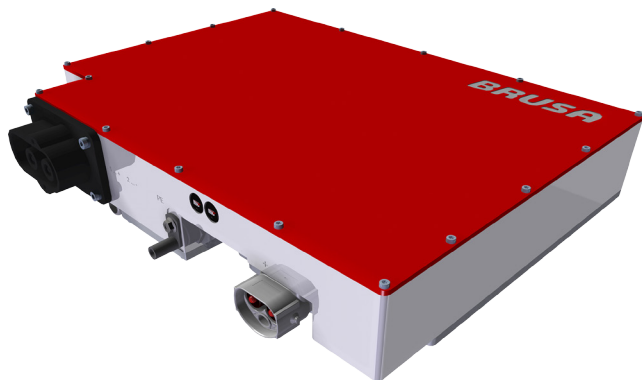




GIC246 - Bidirectional 750 V DC/DC-Converter

New state of the art galvanically isolated high-power converter



First samples available

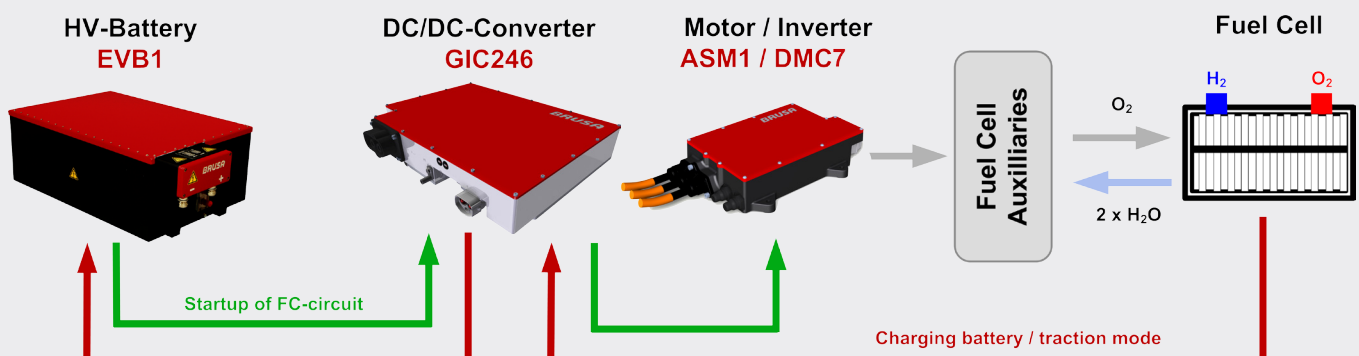
Features at a glance

- Resonant topology ensures very low switching losses and excellent EMC - behavior
- Buck / boost converter in one box (overlapping voltage range)
- Galvanic insulation between input and output
- Patented Liquid Pin[®] cooling system for optimal temperature behavior and performance
- FPGA based very dynamic control loop
- All new transfer-molded semiconductor modules fully take into account AECQ - requirements

All-in-one device suitable for every propose

- In fuel cell applications, the bidirectional operation allows to start - up the fuel cell auxiliary circuits
- In combination with a stationary transformer, it makes up for a powerful yet sophisticated rapid DC - charging unit
- Optimal choice to operate a test bench safely

Application example





Specifications GIC246

	GIC246	
Highside		
Voltage range (full performance)	100 - 750	V _{DC}
Overvoltage (shut down of power stage)	800	V _{DC}
Max. voltage (no operation)	900	V _{DC}
Lowside		
Min. voltage (start up)	0	V _{DC}
Voltage range (full performance)	50 - 450	V _{DC}
Overvoltage (shut down of power stage)	480	V _{DC}
Max. voltage (no operation)	500	V _{DC}
Performance		
Max. lowside current (continuous @ T _{coolant} = 55°C)	320	A
Max. highside current (continuous @ T _{coolant} = 55°C)	140	A
Continuous output power (@ U _{LS} = 240 V)	80	kW
Efficiency typical	95	%
Switching frequency buck/boost-stage	60	kHz
Switching frequency transformer-stage	69	kHz
Control circuit		
Voltage range for signals of control connector (AUX/clamp30, Interlock, Enable/clamp15)	6 - 32	V
Highside voltage signal range	0 - 1'020	V
Lowside voltage signal range	0 - 828	V
Highside and lowside voltage signal accuracy (1V or 1% of measured value, whatever is bigger)	+/- 2	V/%
Highside and lowside current signal range	+/- 400	A
Highside and lowside current signal accuracy (1A or 1% of measured value, whatever is bigger)	+/- 2	A/%
Mechanical data / Cooling system		
Weight	35	kg
IP- protection	IP6K9K	---
Ambient temperature range (operation)	-40 to +85	°C
Coolant temperature range	-40 to +65	°C
Coolant flow rate	>15	l/min
Pressure drop (@ 15 l/min, T _{coolant} = 25°C)	< 400	mbar
Galvanic insulation between highside voltage circuit, lowside voltage circuit and user interface		
Test voltage (2s)	3'600	V _{DC}

Dimensions

