Centiel

# Designed with the future in mind



22

centiel continuous power availability





Modular three-phase UPS 10 kW to 3.75 MW

**Stratus**Power

## StratusPower<sup>™</sup> The ultimate UPS for net-zero data centers

StratusPower is an innovative uninterruptible power supply (UPS), specifically designed to meet the rigorous demands of today's IT infrastructure.

Designed and manufactured in Switzerland, StratusPower's superior topology, referred to as **DARA**, ensures full availability with **no single point of failure**, providing data center operators with complete peace of mind. Furthermore, installation of StratusPower is straightforward and maintenance is simple and non-intrusive.







97.6% VFI efficiency Reliable semiconductor technology

1 MW/m<sup>2</sup> Space-saving footprint





99.9999999 % availability No single point of failure

Fully redundant DARA - fault-tolerant architecture

Fully connected multi-protocol and a full range of communication channels available From 10 kW – 3.75 MW In cabinets from 10 kW to 1.5 MW

Non-intrusive maintenance 15+ years caps and smart fans

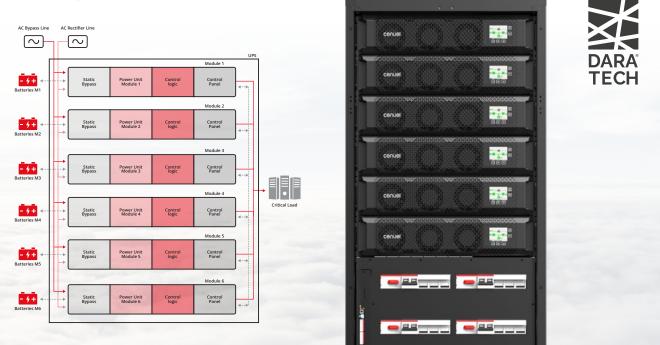
Smart energy peak-shaving, self-test

## DARA Take your power availability to the next level

### When it comes to availability, it's what's inside that counts

With DARA, each UPS module is independent, redundant and interconnected. Each module is a complete UPS system in its own right, with three independent power converters, a static bypass and all the hardware devices needed to safely isolate a fault without impacting the load. This maximises the mean time between failures (MTBF) and safeguards the power to your critical applications. DARA's Distributed Decision Making technology, referred to as DDM<sup>™</sup>, elevates redundancy by enabling collaborative decision-making among all modules. This ensures the continuous power supply to your load, even during crucial decision-making moments. With DDM, the UPS can make distributed decisions, eliminating the single point of failure typically associated with master-slave technology. As a result, downtime is minimised, and critical loads remain protected.

## Maximised availability at module, frame and system level



### Mean time to repair (MTTR)

DARA's technology on the frame level has been designed to accommodate **non-intrusive maintenance** and to **minimise mean time to repair (MTTR)**, ensuring that any downtime is kept to an absolute minimum. For example, in the event of a power failure, frontal access to components avoids the need for removing modules, thereby reducing the risk of human error.

	Availability	Downtime (10 years)	Source		
Tier IV	4-nines	31,000 sec (8.6h)	Uptime Institute		
Other UPS architectures	6-nines	310 sec (5.1 min)	Manufacturer's information		
DARA architecture	9-nines	0.31 sec	3rd party verified 45 years of experience Real measured UPS data		

9-nines Power availability

# Unveiling the power of StratusPower

At Centiel, we understand our customers' pain points and have designed the StratusPower with availability and sustainability as major considerations. With StratusPower, we guarantee peace of mind by knowing that your critical infrastructure is protected by the most advanced UPS technology.

## The future-ready UPS





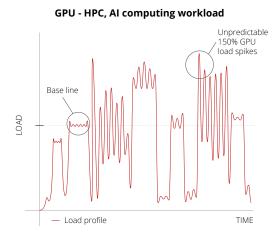
**Cybersecure connection** Compliant IEC-4-62443-2



## Supporting HPC and AI workloads

StratusPower is designed to handle the **unpredictable and intense power demands** of High-Performance Computing (**HPC**) and Artificial Intelligence (**AI**) workloads.

