



Battery Charger / Rectifier



- Single phase module with sinusoidal input current
- Special in- and output side OVP
- Flexible 1/6-19"-module system "Hot-Plug-In"
- Temperature compensation of the charge voltage, natural convection cooling
- Digital display for output voltage, current and adjustment values (optional)
- 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 applications. Due to the high flexibility for mounting of complete prewired sub racks 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 prewired slots during operation. During start-up the rectifiers read all necessary operation parameters via CAN bus from control unit. A fully equipped 19" sub rack has an maximal output current of up to 320A @ 48V.

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.

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 (optional).

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.

TYPE LISTING			
Type	PSR-T10/48-21	PSR-T16/48-33	PSR-T27/48-55
Order code	C24-1011.00010	C24-1012.00010	C24-1013.00010
Category	Primary Switch Mode Rectifier		

AC INPUT			
Nominal voltage	230 V AC +/-20% (high voltage version -25/+30%)		
Nominal current	5,0 A AC	7.7 A AC	12.9 A AC
Input frequency	47-63 Hz		
Power factor λ	> 0.95 at $P_{nom} < 25\%$; > 0.97 at $50\% > P_{nom} > 25\%$; > 0.99 at $100\% > P_{nom} > 50\%$		
Efficiency	$\geq 91\%$	$\geq 91\%$	$\geq 91\%$
Fusing	10 A gL	10A gL	16 A gL

DC OUTPUT			
Nominal voltage	48 V DC		
Nominal current	21,0 A DC	33.0 A DC	55.0 A DC
Charge line	IU-line acc. to DIN 41772 / DIN 41773		
Charge line U_{A1} : Equalize charge	54.5 V DC $\pm 1\%$ (46.6 to 57.6 V adjustable)		
With MU: Boost charge	57.6 V DC $\pm 1\%$ (48 to 60 V adjustable on control unit)		
With MU : Battery test	44.4 V DC $\pm 1\%$ (40.8 to 48 V adjustable on control unit)		
Voltage ripple	≤ 20 mV _{ss}		
Psophometric ripple acc. to CCITT	≤ 1.8 mV _{eff}		
Dynamic behaviour	< 3% U_{nom} for load transients between 10% - 90% - 10% I_{nom} recovery time $t \leq 1$ ms		
Short circuit protection	Continuous short circuit proof, $1x I_{nom}$		
Parallel operation	< 100 pieces		
Internal decoupling circuit	minus pole		
Internal Output fuse	16A	35A	2x 40A = 80A

STANDARD FEATURES	
LED indication	Mains (green); U_0 (green); I_0 (yellow); $U >$ (red); Alarm (red)
Digital display	Output voltage, output current (optionally)
Relay contacts	"General fault"
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: -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
Dust	< 1 mg / m ³
Altitude	≤ 1000 m a.s.l.; extension possible
Audible noise	< 30 dB (A) at 1m distance

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MECHANICAL CONSTRUCTION			
Construction	1/6-19" cassette for mounting in sub racks acc. to DIN 41 494, rear connectors		
Dimensions [mm] W / H / D	71 / 262 / 280	71 / 262 / 280	71 / 262 / 420
Weight [kg]	5.0	8.5	11.5
Cooling	Natural convection		
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)

For Telecommunications are available:

- **DC/DC-Converter PSC**
(Se separate brochure)



- **Inverter UNV**
(Se separate brochure)



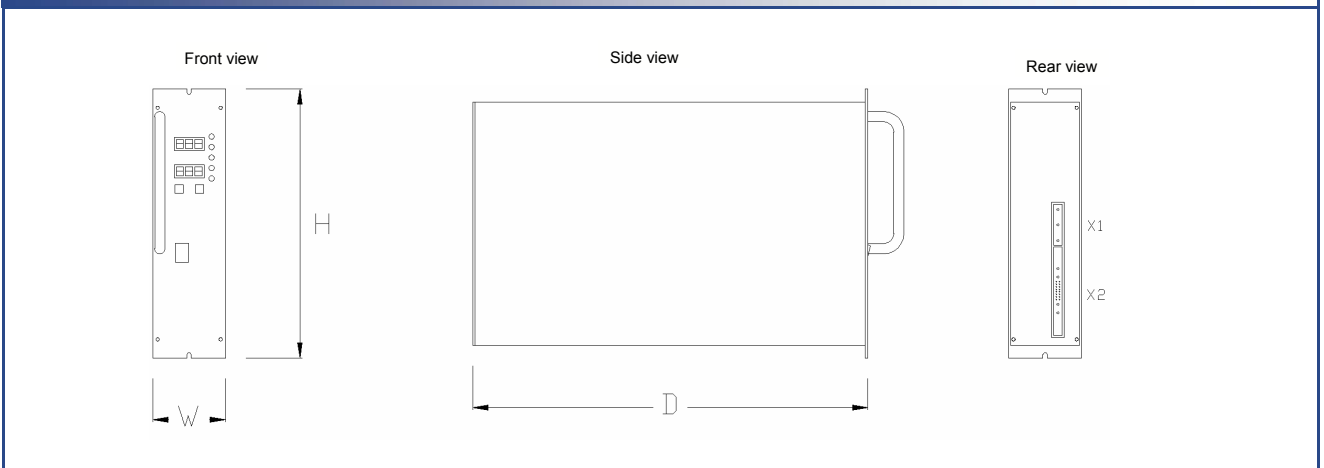
- **Monitoring Unit MU1000C**
(Se separate brochure)



Options:

- Digital displays for output voltage and current; order code: C22-9999.00001
- Fan rack (temperature controlled); order code: C40-9999.00018
- CAN distribution board, board with 5 CAN sockets; order code: C24-9999.00004
- Monitoring Unit MU1000C; order code: C24-1011.00001
- 19" sub rack for 6 PSR-T; order code: C22-9999.00002

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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Contact:

CP Kontakt AB
Bejbyvägen 21
S-732 96 Arboga, Sweden
Tel: +46 (0)70 212 86 07
Fax: +46 (0)589 66 00 20
Email: cp@cpab.se
Web: www.cpab.se