HAR-8X8B

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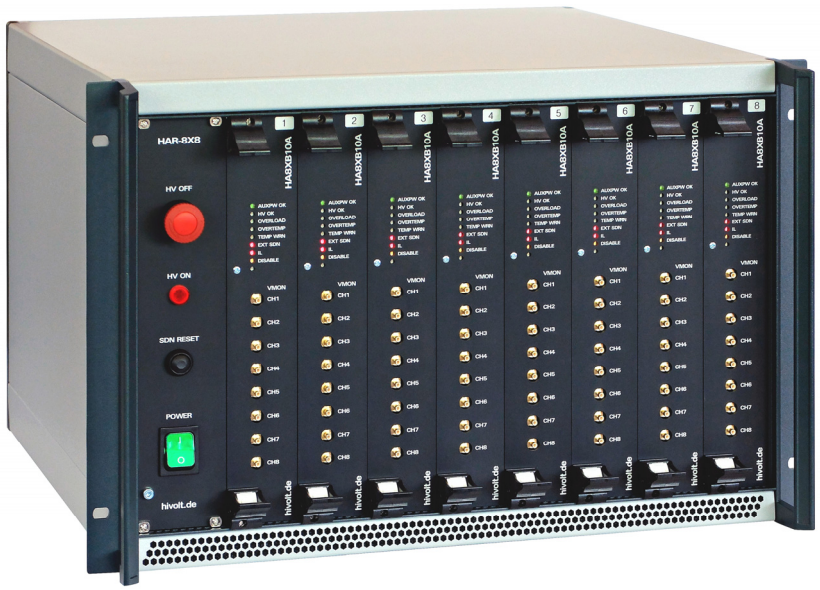
-500V TO +500V, ±10mA
64 CHANNEL PRECISION HIGH VOLTAGE AMPLIFIER

- **FEATURES**
  - 64 Channels
  - -500V to +500V, ±10mA per Channel
  - Optimized for Capacitive Loads
  - Voltage Monitor Outputs
  - High Precision
  - High Stability
  - Fully Protected
  - Interlock Inputs
  - 19" / 7U Housing
- **APPLICATIONS**
  - Multichannel Actuator Drive
  - EAP
  - Piezo
  - Mirror Deflection / Deforming
  - Electrophoresis
  - Ion Beam Deflection
  - ER Fluids
  - Electro Optics
  - MEMS
  - High Voltage Testing



Rack mountable Precision High Voltage Amplifier in a 19" 7U high subrack. Sixty-four independent amplifier channels provide output voltages in the range of -500V and +500V at output currents of ±10mAP. The output voltage of each channel can be controlled by means of a setpoint input. Signal gain is 50, the control voltage ranges from -10V to +10V. Differential amplifiers on the setpoint inputs prevent any ground loops and provide excellent noise suppression. Each channel is equipped with an output voltage monitor.

The unit consists of 8 amplifier modules with 8 channels each. The amplifier channels feature high precision, high stability as well as very low ripple and noise. The amplifier outputs are protected against overload, short circuit and over-temperature.

The channels are grouped into eight standard 19" plug-in units HA8XB10A-F of 6U/6HP.

The amplifier is optimized for driving multi-channel capacitive or resistive-capacitive loads. It can easily drive electroactive polymer actuators, piezo elements, electrorheological fluids, ion beam deflectors and many other loads.

The high voltage outputs are protected against overload, short circuit and overvoltage. Operating states and fault conditions are displayed on the front panels.

A safety interlock circuit is provided to integrate the unit into an emergency shutdown circuit. When the interlock loop is open, the internal high voltage sources are being shut down. Two interlock inputs and a red HV OFF palm button are available. The red indicator lamp HV ON signals that the internal high voltage sources are switched on.
Using a TTL-compatible INHIBIT-input, the output voltage of each channel can be functionally set to zero very fast.

The robust metal case can be either mounted into a 19" rack or used as a table-top device. Temperature controlled fans are cooling the unit.

An external multi channel signal generator is needed to feed the setpoint inputs. The input signal interface of the HAR-8X8B matches the signal interface and the cabling of the National Instruments PXIe-6739 arbitrary signal generators.

The standard output voltage range is -500V to +500V. Versions with output voltage ranges of -200V to +600V or 0 to +1000V are available. Output voltage ranges can be installed mixed in a single mainframe in groups of eight.

Customized and full custom models are available on request.

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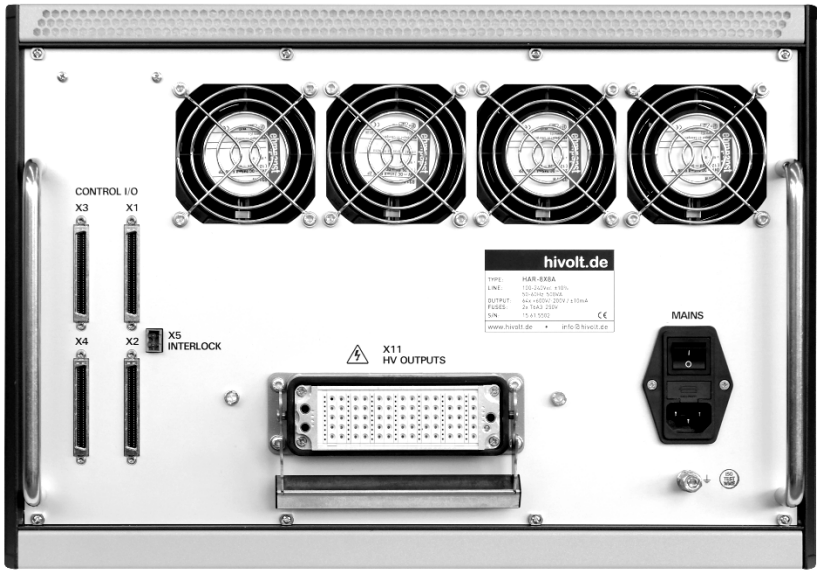
SPECIFICATIONS

Output Voltage:	-500 – +500V, bipolar
Output Current:	±10mAp
Full Power Bandwidth:	DC – > 10,000Hz @ C_L=500pF
Slew Rate:	> 20V/µs @ C_L=500pF > 3.2V/µs @ C_L=3000pF
Control Input:	-10V – +10V (10V ≙ 500V); R_{in}=50kΩ
Gain:	50 ±0,3%
Offset Voltage (RTO):	< 20mV
Ripple / Noise:	< 3mV_{RMS} / 20mV_{PP} @ CL=500pF, 1Hz – 20kHz
Monitor Output (V):	±10V (10V == 500V), SMB
Line Voltage:	100 - 240VAC, ±10%, 50/60 Hz
Ambient Temperature:	0 - 50°C (Derating from 40°C)
Dimensions (h x w x d):	311 x 449/480 x 420/510mm³
Weight:	20kg

REAR VIEW



OUTPUT CONNECTOR

All 64 high voltage outputs are brought out to a single multi pole ODU-MAC connector. Each channel features an output contact an individual output return contact. Coaxial output cables can easily be connected.

Fully assembled output cables and other types of output connectors are available on request.

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