Unlike standard cloud computing systems that rely mostly on CPUs, HPC and AI systems utilize GPUs that drive power spikes during high-intensity tasks like deep learning and complex simulations.



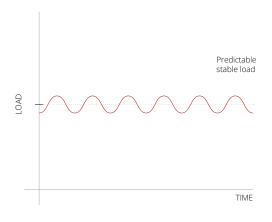
## Future proof your design

StratusPower is **future-ready** and can connect to a variety of power generation sources. It is equipped to provide grid support and manage energy efficiently based on the specific requirements of each application.

These sudden spikes in load can overwhelm traditional UPS systems, risking system failure and data loss. StratusPower's modular design is specifically designed to manage these unpredictable power surges with outstanding **continuous overload capability** ensuring your critical infrastructure remains protected.

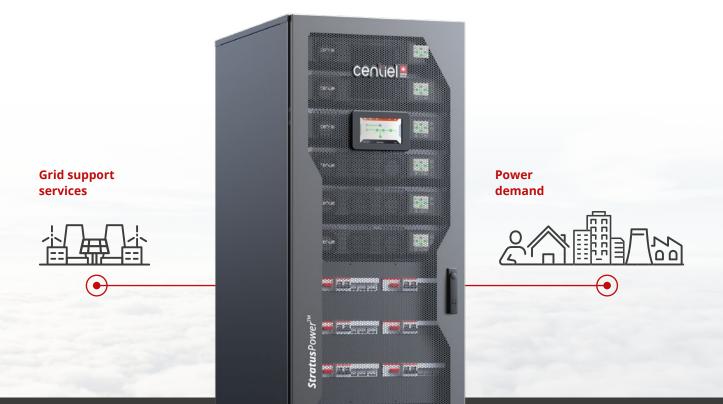
With StratusPower, you can trust that even the most power-hungry applications are safeguarded, preventing costly disruptions.

### **CPU - Traditional cloud computing workload**



### Adapt to new revenue streams

- FFR Fast Frequency Response and Reserve
- PSH Peak Shaving Mode
- FCR Frequency Containment Reserve
- **aFRR** Automatic Frequency Restoration Reserve





## **DC Flex** technology



Our unique DCFlex<sup>©</sup> technology offers unparalleled flexibility when it comes to battery storage installation and configuration, as well as preparing the infrastructure to manage both current and future energy sources.

Our UPS solution is compatible with various battery storage devices, allowing you to reuse the DC supply or to choose the option that best suits your needs and budget.

The StratusPower battery charging current capability is 500 percent higher than our closest competitors, meaning faster charging times and more efficient use of your batteries.

**Robust and reliable** semiconductor technology



The StratusPower incorporates proprietary technology for inverter physical isolation in the event of an IGBT failure, ensuring maximum uptime for your critical infrastructure.

The triple-mode parallel bus provides an extra layer of redundancy, eliminating any single point of failure in communication between frames and modules.

At Centiel, we take reliability very seriously. That's why we designed our technology with extra-safe power of 24%, ensuring a higher level of reliability and redundancy. With continuous operating capacity, each 62.5kW module can operate at 75 kW even under overload conditions. The 750 kW StratusPower UPS has the ability to operate in online mode, supporting loads up to 900 kW.





75kW UPS module capacity at continuous overload

## **Predictive and remote** health monitoring



With its computing capabilities and more than 100 measurement points, StratusPower does the work for you, ensuring that maintenance is performed promptly and accurately. This not only saves time and effort but also improves your system's overall reliability and safety.

Bluetooth connectivity allows technicians for easy, non-intrusive monitoring via mobile devices, with the Centiel app providing real-time status updates and alerts.

