BEC75025

15kW/750Vdc Bidirectional DC/DC Conversion Module

Product Introduction

The BEC75025 is a bidirectional DC conversion module specially designed to meet the applications of energy storage devices, DC microgrids, and the cascaded utilization of retired batteries. This module can be used to connect batteries and DC buses. It has a built-in high-frequency isolation transformer and adopts third-generation semiconductor SiC devices to achieve excellent performances such as high efficiency, high power density, high scalability, extremely low electromagnetic radiation and interference, and high reliability. It is a power conversion module with an international leading level.

Product Features

High Efficiency & Energy Saving

- High efficiency: Designed with all SiC (Silicon Carbide), it has a full-load efficiency as high as 98% and a peak efficiency of up to 98.5%.

Safety and Reliability

- Built-in intelligent discharge circuit: Automatically discharge the residual charge, and the system has high reliability.
- Isolation by high-frequency transformer: Ensure the high reliability of the bidirectional conversion module.
- Bidirectional energy flow: The same module can achieve the bidirectional conversion function of DC/DC, and can make a smooth transition when the power flow direction changes.

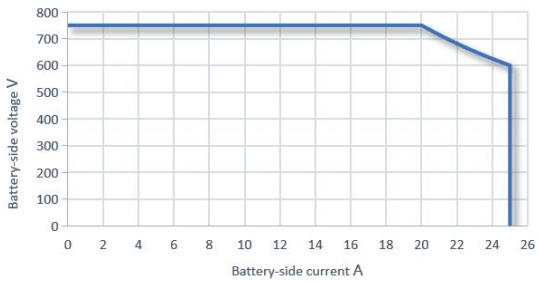
Intelligent and Convenient

- Fully digital control: Dual DSP design, with high-reliability control.
- Hot swapping without damage: Plug and play, convenient for maintenance.
- Parallel connection of multiple modules: It supports the parallel connection of up to 32 modules. With flexible capacity expansion, it can be adapted to the simultaneous use of retired batteries of different models.

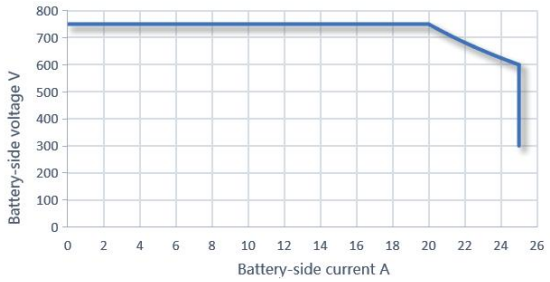
Widely Compatible

- Wide input voltage range: 300Vdc ~ 750Vdc, compatible with various levels DC buses.
- Wide output voltage range: 50Vdc~750Vdc, compatible with various power batteries and energy storage batteries.
- Wide temperature range: -40℃ ~ +75℃ , compatible with applications in various scenarios.
- Unique design for protection against three aspects: Designed to be resistant to salt spray, moisture and mildew, it adapts to various application scenarios.

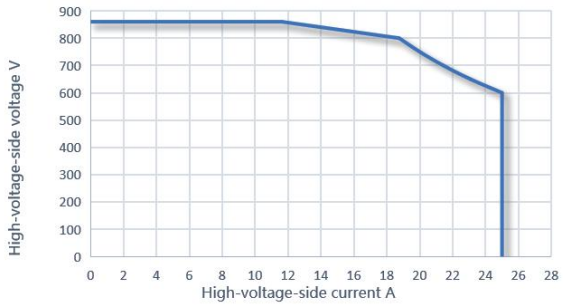
External charging characteristic curve on the battery side



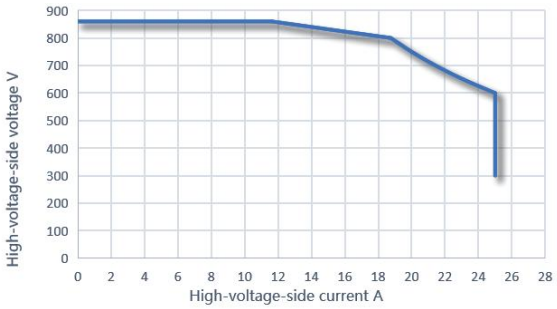
External discharging characteristic curve on the battery side



External charging characteristic curve on the high-voltage side



External discharging characteristic curve on the high-voltage side



Model		BEC75025
Working Conditions	Operating Temperature	-40℃～+75℃，derating shall be applied when the temperature is above +55℃.
	Relative Humidity	≤95%RH，condensation-free
	Cooling Method	Forced air cooled
	Altitude	2000m，derating should be considered when the altitude is above 2000 meters.
Battery Side	Input / Output Power	15kW（600Vdc~750Vdc）
	Voltage Range	300Vdc~750Vdc
	Current Range	0~25A
	Rated Current	20A
	Current-sharing	Unbalance Degree<±5%
	Accuracy of Voltage Stabilization	<±0.5%
	Accuracy of Current Stabilization	≤±1%（The output load ranges from 20% to 100% of the rated range.）
	Efficiency (Full Load)	> 98%（Rated Voltage 750Vdc，50%～100%Load Current；Peak Efficiency> 98.5%）
High-voltage Side	Input / Output Power	15kW
	Voltage Range	300Vdc~860Vdc
	Current Range	0~25A
	Rated Current	20A
	Current-sharing	Unbalance Degree<±5%
	Accuracy of Voltage Stabilization	<±0.5%
	Accuracy of Current Stabilization	≤±1%（The output load ranges from 20% to 100% of the rated range.）
	Efficiency (Full Load)	>98%（Rated Voltage 750Vdc，50%～100%Load Current；Peak Efficiency> 98.5%）
Appearance	Dimension	85mm（H）×226mm（W）×395mm（D）
	Weight	≤10.5kg
Others	Connect Method	CAN
	MTBF	>500,000h
	Satisfied Standards	GB/T18487、NB/T33001、NB/T33008