Bi-directional DC-DC Converter

EZA11K-320240S

SPECIFICATIONS

This product is not intended for operation by itself or without series operation unit.
Please connect the series operation unit before operation.

	Model Name / Item			EZA11K-320240S	
				Battery side	**Grid side**
1	Rated Voltage		-	240VDC	320VDC
2	Voltage Range	(*1,*2)	-	150VDC - 300VDC	240VDC - 400VDC
3	Rated Current		-	±45.8A	±34.4A
4	Constant Current Setting Range	(*1,*2)	-	1.0A - 50A	1.0A - 40A
5	Maximum Output Power		-	±11,000W	±11,000W
6	Maxmum Current		-	±50A	±40A
7	Efficiency (typ)	(*3)	-	95%	95%
8	Required Pre-charge Voltage	(*1)	-	More than output lower limit voltage	More than output lower limit voltage
9	Inrush Current (typ)	(*4)	-	3.6A	3.6A
10	Maximum Line Regulation		-	1.2V	1.6V
11	Maximum Load Regulation		-	2.4V	3.2V
12	Maximum Temperature Regulation		-	1.5V	2.0V
13	Output Ripple and Noise		-	Less than 3Vp-p	Less than 4Vp-p
14	Sink Current (typ)	(*5)	-	1.6A	1.2A

Protection

1	Output Over Current Protection (typ)	(*6,*7)	-	70A (Output shut down)	60A (Output shut down)
2	Over Power Protection (typ)	(*6)	-	12,000W (Constant power)	12,000W (Constant power)
3	Input Current Limitation (typ)	(*6)	-	52A(Constant current)	42A(Constant current)
4	Over Voltage Protection	(*2)	-	Possible (Setting range : 144V - 306V)	Possible (Setting range : 230V - 410V)
5	Under Voltage Protection	(*2)	-	Possible (Setting range : 144V - 306V)	Possible (Setting range : 230V - 410V)

Function

1	Remote ON/OFF		-	Possible (Control via RS-485 or Extra signal)	
2	Remote Reset		-	Possible (Latch off via RS-485, RESET SW or External Signal)	
3	External Signal	(*8)	-	RUN : Operate at short, Stop at open STOP : Stop at falling edge ALMCLR : Alarm clear and Run at rising edge ALM : Open under Alarm condition (Open Drain) PG : Short under Operation (Open Drain) 5Vs : 5V Output (5V, 0.2A) 24Vi : 24V Input for RS-485 communication	
4	Parallel operation	(*9)	-	Possible (Droop method)	
5	Series operation	(*10)	-	Possible (Maximum of 6 units in series when connected to series operation unit)	

External Function (RS-485)

1	Voltage Setting Accuracy	-	Less than ±6.0V	
2	Current Setting Accuracy	-	Less than ±1.0A	
3	Voltage Setting Resolution	-	Less than 0.6V	
4	Current Setting Resolution	-	Less than 100mA	
5	Voltage Reading Accuracy	-	Less than ±6.0V	
6	Current Reading Accuracy	-	Less than ±1.0A	
7	Voltage Reading Resolution	-	Less than 0.6V	
8	Current Reading Resolution	-	Less than 100mA	
9	RS-485 Baud Rate	-	9600bps / 19.2kbps / 33.6kbps / 57.6kbps (Set by DIP-SW)	
10	RS-485 Maximum Connection	-	14	

