



GAMATRONIC

A SolarEdge Division

Power+ *Premium* CBS



EMERGENCY LIGHTING CATALOGUE

- BS-EN-50171
- Emergency electrical installations
- Electric power systems
- Emergency lighting
- Escape lighting



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POWER+ PREMIUM CBS 10KVA-40KVA

The systems running emergency lighting are highly specialised, requiring banks of reliable maintenance-free batteries, along with electrical inverters and switching systems that deliver clean and consistent current, and an intelligent control centre to run the system efficiently. Designed in accordance to EN50171, Gamatronic POWER+ PREMIUM CBS SYSTEM supplies essential, instant and reliable power for dedicated security systems in sensitive areas. Putting at the forefront the reliability, the use of Gamatronic Centralized Battery Systems (CBS) ensures a significant reduction in system set-up and maintenance costs.

Highlights

- Extended backup time using batteries with 10 year design life
- Upgraded charger to achieve 80% recharge in 8 hours
- Continuous overload capability of 120%
- Relay contacts for remote signals
- Ultra-high power density
- True green power and high efficiency
- User friendly
- Full remote monitoring of the CBS
- Modular design

Universal UPS

POWER+ PREMIUM CBS offers all the benefits and power of a universal UPS, including:

- Frequency: 50/60Hz
- Voltage: 380V; 400V; 415V
- Site configurable phases: 1/1; 3/1; 3/3*

*1/1 & 3/1 phases are limited in capacity



Centralized Emergency Lighting System

POWER+ PREMIUM CBS

Emergency lighting and direction signs are designated to illuminate the escape routes and allow quick and safe evacuation of the public from inside a given building, out of hazardous areas, upon a power outage, voltage surges, spikes and sags are inherent in commercial utility power. POWER+ PREMIUM CBS (Centralized Battery System) continually eliminates power irregularities. This system is designed for hot-swapping, making many different configurations possible.

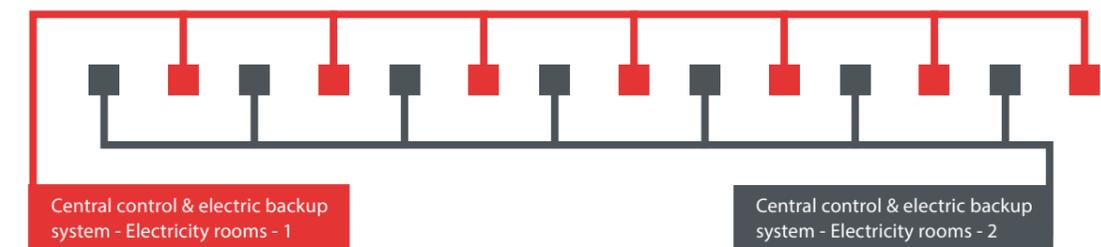
The central control system includes a three phase integral changeover allowing the identification of a mains supply failure and the activation of the emergency luminaires within a maximal delay of 0.5ms. Operation time during emergency is 30 minutes, 1 hour or 3 hours, other specific runtimes available.

Feeding the Luminaires by Two Different Electrical Sources:

According to regulation requirements, the emergency luminaires along the escape route, will be fed by two separate feeding circuits and by separate electric backup systems and upon a power outage, local or general, all of the emergency lighting will be activated along a given escape route.

Implementation of the regulation requirement, for activation all of the emergency luminaires in a given escape route, is allowed thanks to the synchronization interfaces installed in every control system allowing the automatic activation of the emergency luminaires connected to the electric backup systems, installed in electricity rooms that are separated by a distance.

Feeding the Luminaires by Two Separate Electrical Sources



BS EN 50171:2001 specifies the general requirements for central power supply systems for an independent energy supply to essential safety equipment. The central power supplies are intended to energize emergency escape lighting in the case of failure of the normal supply, and may be suitable for energizing other essential safety equipment, for example:

- Electrical circuits of automatic fire extinguishing installations
- Paging systems and signalling safety installations
- Smoke extraction equipment
- Carbon monoxide warning systems
- Specific safety installations related to specific buildings, ex. high-risk areas.

