Three-phase UPS

MODULYS Green Power

from 20 to 360 kVA

a modular, scalable UPS solution for the latest virtual data centres

The solution for

- Virtualised data centres
- IT Networks / Infrastructures
- Mission critical applications

Certifications

MODULYS Green Power efficiency is verified by TÜV SÜD.

MODULYS Green Power is certified by NEMKO with regard to product safety (EN 62040-1).

Advantages

96%

Designed for continual change

- Dynamic power infrastructure able to closely align power capacity required by rapidly growing ICT businesses.
- Fully modular architecture based on power and battery modules.
- Less complexity for system deployment with repeatable hot pluggable and hot swap modules.

Change management without affecting availability

- No risk of downtime to upgrade power capacity or battery capacity.
- Superior availability during normal operation and even under maintenance by using redundant and independent components.
- Self-diagnosis both at module and system levels, remote monitoring and alert capability to manage operational parameters in real time and decide when an upgrade is necessary.

Performance optimisation while changing

- Power granularity to deploy the right number of modules and get all the necessary power protection at the right time.
- Extensive upgradability to maintain maximum power quality and manage costs simultaneously.
- Reduced complexity, enhanced serviceability, and responsiveness in the case of module failure for a very low MTTR (Mean Time To Repair).

Energy savings and granularity of investment

- Modularity and energy efficiency design meet the new ROI (Return Of Investment) metrics perfectly, based on TCO that incorporates initial investment, full lifecycle infrastructures and facility costs.
- Energy efficiency means reduced energy losses, electricity operation costs, heat dissipation, cooling resources required and operational costs, resulting in significantly lower energy bills.
- Modularity minimises capital and expenses: no prior expenditure required for spare capacity or additional installation costs for future extensions.

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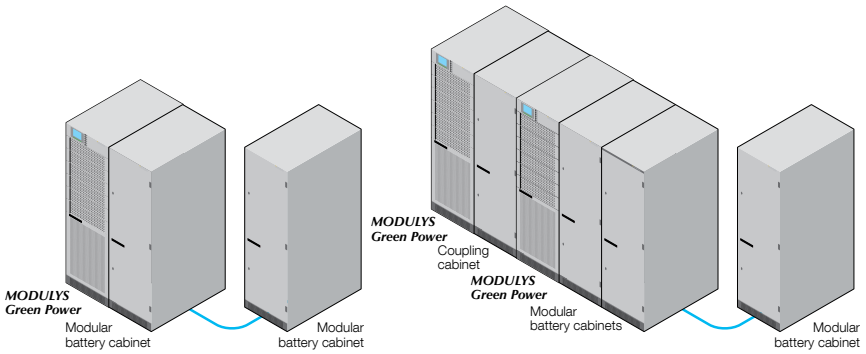
socomec
Innovative Power Solutions UPS

Configurations



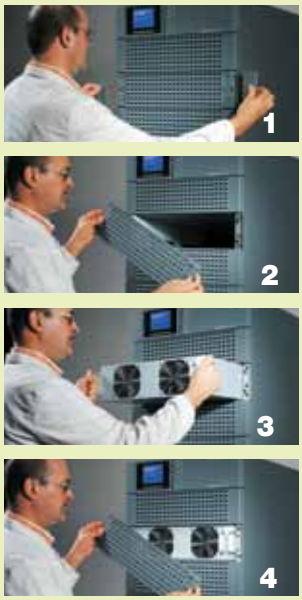
GREEN 091 A

Technical data

	MODULYS Green Power																	
Number of modules	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Sn [kVA] - module	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360
Pn [kW] - module(3)	18	36	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324
Input/output	3/3																	
Redundant configuration	N+x																	
INPUT																		
Rated voltage	400 V																	
Voltage tolerance	-25 % + 20 % (up to -50 % at 70 % Pn)																	
Rated frequency	50/60 Hz																	
Frequency tolerance	± 10%																	
Power factor / THDI(1)	0.99 / < 3%																	
OUTPUT																		
Rated voltage	400 V (380/415 configurable)																	
Voltage tolerance	± 1%																	
Rated frequency	50/60 Hz (selectable)																	
Frequency tolerance	± 0.05% (on mains power failure)																	
Voltage distortion	< 1 %																	
Overload(2)	125% for 10 minutes, 150% for 1 minute																	
Crest factor	3:1																	
BYPASS																		
Rated voltage	400 V (380/415 configurable)																	
Voltage tolerance	± 15% (configurable from 8% to 15%)																	
Rated frequency	50/60 Hz (selectable)																	
Frequency tolerance	± 1 Hz (configurable from 0,5 to 5 Hz)																	
MODULE																		
Battery charging current	1.2 - 5 A																	
Efficiency - On-line mode	up to 96 %																	
Efficiency - Eco Mode	up to 98 %																	
Weight	30 kg																	
ENVIRONMENT																		
Operating ambient temperature	from 0 °C up to +40 °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)																	
Acoustic level at 1 m (ISO 3746)	60-66 dBA																	
Required cooling capacity	440 ÷ 8960 m3/h																	
Dissipated power	1000 ÷ 18140 W																	
Dissipated power	3400 ÷ 61900 BTU/h																	
UPS CABINET																		
Dimensions W x D x H	520 x 975 x 1695 mm						520 x 975 x 1695 mm						520 x 975 x 1695 mm					
Weight (empty cabinet)	200 kg						200 kg						200 kg					
Degree of protection	IP20																	
Colours	cabinet: RAL 7012, front bottom base: RAL 7016																	
STANDARDS																		
Safety	EN 62040-1 (NEMKO certified), EN 60950-1																	
EMC	EN 62040-2																	
Performance	EN 62040-3 [VFI-SS-111]																	
Product declaration	CE																	

