英飞源技术
INFY POWER

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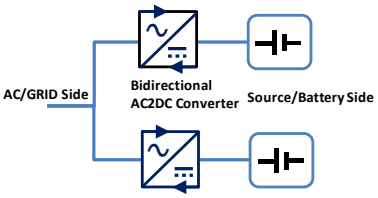
BEG1K075G

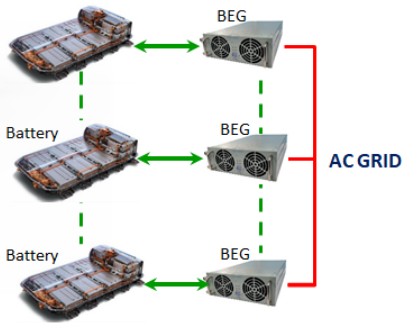
22kW1000V Bidirectional AC2DC Converter

Product Introduction

BEG1K075G is the bidirectional AC2DC converter, been used for connecting the battery or DC bus to the AC grid, are specially designed for bidirectional applications in V2G and VPF function EV charger, Retired Battery Utilization and Micro Grid. Can instead of the traditional PCS in the energy storage system. With the high frequency MOSFET/SiC switch technology can get the excellent performance, high power density, high expansion ability and high reliability.



Retired Battery utilization



Max 32 Groups

Unique function:

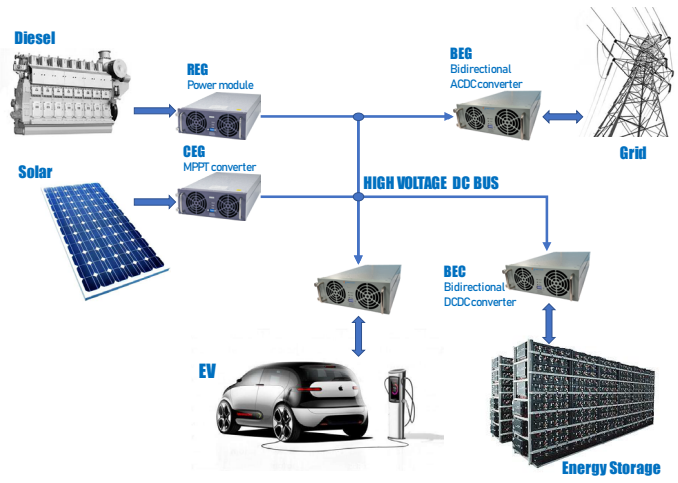
- Bidirectional converter for AC2DC
- Inside high frequency transformer isolation
- Wide voltage range in source side, suitable for multiple battery racks
- Smooth transition when power flow changing direction

V2G Charger

Main feature:

- Constant current keeps the larger power in source side
- Max efficiency is higher than 96%
- Low standby power consumption, less than 20W
- Maximum 32 converters in parallel work
- Plug & play
- Duo CAN communication interface

Smart Grid



Application:

- Energy storage instead of traditional PCS
- Energy storage EV charger
- V2G EV charger
- VPF function EV charger
- Retired battery utilization

Address: First Floor, No.1 Building, Linoya Industrial Park, Tangtou No.1 Road, Shiyan, Bao'an District, Shenzhen, China.
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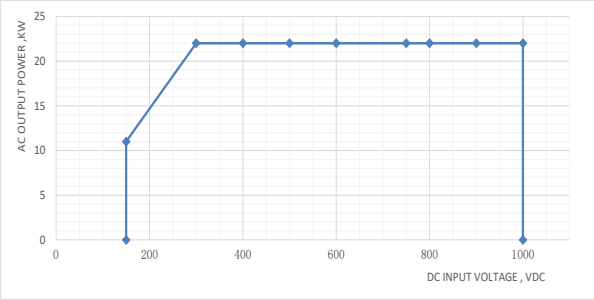
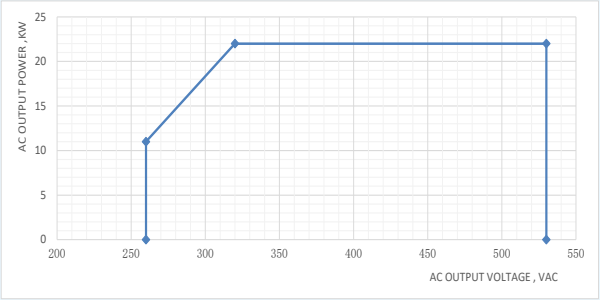
2021.02 VER:1.2

