



DC / DC Converter



- Flexible 1/3-19“-system “Hot-Plug-In“
- Temperature compensation of the charge voltage
- Digital display for output voltage, current and adjustments values
- CAN-bus interface

A combination of modern DC to DC switching power conversion technology and a flexible 19" compatible mechanic like the PSC gives many advantages and is suitable for a wide range of applications.

These power supplies are designed for the following applications:

- Power supply for all medium to high power DC loads
- DC/DC-Converter in DC systems with battery backup
- Telecommunication
- Railroad signalling systems
- Industrial control systems
- Low-voltage switchgear supplies
- Charging and buffering of stationary batteries in electrical power plants

The combination of an active power factor correction unit and a soft-switching DC to DC-converter provides a wide input voltage range, high efficiency, small dimensions, and low weight.

A constant voltage and current control circuit performs correction of output voltage deviations due to input voltage or load transients within less than 1.5 ms and permits constant current operation down to continuous short circuit.

A microcontroller unit with two control keys and digital displays on the front panel provides continuous monitoring of input and output voltage, output current, temperature, and offers easy adjustment and programming of output parameters and monitoring thresholds.

An optional CAN-bus interface allows remote control of output voltage and current from real time transmission of all parameters and measurement values to central supervisory unit (MU1000C).

TYPE LISTING

Type	PSC30/x/24-80	PSC30/x/48-50	PSC30/x/60-40	PSC30/x/110-22.3	PSC30/x/216-11.1
Order code x=110	C30-1020.00010	C30-1021.00010	C30-1022.00010	C30-1023.00010	C30-1024.00010
Order code x=220	C30-1030.00010	C30-1031.00010	C30-1032.00010	C30-1033.00010	C30-1034.00010
Category	Primary Switched DC/DC converter				

DC INPUT

Nominal voltage	110 V DC +15/-20% 220 V DC +15/-20%				
Nominal current	20.1 A DC 10.1 A DC	24.2 A DC 12.2 A DC	24.3 A DC 12.2 A DC	24.8 A DC 12.4 A DC	24.7 A DC 12.3 A DC
Efficiency	≥ 87%	≥ 91%	≥ 91%	≥ 91%	≥ 91%
External Fusing	40 A gL 25 A gL				

DC OUTPUT

Nominal voltage	24 V DC	48 V DC	60 V DC	110 V DC	220 V DC
Nominal current	80.0 A DC ± 2% (40 to 80 A adjustable)	50.0 A DC ± 2% (25 to 50 A adjustable)	40.0 A DC ± 2% (20 to 40 A adjustable)	22.3 A DC ± 2% (11 to 22.3 A adjustable)	11.1 A DC ± 2% (5.5 to 11.1 A adjustable)
Charge line	IU-line acc. to DIN 41772 / DIN 41773				
Charge line U _{A1} : Equalize charge	24.0 V DC ± 1% (23.4 to 28.8 V adjustable)	48.0 V DC ± 1% (46.6 to 57.6 V adjustable)	60.0 V DC ± 1% (58.5 to 72 V adjustable)	110.0 V DC ± 1% (105 to 130 V adjustable)	216.0 V DC ± 1% (211 to 260 V adjustable)
Charge line U _{A2} : Boost charge	28.8 V DC ± 1% (24 to 30 V adjustable)	57.6 V DC ± 1% (48 to 60 V adjustable)	72.0 V DC ± 1% (60 to 73 V adjustable)	129.6 V DC ± 1% (108 to 135 V adjustable)	259.2 V DC ± 1% (216 to 270 V adjustable)
Charge line U _{A3} : Battery test	22.2 V DC ± 1% (20.4 to 24 V adjustable)	44.4 V DC ± 1% (40.8 to 48 V adjustable)	55.5 V DC ± 1% (51 to 60 V adjustable)	99.9 V DC ± 1% (91.8 to 108 V adjustable)	200 V DC ± 1% (184 to 216 V adjustable)
Voltage ripple	≤ 20 mV _{ss}				
Psophometric ripple acc. to CCITT	≤ 1.0 mV _{eff}				
Dynamic behaviour	< 3% U _{nom} for load transients between 10% - 90% - 10% I _{nom} recovery time t ≤ 1 ms				
Short circuit protection	Continuous short circuit proof, 1x I _{nom}				
Parallel operation	< 100 pieces				
Internal decoupling circuit	optional	optional	optional	—	—

STANDARD FEATURES

LED indicators	Output voltage O.K.(green); U _{A1} (green); U _{A2} (green); I _A (yellow); U<(green); U>(red); Alarm(red)
Digital display	Output voltage, output current
Relay contacts	“General fault“ and “U ₀ <“
Monitoring	Output voltage high / low, output voltage, output current, short circuit
External Functions	Active current sharing, boost charge and battery test function, temperature compensation of charge voltage, external sense links for output voltage, remote ON / OFF, opto coupler signal “U ₀ O.K.“, “Mains O.K.“ and “Constant current operation“
Communication	CAN-bus interface for communication with central monitoring unit (MU1000C, optional)

