

±500V, 1W, 12 CHANNEL PRECISION HIGH VOLTAGE AMPLIFIER

- 12 Channels
- Output ±500V
- High Precision
- High Stability
- Low Noise
- Remote On / Off
- Monitor Outputs
- Displays for Output Voltage and Current

• APPLICATIONS

- Electrostatic deflection
- HV Voltage Reference
- Testing
- Ion guidance



The high voltage amplifier HAR12A is a 19" rack-mountable unit of 3HU. Twelve channels provide output voltages in the range of -500V to +500V at load current of ±2mA each.

Each output voltage is controlled by a control voltage which can be either provided via its nominal value input or set by a 10-turn potentiometer. The control voltage ranges from -10V to +10V and the gain is 50.

Monitor outputs for voltage and current are provided on each channel.

Furthermore, each channel is equipped with a fast inhibit input effectively clamping the output voltage to 0V.

The amplifier channels feature high precision, very high stability and low noise, thereby making the HAR12A well suited even for voltage reference applications.

Both the output voltage and the load current of each channel can be displayed simultaneously on two 4-digit red LED-displays. A rotary switch for channel selecting is provided.

All amplifier outputs are protected against overload, short circuit and transient overvoltage.

High-Speed versions up to 15kHz bandwidth / 50V/μs slew rate are available on request.

The output connectors are alternatively BNC connectors (HAR12 mainframe) or SHV connectors (HAR12S mainframe).

• SPECIFICATIONS

Output Voltage:	-500 V to +500 V
Load Current:	-2 mA to +2 mA
Gain:	50 ±0,2%
Temp. Coeff.:	5 ppm/K (typ.)
Stability:	< ±100 ppm
Load Regulation:	< 100 ppm (no load / full load)
Ripple / Noise:	≤ 10 mV _{pp} / ≤ 1 mV _{RMS}
Digital Panel Meters:	4-digit red LED displays
Voltage Monitor:	-10 - +10V ≙ -500V - +500V ±0.2 %
Current Monitor:	-10 - +10V ≙ -2mA - +2mA ±0.2 %
Output Protection:	overload, short circuit, transient overvoltage
Inhibit Input:	Amplifier On: -15V - +1.5V Amplifier Off: +2.4V - +15V or open
Inhibit Response Time:	Amplifier On→Off: < 10 μs Amplifier Off→On: ca. 2.5 ms

Power Bandwidth:	> 500 Hz
Slew Rate:	> 2 V/μs
Supply Voltage:	95 - 265 V _{AC} , 47 - 63 Hz, 0.5 A _{RMS} @230 V _{AC}
Operating Temp:	0 °C to +40 °C
Dimensions (WxHxD):	482x134x365 mm ³
Weight:	9.5 kg

• BLOCK DIAGRAM (one channel shown)

