

±500V, 1W, 2 CHANNEL PRECISION HIGH VOLTAGE AMPLIFIER MAINFRAME

- 2 Channels
- Output ±500 V
- 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



HAR2 equipped with two HA05B2 HV amplifier modules

The HAR2 is a mainframe to be equipped with 1 or 2 high precision high voltage amplifier modules HA05B2 (3 U high, 6 HP wide plug-in modules). The channels provide output voltages in the range of -500V to +500V at load current of ±2mA each. The following refers to a HAR2 mainframe equipped with HA05B2 HV amplifier modules.

The output voltage is controlled by a control voltage or set by a 10-turn potentiometer. The control voltage ranges from -10V to +10V, 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 HAR2 well suited even for voltage reference applications.

Both the output voltage and the load current of a selected channel can be displayed simultaneously on two 4-digit LED displays. 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 HAR2 is available as a tabletop or a wall mountable model (HAR2-W).

• 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 - +10 V ≡ -500 V - +500 V ±0.2 %
Current Monitor:	-10 - +10 V ≡ -2 mA - +2 mA ±0.2 %
Output Protection:	overload, short circuit, trans. overvoltage
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:	22.8 - 25.2 V _{DC} *
	0.6 A _{DC} @24 V _{DC} *
Operating Temp:	0 °C to +40 °C *
Dimensions (WxHxD):	141x139x264 mm ³ *
Dimensions (HAR2W):	177x134x264 mm ³ *
Weight:	1.9 kg*

* refers to the HAR2 mainframe, all other data refers to HA05B2 modules

• BLOCK DIAGRAM (one channel shown)

