

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:

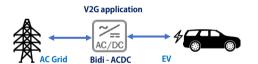
- Bidirectional ACDC power module with inside high frequency transformer isolation for safety
- Wide voltage range both at the source and load side, suitable for different battery racks and AC grid standards
- Smooth transition when the direction of power flow changes
- Off grid support

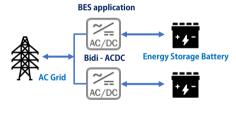
Main feature:

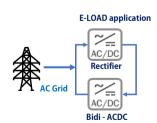
- Internal high frequency transformer isolation for high safety assurance
- Constant current ensures higher power at the source side
- Maximum 32 power modules in parallel on grid and 16 in parallel off grid
- Low standby power consumption, less than 20W
- Max efficiency is higher than 97%
- Plug & play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

Application:

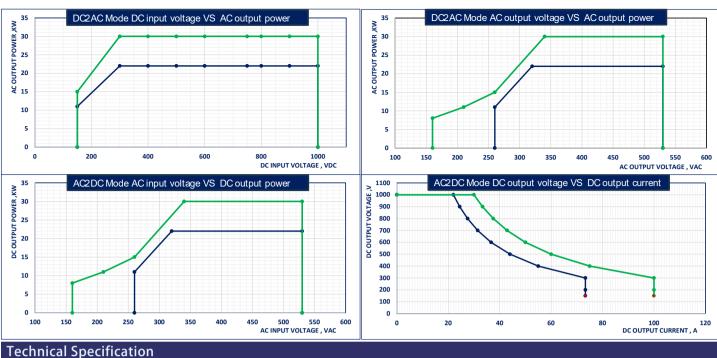
- Energy Storage EV charger
- V2G and V2H
- Replace the traditional PCS and grid transformer in BESS
- VPF function for EV charger
- Retired battery utilization
- Smart grid







