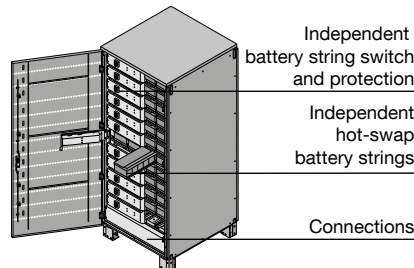
Internal hot swap battery

- Designed for short back-up time.
- Long-Life batteries available as standard.
- Compact solution with a small footprint.



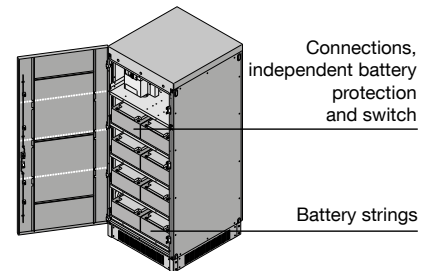
Modular hot-swap battery cabinets

- Designed for medium and long back-up times.
- Long-Life batteries available as standard.
- Vertical and horizontal modularity ensuring flexible back-up times.



Modular battery cabinet

- Designed for long back-up times.
- Long-Life batteries available as standard.
- Horizontal modularity ensuring flexible back-up times.

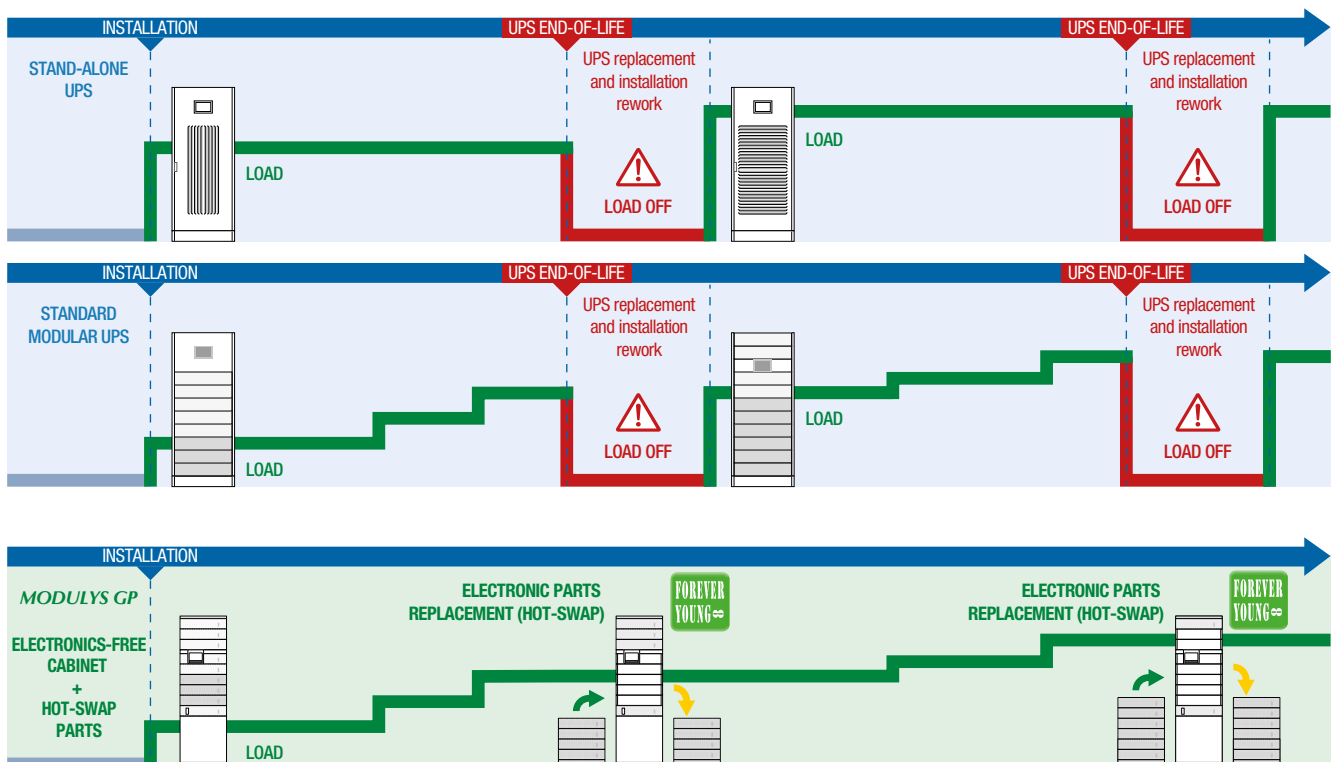


MODULYS GP "Forever Young" concept

- MODULYS GP excels not only in efficiency, flexibility, capacity management and sustainability - five aspects that are crucial for optimum performance.
- It employs an exclusive concept called 'Forever Young' which allows the life-cycle extension of MODULYS GP and eliminates the criticality of system end-of-life.
- It also keeps the system open for the implementation of future technology improvements without modifying the infrastructure.

