

Power Module Type 12AK

Product Data and Specifications

Typical applications

- *General-purpose measurements*
- *Precision measurements*
- *Acoustic monitoring*
- *Microphone calibration*

The G.R.A.S. Power Module Type 12AK is a single-channel power supply for preamplifiers used with condenser microphones. It is for general use in acoustic measurements; both in the laboratory and in the field. It has the following signal-conditioning settings:

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

The Type 12AK can be powered either by internal standard batteries or an external DC supply (12V - 18V), e.g. a mains/line adapter. It is built into a sturdy anodized aluminium cabinet.

The polarization voltage for the microphone fitted to the preamplifier can be set to:

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

The voltage supply for the preamplifier can be set to:

- 120V — for maximum dynamic range, or
- 28V — for minimum power consumption

The Type 12AK will run for approximately 11 hours on fresh standard alkaline batteries. A **Low Batt** LED indicates the condition of the batteries.

The input is a 7-pin LEMO socket on the front panel which is wired up (see Fig. 2) for G.R.A.S. microphone preamplifiers, e.g. Types 26AB, 26AC, 26AJ



Fig. 1 Power Module Type 12AK

and 26AK, but is also compatible with other available makes of similar microphone preamplifiers.

The output is a standard BNC connector also on the front panel.

There are two overload indicators; one instantaneous, and one latched which can be reset. The gain can be set from 0 dB to +50 dB in steps of 10 dB.

The standard A-weighting filter complies with IEC Standard 60651: *Sound level meters Type 0*. The high-pass filter 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 can be coupled directly to the output of the Type 12AK by selecting direct

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output. This makes the output of the preamplifier available free of any signal conditioning.

A built-in precision 1 kHz oscillator 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 push-button on the rear panel or remotely via a mini-jack connector also placed on the rear panel. The output level of the 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 12AK is $\frac{1}{12}$ of a standard 19-inch rack; meaning that up to 12 of these Power Modules can be mounted in a standard 19-inch rack using the AK0040 Rack-mounting System.

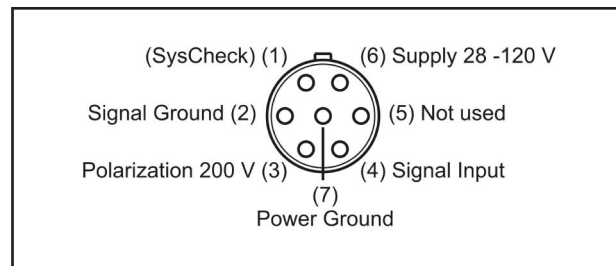


Fig. 2 7-pin LEMO female socket 1B (external view)

Specifications

Input/Out put sockets:	Output impedance:
Input: 7-pin LEMO 1B female	30 Ω
Output: BNC coaxial	
Gain:	Power supply:
0 to +50 dB in 10 dB steps, and direct coupling	10 x LR6 (AA) standard alkaline cells, or
	DC mains/line adapter supply: 12 V - 18 V
Output-voltages:	Power consumption:
Preamplifier supply: 28 V or 120 V	With a G.R.A.S preamplifier using:-
Polarization voltage: 0 V or 200 V	120 V: 210 mA
	28 V: 180 mA
Gain error:	Fuse:
<0.2 dB	250 mA (Slow), 250V
Frequency response (Lin setting):	Battery life (valid for 23 °C and alkaline cells) for:-
20 Hz - 20 kHz: ± 0.2 dB	120 V supply: ≈ 9 hours
2 Hz - 200 kHz (gain $\leq +40$ dB): ± 1.0 dB	28 V supply: ≈ 11 hours
2 Hz - 100 kHz (gain = +50 dB): ± 1.0 dB	Operating temperature range:
	-10 °C to +50 °C
Inherent noise:	Dimensions:
(20 Hz - 20 kHz with input grounded)	($\frac{1}{12}$ of a standard 19-inch rack)
A-weighted: <2.8 μ V	Height: 132.6 mm (5 $\frac{1}{4}$ in)
Lin: <4 μ V	Width: 34.6 mm (1.3 in)
(20 Hz - 20 kHz with G.R.A.S. preamplifier and 20 pF dummy microphone)	Depth: 196.0 mm (7.7 in)
A-weighted: <4 μ V	Weight:
Lin: <5.6 μ V	770 gm (1.69 lbs)
A-weighting filters:	Accessories available:
Compliant with IEC 60651 Type 0	19-inch Rack-mounting System: AK0040
High-pass filter:	
3-pole Butterworth, -1 dB at 20 Hz	

G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice

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