LBG1K0120G

35kW/1000Vdc Bidirectional AC/DC Liquid-cooled Module

Product Introduction

The LBG1K0120G bidirectional power conversion module adopts liquid-cooled heat dissipation, which features high protection level, low noise, and is isolated by an internal high-frequency transformer, facilitating the design of a fully liquid-cooled energy storage system. The module employs SiC power devices, resulting in high energy conversion efficiency and high power density. It has an extremely wide DC voltage range, meeting the charging and discharging requirements of energy storage batteries and power batteries. It can be widely applied in various energy storage and storage-charging scenarios with high requirements for product reliability and environmental friendliness.

Product Features

High Efficiency & Energy Saving

- High efficiency: It is designed with all-SiC (Silicon Carbide), the highest efficiency is 96%.
- Ultra-low standby power consumption: < 12W, ultra-low standby power consumption is 2W

Safety and Reliability

- Hermetic design: There is no cooling fan, and it is not affected by the external environment, so it has extremely high reliability.
- Efficient heat dissipation: Anti-condensation design, excellent heat dissipation effect, and long service life.
- Isolation by high-frequency transformer: Ensure the high reliability of the bi-directional conversion module.

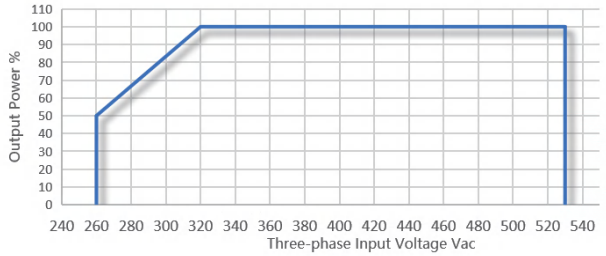
Intelligent and Convenient

- Simple maintenance: The liquid-cooled terminals adopt a quick-insert self-sealing interface design, which is convenient for maintenance.
- Support grid-connected and off-grid applications: Adapt to various application scenarios.
- Noise-free: The liquid cooled for heat dissipation is driven by a water pump. The module has no fans and is noise-free.

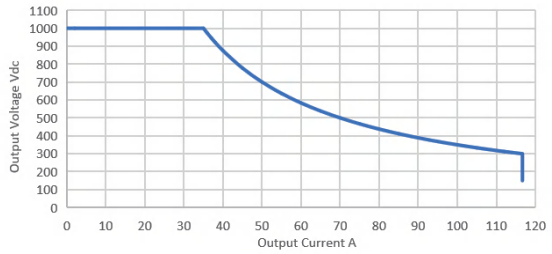
Widely Compatible

- 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.

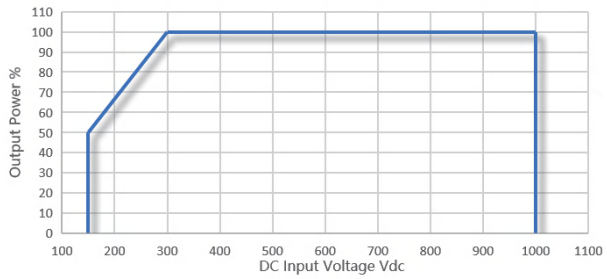
Rectification mode: Curve of the relationship between output power and input voltage



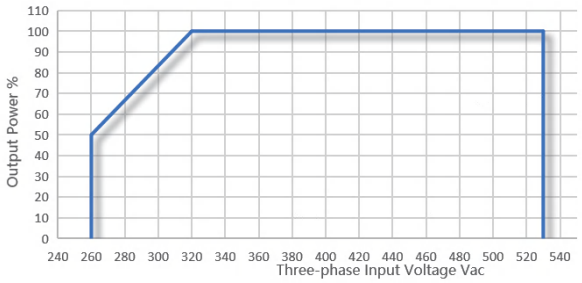
Rectification mode: Curve of the relationship between output current and output voltage



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			LBG1K0120G
Working Conditions		Operating Temperature	-40℃～+75℃，derating shall be applied when the temperature is above +60℃.
		Relative Humidity	≤95%RH，condensation-free
		Cooling Method	Liquid-cooled
		Altitude	2000m，derating should be considered when the altitude is above 2000 meters.
Rectification Mode	AC Input	Rated Voltage	380Vac，3L+PE
		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	35kW
		Output Voltage/Current Range	150Vdc~1000Vdc，0~117A
		Constant Power Voltage Range	300Vdc~1000Vdc
		Accuracy of Voltage Stabilization	< ±0.5%（150Vdc~1000Vdc，0~20MHz）
		Accuracy of Current Stabilization	≤ ±1%（output load 20%～100% range）
Switching time between rectification and inversion modes			<100ms
Inversion Mode	DC Input	DC Input Voltage	150Vdc~1000Vdc（On-grid）/200Vdc~1000Vdc（Off-grid）
		Max Current	117A
	AC Output	Wiring method	3L+PE/On-grid，3L+N+PE/Off-grid
		Output AC Voltage	260Vac~530Vac
		Rated Power	35kW
		THD	< 5%
		Power Factor	0.8~1，-0.8~-1
Appearance		Dimension	123mm（H）×300mm（W）×453mm（D）
		Weight	≤30kg
Others		Efficiency	Full Load Efficiency >96%，Peak Efficiency >97%
		Connect Method	CAN
		MTBF	>500,000h
		Satisfied Standards	TUV CE/UL