

Power Module Type 12AG

Product Data and Specifications

Typical applications

- General-purpose measurements
- Precision measurements
- Sound-power measurements
- Multi-channel measurements

The G.R.A.S. Power Module Type 12AG (Fig. 1) is an 8-channel power supply for preamplifiers used with condenser microphones. It is for use in multi-channel acoustic measurements in both laboratory and field. Each channel has the following signal-conditioning settings:

- linear-response
- A-weighting
- high-pass filtering

The Type 12AG can be powered either from a mains/line supply or from an external DC supply (12V - 18V), e.g. a car battery. It is built into a sturdy anodized aluminium cabinet.

The supply and polarization voltages are set by two pairs of switches, one common to channels 1 - 4 and one common to channels 5 - 8. The polarization voltage in each group can be set to:

- 0V — for prepolarized microphones, or
- 200V — for externally polarized microphones

And the voltage supply for the preamplifiers can be set to:

- 120V — for maximum dynamic range, or
- 28V — for minimum power consumption; may be important when using an external DC power supply

The input to each channel is a 7-pin LEMO socket



Fig. 1 8-channel Power Module Type 12AG

on the front panel which is wired up (see Fig. 2) for G.R.A.S. microphone preamplifiers, e.g. Types 26AB, 26AC, 26AJ and 26AK, but is also compatible with other available makes of microphone preamplifiers.

The output of each channel is via a standard BNC connector also on the front panel as well as via one of the 4-channel VXI outputs on the rear panel.

Each channel has two overload indicators; one instantaneous, and one latched which can be reset by a common push button. The gain in each channel can be set from 0 dB to +50 dB in steps of 10 dB.

The standard A-weighting filter in each channel complies with IEC Standard 60651: *Sound level meters Type 0*. The high-pass filter in each channel is a 3-pole Butterworth filter with a -1 dB cut-off at a frequency of 20 Hz. This filter is for reducing unwanted low-frequency signals, e.g. caused by wind-induced noise on the microphone.

The preamplifier signal in each channel can be coupled directly to the output of the Type 12AG by selecting direct output. This makes the output of the

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preamplifier available free of any signal conditioning.

A built-in precision 1 kHz oscillator in each channel enables a complete check of the measuring channel when used with G.R.A.S. preamplifiers Types 26AJ, 26AH or 26AL. The oscillator can be activated directly via a common push-button on the front panel or remotely via a common mini-jack connector placed on the rear panel. The output level of each oscillator can be adjusted using a small screw driver on a potentiometer accessible via a hole in the front panel.

The cabinet of the Type 12AG is ½ of a standard 19-inch rack; meaning that 2 of these Power Modules can be mounted in a standard 19-inch rack using the AK0040 Rack-mounting System.

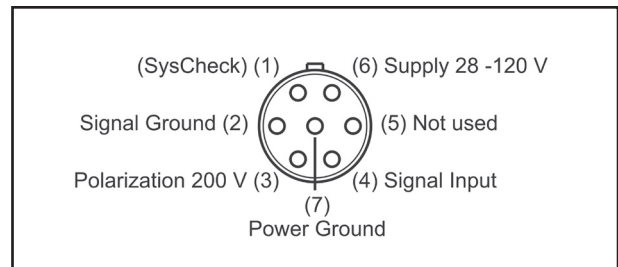


Fig. 2 7-pin LEMO female socket 1B (external view)

Specifications

<p>Input/Output sockets per channel: Input: 7-pin LEMO 1B female Output: BNC coaxial</p> <p>VXI outputs: 1 for channels 1 - 4 1 for channels 5 - 8</p> <p>Gain: 0 to +50 dB in 10 dB steps, and direct coupling</p> <p>Output-voltages (four channels, 1 - 4, 5 - 8): Preamplifier supply: 28 V or 120 V (internal switches) Polarization voltage: 0 V or 200 V (rear-panel switches)</p> <p>Gain error: <0.2 dB</p> <p>Frequency response (Lin setting): 20 Hz - 20 kHz: ±0.2 dB 2 Hz - 200 kHz (gain ≤ +40 dB): ±1.0 dB 2 Hz - 100 kHz (gain = +50 dB): ±1.0 dB</p> <p>Inherent noise: (20 Hz - 20 kHz with input grounded) A-weighted: <2.8 μV Lin: <4 μV (20 Hz - 20 kHz with G.R.A.S. preamplifier and 20 pF dummy microphone) A-weighted: <4 μV Lin: <5.6 μV</p>	<p>Channel separation: 20 Hz - 20 kHz: >65 dB</p> <p>A-weighting filters: Compliant with IEC 60651 Type 0 and IEC 61672 Class 1</p> <p>High-pass filter: 3-pole Butterworth, -1 dB at 20 Hz</p> <p>Output impedance: 30 Ω</p> <p>Power supply (mutually exclusive): Mains/line: 110 VAC - 240 VAC External DC: 12 V - 18 V</p> <p>Power consumption (220 VAC): With 8 G.R.A.S preamplifiers using 120 V 100 mA</p> <p>Fuse: 1.25 A (Slow), 250V</p> <p>Operating temperature range: -10 °C to +50 °C</p> <p>Dimensions: Height: 132.6 mm (5¼ in) Width: 215.0 mm (8.5 in) Depth: 196.0 mm (7.7 in)</p> <p>Weight: 2.5 kg (7.5 lbs)</p> <p>Accessories available: 19-inch Rack-mounting System: AK0040</p>
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G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice

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