

Technical data

Input

Voltage	20-32VDC
Input fuse	63A slow blow external permitted
Ripple allowed	5% rms
EMC- Surges	acc. EN 61000-4-5 gradient 3
EMC- Bursts	acc. EN 61000-4-4 gradient 3
Softstart	0,5s typ.
Ripple feed back	<2 mV pschoometrical CISPR
RFI	acc. EN 55011

Output

Voltage	230VAC single phase, sinusoidal (115VAC, 240VAC possible)
Voltage range	210 - 240VAC adjustable, front panel trimmer
Regulation	static±2% dynamic±5% / 2ms 0<->100% load step
Frequency	50 Hz ±0,1% crystal stabilized (60Hz, 400Hz on request)
Power	500VA
Over load	1000VA for 1s
Inrush current limiting	NTC
Distortion	< 5% at cosφ 1
Crest factor	3 permitted
Power factor	0,8 ind.to 0,9 cap. permitted
Over load-/ short circuit prot.	electronic
RFI	acc. EN 55011 class A

Indicators, Alarm

LED - Indicator	green = operation
External Alarm	potential free change over contact with 30VDC / 2A for alarm: output voltage <200VAC

Control elements

Inhibit	external, remote ON / OFF
Output voltage	trimmer on front panel

Construction

Mechanic	acc. EN 60950, gradient 1
Dimensions	19"- sub rack
Weight	19" (483mm) x 2U (132mm) x ca.360mm depth
Type of protection	app. 15kg
Connection	IP20 terminals on rear side

General

Operating temperature	-10 °C to +45 °C
Storage temperature	-30 °C to +70 °C
Relative humidity	75 %, without condensation
Cooling	forced cooling with DC- fans
Efficiency	app. 85%
EMC	acc. EN 61000-6-4 / EN 61000-6-2
Isolation	Input / Output 3500VDC for 1 min. Input / Output / Case 2100VDC for 1 min.

General Description

PCI- Series

Figure 1 shows the connection of a DC/DC converter with a switch-mode inverter.

The DC/DC converter transforms the normally low battery voltage to the high intermediate circuit voltage at the input of the inverter and provides the required electrical isolation between the AC-output and the battery. The inter-mediate circuit voltage must be higher than the value peak of the output voltage of the inverter and is thus fixed to approximately 400V at a requested output voltage of 220 / 240V.

Figure 1

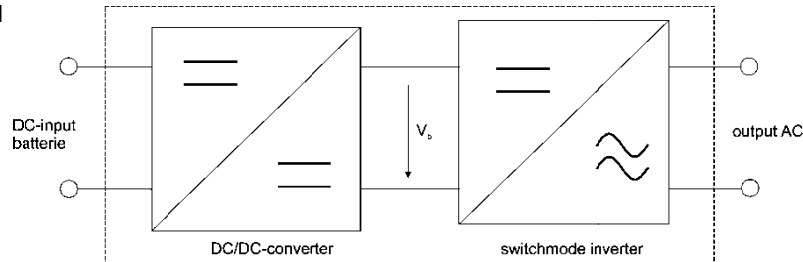


Figure 2 shows the circuit of the inverter:

The intermediate circuit voltage (DC-input voltage) is transformed by the power transistors T1-T4 with the parallel inverse diodes D1-D4 in a pulse-width square-wave voltage. The choke with the windings L1 and L1I integrates this voltage, and at the capacitor C there is a sinusoidal output voltage. The power transistors are controlled by opto-coupler, making sure, that not both transistors of one branch are switched on at the same time by the control pulses. The output voltage is connected via sense leads to the control circuit and controls after a comparison with a reference the control pulses for the power transistors. The voltage drop of the output current at shunt R1 is also supplied to the control circuit and serves for current limiting.

Figure 2