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	Model Name / Item		EZA11K-320240S	
			Battery side	**Grid side**
Environmental				
1	Operating Temperature	-	-10°C - +50°C	
2	Operating Humidity	-	30 - 85%RH (No Condensing)	
3	Storage Temperature	-	-20°C - +70°C	
4	Storage Humidity	-	20 - 85%RH (No Condensing)	
5	Vibration	-	No Operation, 10-55Hz (Sweep 1min) 19.6m/s^2 Constant, X, Y, Z Each Direction 1hour	
6	Shock	-	196.1m/s^2 maximum	
7	Cooling	-	Forced Air Cooling by built-in FAN (Air Intake)	
8	Installation Location	-	Indoor use	
9	Altitude	-	Less than 3,000m	
Isolation				
1	Withstand Voltage	-	Primary(320V) - Secondary(240V) : 2.2kVAC(50mA) 1min Primary(320V) - Signals : 3kVAC(50mA) 1min Secondary(240V) - Signals : 3kVAC(50mA) 1min Primary(320V) - Chassis : 2kVAC(50mA) 1min Secondary(240V) - Chassis : 2kVAC(50mA) 1min Signals - Chassis : 400VAC(100mA) 1min	
2	Insulation Resistance	-	Primary(320V) - Chassis More than 100MΩ at 1kVDC 25°C, 70%RH Secondary(240V) - Chassis More than 100MΩ at 1kVDC 25°C, 70%RH Signals - Chassis More than 100MΩ at 500VDC 25°C, 70%RH	
Physical Characteristics				
1	Weight	-	Less than 20 kg	
2	Size (W x H x D)	mm	422.8 x 43.6 x 530 (Refer to outline drawing)	

Please read instruction manual Carefully, before using the unit.

=Notes=

*1. Please refer to Derating Curve.

*2. It can be set via RS-485.

*3. Ta=25°C, rated voltage and rated current.

*4. Not applicable for the inrush current to Noise filter for less than 0.2ms.

*5. Current sink appear when applied voltage is greater than output target voltage.

*6. Parameter is fixed.

*7. Shut down method, manual reset.(Latch off via RS-485, RESET SW or External Signal)

*8. The external signal connector is connected to the series operation unit.

This product is not intended to be operated directly by external signals.

Operation by external signals is performed via the series operation unit.

*9. Droop ratio can be set via RS-485.

*10. Be sure to connect the series operation unit.

For details, please refer to the instruction manual of the series operation unit.

Bi-directional DC-DC Converter

EZA11K-320240S

SPECIFICATIONS

|	Model Name		EZA11K-320240S
	Item		**Operation Mode** (*11)
Battery Autonomy CV mode			
1	Power Conversion mode	-	Control battery voltage constant.
2	Dead Zone set (*12)	-	Possible
3	Battery 0V Ramp up (*13)	-	Possible
4	Grid CC mode (*11)	-	Possible (Control grid side current with constant current mode)
5	Grid Over Charge Protection (*12)	-	Possible
6	Grid Over Discharge Protection (*12)	-	Possible
Grid Autonomy CV mode			
1	Power Conversion mode	-	Control Grid voltage constant.
2	Dead Zone set (*12)	-	Possible
3	Grid 0V Ramp up (*13)	-	Possible
4	Battery CC mode (*11)	-	Possible (Control battery side current with constant current mode)
5	Battery Over Charge Protection (*12)	-	Possible
6	Battery Over Discharge Protection (*12)	-	Possible

Please read instruction manual Carefully, before using.

=Note=

*11. Control mode can be set via RS-485 or DIP-SW setting.

*12. It can be set via RS-485.

*13. It can start up under pre-charge voltage (Battery side : less than 150V, Grid side : less than 240V).

Generation (Charge) →

Grid side
320V — EZA — Battery side 240V

← Regeneration (Discharge)
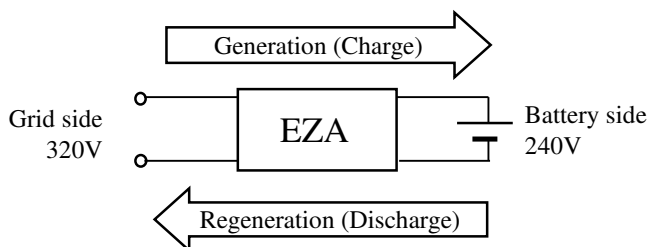
Direction of Generation and Regeneration

