

Bidirectional DC Power Converter System

ENEREX D8xxxH

Stable/Accurate bidirectional

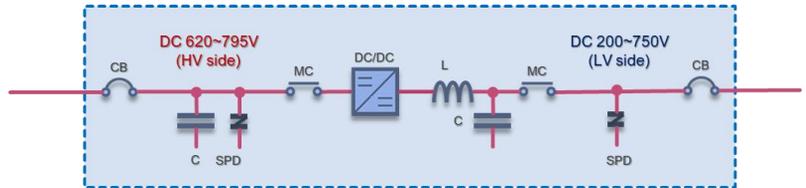
DC Power Converter System

ENEREX Bidirectional DC power Converter can transfer and convert always stable DC power.

ENEREX Bidirectional DC power supply can work as constant voltage source or current source.

Features

- Completed DC power conversion solution.
- Output can be selected as Voltage source or Current source form.
- Bi-directional conversion is possible (HV → LVV, LV → HV)
- IP54 Outdoor installation type does not require installation room.
- In Current control mode, the energy flow direction can be defined by user.
- In Voltage control mode, the energy flow direction is automatically defined by load condition.
- Small installation space - 3.3m².
- Modbus/TCP communication protocol and Interface for connection to EMS or PMS.
- Minimum system downtime (<30 min.) by block system structure.



Target market & application

- Bidirectional DC Power Converter
- DC power supply – as voltage or current source
- Machine testbed – electric machine, battery, etc.

Features

- Working range DC 200 ~ 750V source (Adjustable) / DC 580 ~ 795V Link
- Topology Non-isolated interleaved conversion
- Conversion Bi-directional (One-way stepup / One-way stepdown)
- Control modes Constant Voltage(CV), Current(CC) and Power (CP)

Key specifications

- Capacity 50kW / 100kW
- DC Working range DC 200 ~ 750V source (Adjustable) / DC 580 ~ 795V Link
- Form factor Standard 19" outdoor rack
- Ambient condition -20 ~45°C, 95% RH or below (non-condensing)
- Cooling Forced air-cooled (Fan installed in PEBB module)
- Acoustic noise < 70db
- System efficiency > 95%, One-way
- Protection IP54 (Outdoor) / IP21 (Indoor)



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- Exterior (IP54)



• Product specification

Compact DC-DC Converter Specifications		50kW	100kW
Product	Model code	D8050-65/62/55/52HN2D	D8100-65/62/55/52HN2D
Functionality	Applications	HV-LV DC-DC converter system	
Electric Chrs (HV/Link side)	Rated continuous AC power	50 kW	100 kW
	Short time continuous AC Power	150% for 10 sec, 125% for 1 Min (% of rated power)	
	DC Voltage range	DC 580 ~ 795V (DC 700V nom)	
	Over Voltage Category	Cat. III (Rated impulse voltage 4kV)	
	Max. AC current	90 Adc	180 Adc
Electric Chrs (LV/Source side)	DC voltage range	200 ~ 750 Vdc	
	Maximum DC current	87 Adc	164 Adc
	Control mode	Constant Voltage (CV), Constant Current (CC), Constant Power (CP)	
Control Chrs	Control system philosophy	Multi-layer control structure (HMI – SMU – IMC)	
	Converting Direction	Bi-directional (HV --> LV , LV --> HV)	
	Voltage accuracy	±1%	
	Response time for load step changes	20ms from issuing a signal	
Operability	Man-machine interface	7" Full color display panel with touch screen	
	Network/ Comm. Protocols	Modbus TCP/IP	
Protection	H/W Protective Functions	Source/DC link over/under voltage, Source/DC link over current, Stack overheat	
	Fault current contribution	200%	
Performance	Max. conversion efficiency	> 95% at rated power (one-way)	
Mechanic Chrs	Dimension (W xH xD, IP54)	624 x 1650 x 1240 mm ³	624 x 1850 x 1240 mm ³
	Dimension (W xH xD, IP21)	600 x 1500 x 900 mm ³	600 x 1500 x 900 mm ³
	Weight (Approx.)	270kg	350kg
	Max. audible noise	< 75dB with cooling system, < 60dB as fan-less operation	
Environment	Enclosure protection rating	IP54 / IP21	
	Operating ambient temperatures	-20 ~ +45 deg C	
	Storage ambient temperatures	-20 ~ +70 deg C	
	Humidity	0 ~ 95% RH (Non-condensing)	
	Vibration	< 2.0 m/s ²	
	Shock	Not acceptable	
	Pollution degree	PD II (Normally only nonconductive pollution occurs)	
	Max. installation altitude (from sea-level)	1000 m	
Compatible Standards	EMC	IEC 61000-6-2, IEC 61000-6-4	
	Safety	IEC 62040-1	

Creating, Leading, Evolving a New Energy paradigm