Power+ Premium CBS

Built-In Battery Service Testing:

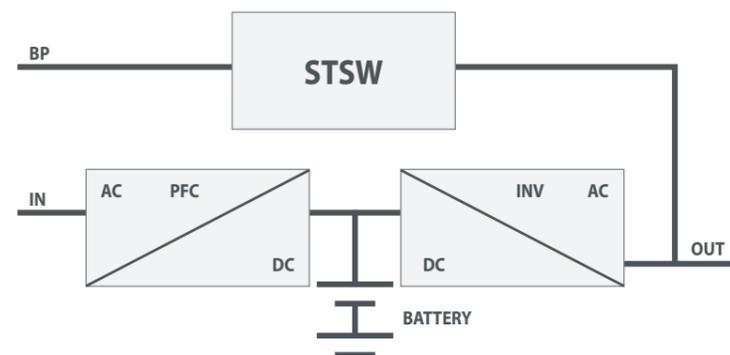
Once a week (or as determined by the customer) the system activates the emergency luminaires for a time period of up to 5 minutes (according to the type of luminaires- LED or fluorescent) and tests their correct performance. The system immediately reports to the management software upon identification of a failure. To maintain the emergency lighting in working order, these tests are carried out according to rules, schedule and luminaire groups which are predetermined according to the requirements of the EN 50171 Standard.

The System Will Contain the Following Parameters:

- Charging the batteries within 8 hours to at least 80% of the rated capacity
- Will allow correct performance at an overload of up to 120% without disconnecting the luminaires
- Protection against battery deep discharge
- A monitoring unit and presentation of the following data:
 - Batteries- voltage, charge current, discharge current
 - Load- current and voltage
- A mains disconnection device for performing the service test with the batteries only
- Upon the completion of the service testing the output voltage will remain unchanged
- Indication of the energy source being used – electric mains or batteries
- Indication of failure in – charge voltage, charger, battery voltage, discharge voltage

The Batteries Will Comply with the Following Requirements:

- Lifetime category of up to 10 years at an environment temperature of 20°C.
- Design of the system and the batteries will ensure full performance also at the end of the batteries' lifetime
- The batteries' voltage and capacity will be in accordance with the product design and client's requirement.
- Batteries in two parallel branches, for battery servicing while maintaining a 50% redundancy.



Gamatronic's Power+ Premium CBS enables the continuous smooth functioning of your maintained load even during a mains power failure.

POWER+ PREMIUM CBS 10KVA-40KVA TECHNICAL SPECIFICATION

ARCHITECTURE				
Topology	True online battery, double conversion, VFI			
Construction	Modular parallel hot-plugged modules			
Operation	Continuous			
INPUT				
Nominal voltage (Vac)	3x400 (4 wires + Gnd)*			
Voltage range (%)	-20/ +15 (360 ~ 460 Vac: full power; 320 ~ 360 Vac: derated 20 %)			
Maximum current (A)	3x27 per module – no inrush current at startup			
Frequency (Hz)	47 ~ 63			
Power factor correction	0.99			
THDI (%)	<5 %			
Inrush current	None			
OUTPUT				
Rated power (kVA/kW)	10/10	20/20	30/30	40/40
Nominal voltage (Vac)	3x400 (4 wires + Gnd)			
Frequency, in free-running mode (Hz)	50/60 ±0.1 %			
Frequency tracking range (Hz)	±0.5, ±1, ±2, ±3, ±4 (selectable)			
Frequency tracking slew rate (Hz/sec)	1			
Static regulation (%)	±1			
Regulation for unbalanced load (%)	±1 for 100 % unbalanced load			
Dynamic response to 100 % load step (%)	±2			
Waveform	Sinusoidal			
THDv (%)	Linear load<2; non-linear<6%			
Overload	120% constant, 130% 10 min, 140% 60 s, <150% 10 s, >150% < 10 s			
Load CF (max)	6:1			
Ac-Ac efficiency, nominal (%)	Up to 96			
Dc-Ac efficiency, nominal (%)	Up to 98			
BATTERIES				
Dc-Link Voltage (Vdc)	+/-405V (405 floating)			
Quantity and type	60 x 12 Vdc, sealed, lead acid, rechargeable, external			
External battery	60 x 12V batteries to suit load			
Backup time	1 or 3 hours			
Recharge time	Up to 50% in 2 hours			
GENERAL				
Maximum power dissipation (Po=10 kW)	417W	834W	1250W	1667W
Ambient temperature (°C)	-10 to +40 (operating), -20 to +60 (storage)			
Relative humidity (%)	95 maximum			
Altitude (m)	1500 without derating			
Enclosure	IP20			
Cooling system	Forced air: multi-fan with speed control			
STANDARDS				
Safety	IEC 62040-1			
EMC	IEC 62040-2			
Emergency Lighting Power Supply	BSEN 50171			
Design	IEC 62040-3			
Low magnetic field radiation	EMF as per ICNIRP			
Dimensions				
Weight of single power module (kg)	10.5			
Size (mm)	800 (H, with wheels) x 538 (W) x 700 (D)			
Weight (kg)	68.5	79	89.5	100