StratusPower provides advanced cybersecurity features in compliance with IEC-4-62443-2, making certain that your critical data and systems are protected from cyber threats.

Exceeding performance expectations



With a THDi of less than 1 percent, StratusPower provides excellent performance that exceeds regulatory requirements.

The UPS is able to handle 124% of continuous overload and 150% overload for 1 minute, ensuring uninterrupted power delivery during times of peak demand.

A **short circuit capability above 3xIn** safeguards your equipment and system integrity despite electrical faults.

Tangible sustainability: We help your data center achieve CO<sub>2</sub> emissions targets through our solutions and services.

## **Energy efficiency**

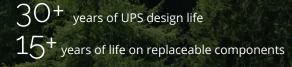
StratusPower is designed with energy efficiency in mind, using the latest technology to reduce energy consumption and minimise losses.

### Zero waste

StratusPower is manufactured using eco-friendly materials, ensuring that our products have minimal impact on the environment.

### Net zero by design

Our company is continuously committed to improving our sustainability practices, and we manufacture StratusPower using environmentally friendly processes to minimize our impact on the environment.



96% of the energy used for production testing is recycled and renewable

97.6% (VFI) efficiency

Green UPS

From 600mm

deep cabinets



## The versatile Universal Rack UPS solution

Available as a Universal Rack UPS, StratusPower offers a blend of technical and commercial benefits tailored to meet a variety of power protection needs. This adaptable system includes the UPS, communication components, battery breakers and output switches, making it ideal for integrated IT, telecom or other critical processes. The UPS integrates seamlessly into **any 19-inch rack**, regardless of the rack manufacturer.

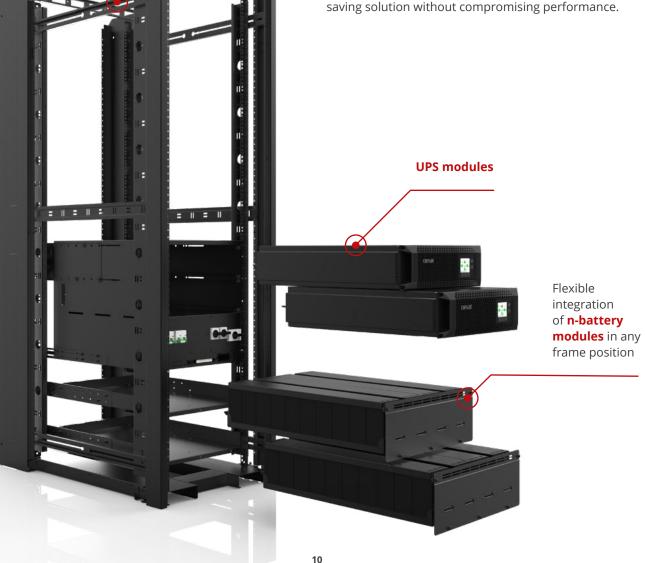
With its versatile design, StratusPower simplifies the engineering and deployment of custom power protection solutions. System integrators can leverage their expertise and implement unique solutions to meet specific design requirements. The UPS can be seamlessly integrated into weatherproof enclosures, making it ideal for applications in harsh environments.

The Universal Rack Solution provides **efficient heat management** by directing warm air to the rear of the cabinet for optimal cooling without affecting the entire enclosure.

For system integrators, the Universal Rack solution offers efficient **customisation with standard products** and the opportunity to add significant local value to their power protection solutions.

The Universal Rack offers **versatile battery placement options**, allowing either top or bottom customisation to suit specific preferences and operational requirements.

Thanks to the minimal size of the **10/20/25 and 30kW** modules, the Universal Rack UPS solution is available **in compact depths from 600 mm**, providing a space-saving solution without compromising performance.



