



HCB 20 and HCB 50 High Current Booster

HCB 20
HCB 50



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Introduction

A High Current Booster extends the current range of potentiostats and galvanostats. The High Current Booster is available in two versions: The HCB 20 extends the range for anodic and cathodic currents to 20 Ampere. The HCB 50 extends the current range to 50 Ampere at a compliance voltage of 10 V. The bandwidth of both devices is larger than 10 kHz

Features

Direct Control from HEKA Potentiostat

The High Current Booster can be connected to all HEKA Potentiostats with a 100 mA current range.

Current Booster for Counter Electrode

When the High Current Booster is active, the current through the counter electrode (CE) can be extended up to 20/50 A.

Current Measuring Range for Working Electrode

When the High Current Booster is active, the working electrode acts as a current mirror. A 20/50 A input current will be converted to a 100 mA output current.

Manual Control – Safety Switch Off

The High Current Booster can be switched off by pressing the “Standby” button on the front panel. This switch off overrules all software commands at any time. A LED indicates if the booster is active. In case the High Current Booster is internally shut-off the “Fault” LED lights up.

Protected against Overheating

In case the temperature of the High Current Booster exceeds the working range, the High Current Booster will be automatically shut-off to protect it against overheating. A light up “Fault” LED and high level on the “Fault/Out” signal indicate the internal shut-off.

Air Cooling

The HCB 20 and HCB 50 are both air cooled devices. No cooling water equipment is required.

Digital Booster Interface

The HCB 20 and HCB 50 can be remote controlled via the digital booster interface.

The following HEKA potentiostats/galvanostats are equipped with the digital booster interface: PG 310/390 and PG 340 (all models with revision “i” or later); PG 410/490; PG 510/590 (models with serial number xxx and later)

Adaptable to other Potentiostat Systems

The HCB 20 and HCB 50 can be easily integrated in other potentiostat systems that offer a 100 mA current range. Via the input “EXT. SET CELL” the High Current Booster can be activated from another data acquisition system. By reading the “Fault” signal the status of the High Current Booster can be received. The third party software should take care of correct scaling of the current ranges of the High Current Booster.

The software PGMMASTER, available free of charge, allows to control the potentiostat/galvanostat functions of the HEKA Potentiostats/Galvanostats PG 310/390, PG 340, PG 410/490 and PG 510/590 from the computer. If the High Current Booster is connected to one of the above potentiostats via the digital booster interface, the High Current Booster is automatically detected by the software PGMMASTER.

Software Control

The HCB 20 and HCB 50 are fully supported by the stimulation and data acquisition software package POTMASTER.

If the High Current Booster is connected to HEKA Potentiostats/Galvanostats via the digital booster interface, the High Current Booster is automatically detected by the POTMASTER software.

The current scaling in the software POTMASTER is adapted appropriately when the High Current Booster is connected. An additional 20 A or 50 A current range is provided by the software.

The working electrode (WE) measuring amplifier is by-passed when operating the potentiostat in low current ranges to improve current resolution.

Technical Specifications

Dimensions Main Unit (D x W x H) HCB 20:

(31.1 x 48 x 14.5) cm,
(12.2 x 18.9 x 5.7) inch
mounts in a 19" rack

Dimensions Main Unit (D x W x H) HCB 50:

(37.4 x 48 x 18) cm,
(14.7 x 18.9 x 7) inch
mounts in a 19" rack

Weight HCB 20: 12.2 kg / 27 lbs

Weight HCB 50: 19.1 kg / 42 lbs

AC Power: Operates on standard 90 - 250 V. Automatic range selection. 50/60 Hz.

Power Consumption HCB 20: maximum 500 W

Power Consumption HCB 50: maximum 600 W

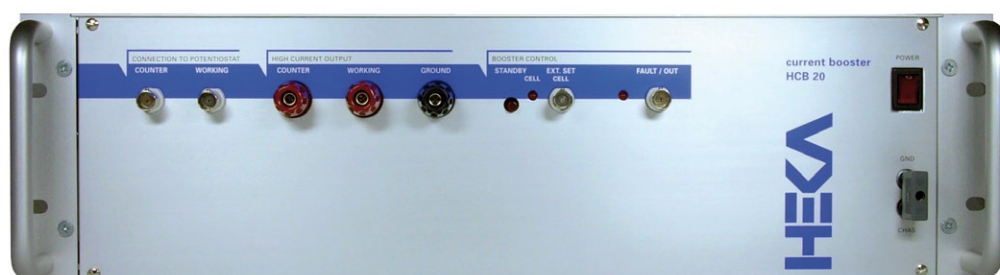
High Current Output Connectors:

Bandwidth: >10 kHz at - 3dB

Compliance Voltage: +/- 10 V

Maximum Output Current HCB 20: +/- 20 A

Maximum Output Current HCB 50: +/- 50 A





HEKA Elektronik
Dr. Schulze GmbH
Wiesenstraße 71
D-67466 Lambrecht/Pfalz
Germany

Phone +49 (0) 63 25 / 95 53-0
Fax +49 (0) 63 25 / 95 53-50
Web Site <http://www.heka.com>
Email sales@heka.com
support@heka.com

HEKA Electronics Incorporated
47 Keddy Bridge Road
R.R. #2
Mahone Bay, NS B0J 2E0
Canada

Phone +1 902 624 0606
Fax +1 902 624 0310
Web Site <http://www.heka.com>
Email nasales@heka.com
support@heka.com

HEKA Instruments Inc.
2128 Bellmore Avenue
Bellmore, New York 11710-5606
USA

Phone +1 516 882 1155
Fax +1 516 467 3125
Web Site <http://www.heka.com>
Email ussales@heka.com
support@heka.com

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