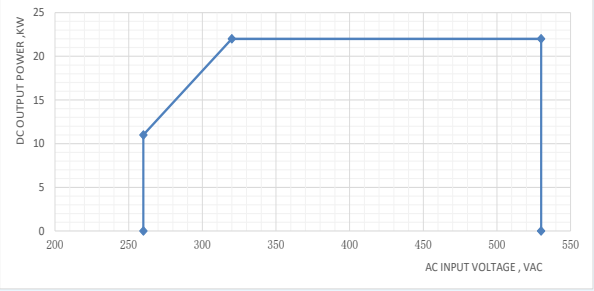
DC2AC MODE DC input voltage VS AC output power



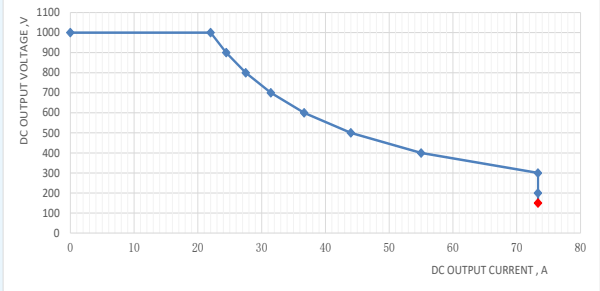
DC2AC MODE AC output voltage VS AC output power



AC2DC MODE AC input voltage VS DC output power



AC2DC MODE DC output voltage VS DC output current



Technical Specification

Environmental		Ambient Temperature	－40℃ ~ ＋75℃， derating from 45℃
		Storage Temperature	－40℃ ~ ＋75℃
		Humidity	≤95%RH， non-condensing
		Altitude	2000m
AC to DC Mode	AC Input	Input voltage & current range	400/480Vac, 3L+PE; 0 ~ 43A
		Input voltage/frequency range	260 Vac ~ 530 Vac, 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
		Voltage and current range	150Vdc ~ 1000Vdc, 0 ~ 73.3A
		Voltage stabilized accuracy	<±0.5%
		Current stabilized accuracy	≤±1% （output power in 20% ~ 100%）
		Efficiency (max)	≥96%
AC2DC and DC2AC Mode convert time (Battery test)			10mS
DC to AC Mode	DC Input	DC input voltage and Output power	From 300 to 1000Vdc, ouput power is 22kW From 300 to 150Vdc, output power is linear derating to 11kW
		Max Input current	73.3A
	AC Output	Output AC Voltage and Output power	From 320 to 530Vac, ouput power is 22kW; From 320 to 260Vac , output power is linear derating to 11kW
		Rated power and current	22kVA / 33.3A
		Output AC Frequency	50 Hz/60 Hz
		THDi	＜5%
		Output Power Factor	User Setting scale, 0.8 ~ 1, -0.8 ~ -1
		Efficiency (max)	≥96%
		Off Grid: Voltage accuracy and distortion	1% and <3% // Off Grid only support 400Vac
		Off Grid: Power factor	>0.7
		Off Grid: Dynamic voltage stability and recovery time	5% and 20mS
Control		Communication	Duo CAN BUS
		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 return to normal
		Over current and short circuit protection	Automatic shutdown and lock, need the input restart to unlock
		Over temperature protection	Automatic shutdown, automatic restart when the temp return to normal
Reliability		MTBF	>300,000 h
EMC/EMI		TUV CE certification (in progress)	EN61851-21-2, class B
Safety		TUV UL/CE certification (in progress)	UL2202, EN61851-1, EN61851-23
Grid connection		Different country certification (in progress)	VDE-AR-N 4105, G83/2, G59/3 (UK), DIN V VDE V 0126-1-1
Mechanical		Dimension / Weight	84mm (H) × 300mm (W) × 395mm (D), ≤17 kg