The 'Forever Young' concept:

- Is based on electronics-free (failure-free) cabinets where the components that are subject to ageing are all plug-in and therefore quick and easy to replace.
- Allows life-cycle extension via periodic replacement of power modules before they start ageing.
- Provides an always up-to-date system that uses the latest technology.
- Assures power modules and spare part compatibility and availability for more than 20 years.





MODULYS *RM GP*

Rack-mounted modular UPS system
Green Power 2.0 range up to 4 x 25 kW

Three-phase UPS



GAMME 562 A

Full rack integration

- Designed for easy and no-risk integration in 19" rack cabinets.
- Total compatibility with any 19" standard rack cabinet.
- High power density.
- Easy to manage, integrate and customise.
- Flexible simplified cabling.

Overall cost optimisation

- Time saving integration process.
- No risk of cost and budget overruns.
- Compact solution saving valuable space.
- Simplified logistics.
- Easy integration: avoids costly set-up and reworking.

Totally redundant design

- N+1 redundancy level.
- Designed for no single point of failure.
- No centralised parallel control.
- Totally independent power modules.

Enhanced serviceability performance

- Fast & safe maintenance based on hot-swap parts (power modules, bypass, electronic boards, batteries).
- Ready for concurrent maintenance.
- Battery can be hot-swapped without shutting down the connected equipment.

'Forever Young' concept

- Exclusive life cycle extension programme.
- Eliminates end-of-life criticality.
- Based on an electronics-free sub-rack enclosure + a set of plug-in parts.
- Module compatibility guaranteed for 20+ years.
- Allows for the implementation of future module technology.

The solution for

- > Integration in 19" standard rack cabinets
- > Computer rooms
- > Data centers
- > Banks
- > Healthcare facilities
- > Insurance
- > Telecom

Certifications and attestations



Green Power 2.0 MODULYS RM GP module is certified by TUV SUD with regard to product safety (EN 62040-1).

Green Power 2.0 MODULYS module efficiency & performance are tested and verified by TUV SUD.



SERMA TECHNOLOGIES

Green Power 2.0 MODULYS RM GP module MTBF is calculated and verified 1,000,000 hours by SERMA TECHNOLOGIES (IEC 62380).



Advantages



Up to 4 x 25 kW



Highest rack-mounted UPS power density on the market



Unity power factor provides the best €/kW ratio



High efficiency minimises energy consumption and reduces energy costs



Ready for Li-Ion battery. Ultra-fast recharge function



Standard electrical features

- Dual input mains.
- Internal maintenance bypass.
- Backfeed protection: detection circuit.
- EBS (Expert Battery System) for battery management.
- Battery temperature sensor.

Electrical options

- 19" 4U battery rack.
- External battery cabinet.
- High capacity battery charger.
- ACS synchronization system.

Standard communication features

- User-friendly multilingual interface with color graphic display.
- 2 slots for communication options.

Communication options

- Dry-contact, RS232/485 interfaces.
- MODBUS RTU.
- MODBUS TCP.
- BACnet/IP interface.
- NET VISION: professional WEB/SNMP interface for UPS monitoring and shutdown management of several operating systems.

Total resilience

- Electronics-free (failure-free) sub-rack enclosure.
- Totally independent and self-sufficient modules.
- Real selective module disconnection with galvanic separation.
- No centralised control for parallel and load sharing management.
- Totally segregated, fully sized and centralised auxiliary mains bypass and distributed inverter bypass.
- Configurable N+1 redundancy (power & battery).
- No single point of failure.
- Redundant parallel bus connection (ring configuration).

