centiel

continuous power availability

CumulusPower™ 480V

Modular UPS 50kW to 3.6MW

LITHIUM READY

SWISS MADE

www.centiel.com

CumulusPower™

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

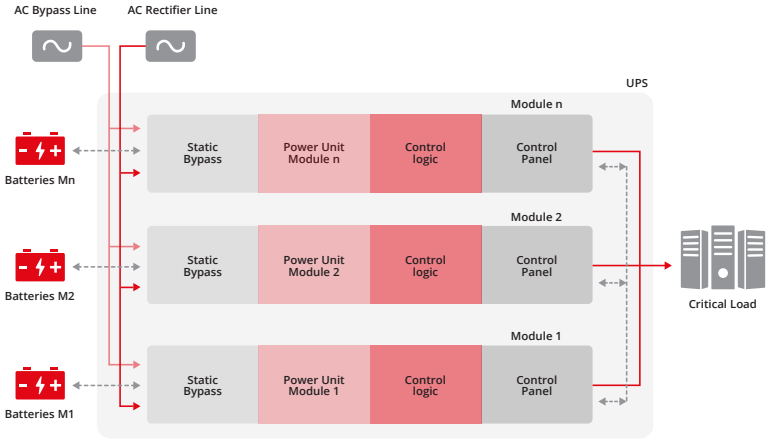
Delivering power protection from **50kW – 3.6MW at 480V,** CumulusPower provides a truly flexible solution for small and mid-sized data centres, as well as other mission critical applications.

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 fulfil the needs of the most critical power applications.

The Technology

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.



Highest Efficiency
+97.1%

Hot Swappable Modules
Fast Replacement of Intelligent Modules

Proven Reliability
30 years of experience

Distributed Architecture
No Single Point of Failure

Swiss Quality

Flexibility to Pay as You Grow
Series of frame sizes

Unity Power Factor
kVA = kW

9 Nines Availability
Zero Downtime

Lowest Total Cost of Ownership
Reduced Component Count Simplifies Maintenance

+97.1% **Efficiency**
VFI

Intelligent Module

IM 50/60

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.

Flexibility

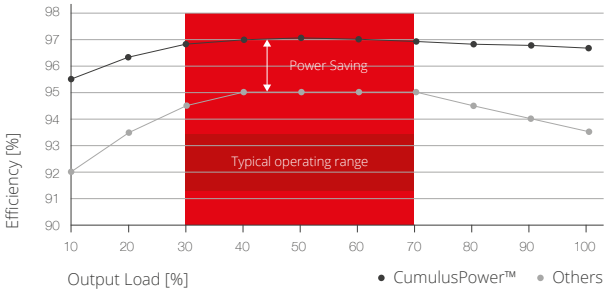
Scalability of up to 3.6MW

The "Pay as You Grow" and "hot swap" capability of the CumulusPower prevents the need for system over-sizing, additional UPS modules and frames can be added to accommodate future growth. Scalable both vertically and horizontally, this Truly modular system can be extended to 3.6 MW of power.

Battery Flexibility 30 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.

Lowest Total Cost of Ownership



High Efficiency 97.1% (VFI)

With a best in class efficiency of 97% in double conversion mode (VFI), CumulusPower™ minimizes energy waste on power protection and cooling system.

Maximum Efficiency Management (MEM)

CumulusPower™ incorporates an Intelligent MEM function which matches the number of modules to the load demand by monitoring the level of optimum energy efficiency. At low load levels, any modules no longer required to maintain redundancy are placed into Active-Sleep mode, reducing overall energy consumption. Active-Sleep modules are instantly online when load increases, maintaining maximum availability at all times.

Ease of service

Modular design and plug-and-play internal components minimize mean time to repair (MTTR) and simplifies routine maintenance.

>10 years DC capacitor life +"plug-and-play" AC capacitators

- Reduces TCO
- Simplifies maintenance
- Lower cost in spare parts (MTTR) and simplifies routine maintenance.

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.

30 to 50 **Flexible Battery Blocks**

centiel

CumulusPower™
IM 50/60
Bottom cable entry

From 50kW
to 3.6MW

Model	CP300-E-B0	CP600-E-2B0
Module Type	5 x IM50/IM60	10 x IM50/IM60
Max Power	300kW	600kW
Batteries	External	External
H x W x D mm	1982 x 730 x 845	1982 x 1462 x 845
Footprint	0.62 m^2	1.23 m^2

CumulusPower™
IM 50/60
Top cable entry

From 50kW
to 3.6MW

Model	CP300T-E-B0	CP600T-E-2B0
Module Type	5 x IM50/IM60	10 x IM50/IM60
Max Power	300kW	600kW
Batteries	External	External
H x W x D mm	1992 x 730 x 845	1992 x 1462 x 845
Footprint	0.62 m^2	1.23 m^2

CumulusPower™
Technical Datasheet

centiel

BRC_Rev3.0 05/20

MODEL	CAB-CP300-E-B0 CAB-CP300T-E-B0	CAB-CP600-E-D0 CAB-CP600T-E-2B0
GENERAL DATA		
Module Type	IM50/IM60	IM50/IM60
Nominal power per module [kVA=kW]	50/60	50/60
Max Power per Frame [kVA=kW]	300	600
Number of modules per frame	1-5	1-10
Max power per system [kVA=kW]	3600	3600
Connection Type	Bottom / Top	Bottom / Top
Topology/Technology	Online double conversion/DARA (Distributed Active-redundant Architecture)	
INPUT		
MAINS		
Input Wiring	3Ph+N+PE	
Rated Voltage	480Vac	
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	
BYPASS		
Input Wiring	3Ph+N+PE	
Rated Voltage	480 Vac	
Input Frequency	50/60 ±2/4% (selectable)	
BATTERY		
Rated Voltage	360-600 Vdc (the number of batteries can be selected)	
Internal Batteries (7/9Ah)	**E** External	
Type	Lead-Acid/NiCad/Lithium	
Blocks [LA]/Cells[NicAd]	IM50/IM60: 30-50	
Charger (Amp/module)	40	
OUTPUT		
INVERTER		
Output Wiring	3Ph+N+PE	
Voltage	400/480 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	**97,1%**	
Overload Capacity	**Inverter 124% continuous** | 125% overload for 10 min | 150% overload for 1 min **Bypass** 135% overload for long term | <1000% overload for 100ms	
Short circuit capability	3 x IN	
BYPASS		
Efficiency	**99,4%**	
ENVIRONMENT		
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	
OTHERS		
Dimensions (H x W x D) [mm]	1982 x 730 x 845	1982 x 1462 x 845
Weight [Kg] without modules	209	396
Certifications	EN/IEC 62040-1 | EN/IEC 62040-2 | EN/IEC 62040-3 | CE | RoHS	
Communications	**Basic** RS485 | RS232 | 2 Dry Input. **Pro** Basic + Dry contacts | Ethernet | Bluetooth	

TDS_Rev2.4 10/02/18