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



AC Input AC Input AC Input Input voltage & current range 34A/33A/27A 29A/46A/4A/37A Input voltage/frequency range 260 ~ 530Vac, 45 Hz ~ 65 Hz 156 ~ 530Vac, 45 Hz ~ 65 Hz 200 Milload output power of @50% ~ 100% 200 Milload output power of @50% ~ 100% 22kW 30kW 3	Technical S	pecificat	ion				
Humidity / Altitude			Ambient Temperature / Storage Temperature		-40°C ~ +70°C, derating from 55°C / -40°C ~ +70°C		
AC to DC Mode AC to Utput AC to Mode AC Output			Humidity / Altitude		≤95%RH, non-condensing 2000m		
AC to DC Mode Power factor	AC to DC Mode		Rated Input voltage & current range			208V/380V/400V/480V, 3L+PE; 29A/46A/44A/37A	
THD		AC Input	Input voltage/frequency range		260 ~ 530Vac, 45 Hz ~ 65 Hz	156 ~ 530Vac, 45 Hz ~ 65 Hz	
Rated power 150Vdc ~ 1000Vdc, 0 ~ 73.3A 150Vdc ~ 1000Vdc, 0 ~ 100A			Power factor		≥0.99 Full-load output power of @50% ~ 100%		
Rated power 150Vdc ~ 1000Vdc, 0 ~ 73.3A 150Vdc ~ 1000Vdc, 0 ~ 100A			THD		≤5% Full-load output power of @50% ~ 100%		
DC Output Voltage stabilization accuracy S±1% (output power in 20% ~ 100%)		DC Output	Rated power		22kW	30kW	
Current stabilization accuracy S±1% (output power in 20% ~100%)			Voltage and current range		150Vdc ~ 1000Vdc, 0 ~ 73.3A	150Vdc ~ 1000Vdc, 0 ~ 100A	
Efficiency (max) \$97% \$97% \$97%			Voltage stabilization accuracy		<±0.5%		
DC Input			Current stabilization accuracy		≤±1% (output power in 20% ~ 100%)		
DC to AC Mode AC Output AC Outp			Efficiency	(max)	≥97%	≥97%	
DC Input	AC2DC and DC2AC Mode conversion time (Battery test)				10ms		
Max Input current 73.3A 100A	DC to AC Mode	DC Input	II)(input voltage and ()utput nower				
OC to AC Mode AC Output AC Out			Max Inpu	ut current	73.3A	100A	
Output AC Voltage and Output power 320~260Vac,linear derating to 11kW 340~260Vac,linear derating to 15l 260~160Vac,linear derating to 15l 260Vac,linear de		AC Output			530~320Vac. 22kW	530~340Vac. 30kW	
Output AC Frequency THDi AC Output AC Frequency THDi AC Output AC Sh Ac Output AC Frequency THDi AC Output AC Frequency THDi AC Output AC Frequency THDi AC Output AC Output AC Sh Ac Output Ac Output Ac Sh Ac						340~260Vac,linear derating to 15kW 260~160Vac,linear derating to 8kW	
AC Output AC Output			Rated power		22kVA	30kVA	
THDi AC Output Output Power Factor Efficiency (max) Off Grid Off Grid 10 Ac Output Output Power Factor Efficiency (max) Voltage accuracy and distortion Off Grid 10 Ac Output Off Grid Off Grid 10 Ac Output Off Grid Off Gr			Output AC Frequency		50 Hz/60 Hz		
Efficiency (max) Second Control Efficiency (max) Second Control Second Control Control Second Con			THDi		< 5%		
Voltage accuracy and distortion Off Grid Off Grid 1/2/3P +N+PE Power (3Phase /2Phase /single Phase) Power (3Phase /2Phase /single Phase) 1/2/3P +N+PE Power factor Dynamic voltage stability and recovery time Control Communication Indication Light Input/output over/under voltage protection Automatic shutdown, automatic restart when voltage returns to normal Over current and short circuit protection EMC/EMI TUV CE certification VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9			Output Power Factor		User Setting scale, 0.8 ~ 1, -0.8 ~ -1		
Off Grid 1/2/3P +N+PE Power (3Phase /2Phase /single Phase) 22kVA/ 13.2kVA/ 6.6kVA (R Load) 30kVA/ 15kVA/ 5kVA (R Load) 1/2/3P +N+PE Power factor Dynamic voltage stability and recovery time Control Communication Indication Light Alarm and protection Alarm and protection EMC/EMI TUV CE certification Grid connection Off Grid 1/2/3P Phase interval switching with power keeping Not support Support (Neutral line control needs) Not support (Neutral line control needs) Not support Support (Neutral line control needs) Not support (Neutral line control needs) Not support Neutral line control needs Not su			Efficiency	(max)	≥97%	≥97%	
1/2/3P			1/2/3P	Voltage accuracy and distortion	1% an	1% and <3%	
+N+PE Power factor >0.7 >0.7 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: fl 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, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9				Power (3Phase /2Phase /single Phase)	22kVA/ 13.2kVA/ 6.6kVA (R Load)	30kVA/ 15kVA/ 5kVA (R Load)	
Dynamic voltage stability and recovery time 5% and 20mS 5% and 20mS Control Communication Indication Light Alarm and protection CVer current and short circuit protection EMC/EMI TUV CE certification Safety Dynamic voltage stability and recovery time 5% and 20mS CAN2.0 CAN2.0 Automatic Shutdown, automatic restart when voltage returns to normal Automatic shutdown and lock, power off to start and unlock Over temperature protection Automatic shutdown, automatic restart when the temp returns to normal EC61000-6-1/2/3/4, Class B Safety TUV UL/CE certification UL2202, CSA C22.2 No.107.1, UL9741, UL1741, UL508, IEC62909-1/2, EN62477, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9				Phase interval switching with power keeping	not support	support (Neutral line control need	
Control Communication CAN2.0 Indication Light Alarm and protection Alarm and protection EMC/EMI TUV CE certification Safety Communication CAN2.0 Green LED: ON for AC2DC Mode, Breathing for DC2AC Mode. Yellow LED: alarm. Red LED: for Automatic shutdown, automatic restart when voltage returns to normal Automatic shutdown and lock, power off to start and unlock Automatic shutdown, automatic restart when the temp returns to normal Automatic shutdown, automatic restart when the temp returns to normal EC61000-6-1/2/3/4, Class B UL2202, CSA C22.2 No.107.1, UL9741, UL1741, UL508, IEC62909-1/2, EN62477, IEC62 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9				Power factor	>0.7	>0.7	
Control Indication Light Green LED: ON for AC2DC Mode, Breathing for DC2AC Mode. Yellow LED: alarm. Red LED: f Input/output over/under voltage protection Automatic shutdown, automatic restart when voltage returns to normal Over current and short circuit protection Over temperature 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, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9				Dynamic voltage stability and recovery time	5% and 20mS	5% and 20mS	
Alarm and protection Over current and short circuit protection Over temperature protection EMC/EMI TUV CE certification Safety TUV UL/CE certification Automatic shutdown, automatic restart when the temp returns to normal lec61000-6-1/2/3/4, Class B UL2202, CSA C22.2 No.107.1, UL9741, UL1741, UL508, IEC62909-1/2, EN62477, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9	Control		Communication		CAN2.0		
Alarm and protection 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, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9			Indication Light		Green LED: ON for AC2DC Mode, Breathing for DC2AC Mode. Yellow LED: alarm. Red LED: failu		
Over temperature protection 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, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9	Alarm and protection		Input/output over/under voltage protection		Automatic shutdown, automatic restart when voltage 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, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9			Over current and short circuit protection		Automatic shutdown and lock, power off to start and unlock		
Safety TUV UL/CE certification UL2202, CSA C22.2 No.107.1, UL9741, UL1741, UL508, IEC62909-1/2, EN62477, IEC6 Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9			Over temperature protection		Automatic shutdown, automatic restart when the temp returns to normal		
Grid connection VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No. 9	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, IEC610		
Mechanical Dimension / Weight 84mm (H) × 300mm (W) × 395mm (D) ≤17 kg	Grid connection		VDE-AR-N 4105, UL1741SB: 2021, CSA C22.3 No.		o. 9		
westranisa principality vergit portinit (ii) ~ obotilit (vv) ~ obotilit (b), <11 kg	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