## Universal Rack UPS solution

### Available UPS power rating configurations

	-		1
		-	

CAB-SR030-E-1S-C0
10/20/25/30 kW
1
6 HU
30 kW



CAB-SR060-E-2S-C0
10/20/25/30 kW
1 to 2
11 HU
60 kW



CAB-SR120-E-4S-C1			
10/20/25/30 kW			
1 to 4			
21 HU			
120 kW			

### Model Power per module (kVA =KW) N-modules Height Nominal power / cabinet

## The Universal Rack UPS includes

Fits seamlessly into any 19" rack

Up to four UPS modules online double conversion

Individual module display

Electrical distribution

DC battery MCB protection 1 x module Bypass fuses 3 x module

Output parallel isolator 1 x module

System manual bypass

**Connectivity board** 5x dry output, 5x dry input, RS232, RS485,Bluetooth, Ethernet, slot for SNMP Up to four battery modules in a single cabinet

Free placement of internal battery modules bottom or top

Available in depth from 600 mm



### Comprehensive options for StratusPower modules

Designed to meet a variety of applications, StratusPower offers a range of modules to meet your needs, including compact modules up to 30 kW and more powerful modules up to 62.5 kW. The adaptability extends further with the capability to consolidate power in a single cabinet, spanning from 10 kW to an impressive 1500 kW. Scaling doesn't stop there—StratusPower cabinets can be seamlessly expanded to a staggering 3.75 MW.

### Available models

	Module type	SM10 / SM20 / SM25 / SM30	SM50 / SM62
	Power per module (kVA =KW)	10/20/25/30 kW	50 / 62.5 kW
	Weight (kg)	18/20	46
ļ	Dimensions h x w x d (mm)	132 x 443 x 522	132 x 581x 848

### **StratusPower** SM10/SM20/SM25/SM30



Model Modules

Nominal power / cabinet Internal battery capacity

Dimensions h x w x d (mm)









CAB-SP060-1240-2S-A0 Up to 2 x SM10/20/25/30 60 kW 240 x (7/9Ah) 1980 x 510 x 815 0.41 m<sup>2</sup>



CAB-SP120-I320-4S-B0

Up to 4 x SM10/20/25/30 120 kW 320 x (7/9Ah) or 80 x (28Ah) 1980 x 730 x 815 0.59 m<sup>2</sup>



0.41 m<sup>2</sup>

CAB-SP120-E-4S-A1 Up to 4 x SM10/20/25/30 120 kW External 1315 x 510 x 815 0.41 m<sup>2</sup>



CAB-SP180-E-6S-A0 Up to 6 x SM10/20/25/30 180 kW External 1980 x 510 x 815 0.41 m<sup>2</sup>



CAB-SP240-E-8S-A0 Up to 8 x SM10/20/25/30 240 kW External 1980 x 510 x 815 0.41 m<sup>2</sup>

### Model Modules

Nominal power / cabinet Internal battery capacity Dimensions h x w x d (mm) Footprint

**StratusPower** SM50/SM62.5



23 50 -

62

## Up to

1.5 MW per frame

Model

Modules

Footprint

Nominal power / cabinet

Dimensions h x w x d (mm)

Ultra-compact model



2282 x 656 x 900

0.59 m<sup>2</sup>

**Ultra-compact** 

	model	-	R: Wet	-10	197 197
CAB-SP625T-E-10M-L	т-к	CAB-S	P1250T-	E-20M-	LT-2K
Up to 10 x SM50 / 5	SM62	Up to	20 x SI	M50 / S	SM62
625 kW		1250	kW		

1230 KVV
2202 1212 00
2282 x 1312 x 90

00

1.18 m<sup>2</sup>





T-OOA	STOLEN I
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Model Modules Nominal power / cabinet Dimensions h x w x d (mm) Footprint

## CAB-SP375(B/T)-E-6M-(LT/AV)-K Up to 6 x SM50 / SM62 375 kW

1982 x 656 x 900 0.59 m<sup>2</sup>

CAB-SP750(B/T)-E-12M-(LT/AV)-2K
Up to 12 x SM50/62
750 kW
1982 x 1312 x 900
1.18 m <sup>2</sup>





