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BEG1K075G，BEG1K0100G

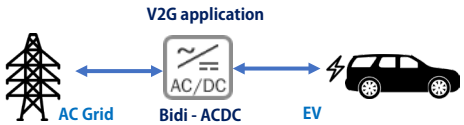
22kW，30kW/1000V Bidirectional ACDC Power Module

Product Introduction

BEG1K0750G and BEG1K0100G are the bidirectional ACDC power modules used to connect the battery or DC bus to the AC grid. It is specially designed for such bidirectional applications as V2G/VPF function EV chargers, retired battery utilization and the micro grid. It also can replace traditional PCS for energy storage systems. By employing the high frequency MOSFET/ SiC switch technology, it can achieve excellent performance, high power density, high expansion ability and high reliability.

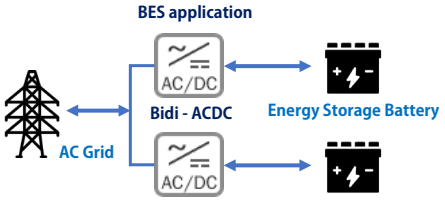
Unique function：

- Bidirectional ACDC power module with inside high frequency transformer isolation for safety
- Wide voltage range both at the source and load side, suitable for different battery racks and AC grid standards
- Smooth transition when the direction of power flow changes
- Off grid support



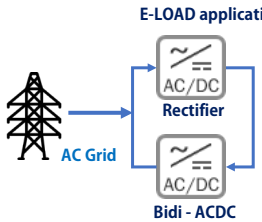
Main feature：

- Internal high frequency transformer isolation for high safety assurance
- Constant current ensures higher power at the source side
- Maximum 32 power modules in parallel on grid and 16 in parallel off grid
- Low standby power consumption, less than 20W
- Max efficiency is higher than 97%
- Plug & play
- Compatible in size and interface with the ACDC, DCDC and Bidi DCDC power module



Application：

- Energy Storage EV charger
- V2G and V2H
- Replace the traditional PCS and grid transformer in BESS
- VPF function for EV charger
- Retired battery utilization
- Smart grid



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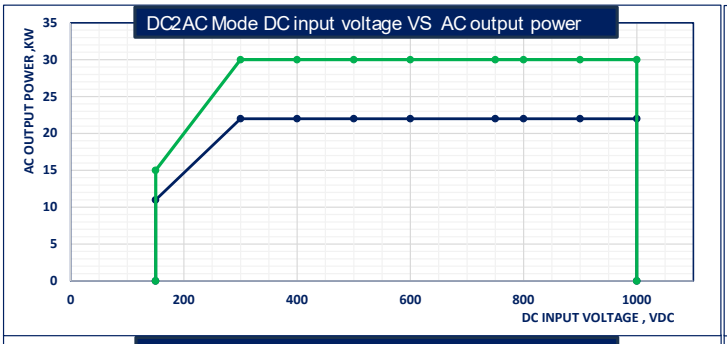