Technical data

MODULYS RM GP		
Model	9U	15U
Number of power modules	1 to 2 x 25 kW	1 to 4 ⁽¹⁾ x 25 kW
Configuration	N, N+1 redundant	
Power (Sn)	25 to 50 kVA	25 to 75 kVA
Power (Pn)	25 to 50 kW	25 to 75 kW
Input/output	3/3	
INPUT		
Voltage	400 V 3ph (340 V to 480 V)	
Frequency	50/60 Hz ±10%	
Power factor/THDI	> 0.99/< 3%	
OUTPUT		
Voltage	380/400/415 V ±1% 3ph+N	
Frequency	50/60 Hz ±0.1%	
Voltage distortion	< 1% (linear load), < 4% (non-linear load according to IEC 62040-3)	
Short-circuit current	up to 3 x In	
Overload	125% for 10 minutes, 150% for 1 minute	
Crest factor	3:1	
HOT-SWAP BYPASS		
Voltage	Rated output voltage ±15% (configurable from 10% to 20%)	
Frequency	50/60 Hz ±2% (configurable for GenSet compatibility)	
Weight	7 kg	7.5 kg
EFFICIENCY (TÜV SÜD VERIFIED)		
Online double conversion mode	up to 96.5%	
ENVIRONMENT		
Ambient temperature	0 °C to 40 °C (15 to 25 °C for maximum battery life)	
Relative humidity	0 to 95% without condensation	
Maximum altitude	1000 m without derating (3000 m max)	
Acoustic level at 1 m	< 53 dBA	
UPS RACK		
Dimensions W x D x H	442 mm x 920 mm x 9 U	442 mm x 920 mm x 15 U
Weight (empty cabinet)	36 kg	42 kg
Degree of protection	IP20	
HOT-SWAP POWER MODULE		
Height	3U	
Weight	34 kg	
Type	Hot plug-in/ Hot-swappable	
MTBF	> 1000000 hours (calculated and verified)	
HOT-SWAP BATTERY RACK		
Type	Acid leak-proof - Long Life batteries	
Protection	Independent protection for each battery string	
Dimensions W x D x H	442 mm x 890 mm x 4 U	
Weight (empty rack)	15 kg	
STANDARDS		
Safety	EN 62040-1, EN 60950-1	
EMC	EN 62040-2 Class C2	
Performance	EN 62040-3 (VFI-SS-111)	
Product certification	CE	

(1) 4th module is for redundancy.

Optimum reliability

- Power module designed for superior robustness verified by an independent body (MTBF > 1,000,000 hr).
- Highly robust bypass (MTBF > 10,000,000 hr)
- Acid leak-proof modular battery box.

Maximum availability

- Fast recovery of lost redundancy thanks to minimum MTTR (Mean Time To Repair).
- No risk of downtime during power upgrading and maintenance.
- No risk of failure propagation.

MODULYS RM GP

Three-phase UPS

Green Power 2.0 range up to 4 x 25 kW

The benefit of a system designed for 19" rack integration

Easy to integrate

- Specifically designed for integration in 19" standard rack cabinets.
- Adjustable rails and mounting accessories.
- High power density (>6 kW/U).
- Low weight for easy integration.
- Pre-cabled system for simplified connections.
- Flexible cabling management for top, bottom and mixed top/bottom entry cable.
- Integrated cables organiser for tidy connections.
- Low power dissipation (<40 W per supplied kW).

No-risk integration

- Assured compatibility with any 19" standard rack cabinet.
- Pre-engineered and lab-tested parts assuring total system reliability.
- Automatic self-configuration power modules.
- No risk of design oversize due to project data uncertainty thanks to power module scalability.

Easy to customise

- Complete set of pre-engineered and pre-tested parts to meet any customer need:
 - modular Power Modules,
 - special power modules with extra battery charger for extremely long BUT,
 - plug-in J-BUS communication board for BMS integration,
 - plug-in SNMP board for UPS monitoring and shutdown management,
 - plug-in programmable dry-contact board,
 - environmental sensors,
 - blank panels (covers for empty slots),
 - rack-mounted battery modules,
 - external battery cabinet,
 - isolation transformer,
 - bypass redundant cooling.

Easy to manage

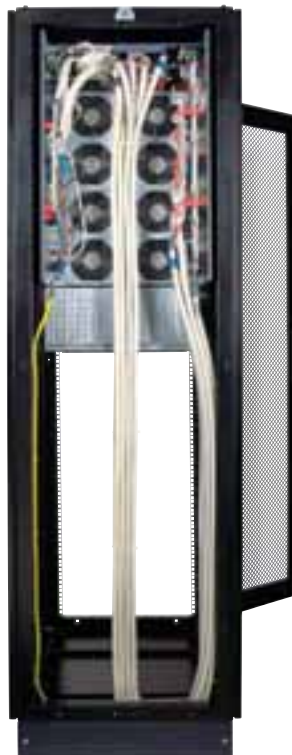
- Full documentation package including schematics, integration instructions, technical sheets, etc.
- Factory-set configurations for easy model selection.
- Full set of pre-engineered options for easy product customisation.

Pre-cabled system for simplified connections



Example of integration (3x25 kW).

Only 15 U of rack space occupied: space-saving design leaving free space for other rack-mounted devices. One empty slot in the MODULYS RM GP sub-rack remains available for power upgrade or redundancy.



Rear view (before adding rear protective cover). Flexible cabling management for easy connections and tidier cabling.

