

BDC600-12 Series, 3000 Watt High Voltage Bi-Directional DC/DC Converter



GALLEY POWER[®]

The Galley Power Solutions BDC600-12 Series is a 3kW Bi-directional isolated DC/DC converter suitable for a wide range of electric powered vehicles. It is specifically designed to be fitted on-board the vehicle to convert higher voltage battery power to 12 VDC low voltages to power the ancillary loads. The bidirectional DC/DC converter operates more as an ideal current source with variable direction, thus allowing energy transfer between two voltage domains. It regulates the average current flowing between the high voltage and low voltage ports in the direction selected via CAN interface. The compact package makes the unit ideal for harsh shock and vibration requirements as well as easy integration with a battery pack.

Liquid cooled DC/DC converter operates at input voltages from 300 to 850 VDC based on silicon carbide technology and delivers power range up to 3kW. 24V version is available by request for up to 6kW at the same dimension.



Features

- Input voltage range: 300 – 850 VDC
- Typical efficiency up to 93%
- Up to 3kW power
- Full galvanic isolation between input and output
- Liquid cooling
- Fully controlled via CAN Interface including remote ON/OFF, voltage, and current
- Over temperature, output over-voltage and over-current protection
- HVIL function
- External pre-charge circuit is not required
- Protection degree IP67

Applications

- Hybrid and electric vehicles
- Medium through heavy duty, on and off highway vehicles

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Specifications

Parameters	Unit	Min.	Nom.	Max.
High Voltage Side				
Operating voltage range	VDC	300	600	850
Operating current	A		5.5	
Over voltage protection	VDC		950	
Input power	W		3000	
Low Voltage Side				
Operating voltage range	VDC	6	12/Configurable	20
Operating current	A		200	
Over current protection	A		250	
Over voltage protection	V		Configurable	
Operating				
Switching Frequency	kHz		200	
Efficiency	%			93
Redundant Parallel Operation		Up to 4 converters operating in parallel		
Control Interface				
CAN baud rate	KBits/s		250/500/1000	
Control power voltage	V		12	
Environmental				
Operating temperature base plate	°C	-40		85
Storage temperature	°C	-55		125
Mechanical				
Weight	Lbs			
Dimension	Inches	12 x 7 x 3		
Safety				
Insulation, input-to-output	kV		3	
Insulation, input-to-earth	kV		3	

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