Universal DC Charging Stations

UNIVERSAL CHARGING STATIONS, VERY EFFICIENT AND PROGRAMMABLE. FOR LITHIUM AND LEAD-ACID BATTERIES

Technology:	*IGBT-HF Converter*
Output Power :	*up to 200 kW*
Output Current :	*up to 800 A*
Output Voltage:	*up to 800 V*

CE   CSA c US

Product Description

Bassi UNIVERSAL DC Charging stations deliver **FAST**, **SAFE** and **EFFICIENT** charge to electric vehicles of any type.

These units are based on a proven power conversion technology, featuring **very high efficiency**, unity power factor and precise charge control.

The charging curve is completely programmable, for batteries of any type, and can be controlled by the vehicle **BMS**. Multiple interfaces are available for safe and easy integration.

The control system can be configured for Lead-Acid or Lithium batteries and it's equipped with alphanumeric Display & Keyboard, Charge History Logger, Programmable Real-Time Clock and Calendar, Audible Alarm and Connectivity package.

These charging stations are compatible with all Bassi battery identification and management modules (BMOD, BCAN, IDBMS), and with a variety of third party Battery Management System.

Main Features

➢ High frequency Hybrid converter

➢ High efficiency and near-unity power factor

➢ Outdoor rated enclosure (IP54)

➢ Operating temperature from -20°C to 50°C

➢ Complete electronic protection system:
- Reverse polarity
- Short circuit
- Anti-Arcing
- Over-temperature
- Hot disconnect

➢ Real Time Clock, programmable charging times, fast/slow charging periods, time tags included in history logs.

➢ Charge history (200 charge cycles, expandable) and multiple remote control solutions: RS-485, USB (optional), wireless (optional).

➢ Warranty:
10 years on power transformer
5 years of power electronics
3 years on control electronics

Typical Applications

➢ Electric Vehicles

➢ Forklifts and other Vehicles for Material Handling

➢ Battery Development Labs

Options

➢ Chademo / Yazaki connector

➢ Combo / Phoenix connector

Product Specifications

AC INPUT	
STANDARD INPUT VOLTAGES	Single-phase 220-230-240 VAC ± 10% Three-phase 200V, 220-240, 400, 440, 480, 600 VAC ± 15% Frequency 50/60 Hz ± 5 Hz
EFFICIENCY	>93% (*)
POWER FACTOR	Single-phase models >90% (*) Three-phase models >97% (*)

DC OUTPUT	
STANDARD POWER RATINGS	12, 24, 36, 48, 60, 90, 120, 150, 200 kW
STANDARD OUTPUT VOLTAGE S	75, 135, 180, 360, 480, 600, 800 VDC
STANDARD CURRENT RATINGS	30, 60, 100, 150, 200, 250, 320, 400, 500, 800 A
CHARGING CURVE	Completely programmable, can support batteries of any type, voltage, capacity Programmable Weekly Equalization/Maintenance Mode

PROTECTION	
WRONG BATTERY AND REVERSE POLARITY	If the battery voltage is outside the acceptable limits, or the polarity is reversed, the charger remains in stand-by mode and gives error/warning message.
ELECTRONIC OVERLOAD PROTECTION	Complete protection in case of output short circuit or overload.
ANTI-ARCING	**WITHOUT AUXILIARY WIRES**: When the battery is connected, no arcing is generated at the connectors. If the battery is disconnected while it's being charged, arcing is possible, so it's necessary to turn off the charger before to disconnect the battery. **WITH AUXILIARY WIRES (RECOMMENDED)**: Full Anti-arcing protection in case of battery disconnection, even while the charge is in progress.
POWER-ON SELF-TEST	Every time the unit is powered, an automatic self-test of the power electronics and the control boards is executed in less than 10 seconds. In case of fault, the unit remains in safe stand-by mode and gives fault messages.
BLACK-OUT OF THE AC INPUT	The charger features an intelligent management of the AC input black-outs. When a black-out of the AC input occurs, all the data related to the charge cycle that was in progress are saved in the Charge History Logger, and remains available for future review. When the AC input is restored, the charger restarts from the exact point of interruption, and it completes the charge cycle normally.

AUTOMATIC SHUTDOWN ON BATTERY DISCONNECTION	If the battery is disconnected while the charge is in progress, the charger turns-off automatically within 3 seconds and a specific message is saved in the Charge History Log.
SAFETY TIMER	An independent safety timer turns the charger off in case of malfunction of the main control unit.

MECHANICAL AND ENVIRONMENTAL	
DIMENSIONS (W x H x D mm)	12kW: mm 500 x 440 x 900 15-90kW: mm 800 x 500 x 1600 120-200kW: mm 1600 x 500 x 1800
ENCLOSURE TYPE	2 mm Steel, painted RAL 7032
COOLING	FORCED VENTILATION with active fan control
AUDIBLE NOISE	<65 dBA at 1 meter
ENVIRONMENTAL PROTECTION	IP54
AMBIENT TEMPERATURE	OPERATION: -10 / +50 °C STORAGE: -20 / +70 °C
ALTITUDE	<2000m, Derating according to EN62040-3

USER INTERFACE AND CONNECTIVITY	
USER INTERFACE	Alphanumeric LCD Display + LEDs, membrane keyboard and Audible Alarm
CONNECTIVITY	• Compatible with Bassi wireless Battery Identification Modules (BMOD) • Integrated Data-logger (200 cycles) • Extended Data-logger (600 cycles) with USB port (Optional) • CANBUS interface to vehicle BMS (Optional) • PWM interface to vehicle BMS (Optional) • Wireless card (Optional)

STANDARDS	
QUALITY	ISO 9001:2008
MARKING	CE
EMC	IEC EN 61000-6-2, IEC EN 61000-6-4
SAFETY	IEC EN 50178, IEC EN 62040-1
TEST AND PERFORMANCE	IEC EN 62040-3

STANDARD MODELS							
TYPE	KP12L	KP24L	KP20H	KP40H	KP60H	KP120H	KP200H
OUTPUT VOLTAGE RANGE	10-135V	10-135V	50-600V	50-600V	50-600V	50-700V	50-700V
OUTPUT CURRENT	100A	200A	50A	100A	150A	200A	300A
MAXIMUM OUTPUT POWER	12kW	24kW	20kW	40kW	60kW	120kW	200kW

ORDERING CODE: PRODUCT TYPE – AC INPUT VOLTAGE – No of PHASES
Example: KP120H-480-3   (120kW, 50-700V, 200A, AC input 3x480 VAC)

The information contained in this publication is subject to variations without notice.

Document Revision 1.9 - 2016