Overall cost optimisation

- Compact sub-rack enclosure saving valuable cabinet rack space.
- 2 sub-rack enclosure models for optimum sizing.
- Best-in-class €/kW ratio thanks to high power density and PF=1.
- Cost-optimised solution for minimum initial investment.
- Plug & Play and self-configuration power modules for easy and time saving system set up.
- Pre-engineered and lab-tested parts for easy and time saving customisation.
- Repeatable and standardised architecture for time saving design and know-how capitalisation.

Simplified logistics

- Fewer standardised parts for easy ordering.
- Parts always in stock for fast procurement.
- Fewer parts covering a wide range of configurations, power, back-up time and options.
- Once integrated in the 19" rack cabinet, MODULYS RM GP can be safely shipped with the power modules plugged in.

Compact 15U sub-rack enclosure

- > Designed for complete integration in any 19" standard rack cabinet.



Pre-cabled rack with maintenance bypass

M4-R-075-82B0 15U rack, 4 slots
 M4-R-050-82B0 9U rack, 2 slots

Plug-in boards

CP-OP-ADC+SL Programmable IN/OUT dry contact + serial link
 CP-OP-MODTCP MODBUS TCP interface
 NET-VISION6CARD NET VISION card, WEB/SNMP interface IPV4/IPV6

Other options

NET-VISION-EMD Environment temp. and humidity sensor + 4 dry contacts
 MAS-OP-TEMP External temperature sensor

Blank panel

M4-RI-OP-SSC Cover for empty slot

Power module - 25 kW

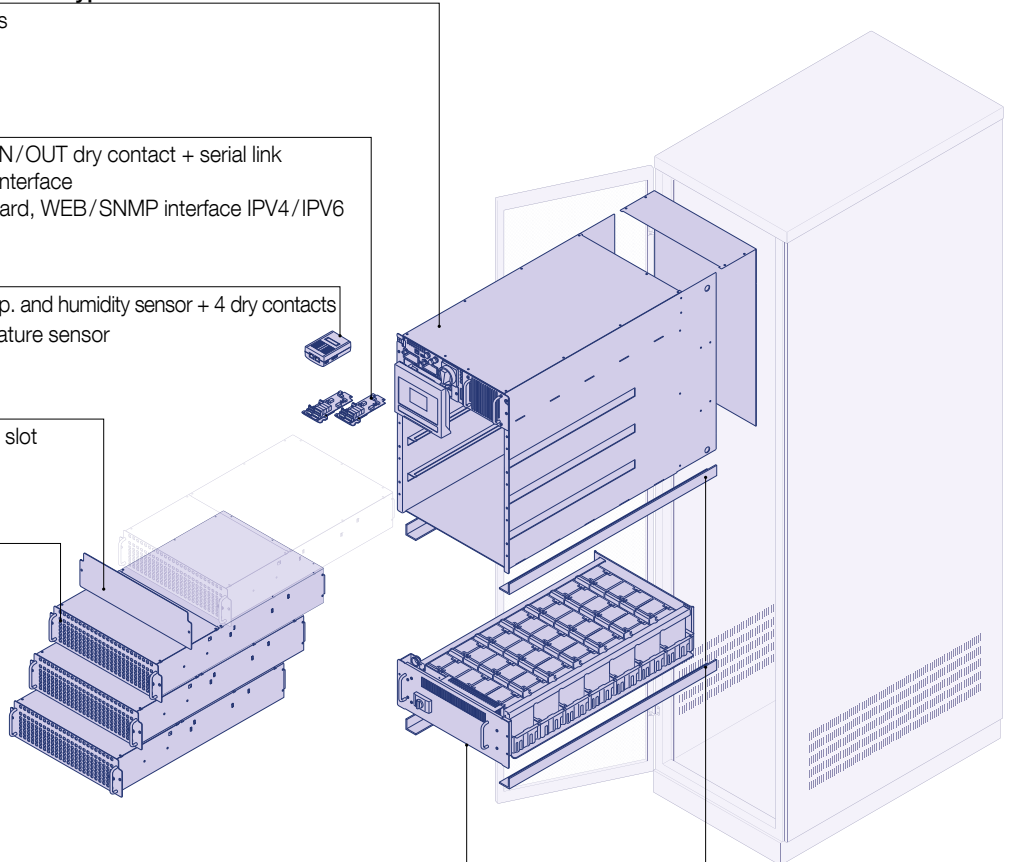
M4-RI-25

4U battery rack

M4-BR-009L With 42 x 9Ah batteries, fuse and switch
 M4-BR-009L-B Empty, for 42 x 9Ah batteries including interconnections, fuses and switch

Mounting accessories

M4-RI-OP-RAIL Adjustable rails for rack mounting support



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