

# centiel

*continuous power availability*



## CumulusPower™

Modular UPS 10kW to 3.6MW



**LITHIUM  
READY**



SWISS  
MADE

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## CumulusPower™

**CumulusPower™** is a Swiss made 3-phase, online double-conversion and fully decentralized modular Uninterruptible Power Supply.

From **10kW to 3.6MW** CumulusPower™ provides the maximum flexibility to adapt to any application. By eliminating any single point of failure, adding Decentralized Active-redundant technology (DARA™), preventing human error and reducing the time to maintain and repair, CumulusPower™ delivers an industry leading Availability of 9 nines to fulfill the needs of the most critical power applications.

## The Technology

### Intelligent Module (IM)

Each module is a complete UPS. Thanks to Centiel's long experience in module-design, the CumulusPower™ Intelligent Modules are equipped with three independent power converters, one static bypass, all hardware and all software (intelligence and monitoring) functions, making them fully independent and capable of safely isolating from the multi-module system whenever an internal fault occurs.

### Hot-Swappable without Human Error

CumulusPower™ modules can be swapped without the need to switch over the load to bypass. Besides that, a per-module parallel isolator fiscally isolates the module from the system reducing the risk of human error and increasing system Availability.

### 9 nines Availability

Zero Downtime

### Distributed Architecture

No Single Point of Failure

### Unity Power Factor

kVA = kW

### Ease of Service

Frontal Access Plug & Play Components

### Small Footprint

+ 0.51 MW/m<sup>2</sup>

### Swiss Quality

### Distributed Active-Redundant Architecture (DARA™)

The architecture of the CumulusPower™ was designed to respond to the highest availability requirements, through the implementation of the system's distributed decision-making in an event of a critical failure, and a correct management of the load sharing. The communication between the Intelligent Modules is accomplished by means of a fully redundant **TripleMode™** communication BUS.

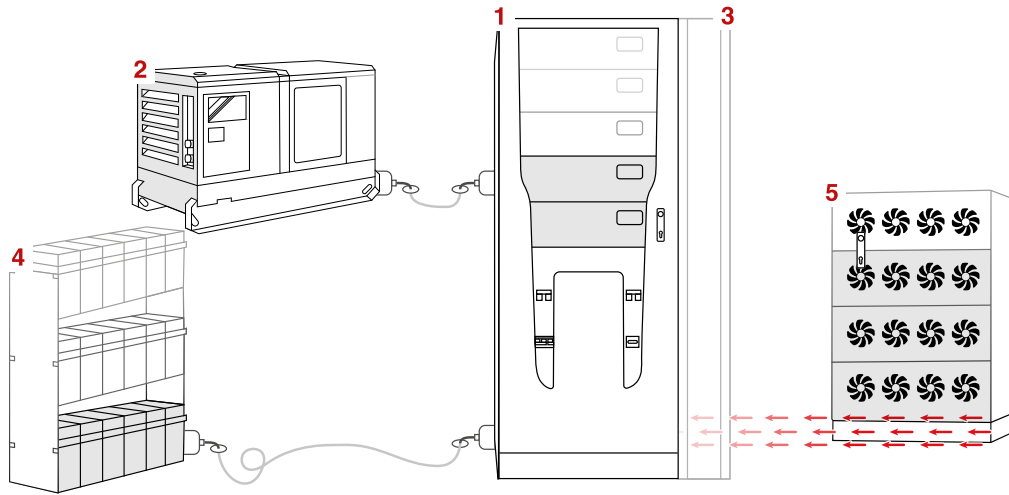


**+97.1%** Efficiency  
VFI





## Reduced System Cost.



### 1 Reduced Up-front Investment

Compared to a standalone UPS solution or centralized UPS architectures, Centiel's scalable modular UPSs have a lower total up-front investment cost, allowing you to grow your power protection capacity at the pace of the demand.

### 2 Downsize Diesel Generators and Components

Thanks to our DARA™ architecture and Smart-Battery-Booster, every switch over in the event of mains failure is taken smoothly, minimizing in-rush current, avoiding generator destabilization and hence eliminating the need to oversize the diesel generator.

### 3 Eliminate ad-on External Components

Back-feed protection embedded in every module, maintenance bypass, bypass fuses, 233% higher battery charging current and battery DC breakers embedded at the frame level eliminate the need for external components connections, reducing your total system cost.