* Optional single phase with limited capacity

The PC-based controller enhances management systems with its unique monitoring abilities:

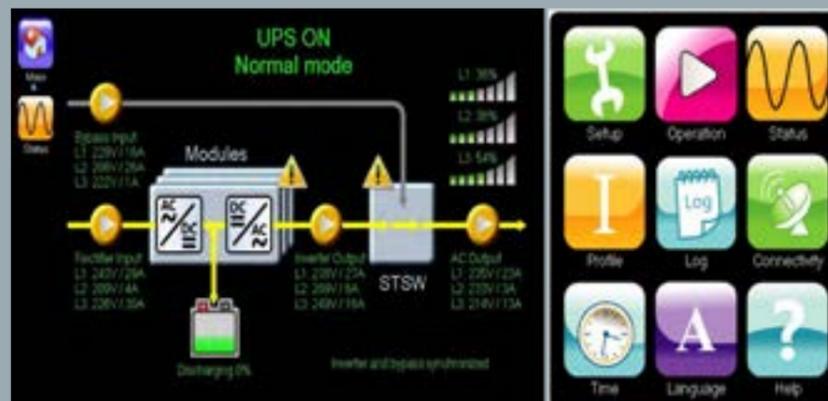
- Intelligent and intuitive interface
- Fail-safe (non-critical for UPS operation)
- Hot swappable
- Data-rich system log
- Multi-language interface
- Built-in flexible connectivity
 - RS232
 - Modbus RS485*
 - Modbus TCP/IP*
 - USB
 - SNMP
 - Embedded web interface
 - Configurable dry contacts*
 - Unlimited servers shutdown*
 - Unlimited email notifications*



Technical Specifications for the System Controller

Display	LCD flat panel, touch-sensitive
Other indicators	Audible alarm
Analog input channels	4 input dry contacts (N.O. / N.C.)
Real-time clock (RTC)	Yes, with backup
Power meter	kVA, kW, PF
Volt-free outputs (dry contacts)	6 outputs, rated 48 V / 1 A
Output dry contacts	AC failure DC failure UPS module(s) failure Load on bypass Battery test failure Over/under temperature Overload (Each system alarm type can be routed to the dry contact of your choice)
Communication ports	Serial, Ethernet, USB
Communication protocols	RS232, RS485, TCP/IP, SNMP, Modbus
Communications with system modules	Serial, isolated
Events log	500 events
System operation without controller	Unchanged
On-screen parameters	Load bar-graph 3-phase voltages 3-phase currents Battery voltage Status of each UPS module Static-switch parameters and status Battery sensor temperature
RTC operation without power	Indefinitely
Power requirements	3 × 400 Vac and 405 Vdc
Remote indication panel capability	Yes

* All specifications are subject to change without prior notice.



* Optional feature at additional cost



Gamatronic, A SolarEdge Division, provides reliable and flexible power solutions to ensure optimal power efficiency. Contact us for more information. Let our team of experts find a solution that would best serve your needs.

Our Power, Your Confidence

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