

BEG1K075G/BEG1K0100G

22kW/30kW/1000V Bidirectional AC/DC Conversion Module



Product Introduction

The BEG1K075G/BEG1K0100G is a bidirectional AC/DC conversion module specially designed to meet the bidirectional conversion applications in V2G (Vehicle-to-Grid), energy storage charging, the secondary utilization of retired batteries and microgrids with multiple energy inputs. It boasts advantages such as a wide constant-power voltage range, high efficiency, high power factor, high power density, low electromagnetic radiation and interference, and high reliability, reaching the international leading level.

Product Features



High Efficiency & Energy Saving

- Wide constant-power voltage range: 300Vdc~1000Vdc, constant-power output.
- High efficiency: It is designed with all-SiC (Silicon Carbide), boasting an efficiency of 96% and being more energy-efficient.
High power efficiency: 36W/in³ / 49W/in³, save area.



Safety and Reliability

- Three-phase AC input without a neutral line: Eliminate the risk of excessive neutral current and simultaneously reduce the system cost.
- Bidirectional energy flow: Bidirectional conversion between AC/DC and DC/AC, with a smooth transition when the power flow direction changes.
- Isolation by high-frequency transformer: Ensure the high reliability of the bidirectional conversion module.



Intelligent and Convenient

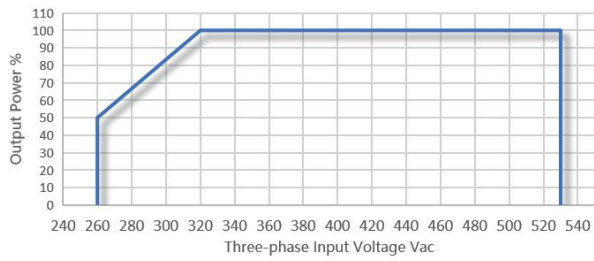
- Fully digital control: Dual DSP design, with high-reliability control.
- Support grid-connected and off-grid applications: Adapt to various application scenarios.



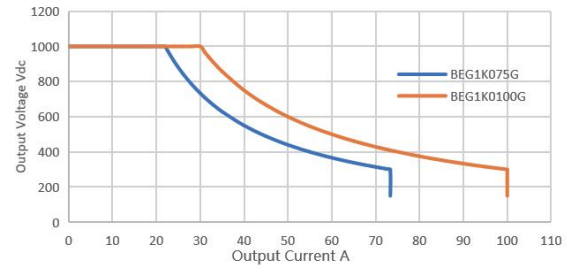
Widely Compatible

- Wide AC voltage range: 260Vac~530Vac, compatible with various power grids.
- Wide DC voltage range: 150Vdc~1000Vdc, compatible with various power batteries and energy storage batteries.
- Excellent EMC performance: Meet the requirements of EN61000-6-1 and EN61000-6-3 electromagnetic compatibility CLASS B.

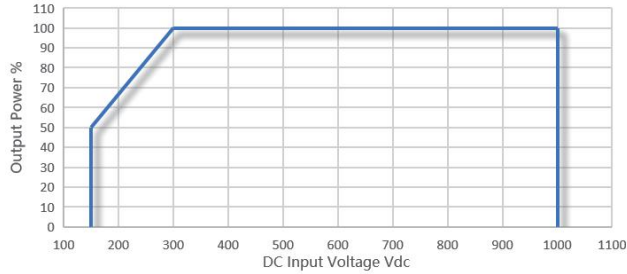
Rectification mode: Curve of the relationship between output power and input voltage



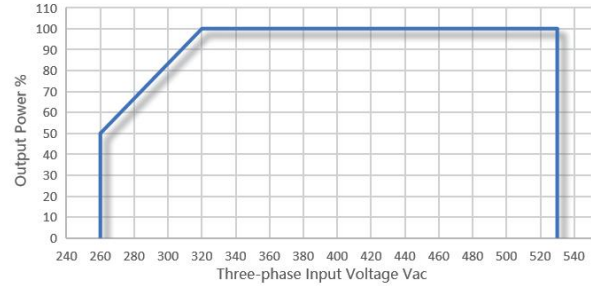
Rectification mode: Curve of the relationship between output current and output voltage



Inversion mode: Curve of the relationship between output power and input voltage



Inversion mode: Curve of the relationship between output power and output voltage



Model			BEG1K075G	BEG1K0100G
Working Conditions		Operating Temperature	-40°C ~ +75°C, derating shall be applied when the temperature is above +55°C.	
		Relative Humidity	≤95%RH, condensation-free	
		Cooling Method	Force air cooled	
		Altitude	2000m, derating should be considered when the altitude is above 2000 meters.	
Rectification Mode	AC Input	Rated Voltage	380Vac, 3L+PE	
		Input Current Range	0~43A	0~48A
		Input Voltage/Frequency Range	260Vac~530Vac; 45Hz~65Hz	
		Power Factor	≥ 0.99 (full load output)	
		THD	<5% (50%~100% full load output power)	
	DC Output	Rated Power	22kW	30kW
		Output Voltage	150Vdc~1000Vdc	
		Current Range	0~73.3A	0~100A
		Accuracy of Voltage Stabilization	< ±0.5%	
		Accuracy of Current Stabilization	≤ ±1% (output load 20%~100% range)	
Efficiency		Full Load Efficiency>96%, Peak Efficiency>97%		
Switching time between rectification and inversion modes			<100ms	
Inversion Mode	DC Input	DC Input Voltage	300Vdc~1000Vdc	
		DC Output Power	22kW constant-power output	30kW constant-power output
		Max Current	73.3A	100A
	AC Output	Output AC Voltage & Output Power	260Vac~530Vac; 320Vac~530Vacconstant-power output	
		Rated Power/Current	22kW /33.3A	30kW/40A
		Output AC Frequency	50Hz/60Hz	
		THD	< 5%	
		Power Factor	Settable, setting range 0.8~1, -0.8~-1	
		Efficiency	Full Load Efficiency>96%, Peak Efficiency>97%	
Appearance		Dimension	84mm (H) ×300mm (W) ×395mm (D)	
		Weight	≤16kg	
Others		Connect Method	CAN	
		MTBF	>500,000h	
		Satisfied Standards	TUV UL CE	