EZA11K-320240S

Derating Curve

Battey Output Voltage vs Output Curent Derating
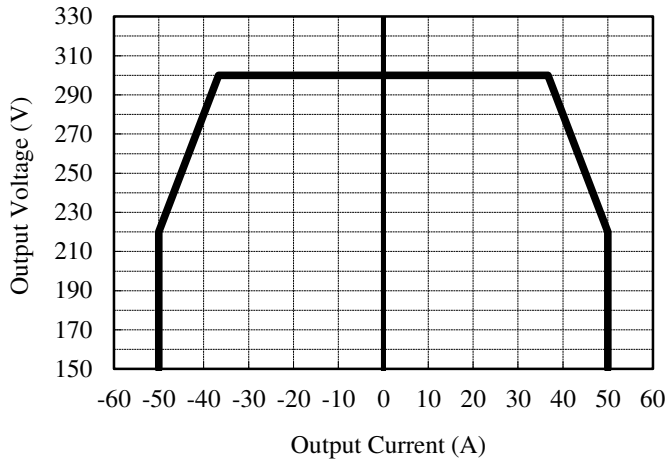

Fig. 1

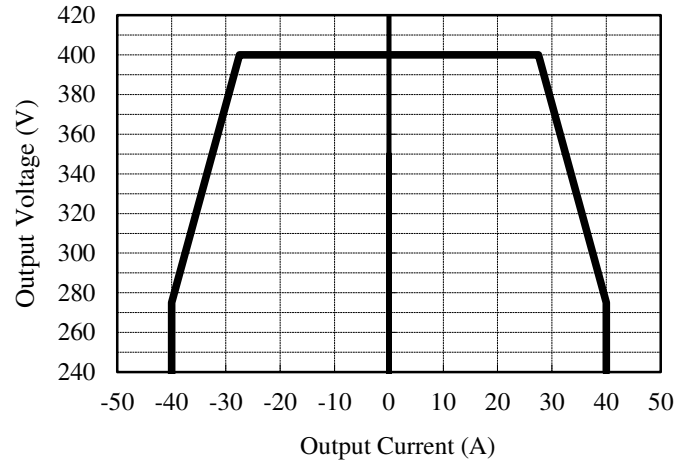Grid Output Voltage vs Output Current Derating

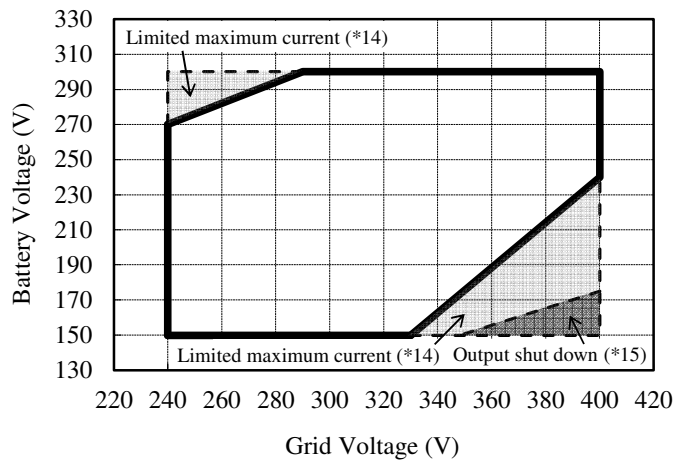
Fig. 2

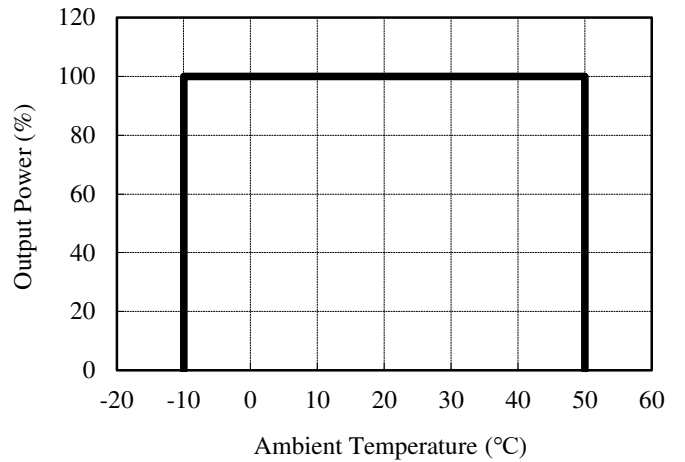Grid Voltage vs Battery Voltage Derating

Fig. 3

Output Derating

Fig. 4

Please read instruction manual Carefully, before using.

=Note=

*14. Limit maximum current by half (Battery side: 25.0A, Grid side: 20.0A).

*15. Output shut down.