

ambIBOX[®]

With the ambIBOX[®] 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.

The ambIBOX[®] 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. There are no fixed ratios for the voltage levels on in- and output - flexible configuration during operation via software.

The ambIBOX[®] 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[®] technologie.

Due to the high switching frequency the ambIBOX[®] comes along in a very small package and less weight. This also results in a high efficiency and less heat. The usable energy is maximized.

CAN, Modbus RTU and Modbus TCP are available as standard communication interfaces. Additional interfaces can be added on request.

Applications

Industry:

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

Smart Grid:

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

Test systems:

- Battery test stands
- Battery simulation

eMobility:

- (Fast) charging stations for eCars

Features

- Bidirectional buck / boost converter as a single unit
- High efficiency up to 98,x%
- High switching frequency
- Small formfactor: control unit and chokes built-in
- Software features:
 - Voltage Control (even in parallel operation)
 - parametrizable battery load characteristic
 - DC link buffering - fast supply of DC link from battery in case of power fails to maintain uninterrupted operation of a connected device
 - Variable switching frequency (optimizing efficiency)
 - Built-in MPP Tracker to allow Photovoltaic field connections
 - Passive cooling, optional Temperature controlled fans
 - Parametrizable temperature: derating of switching frequency, derating of current or switch-off
- Functionality can be expanded via additional Apps

Overview technical data

	ambiBOX® LC 2.5kW	ambiBOX® MID 7.5kW	ambiBOX® HP 20kW
Voltage range:	140 V ... 850 V DC different ranges on request	140 V ... 850 V DC	140 V ... 850 V DC
Max. system voltage	1000 V DC	1000 V DC	1000 V DC
Power	2.5 kW at 200 V DC	7.5 kW at 300 V DC	20 kW at 400 V DC
Scalability	8 x parallel	8 x parallel	8 x parallel
Supply voltage	24 V DC	24 V DC	24 V DC
Max. efficiency	> 96%	> 98%	> 99%
Temperature range	0...40°C, up to 55°C with derating		
Installation altitude	up to 2000m w/o derating		
Standards	EMV: EN61000-6-2, EN61000-6-4, EN61000-6-3; IEC 62109-1, UL 1741 CE, TLC, UL, ROHS		

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