



POWERSTAR

Static battery standby
power supply



POWERSTAR – The system

POWERSTAR is a static battery standby power supply for supplying 1-phase and 3-phase safety-related loads. Depending on the system size, the compact design requires an installation space of only 2 - 8 m². The permanent self-monitoring ensures maximum security.

The system consists of a rectifier, an inverter with electromechanical changeover device, a long-life, high-performance battery and a remote outgoing unit (optional).

If a mains voltage is applied, the loads are supplied from the mains. In the event of failure or reduction of the mains voltage by more than 15 %, POWERSTAR switches to battery mode and supplies the connected loads within approx. 3 seconds via the inverter.

On request, the outgoing unit can be extended to include final circuits of the emergency lighting. Contemporary mixed technology (escape route and emergency luminaires in one circuit) with single luminaire monitoring and web-based visualisation is easily possible. The transfer time is 1 second.

As the market leader for battery standby power supply systems, we are the right partner for the project planning, dimensioning and implementation of your emergency power supply.

POWERSTAR is produced to the respective current standards. The system fulfils DIN VDE 0100-560, EN 50171 and EN 50172 and DIN VDE V 0108 Part 100-1.

Supply of



Emergency warning systems

POWERSTAR supplies electro-acoustic emergency warning systems in public buildings such as airports, railways stations, department stores and sports venues. If they do not have their own power supply (UPS), they must be supplied from a central emergency power supply.



Smoke control (SHEVS / SPS)

POWERSTAR supplies smoke control fans in staircases, lift shafts and necessary corridors/escape routes (e.g. underground car park) for the required autonomy of 180 minutes.



Emergency escape lighting

POWERSTAR can be extended to include final circuits for emergency lighting. All final circuits are pre-equipped for mixed technology (escape route and emergency luminaires in one circuit). Single luminaire monitoring is achieved by means of address modules in the luminaires. The stored energy time is designed for 1h, 3h or 8h, depending on the requirements.



CO₂ detection system

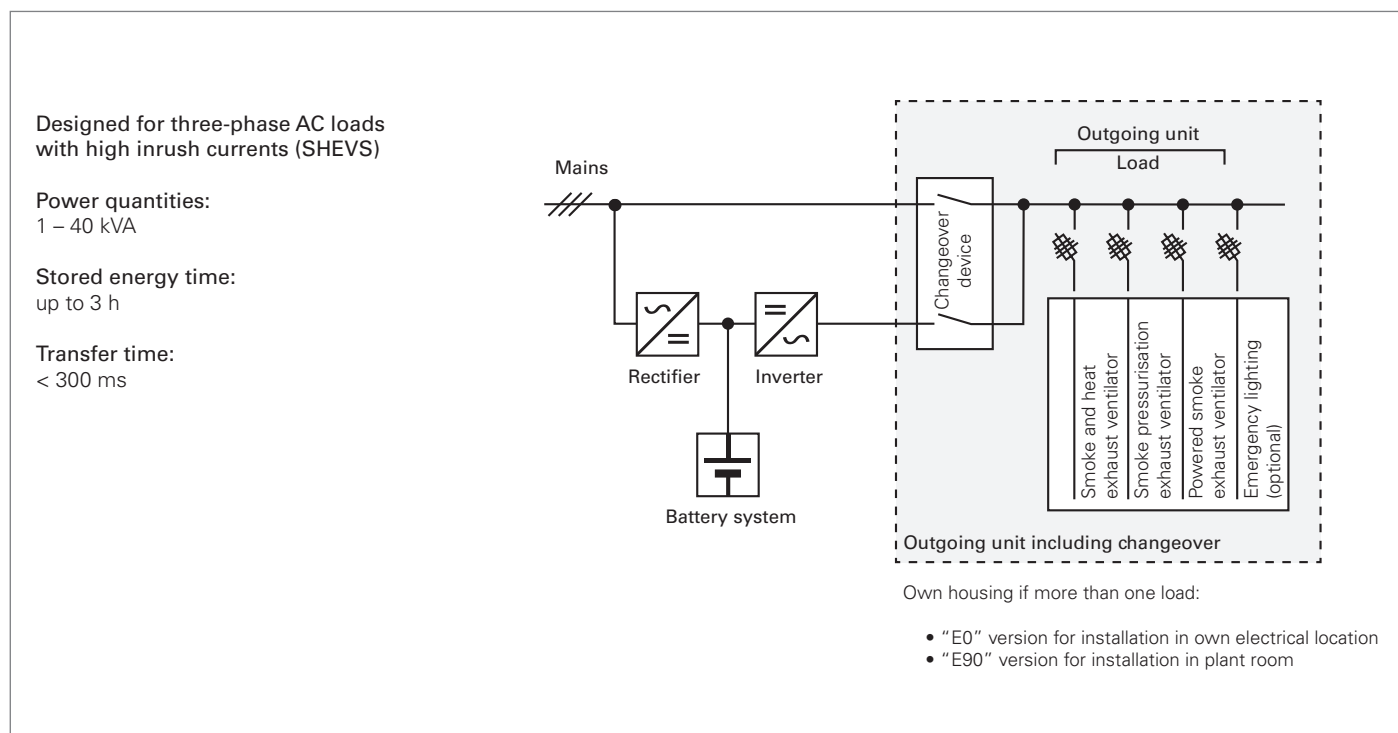
POWERSTAR ensures a secure supply of CO₂ sensor units in danger zones, including the extraction equipment. Carbon dioxide (CO₂) is toxic and low concentrations are sufficient to damage health. The consequences can be dizziness, cramps through to fast unconsciousness and death. The legal requirements were made more stringent to prevent this risk and an emergency power supply is required.

