



## Battery Charger / Rectifier



- Three-phase unit in compact 19" design
- Special in- and output side OVP
- Hot-swappable module with back plane connection
- High power density and low weight
- Digital display for output voltage, current and adjustment values
- Optional plug-in module for PFC
- CAN-bus interface

A combination of modern AC to DC switching power conversion technology and a flexible 19" compatible mechanic like the PSR-T gives many advantages and is suitable for a wide range of applications. Power supply modules of series PSR-T are optimised for telecommunication and power stations applications. Due to the high flexibility for mounting of complete prewired slots in system cabinets this system is very easy in use, during commissioning and maintenance. Modules can be exchanged during system operation. The total system output power can be increased by plug-in of new modules in pre-wired slots during operation. During start-up the rectifiers read all necessary operation parameters via CAN bus from control unit. A fully equipped 19" cabinet has an maximal output current of up to 1660A in 48V DC systems and 740A in 110V DC.

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.

With an optional PFC plug-in module the input current is sinusoidal with  $\cos \varphi = 1$ .

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 micro controller 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 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 or MU2000C). CAN bus is very secure serial bus with enhanced failure correction.

TYP LIST			
Type	PSR-T80/48-166	PSR-T80/108-72	PSR-T80/216-36
Artikel nummer	C28-1202	C28-1204	C28-1208
Kategori	Primary switchmode rectifier		

AC INPUT	
Nominal voltage	3x 440 V AC +/-20%
Nominal current	7.3 A AC
Input frequency	47-63 Hz
Power factor $\lambda$	> 0.93; with optional PFC: >0,93 at $P_{nom} < 25\%$ ; > 0.97 at 50% > $P_{nom} > 25\%$ ; > 0.99 at 100% > $P_{nom} > 50\%$
Efficiency	$\geq 91\%$
Fusing	6 A gL 6A gL

DC OUTPUT			
Nominal voltage	48 V DC	110 V DC	220 V DC
Nominal current	166 A DC	72 A DC	36 A DC
Charge line	IU-line acc. to DIN 41772 / DIN 41773 , Power regulated		
Charge line U <sub>A1</sub> : Equalize charge	54.5 V DC $\pm 1\%$ (46.6 to 57.6 V adjustable)	122.6 V DC $\pm 1\%$ (105 to 130 V adjustable)	245.2 V DC $\pm 1\%$ (211 to 260 V adjustable)
Charge line U <sub>A2</sub> : Boost charge	57.6 V DC $\pm 1\%$ (48 to 60 V adjustable)	129.6 V DC $\pm 1\%$ (108 to 135 V adjustable)	259.2 V DC $\pm 1\%$ (216 to 270 V adjustable)
Charge line U <sub>A3</sub> : Battery test	44.4 V DC $\pm 1\%$ (40.8 to 48 V adjustable)	99.9 V DC $\pm 1\%$ (91.8 to 108 V adjustable)	200 V DC $\pm 1\%$ (184 to 216 V adjustable)
Voltage ripple	$\leq 20$ mV <sub>ss</sub>	$\leq 100$ mV <sub>ss</sub>	$\leq 100$ mV <sub>ss</sub>
Psophometric ripple acc. to CCITT	$\leq 1.8$ mV <sub>eff</sub>	-	-
Dynamic behaviour	< 3% U <sub>nom</sub> for load transients between 10% - 90% - 10% I <sub>nom</sub> recovery time t $\leq 1$ ms		
Short circuit protection	Continuous short circuit proof, 1x I <sub>nom</sub>		
Parallel operation	< 100 pieces		
Internal decoupling circuit	In minus circuit		

STANDARD FEATURES	
LED indicators	Mains (green); U <sub>o</sub> (green); I <sub>o</sub> (yellow); U> (red); Alarm (red)
Digital display	Output voltage, output current and programming parameters
Relay contacts	"Common Alarm"
Monitoring	Output voltage high / low, output voltage, output current, short circuit
External functions	Boost charge and battery test function, temperature compensation of charge voltage, remote ON / OFF via CAN interface and control unit; external sense links for output voltage
Communication	CAN-bus interface for communication with central monitoring unit (MU1000C/ MU2000C)

ENVIRONMENT	
Ambient temperature	Operation: 0°C to +40°C Storage: -30°C to +70°C
Climatic conditions	IEC 721-3-3 class 3K3 / 3Z1 / 3B1 / 3C2 / 3S2 / 3M2
Humidity class	F
Dust	< 1 mg / m <sup>3</sup>
Altitude	$\leq 1000$ m a.s.l.; extension possible
Audible noise	< 40 dB (A) at 1m distance

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MECHANICAL CONSTRUCTION	
Construction	19" rack for mounting in prewired 19" slots with backplane
Dimensions [mm] W / H / D	483 / 133 / 420 (19"x 3HU)
Weight [kg]	28
Cooling	Forced fan cooling (temperature controlled, monitored)
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)

### Options:

- CAN distribution board, board with 5 CAN sockets; order code: C24-9999.00004
- Monitoring Unit MU1000C; order code: C24-1011
- 19" mounting kit with gliding rails and back plane

Also available for DC systems:

- DC/DC-Converter PSC  
240 - 2400W/Module



- Inverter UNV  
1,2 - 5,0kVA/Module



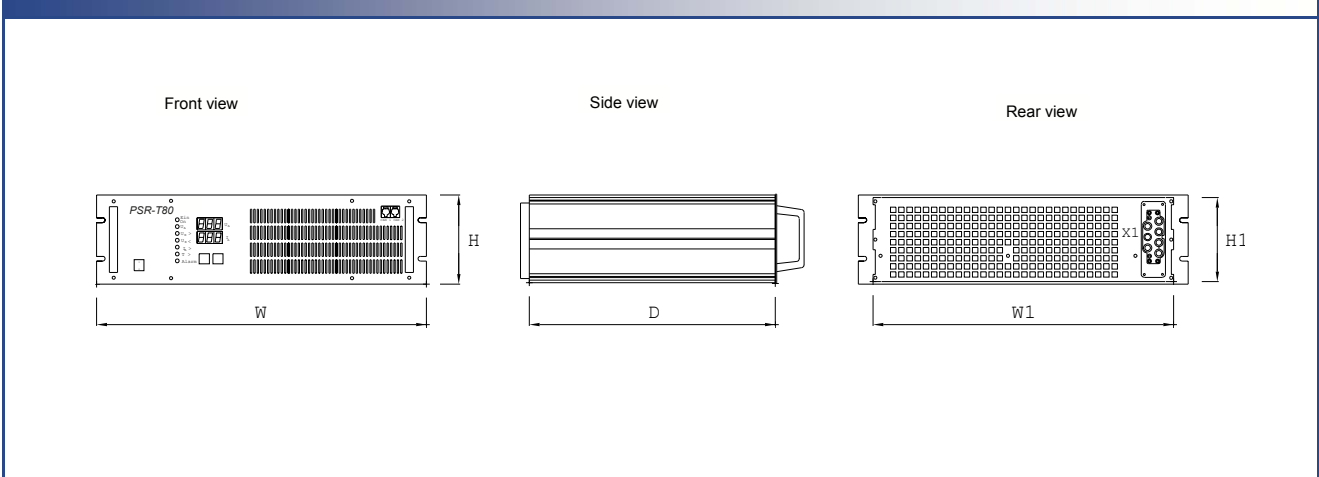
- Monitoring Unit MU1000C



- Distribution units LUC  
Diazed, NH and MCB fuses



### 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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