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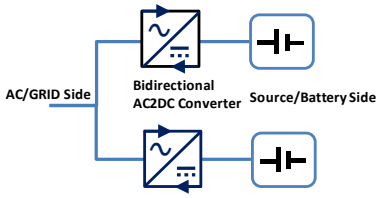
BEG1K0110G

62.5kW1000V Bidirectional AC2DC Converter

Product Introduction

BEG1K0110G is the bidirectional AC2DC converter, been used for connecting the battery to the AC grid, are specially designed for bidirectional applications in Energy storage with excellent performance, high efficiency, high power density, high expansion ability and high reliability



Unique function:

- Bidirectional converter
- Non isolation design
- Wide voltage range in source side, suitable for multiple battery packs
- Smooth transition when power flow changing direction

Main feature:

- Constant current keeps the larger power in source side
- Max efficiency is higher than 98.7%
- Less than 12W standby power consumption and less than 300W no load power consumption
- Maximum 16 converters in parallel work
- Plug & play

Application:

- Retired battery utilization
- Smart grid with DC bus and energy storage

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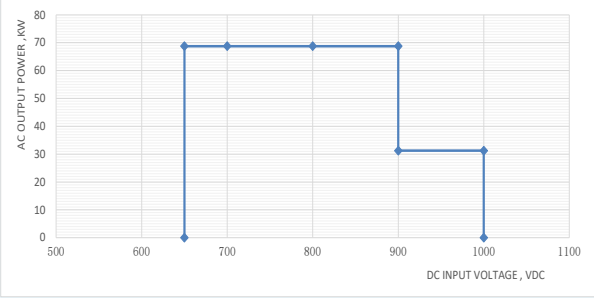
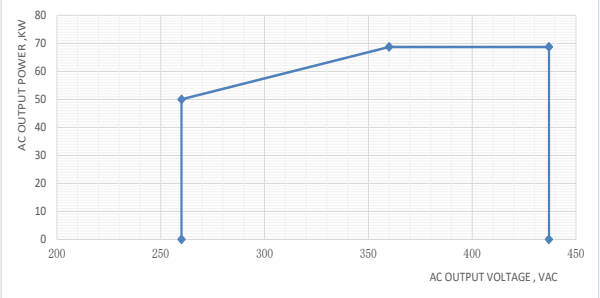
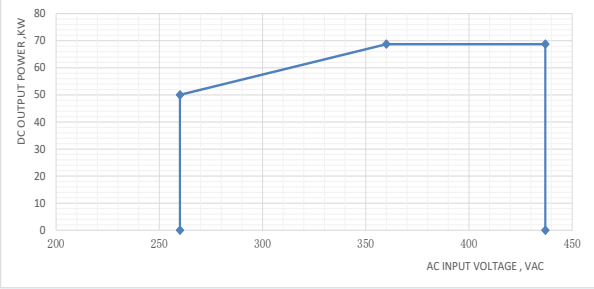
DC2AC MODE DC input voltage VS AC output power



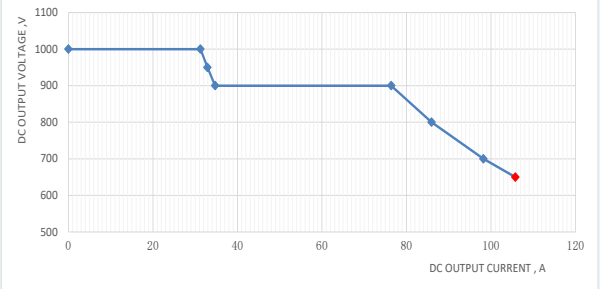
DC2AC MODE AC output voltage VS AC output power