PROJECT PLANNING DATA

Rated apparent power [kVA]	Max. power supplied to the motor/load [kW]	Dimensions H x W x D [mm]	Dimensions of battery cabinet, e.g. for 1.5 h emergency operation* H x W x D [mm]	Approx. weight [kg]	Approx. weight, e.g. for 1.5 h emergency operation* [kg]
1	0.65	2000 x 850 x 600 Combined cabinet	–	200	120
1.5	1.0	2000 x 850 x 600 Combined cabinet	–	210	160
2.2	1.5	2000 x 850 x 600 Combined cabinet	–	225	250
3.2	2.2	2000 x 850 x 600 Combined cabinet	–	250	340
4.2	3.0	2000 x 950 x 600 Combined cabinet	–	260	400
5.7	4.0	2000 x 950 x 600	2000 x 600 x 600	290	640
7.8	5.5	2000 x 950 x 600	2000 x 950 x 600	335	930
10	7.5	2000 x 950 x 600	2000 x 1700 x 600	400	1350
15	11	2000 x 1100 x 600	2000 x 1900 x 600	600	1850
20	16	2000 x 1100 x 800	2000 x 2550 x 600	700	2300
25	20	2000 x 2 x 850 x 800	2000 x 1900 x 800	915	2500
30	24	2000 x 2 x 850 x 800	2000 x 2550 x 800	975	3000
40	32	2000 x 2 x 0950 x 800	2000 x 3150 x 800	1120	3500

*Attention: The dimensions can change due to different supply times or the number and type of outgoing load units.

SCHEMATIC CIRCUIT DIAGRAM



POWERSTAR

TECHNICAL DATA

Power quantities [kVA]	1 1.5 2.2 3.2 4.2 5.7 7.8 10 15 20 25 30 40	
Stored energy time [min.]	up to 180 min	
Input	Voltage: (1-phase systems also possible)	3/N/PE 400 V ± 10 %
	Frequency:	50 Hz ± 5 %
Output	Voltage: (1-phase systems also possible)	3/N/PE 400 V ± 2 % (dynamic < 8 %)
	Frequency:	50 Hz ± 0.1 % free-running
	Power factor:	0.8 ind...0.8 cap.
	Distortion factor:	THDU < 3 % for linear load
Overload capability	105 %	continuous
	125 %	for 10 min
	150 %	for 1 min
	700 %	for 10 sec (current limiting $7 \times I_{NOM}$)
Efficiency	min. 88 %	
Noise level	< 60 dB(A)	
Automatic testing	Signal and test system for automatic test run	
Batteries	Design life:	12 years
Sealed lead batteries (other battery types possible)	Nominal voltage:	220 V
	Number of cells:	108
Capacity reserve in accordance with EN 50171	End-point voltage:	1.8 V/cell
Charging characteristic	IU	
Display / measured values All operating states and fault messages are displayed clearly on a block diagram by means of LEDs.	<ul style="list-style-type: none"> • Load voltage (L1 – L3) • Load current (L1 – L3) • Frequency • Battery voltage • Charging current 	<ul style="list-style-type: none"> • Operating hours counter • Active load power (L1 – L3) • Apparent load power (L1 – L3) • Power factor (cos phi) (L1 – L3) • Withdrawal capacity
Ambient conditions	Temperature:	0 °C to +40 °C system +5 °C to +25 °C battery
	Rel. humidity:	max. 95 % non-condensing
Housing Modular sheet steel cabinets	Degree of protection:	IP 20
	Cable entry:	top (optionally possible from the bottom)
	Paint finish (cabinet):	RAL 7035 (other colours optional)
	Paint finish (converter):	RAL 5019
	Right/left-hinged door:	selectable
Signals Potential-free signals to DIN VDE 0100-560 (changeover contact)	<ul style="list-style-type: none"> • Ready for operation • Battery mode 	<ul style="list-style-type: none"> • Collective fault • Emergency operation
Optional:	<ul style="list-style-type: none"> • Emergency escape lighting with single luminaire monitoring (mixed operation) • WEB-MASTER link 	