### 4 Battery Flexibility 20 to 50 blocks

Batteries represent a substantial part in a project cost structure. With CumulusPower™ you have the flexibility to select the number and type of battery blocks in a case by case basis to find the best way to optimize total system cost.

### 5 Reduced Cooling Costs

CumulusPower™ industry-leading **VFI 97,1%** efficiency and its flat efficiency curve, contribute to minimize energy losses and heat dissipation, reducing the size and cost of cooling system.

## Flexibility

### Same core technology different solutions

CumulusPower™ fits on a 19" (IM10/20/25) to provide the maximum flexibility to the final application. Centiel's flexible solution approach can customize a frame solution to satisfy specific needs.



MODEL	CAB-CP050-I080-A1 CAB-CP050-I240-A0	CAB-CP100-E-A1 CAB-CP100-I320-B0	CAB-CP150-E-A0	CAB-CP250-E-B0	CAB-CP300-E-B0	CAB-CP600-E-D0
<b>GENERAL DATA</b>						
Module Type	IM10/IM20/IM25	IM10/IM20/IM25	IM10/IM20/IM25	IM10/IM20/IM25	IM50/IM60	IM50/IM60
Nominal power per module [kVA=kW]	10/20/25	10/20/25	10/20/25	10/20/25	50/60	50/60
Max Power per Frame [kVA=kW]	50	100	150	250	300	600
Number of modules per frame	1-2	1-4	1-6	1-10	1-5	1-10
Max power per system [kVA=kW]	1500	1500	1500	1500	3600	3600
Max number of modules per system	1-60	1-60	1-60	1-60	1-60	1-60
Topology/Technology	Online double conversion/DARA (Distributed Active-redundant Architecture)					
<b>INPUT</b>						
<b>MAINS</b>						
Input Wiring	3Ph+N+PE					
Rated Voltage	380/400/415Vac					
Voltage Range	For loads <100% (-25%, +20%)   <80% (-32.5%, +20%)   <60% (-35%, +20%)					
Input Frequency	40-70 Hz					
Total Harmonic Distortion	THDi<3% for linear load, THDi<5% for nonlinear load					
Input Power Factor	0,99					
<b>BYPASS</b>						
Input Wiring	3Ph+N+PE					
Rated Voltage	360/400/420 Vac					
Input Frequency	50/60 ±2/4% (selectable)					
<b>BATTERY</b>						
Rated Voltage	360-480 Vdc (the number of batteries can be selected )					
Internal Batteries (7/9Ah)	I080: 80   I240: 240	E External I320: 320	E External	E External	E External	E External
Type	Lead-Acid/NiCad/Lithium					
Blocks [LA]/Cells[NiCad]	IM10: 20-50   IM20/IM25/IM50/IM60: 30-50					
Charger (Amp/module)	20					40
<b>OUTPUT</b>						
<b>INVERTER</b>						
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)					
Waveform	Sine wave (THDv<1% for linear load   THDv<3% for non-linear load)					
Output Power Factor	1					
Efficiency (module/frame)	<b>97,1% / 96,9%</b>					
Overload Capacity	<b>Inverter 124% continuous</b>   125% overload for 10 min   150% overload for 1 min <b>Bypass</b> 135% overload for long term   <1000% overload for 100ms					
Short circuit capability	3 x IN					
<b>BYPASS</b>						
Efficiency	<b>99,4%</b>					
<b>ENVIRONMENT</b>						
Operating Temperature	0-40°C (No power derating)					
Storage Temperature	-40-70°C					
Relative Humidity	0%-95% (No condensing)					
Maximum Operating Altitude	1000 m. Above 1000 m, derating 1% for each additional 100 m					
Audible Noise	< 65dB					
<b>OTHERS</b>						
Dimensions (H x W x D) [mm]	1,315x510x815 1,980x510x815	1,315x510x815 1,980x730x815	1,980x510x815	1,980x730x815	1,980x730x845	1,980x1,460x845
Weight [Kg] withouth modules	125 180	107 225	148	210	209	396
Certifications	EN/IEC 62040-1   EN/IEC 62040-2   EN/IEC 62040-3   CE   RoHS					
Communications	<b>Basic</b> RS485   RS232   2 Dry Input. <b>Pro</b> Basic + Dry contacts   Ethernet   Bluetooth					

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## CumulusPower™



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