AC2DC MODE AC input voltage VS DC output power



AC2DC MODE DC output voltage VS DC output current



Technical Specification

Environmental		Ambient Temperature	－40℃ ~ ＋75℃， derating from 55℃
		Storage Temperature	－40℃ ~ ＋75℃
		Humidity	≤95%RH， non-condensing
		Altitude	2000m
AC to DC Mode	AC Input	Input voltage	380Vac, 3L+PE;
		Input voltage/frequency range	260 Vac ~ 437 Vac, 45 Hz ~ 65 Hz
		Power factor	≥0.99 Rated AC, @50% ~ 100% power, ≥0.97 @20% ~ 50% power
		THD	≤3% Rated AC @50% ~ 100% power
	DC Output	Rated power	62.5kW
		Voltage and current range	650 Vdc ~ 1000 Vdc, 0 ~ 110A
		Voltage stabilized accuracy	<±1%
		Current stabilized accuracy	≤±2% , @20% ~ 100% power
		Efficiency (max)	≥98.7% ,Rated AC&DC @50% ~ 100% power
AC2DC and DC2AC Mode convert time (Battery test)			10mS
DC to AC Mode	DC Input	DC input voltage and Output power	From 650 to 1000Vdc
		Max Input current	110A
	AC Output	Output AC Voltage and Output power	From 360 to 437Vac, ouput power is 62.5kW; From 360 to 260Vac , output power is linear derating to 50kW
		Rated power and current	62.5kVA / 95A
		Output AC Frequency	50 Hz/60 Hz
		THDi	＜3%
		Output Power Factor	User Setting scale, 0.8 ~ 1, -0.8 ~ -1
		Efficiency (max)	≥98.7% ,Rated AC&DC @50% ~ 100% power
		Grid connection function	SVG, VSG, Grid island, Zero voltage crossing function,Grid countercurrent protection
		Off Grid — Voltage accuracy and distortion	1% and <3%
		Off Grid — Power factor	>0.7
		Off Grid — Dynamic voltage stability and recovery time	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 return to normal
		Over current and short circuit protection	Automatic shutdown and lock, need the input restart to unlock
		Over temperature protection	Automatic shutdown, automatic restart when the temp return to normal
Reliability		MTBF	>300,000 h
EMC/EMI		TUV CE certicification (in progress)	EN61851-21-2, class A
Safety		TUV CE certicification (in progress)	EN61851-1, EN61851-23
Grid connection		Different country certification (in progress)	VDE-AR-N 4105, G83/2, G59/3 (UK), DIN V VDE V 0126-1-1
Mechanical		Dimension / Weight	110mm（H）×385mm（W）×395mm（D), ≤22 kg

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CEG1K0100G

30kW1000V Charger DC2DC Power Module

Product Introduction

CEG1K0100G is specially designed for EV DC input type chargers. It has high efficiency, low fan noise, high power density and high reliability advantage. Up to 825V DC input, DC output voltage range is from 150 to 1000VDC with 30kW output power, EMC/EMI satisfy TUV CE certification with class B level, and safety satisfy TUV CE certification.

Main feature:

- Inside high frequency transformer isolation
- Full hot plug design
- TUV CE Certification, EMC class B level
- Air duct isolation design for high protection and high reliability for harsh environment
- Wide output voltage range, 150-1000VDC, suitable for a wide range of EVs
- Constant current for higher output power at low output voltage
- Super denoise mode can get less 55 dB fan audio noise
- An internal patented intelligent discharge circuit automatically discharges residual charge, simplifying system designs
- Low standby power consumption with 12W. Super standy power consumption with 2W.
- Wide input DC voltage from 300V to 825V DC
- Dual DSP design, provides the full digital control ,less components means higher reliability
- Totally compatible with REG1K0100G AC2DC power module in the size, interface and protocol
- Wide operating temperature range, -40℃--+75℃

Application:

- DC Charger for EV with modular design, easily maintenance, cost efficiency, high power density and high quality
- DC input Charger

