



BDS-50k

50KW 3PHASE CHARGER MODULE

GENERAL FEATURES

- Output power up to 50 kW @ 3phase 400Vac/480Vac
- Typical efficiency 97.2% @full load, 600Vdc/400Vac, 97.6% peak efficiency
- AC input range:Three phase: 260 – 530 Vac (Line to Line voltage)
- DC output voltage range 150 – 1000 VDC
- Low acoustics noise
- OTP, OVP, UVP, OCP, short circuit protection
- Operation temperature -40°C to 75°C, 55~75°C derating power to 50%
- EMI: Class B per IEC 61851-21-2
- CAN bus communication interface



Dimensions (LxWxH): 390 × 385 × 110 mm 23kg

APPLICATIONS

High performance charging station with low noise, low EMI.

DC wall box for home application.

DESCRIPTION

The rack-mountable BDS-50k high-power AC/DC conversion module is engineered for advanced charging and industrial power infrastructures and supports three-phase 260 Vac to 530 Vac input operation with a regulated DC output adjustable from 150 Vdc up to 1000 Vdc for compatibility with next-generation battery systems. The unit delivers 50 kW of output power with typical efficiency of 97.2% at full load and achieves up to 97.6% peak efficiency, enabling optimized thermal performance and energy savings. Low acoustic noise (55 dB at rated load) and Class B EMC compliance according to IEC 61851-21-2 facilitate installation in commercial and residential environments. Forced-air cooling enables continuous operation from -40 °C to +75 °C with full power maintained until +55 °C and linear derating beyond. Protection functions include OTP, OVP, UVP, OCP and short-circuit safeguard, while CAN 2.0 communication offers full system integration. With compact dimensions of 390 x 385 x 110 mm and 23 kg weight, the BDS-50k supports modular architecture for fast-charging stations, DC wallboxes and high-density energy systems.

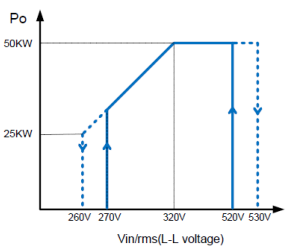
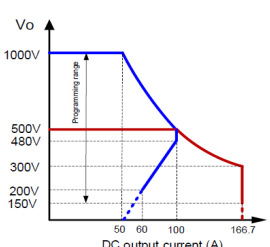
SELECTION GUIDE

Part Number	Input Voltage Range [VDC]	Output Voltage nom. [VDC]	Output Current max. ⁽¹⁾ [A]	Efficiency typ. [%]	Output Power max. ⁽¹⁾ [W]
BDS-50k	260–530 Vac (L-L)	800 Vdc (rated)	166.6 A @ 300 Vdc	97.2% (97.6% peak)	50,000 W

Note1: Refer to "Peak load Capability"



TECHNICAL SPECIFICATIONS

Charging mode			AC input and DC output	
AC Side	Grid Connection	3P3W		
	Input Voltage	260~530Vac 320~530V full load		
	Max. input current	95A		
DC Side	Output Power	-40°C to 85°C		
	Output Voltage	150 to 1000Vdc, rated: 800Vdc		
	Max. Output Current	166.6A @ 300V		
AC to DC	Typical Efficiency	97.2% @ full load, 800Vdc, 400Vac		

Environment		Mechanical	
Operating Temperature	-40°C to +75°C	Control Interface	CAN 2.0
Cooling Method	Forced Air	Noise level	55 dB@ 25°C, Rated input and rated output
Relative Humidity	0 to 95%, noncondensing	Protection level	IP20
Operating Altitude	0 to 4000m	Net Weight	23kg
		Dimension	390 × 385 × 110 mm

Safety and EMC		General	
Safety regulation	IEC61851-1 IEC61851-23		
EMC	Class B		

DIMENSION DRAWING (MM)