(1) For source THDV < 2% and nominal load. - (2) From inverter. - (3) @ 25 °C.

Module installation



Standard electrical features

- Dual input mains.
- Internal maintanance bypass.
- Parallel kit.
- Battery charger.
- External modular battery cabinet.
- Long life batteries.

Electrical options

- External maintanance bypass up to 360 kVA.
- Relay card.

Standard communication features

- Embedded LAN connection: professional WEB/SNMP interface for UPS monitoring and shutdown management of several operating systems.
- Dry-contact interface.

Communication options

- MODBUS/JBUS RTU

Battery cabinets - Technical data

MODULAR BATTERY CABINET	
DIMENSIONS AND WEIGHT	
Dimensions W x D x H	600 x 900 x 1695 mm
Weight (empty cabinet)	161 kg
Weight (battery string)	121 kg

HIGH CAPACITY BATTERY CABINET	
Dimensions W x D x H	600 x 900 x 1695 mm
Weight	599 kg

MODULYS Green Power

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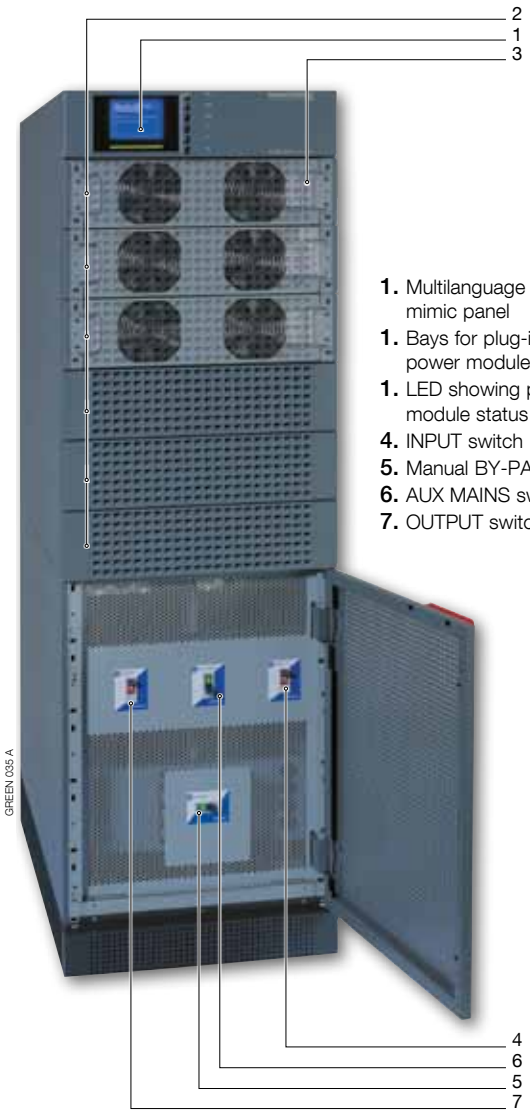
Three-phase UPS

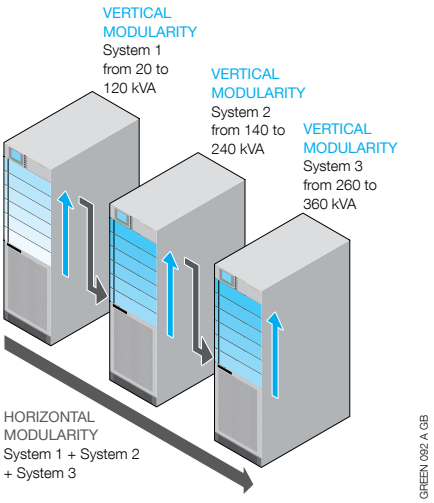
Totally modular for the best modular UPS system



1. Multilanguage LCD graphic mimic panel
1. Bays for plug-in hot swap power modules
1. LED showing power module status
4. INPUT switch
5. Manual BY-PASS switch
6. AUX MAINS switch
7. OUTPUT switch

Power scalability up to 360 kVA

MODULYS Green Power suits perfectly, either with unscheduled site upgrades or upgrading in successive steps, thanks to its modularity.



