



# ambiCONVERT DC-DC

The software defined power device



## Specifications

<b>Version:</b>	<b>20A</b>	<b>70A</b>
<b>Input power nominal: (@450V DC)</b>	9kW	31,5kW
<b>Input power max.:</b>	20kW	70kW
<b>Input voltage range:</b>	48V – 1000V DC	
<b>Starting voltage:</b>	30V DC	
<b>Input Channels:</b>	1	1
<b>Input current max.:</b>	20A	70A
<b>Input power nominal: (@750V DC)</b>	15kW	52,5kW
<b>Output power max.:</b>	17kW	59,5kW
<b>Output voltage range:</b>	48V – 850V DC	
<b>Max. efficiency:</b>	> 98%	
<b>Supply Voltage:</b>	24V DC	
<b>Safety and protection:</b>	Rapid discharge DC Bus and DC Output Over current monitoring Reverse polarity protection Temperature monitoring Self-test	
<b>Dimensions:</b>	19" / 3U / 700mm	
<b>Weight:</b>	< 20kg	
<b>Operating temperature:</b>	0 – 40°C	
<b>Installation site:</b>	indoor, no direct sunlight	
<b>Humidity:</b>	5% – 95%, non-condensing	
<b>Max. installation altitude:</b>	2000m	
<b>Storage temperature:</b>	-20 – 60°C	
<b>Standards:</b>	CE, EN61204-3, EN55011, EN60664-1, EN61140	
<b>Communication:</b>	CAN, other on request	
<b>Cooling:</b>	active, built-in fans	
<b>Noise:</b>	@1m, full load, tbd dB(A) @40°C	
<b>Topology:</b>	transformer less	
<b>IP class:</b>	IP20	
<b>Degree of contamination:</b>	2	
<b>Protection class:</b>	1	

With the ambiCONVERT DC-DC a digitalized generation of bidirectional DC-DC converters are available. It combines profound knowledge of DC technology with the advantages of the digital age and mindset – and it is called “software defined power”.

The ambiCONVERT DC-DC is a scalable DC-DC converter, suited for commodity applications as well as for multi-industrial applications. It is a buck / boost converter in a single unit. Overlapping voltage areas at the in- and output are possible,

due to the patented DCDC Flow technology. There are no fixed ratios for the voltage levels on in- and output - flexible configuration during operation are possible via software. The ambiCONVERT DC-DC enables the realization of DC

energy systems using for instance batteries for energy storage and different kinds of DC supplies and loads, like electric vehicles or photovoltaic with its unique DCDC Flow technology.

## Applications

### INDUSTRY

Peak shaving applications  
Peak load buffer in the DC links  
Connecting DC-busses with different voltage levels

### TEST SYSTEMS

Battery test stands  
Battery simulation

### SMART GRID

ESS (Energy storage systems) with Wind and Solar systems  
Fuel cell applications  
Redox Flow applications  
Control energy to stabilize frequency and voltage of a grid

### eMobility

(Fast) charging stations for eCars  
DC Wallbox  
2nd Life battery applications

## Features

Software defined power  
Bidirectional buck / boost converter as a single unit  
High efficiency up to 99%  
High switching frequency  
Software features:  
Voltage Control (even in parallel operation)  
parameterizable battery load characteristic  
DC link buffering  
Variable switching frequency (optimizing efficiency)  
Built-in MPP Tracker to allow Photovoltaic field connections  
Functionality can be expanded via firmware updates

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All parameters not specially mentioned are measured at 400V DC, rated load and 20°C ambient temperature. Ripple & noise are measured at 20MHz bandwidth by using a standard probe. This product is considered a component which will be installed into the end product. The end product must be re-confirmed that it still meets the EMC directives. This is a preliminary datasheet. Specifications are subjected to change without notice. The contents of this brochure have been prepared with the greatest possible care. However, no guarantee is given for the correctness, completeness and up-to-dateness of the information and illustrations. We reserve the right to make changes and illustrations may differ. All product names are trademarks and registered trademarks of their respective owners.