ENVIRONMENT

Ambient temperature	Operation: -10°C to +40°C Storage: -30°C to +50°C
Climatic conditions	IEC 721-3-3 class 3K3 / 3Z1 / 3B1 / 3C2 / 3S2 / 3M2
Humidity class	F
Altitude	≤ 1000 m a.s.l.; extension possible
Audible noise	< 40 dB (A) at 1m distance

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MECHANICAL CONSTRUCTION

Construction	1/3-19" cassette for mounting in subracks acc. to DIN 41 494, front connectors
Dimensions [mm] W / H / D	142 / 262 / 405
W1	130
H1	245
D1	384
Weight	12.4 kg
Cooling	Speed controlled fan cooling
Protection class	IP20 (mech.); 1 (electr.)
Surface	Front panel: powder coating RAL 7032, constructive parts: anodised

COMPLIANCES

Conducted and radiated emissions EN 50081-1	EN 55011 / EN 55022 class B
Safety	EN 60950 ; VDE 0100 part 410; VDE 0110, EN 50178, EN 60146
Interference Immunity EN 50082-2	Case: Electrostatic discharge: EN 61000-4-2 (6 kV contact, 8 kV air discharge) Radiated radio frequency: EN 61000-4-3 (10V/m, 30 MHz - 1 GHz)
	Power line: EN 61000-4-4 (2 kV, other 2 kV) EN 61000-4-5 (4 kV unsymmetrical, 2 kV symmetrical, others: 2 kV unsymmetrical)
	Control line EN 61000-4-4 (2 kV) EN 61000-4-5 (2 kV unsymmetrical)

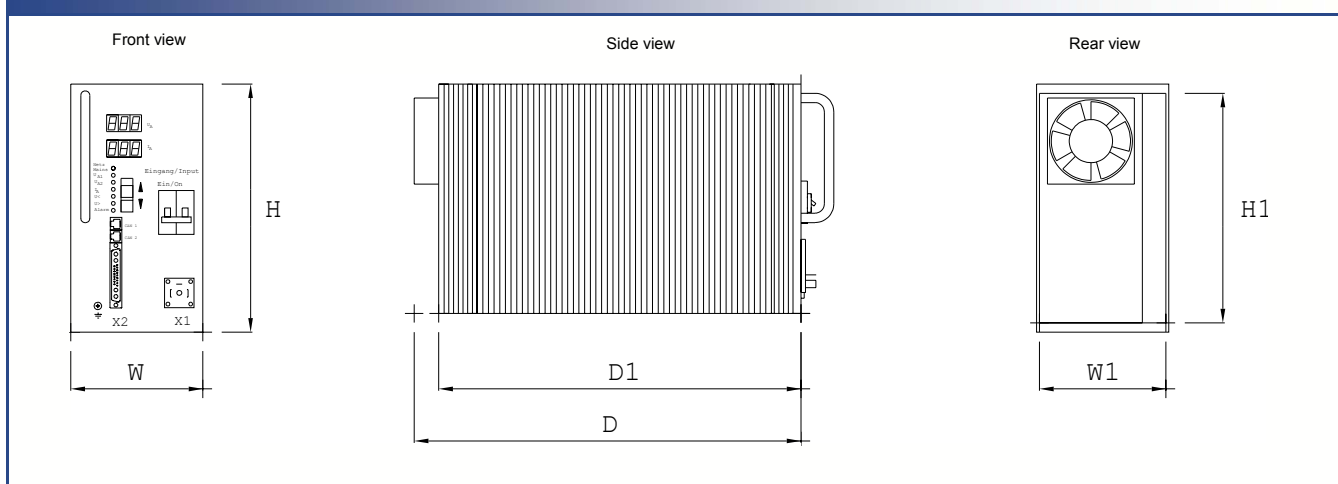


DC-PSC system, DC power supply system for higher loads with parallel operating PSC units and battery buffering. One additional DC/DC converter is used to increase the availability (n+1 redundancy). For controlling all parameters it is advantageous to use the monitoring unit MU1000C, which communicate with the modules per CAN bus interface. Further it is possible to operate with remote control with the monitoring unit's RS232 interface.

Options:

- Wall bracket, mat. no. CG-87-20-0002
- Monitoring Unit MU1000C; order code: C24-1011.00001
- CAN distribution board, board with 5 CAN sockets; order code: C24-9999.00004
- Fan rack (temperature controlled); order code: C40-9999.00018

MECHANICAL DIMENSIONS / CONNECTION VIEW



Additional Information

Full information, drawings, manuals and application notes and advice to any of the wide range of CP Kontakt AB's products are available on request.

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