

## Series PCI and PIT

Type [VDC]	PCI1628-3U U <sub>IN</sub> 20 – 32	PIT1638-3U / PIT3638-3U U <sub>IN</sub> 40 – 64	PIT1648-3U / PIT3648-3U U <sub>IN</sub> 50 – 80	PIT1658-3U U <sub>IN</sub> 80 – 160	PIT1678-3U U <sub>IN</sub> 160–320
Output Power	500 VA	400 VA / 500 VA	400 VA / 500 VA	500 VA	500 VA

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Output Power	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA

Fig.: Series CI

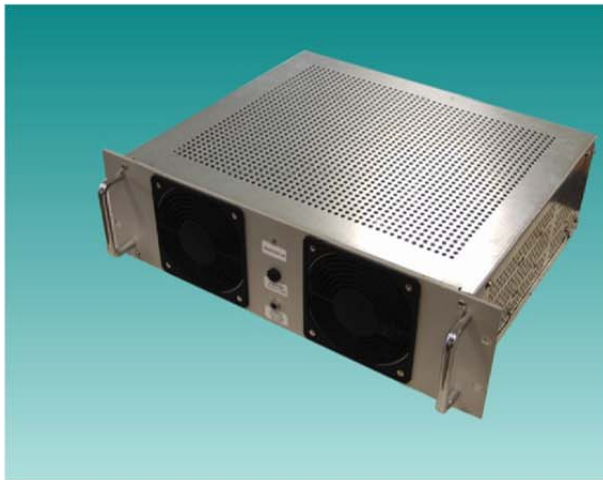


Fig.: Series IT



## Technical data

### Input

Voltage	s. tabulation on top
Input fuse	external required <sup>1)</sup>
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 psochometrical 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	s. tabulation on top
Over load	100% for 1s
Inrush current limiting	NTC's optional
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"- (483mm) 3U  
 Weight 19" (483mm) x 3U (132mm) x ca.360mm depth  
 CI / IT 1600 ca. 20kg  
 CI / IT 3600 ca. 24kg  
 Connection 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  
 Mechanical protection IP20  
 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.

<sup>1)</sup> Value of input fuses (extern required):

Type	<b>PCI1628</b>	<b>PIT1638 / PIT3638</b>	<b>PIT1648 / PIT3648</b>	<b>PIT1658</b>	<b>PIT1678</b>
ext. Fuse	63AT	50 AT / 50 AT	35AT / 35AT	16AT	10AT
Type	<b>PCI3628</b>	<b>PCI3638</b>	<b>PCI3648</b>	<b>PIT3658</b>	<b>PIT3678</b>
ext. Fuse	125AT	50AT	35AT	25AT	12AT

## 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 intermediate 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**

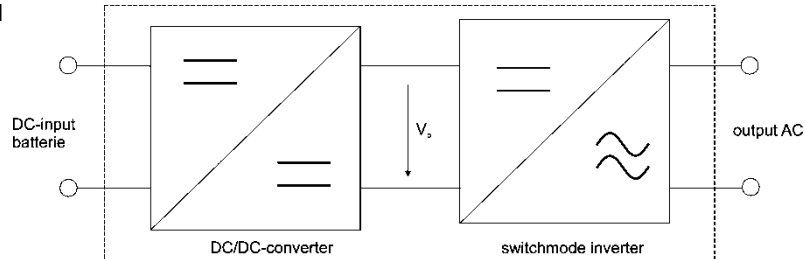
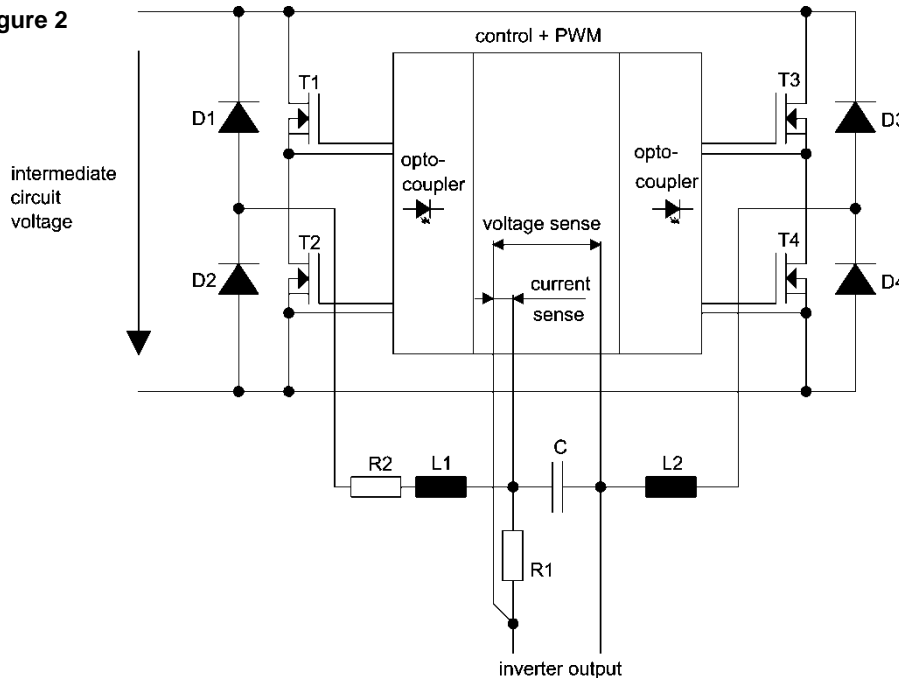


Figure 2 shows the circuit of the inverter:

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 L2 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**



## General Description

### PIT- Series

Figure 1 shows the connection of a switchmode inverter and a transformer.

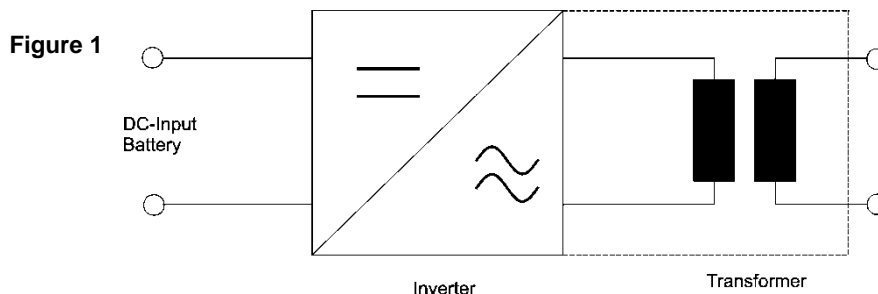


Figure 2 shows the circuit of the inverter:

The intermediate circuit voltage (DC-input voltage) is transformed by the power transistor T1-T4 with the parallel inverse diodes D1-D4 in a pulse - width square-wave voltage. The choke with the windings L1 and L2 integrates this voltage, and at the capacitor C there is a sinusoidal output voltage.

The power transistors are controlled by the 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.

Alternating voltage at the output of the inverter is transformed by means of a transformer to the requested output voltage with galvanic isolation.

