



grid | supply

Secure direct current power supply systems

General Information

Secure direct current power supply systems are required in all cases where major electrical consumers rely on having an uninterrupted supply in the case of power outages.

Our systems include the following components: charging rectifier, battery and distribution. They are used for loads that are considered critical in terms of safety. Possible applications include protection technology and process control systems, measuring and regulation technology, drive and control technology in the following areas:

- automotive, chemical, steel and pharmaceutical industries
- airports
- radio and radar systems supply
- hospitals
- electrical transformer substations
- telecommunication networks
- refineries
- public transportation services and railways
- oil and gas supply
- shipbuilding



Standard configuration

HOPPECKE's direct current power supply systems include the following components:

grid | supply HF

- mains input fuse
- switched mode power supply modules
- processor for the operating and monitoring system
- terminal blocks for the network, battery and loads

grid | supply LF classic

- mains input fuse
- input transformer
- thyristor power controller
- controller
- changeover switch IU > IUI
- processor for the operating and monitoring system
- RS 232 & RS 485
- terminal blocks for the network, battery and loads

With HOPPECKE's grid | supply series, all necessary monitoring functions are carried out automatically. The relevant measurement readings,

operating status and failure indications are shown on the display in plain text and signalled with LEDs or at the relay outputs.

Specifications

	grid supply HF	grid supply LF classic
Mains supply voltage	230 V or 3 x 400 V +10% -20%	230 V or 3 x 400 V +/-10%
Frequency	45 - 66 Hz	50 Hz +/-5 %
Nominal direct current voltage	24 - 220 V (other voltages on request)	24 - 220 V (other voltages on request)
Nominal direct current	10 - 400 A	2.5 - 800 A
Charging characteristic	IU/I according to DIN 41773	IU/IUI according to DIN 41773
Constant charging voltage	2.23-2.27/1.43 (Pb/NiCd) V/Z +/-1%	2.23-2.27/1.43 (Pb/NiCd) V/Z +/-1%
Boost charging voltage	2.40/1.55 (Pb/NiCd) V/Z +/-1%	2.40/1.55 (Pb/NiCd) V/Z +/-1%
Equalisation charge	2.70/1.70 (Pb/NiCd) V/Z +/-1%	2.70/1.70 (Pb/NiCd) V/Z +/-1%
Radio interference suppression class	„B“ according to EN 55011	„A“ according to EN 55011
Residual ripple	< 0,3% ss, without battery; 1-2 mV to 60 V according to CCITT standard	≤ 5%, without battery
Noise level	< 53 dB (A)	max. 60 dB (A)
Cooling	auto-cooling with temperature-controlled fan	up to 300 A: natural convection exceeding 300 A: actuator with controlled fan
Ambient temperature	-10 to 40 °C	0 to 40 °C
Relative air humidity	max 95%, non-condensing	max. 75%
Humidity class	F according to DIN 40040	F according to DIN 40040
Type of protection	IP 20	IP 20
Finishing	RAL 7035	RAL 7035

Options and special configurations

- further DC voltages
- mains voltage 400 V without neutral conductor
- mains voltage 3 x 230 V, 3 x 500 V, 3 x 660 V
- voltage bridging with counter cells
- stock cell and additional cell technology
- decoupling diode
- security monitoring
- ripple monitoring
- low voltage disconnect
- battery and load fuses
- automatic cut-out
- disconnecter
- test load connection
- built-in test load resistor
- temperature-sensitive application of charging voltage via external sensor
- higher IP protection levels
- special RAL finishing
- combination case with battery compartment
- battery cabinets
- fan
- exhaust air connection
- collection pans
- stepped plates
- cabinet heater

Further options on request. Please do not hesitate to contact us!

Battery technologies

With the aim of configuring a customized, technologically appropriate solution, our technical consultants will advise you to identify a suitable combination of energy supply and HOPPECKE battery technology.

Of course we provide also a worldwide service for our energy

systems to complete our offer.

We also offer permanent availability – our service team can be contacted at any time – and continuous on-line system monitoring as a matter of course.

Find out how HOPPECKE can contribute to your success in the market!

The right technology for every application

- Lead-acid technology
- NiCd technology
- Li-Ion technology

Lead-acid technology

- Cost-efficient battery for stationary current supply systems
- Long service life and high cycle stability
- High HOPPECKE quality and technology standard
- Full turn-key systems with sealed (VRLA) and flooded (VLA) batteries



NiCd technology

- Progressive battery technology for superior requirements
- Extremely long service life and cycle stability under extreme temperature conditions
- Broad range of products for applications requiring high energy density or very high power density to perfectly adapt the battery to your energy storage needs



Li-Ion technology

- Very high energy and power density
- High cycle stability with full or partial cycles
- Extremely low self-discharge
- Long service life



Configuration

	grid supply HF	grid supply LF classic	grid supply LF advanced	grid supply LF premium
Measured value display				
Unit voltage	•	•	•	•
Unit current	•	•	•	•
Load voltage	•	•	•	•
Load voltage 2				•
Load current	•	•	•	•
Battery voltage	•	•	•	•
Charge/discharge current	•	•	•	•
Capacity	•		•	•
Test result (U, Ah, I, t)	•	•	•	•
Test result (U, Ah, I, t, date, time)				•
Event memory for 20,000 events				•
Recording of max. load current				•
Recording of 20 cap. test results				•
Alerts				
Mains failure	•	•	•	•
Unit failure	•	•	•	•
Battery voltage too low	•	•	•	•
Battery voltage too high	•	•	•	•
Battery deep discharged	•	•	•	•
Battery circuit failure (1 battery pack)	•		•	•
Battery circuit failure (3 battery packs)				•
Battery not available				•
Plus/minus earth fault	•		•	•
Plus earth fault				•
Minus earth fault				•
Capacity test negative	•		•	•
Short-circuit	•	•	•	•
Current limiting				•
Monitoring of blocking diode				•
Excess temperature				•
External fan failure		•	•	•
Module monitoring	•			
Options				
Parallel systems				•
Battery availability test (periodic)		•	•	•
Automatic counter cell operation	•			•
Rotating field monitoring				•
IT network or plus or minus earthing		•	•	•
Transformer temperature monitoring				•
System time management via external DCF 77 signal				•
LED displays				
Unit ON	•	•	•	•
Capacity test ON			•	•
Failure	•	•	•	•
Functional mimic diagram				•
Output voltage failure				•
Battery charge				•
Battery discharge				•
Battery balance failure				•

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