Model	CAB-SP1125(B/T)-E-18M-(LT/AV)-3K
Modules	Up to 18 x SM50/62
Nominal power / cabinet	1,125 kW
Dimensions h x w x d (mm)	1982 x 1968 x 900
Footprint	1.77 m <sup>2</sup>



CAB-SP1500(B/T)-E-24M-(LT/AV)-4K Up to 24 x SM50/62 1,500 kW 1982 x 2624 x 900 2.36 m<sup>2</sup>

## Technical Datasheet

			CAB-SP060-1080-2S-A1	CAB-SP120-E-4S-A1			
		Model	CAB-SP060-1240-2S-A0	CAB-SP120-1320-4S-B0	CAB-SP180-E-6S-A0	CAB-SP240-E-8S-Ao	
		Module type	SM10/20/25/30	SM10/20/25/30	SM10/20/25/30	SM10/20/25/30	
		Nom. power per module [kVA = kW]	10 / 20 / 25 / 30	10 / 20 / 25 / 30	10 / 20 / 25 / 30	10 / 20 / 25 / 30	
_		Cont. overload per module [kVA = kW]	12 / 24 / 30 / 36	12 / 24 / 30 / 36	12 / 24 / 30 / 36	12 / 24 / 30 / 36	
General Data		Nom. power per frame [kVA = kW]	60	120	180	240	
enera		Cont. overload per frame [kVA = kW]	72	144	216	288	
G		Number of modules per frame	1-2	1-4	1-6	1-8	
		Max. power per system [kVA = kW]	1800	1800	1800	1800	
		Topology / technology	Online double conver	sion / DARA (Distribute	d Active Redundant Ar	chitecture)	
		Input wiring	3 Ph + N + PE				
		Rated voltage	380/400/415Vac				
		Voltage range	For loads <100% (-25%, +20%), <80% (-32.5%, +20%), <60% (-35%, +20%)				
Input	Rectifier	Input frequency	30-70 Hz				
		Total Harmonic Distortion	THDi<=0.9% for linear load, THDi<3% for nonlinear load				
		Input power factor	0,99				
		Input wiring	3 Ph + N + PE				
-	Bypass	Rated voltage	±30±10% (Voltage) (A	ccording to VFI-SS-111)			
		Input frequency	50/60 ±2/4% (selectable)				
		Rated voltage	204-600 Vdc (the number of batteries can be selected )				
		Internal batteries (7/9Ah)	1080: 80 1240: 240	E: External I320: 320	E: External	E: External	
	Battery	Туре	Lead-Acid / NiCad / Lithium / Zink / Salt / others				
		Blocks [VRLA]	17-50				
		Output wiring	3Ph+N+PE				
		Voltage	380/400/415 Vac				
		Frequency	Tracking the bypass inp	out (Online Mode); 50 / 6	0 Hz ± 0.05% (Battery Mo	ode)	
out	Inverter	Output power factor	1				
Output		Efficiency	97,6%				
		Overload capacity	Inverter: 124% contin	uous, 125% for 10min,	150% for 60 sec		
		Short circuit capability	Up to 3xIn - 400ms				
	Bypass	Efficiency	99,4%				
ŋt		Operating temperature	0-40°C (No power dera	ting)			
nme		Storage temperature	-40-70°C				
Environment		Relative humidity	10%-95% (No condensi	ng)			
ш		Maximum operating altitude	1000 m. above 1000 m,	derating 1% for each ac	lditional 100 m		
rs		Dimensions (H x W x D) [mm]	1315 x 510 x 815 1980 x 510 x 815	1315 x 510 x 815 1980 x 730 x 815	1980 x 510 x 815	1980 x 510 x 815	
Others		Certifications	EN/IEC 62040-1   EN/IE0	C 62040-2   EN/IEC 6204	0-3   CE   UKCA   EAC	RoHS	
		Communications	RS485, USB, Dry contac	ts, Ethernet, Bluetooth			