Availability

- **Redundant N+1** architecture based on parallelable plug-in power modules providing full power supply to load even if a module fails.
- **No single point of failure** thanks to built-in redundant system design: redundant power supply, charger, etc.
- **Reduced MTTR**: power system remains in online mode and a module can be easily replaced or added in a few minutes without compromising load protection.
- Self-configuration ensures agility while changing, and **maximum availability** during maintenance operations (load not transferred to by-pass mode).
- Built-in fan speed control and individual fan efficiency check.
- **Dual input feed** (Mains and Aux Mains) guarantees maximum availability of emergency bypass line.

Flexibility

- ***MODULYS Green Power*** vertical and horizontal modularity easily and quickly supports the **wide range of evolving load requirements.**
- Repeatable and standardised scalable architecture based on **real hot pluggable power modules.**
- **Vertical modularity** for power scalability up to 120 kVA by simply plugging a power module into the system.
- **Horizontal modularity** for scalability up to 360 kVA by coupling three modular systems.
- **Power granularity** to meet detailed **power on demand** for incremental steps of 20 kVA.

Total Cost of Ownership (TCO)

- Modularity and power granularity make it possible to invest only **for the functionality required in the short-term,** and to plug in new capacity or functionality when the time is right.
- **Savings in operational costs and energy bills** by combining the maximum level of protection (true online double conversion) with verified 96 % efficiency.
- Vertical modularity maintains a **small footprint** while system power capacity increases.
- **Fast deployment** thanks to the vertical modular architecture. Fast power increase without any new electrical work.
- High efficiency minimises heating and **cooling requirements,** reduces air conditioning investments, and cuts related energy bills.

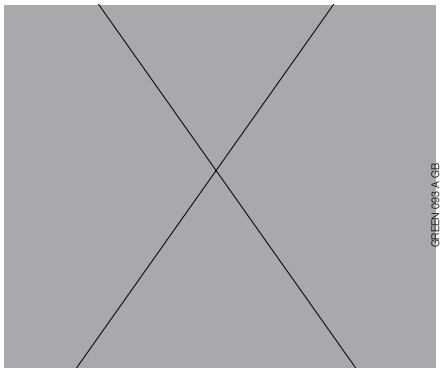
Totally modular for the best modular battery solution

1. Six bays for battery hosting
2. Four hot swap battery packs for each string
3. Battery protection for each string

Scalable battery solutions

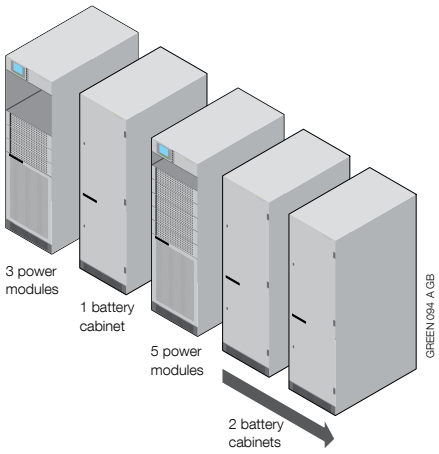
- Vertical modularity

Maintains equivalent autonomy while power increases with the modular battery cabinet.
Autonomy range: from 10 to 60 minutes.



- Horizontal modularity

Provides very high and scalable autonomy with the high capacity battery cabinet.
Autonomy range: up to 120 minutes.



Availability

- Battery system based on **independent strings** connected in parallel to maximise system availability.
- Individual battery string protection for safe running, installation and maintenance of the battery system, and **to ensure continuous back-up protection.**
- **Long-life battery** provided as standard, to increase quality and reliability.
- On-going maintenance of each battery string is performed from the front, with **MTTR reduction** as result.
- **Hot swap battery pack solution** allows back-up time increases according to power requirements, without switching off the battery cabinet.

Flexibility

- **Scalable battery strings** (up to 6) to maintain equivalent autonomy while power increases.
- **Preset for** on-site fast **autonomy extension** without any electrical system modification.
- Battery scalability based on unique **battery packs** (up to 24).
- **Powerful battery charger** integrated within each power module to enable long autonomy (up to 120 minutes).

Total Cost of Ownership (TCO)

- **Standard long-life battery** technology improves system reliability, maximises return on investment and reduces maintenance costs associated with expected battery life.
- A standard temperature sensor optimises the battery recharging parameters according to environment temperature **to extend battery life and investment.**
- Vertical modularity in a **small footprint battery cabinet** allows an increase in back-up without occupying further space on the site.
- **Shared battery bus** architecture minimises battery investment without compromising availability.