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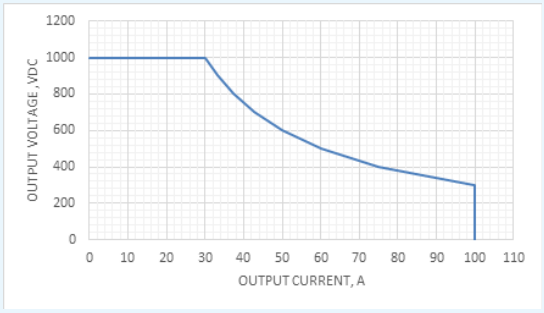
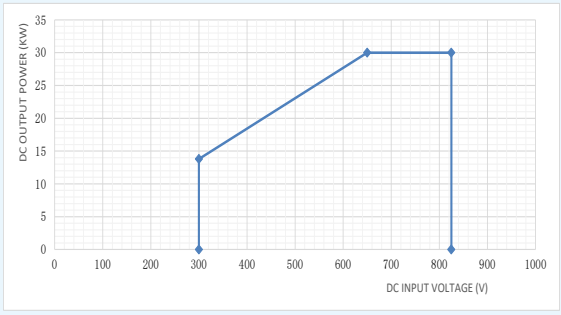
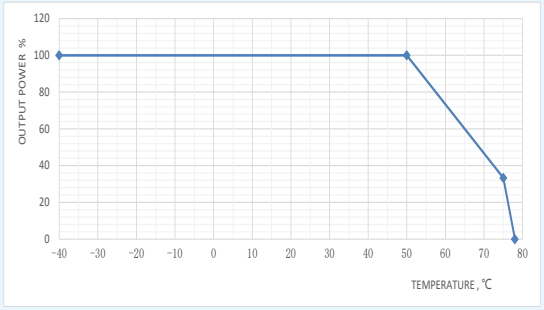
Output Voltage Vs Output Current Curve



Input Voltage Vs Output Power Curve



Ambient Temperature Vs Output Power Curve



Technical Specification

Environmental	Ambient Temperature	－40℃ ~ ＋75℃， derating from 55℃
	Storage Temperature	－40℃ ~ ＋70℃
	Humidity	≤95%RH， non-condensing
	Cooling	Fan cooling
	Altitude	2000m
Input Side	Input Voltage range	300Vdc ~ 825Vdc
	Max Input current	50A
	Efficiency (top)	≥95%， @350~500V/680~1000Vdc/60%~100% Load current， Max point≥95.5%
Output Side	Output power	30kW@ voltage >300Vdc
	Voltage range	150Vdc ~ 1000Vdc
	Current range	0~100A
	Current sharing	< ±1 A
	Voltage stabilized accuracy	< ±0.5%
	Current stabilized accuracy	≤±1% （output power in 20% ~ 100%）
Control	Communication	CAN bus, Max 48 power modules parallel
	Indication Light	Green LED: normal operation Yellow LED: alarm Red LED: failure
	Address Indication	Automatic address identification, Panel dial switch for group setting
	Noise Setting	Power mode with max 75 dB , Denoise mode with max 65 dB , Quiet mode with max 55 dB
	Super Standby	Outerside 12V or 5V DO control
Alarm and protection	Input/output voltage protection	Over/under voltage will automatic shut down and restart when voltage return to normal
	Over current/short circuit protection	Automatic shutdown and lock, need power off to restart to unlock
	Over temperature protection	Automatic shutdown, automatic restart when the temperature return to normal
EMC/EMI	TUV CE certicification	EN61851-21-2, class B
Safety	TUV CE certicification	EN61851-1， EN61851-23
Reliability	MTBF	>300,000 h
Mechanical	Dimension	110mm （H） ×385mm （W） ×395mm （D）
	Weight	≤22.5 kg
Ordering Information	Type	CE Version: REG1K0100G
	Cable	REG30KW31E-18, REG30KW42-18