## Technical Datasheet

		Model	CAB-SP375(B)-E- 6M-(LT/AV)-K	CAB-SP750(B)-E- 12M-(LT/AV)-2K	CAB-SP875(B)-E- 14M-(LT/AV)-2K2	CAB-SP1125(B)-E- 18M-(LT/AV)-3K	CAB-SP1500(B)-E- 24M-(LT/AV)-4K
			CAB-SP375(T)-E- 6M-(LT/AV)-K	CAB-SP750(T)-E- 12M-(LT/AV)-2K	CAB-SP875(T)-E- 14M-(LT/AV)-2K2	CAB-SP1125(T)-E- 18M-(LT/AV)-3K	CAB-SP1500(T)-E- 24M-(LT/AV)-4K
General Data		Module type	SM50 / SM62	SM50 / SM62	SM50 / SM62	SM50 / SM62	SM50 / SM62
		Nom. power per module [kVA = kW]	50 / 62.5	50 / 62.5	50 / 62.5	50 / 62.5	50 / 62.5
		Cont. overload per module [kVA = kW]	60/75	60/75	60 / 75	60/75	60/75
		Nom. power per frame [kVA = kW]	375	750	875	1125	1500
		Cont. overload per frame [kVA = kW]	450	900	1050	1350	1800
		Number of modules per frame	1-6	1-12	1-14	1-18	1-24
		Max. power per system [kVA = kW]	3750	3750	3750	3750	3750
		Topology / technology	Online double conversion / DARA (Distributed Active Redundant Architecture)				
		Input wiring	3 Ph + N + PE				
Input	Rectifier	Rated voltage	380/400/415Vac				
		Voltage range	For loads <100% (-25%, +20%), <80% (-32.5%, +20%), <60% (-35%, +20%)				
		Input frequency	30-70 Hz				
		Total Harmonic Distortion	THDi<=0.6% for linear load, THDi<3% for nonlinear load				
		Input power factor	0,99				
	Bypass Battery	Input wiring	3 Ph + N + PE				
		Rated voltage	±30±10% (Voltage) (According to VFI-SS-111)				
		Input frequency	50/60 ±2/4% (selectable)				
		Rated voltage	360 - 600 Vdc (the number of batteries can be selected )				
		Internal batteries (7/9Ah)	E: External				
		Туре	Lead-Acid / NiCad / Lithium / Zink / Salt / others				
		Blocks [VRLA]	30-50				
	Inverter	Charger (Amps per module)	SM50: 50A, SM62: 60A				
Environment Output		Output wiring	3Ph+N+PE				
		Voltage	380/400/415 Vac±1%				
		Frequency	Tracking the bypass input (Online Mode); 50 / 60 Hz ± 0.05% (Battery Mode)				
		Output power factor	1				
		Efficiency	97,6%				
		Overload capacity	Inverter: 124% continuous, 125% for 10 min, 150% for 60 sec				
		Short circuit capability	Up to 3.5xln - 400ms				
	Bypass	Efficiency	99,4%				
		Operating temperature	0-40°C (No power derating)				
		Storage temperature	-40-70°C				
		Relative humidity	10%-95% (No condensing)				
ш		Maximum operating altitude	1000 m. above 1000 m, derating 1% for each additional 100 m				
Others		Dimensions (H x W x D) [mm]	1982 x 656 x 900   1982 x 1312 x 900   2272x1312x1000   1982 x 1968 x 900   1982 x 2624 x 900				
		Certifications	EN/IEC 62040-1   EN/IEC 62040-2   EN/IEC 62040-3   CE   UKCA   EAC   RoHS				
		Communications	RS485, USB, Dry contacts, Ethernet, Bluetooth				





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