

BSC6 - Bidirectional Auxiliary Supply Converter

The most efficient and versatile alternator ever



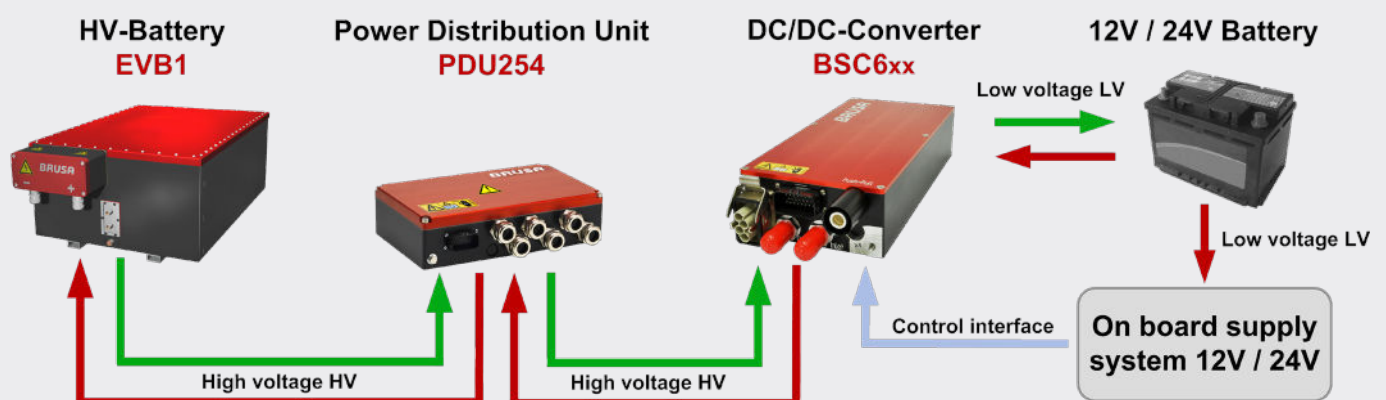
Features at a glance

- Bidirectional operation
- Resonant topology ensures very low switching losses and excellent EMC - behavior
- Very high efficiency (up to 96%)
- Very compact and lightweight
- PARAM - tool offers comprehensive configuration options and diagnostic function
- Optional operation without CAN (CAN - less mode)

What makes it special - benefits through bidirectional operation

- In fuel cell applications it allows to start-up the fuel cell auxiliary circuits on the HV-side right from the 12 V / 24 V supply system
- Enables emergency recharge of traction battery via common jump - start - cable
- Increases availability of vehicle when traction battery system fails since the converter provides energy from the 12 V / 24 V supply system

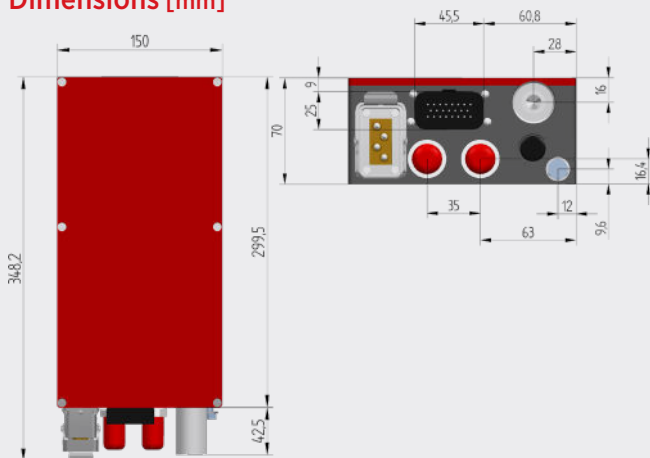
Application example



Specifications BSC6xx

High voltage side	BSC624-12V	BSC614-24V	
High voltage range	220 - 450	220 - 450	V _{DC}
Low voltage side	BSC624-12V	BSC614-24V	
Nominal low voltage	14.0	28.0	V _{DC}
Low voltage range	8 - 16	16 - 32	V _{DC}
Performance	BSC624-12V	BSC614-24V	
Continuous low voltage current (@ T _{coolant} = 65°C)	200	100	A
Max. low voltage current	250	125	A
Continuous power (@ nominal low voltage)	2.8	2.8	kW
Max. power (@ nominal low voltage)	3.5	3.5	kW
Efficiency typical (@ nominal voltage)	94.4	96	%
Switching frequency buck / boost stage	40 - 150	44 - 150	kHz
Switching frequency transformer stage	197	205	kHz
Control circuit	BSC624-12V	BSC614-24V	
Voltage range for signals of control connector (AUX)	7 - 23	7 - 23	V
High voltage signal range	0 - 480	0 - 480	V
Low voltage signal range	0 - 20	0 - 40	V
High and low voltage signal accuracy (referring to scale end)	+/- 1	+/- 1	%
Current signal range	+/- 25	+/- 25	A
Current signal accuracy (referring to scale end)	+/- 3.5	+/- 3.5	%
Mechanical data / Cooling system	BSC624-12V	BSC614-24V	
Weight	4.8	4.8	kg
IP - protection	IP65	IP65	---
Ambient temperature range (operation)	- 40 to + 85	- 40 to + 85	°C
Coolant temperature range	- 40 to + 65	- 40 to + 65	°C
Coolant flow rate	> 4	> 4	l / min
Pressure drop (@ nominal flow rate)	< 100	< 100	mbar
Galvanic insulation between high voltage circuit and low voltage circuit / user interface	BSC624-12V	BSC614-24V	
Test voltage (2 s)	2700	2700	V _{DC}

Dimensions [mm]



Efficiency