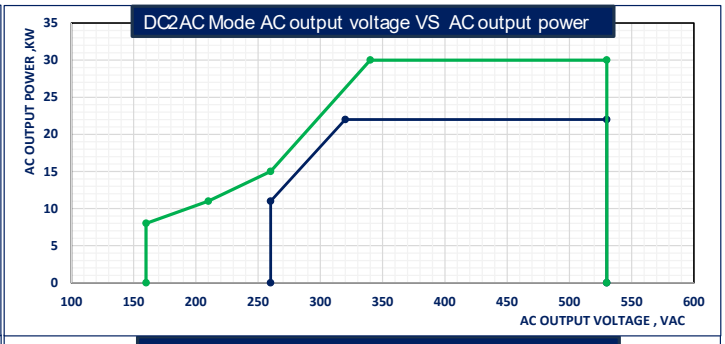

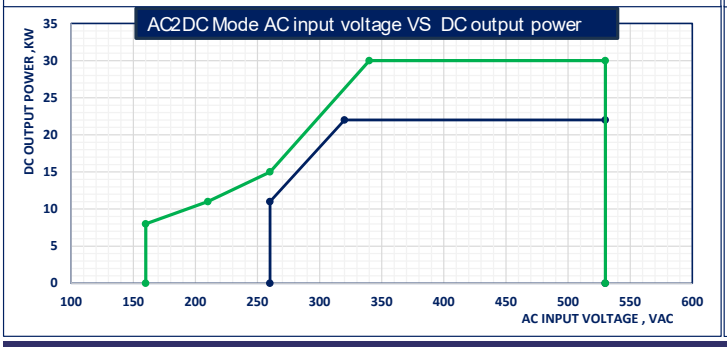

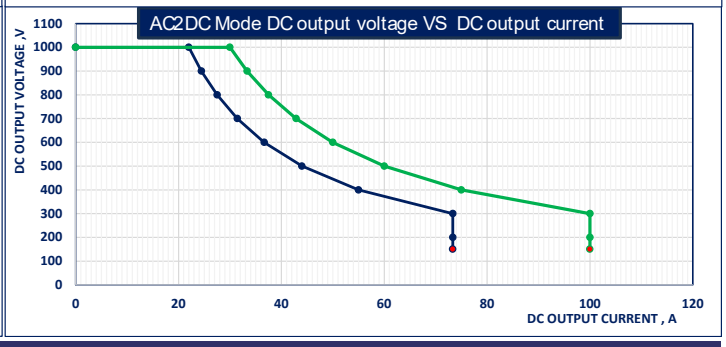

Technical Specification

Environmental		Ambient Temperature / Storage Temperature	－40℃ ~ ＋70℃，derating from 55℃ / －40℃ ~ ＋70℃	
		Humidity / Altitude	≤95%RH，non-condensing 2000m	
AC to DC Mode	AC Input	Rated Input voltage & current range	380V/400V/480V, 3L+PE; 34A/33A/27A	208V/380V/400V/480V, 3L+PE; 29A/46A/44A/37A
		Input voltage/frequency range	260 ~ 530Vac, 45 Hz ~ 65 Hz	156 ~ 530Vac, 45 Hz ~ 65 Hz
		Power factor	≥0.99 Full-load output power of @50% ~ 100%	
		THD	≤5% Full-load output power of @50% ~ 100%	
	DC Output	Rated power	22kW	30kW
		Voltage and current range	150Vdc ~ 1000Vdc, 0 ~ 73.3A	150Vdc ~ 1000Vdc, 0 ~ 100A
		Voltage stabilization accuracy	<±0.5%	
		Current stabilization accuracy	≤±1%（output power in 20% ~ 100%）	
		Efficiency (max)	≥97%	≥97%
AC2DC and DC2AC Mode conversion time (Battery test)			10ms	
DC to AC Mode	DC Input	DC input voltage and Output power	From 1000 to 300Vdc, ouput power is full power 22kW/30kW From 300 to 150Vdc, output power is linear derating to half 11kW/15kW	
		Max Input current	73.3A	100A
	AC Output	Output AC Voltage and Output power	530~320Vac, 22kW 320~260Vac,linear derating to 11kW	530~340Vac, 30kW 340~260Vac,linear derating to 15kW 260~160Vac,linear derating to 8kW
		Rated power	22kVA	30kVA
		Output AC Frequency	50 Hz/60 Hz	
		THDi	< 5%	
		Output Power Factor	User Setting scale, 0.8 ~ 1, -0.8 ~ -1	
		Efficiency (max)	≥97%	≥97%
		Off Grid 1/2/3P +N+PE — Voltage accuracy and distortion	1% and <3%	
		Off Grid 1/2/3P +N+PE — Power (3Phase /2Phase /single Phase)	22kVA/ 13.2kVA/ 6.6kVA (R Load)	30kVA/ 15kVA/ 5kVA (R Load)
		Off Grid 1/2/3P +N+PE — Phase interval switching with power keeping	not support	support (Neutral line control need)
		Off Grid 1/2/3P +N+PE — Power factor	>0.7	>0.7
		Off Grid 1/2/3P +N+PE — Dynamic voltage stability and recovery time	5% and 20mS	5% and 20mS
Control		Communication	CAN2.0	
		Indication Light	Green LED: ON for AC2DC Mode, Breathing for DC2AC Mode. Yellow LED: alarm. Red LED: failure	
Alarm and protection		Input/output over/under voltage protection	Automatic shutdown, automatic restart when voltage returns to normal	
		Over current and short circuit protection	Automatic shutdown and lock, power off to start and unlock	
		Over temperature protection	Automatic shutdown, automatic restart when the temp returns to normal	
EMC/EMI		TUV CE certification	IEC61000-6-1/2/3/4, Class B	
Safety		TUV UL/CE certification	UL2202, CSA C22.2 No.107.1, UL9741, UL1741, UL508, IEC62909-1/2, EN62477, IEC61000	
Grid connection		VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9		
Mechanical		Dimension / Weight	84mm (H) × 300mm (W) × 395mm (D), ≤17 kg	

The power module can not be connected to the Neutral line from the Grid side in the on grid mode.
In the off grid mode, the Module will output the Neutral line to load. But the power module's neutral line need to be connected together system inner

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