GRAS 12AK

1-Channel Power Module with gain and filters

Connection: Traditional 200 V
Channel(s): 1

The GRAS 12AK is a single-channel power module with a 7-pin LEMO 1B connector for power and polarization of an externally polarized microphone set. It features instantaneous and latched overload indication, adjustable gain settings, A-weighting, and Lin and HP filters. These features make the 12AK the ideal choice for a wide range of applications such as monitoring, laboratory use, and sound level meter measurements.

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Typical applications and use

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

Design

It has the following signal-conditioning settings:

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

The 12AK can be powered either by internal standard batteries or an external DC supply (12 V - 18 V), 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 0 V — for prepolarized microphones, or 200 V — for externally polarized microphones. The voltage supply for the preamplifier can be set to 120 V — for maximum dynamic range, or 28 V — for minimum power consumption.

The 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 for GRAS microphone preamplifiers, e.g. 26AB, 26AC, 26AJ 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 12AK by selecting direct output. This makes the output of the preamplifier available free of any signal conditioning.

The cabinet of the 12AK is 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.

Warranty

All GRAS products are made of high-quality materials that will ensure life-long stability and robustness. The 12AK is delivered with a 2-year warranty. The warranty does not cover products that are damaged due to negligent use.

Service and Repairs

All repairs are made at GRAS International Support Center located in Denmark. Our Support Center is equipped with the newest test equipment and staffed with dedicated and highly skilled engineers. Upon request, we make cost estimates based on fixed repair categories. If a product covered by warranty is sent for service, it is repaired free of charge, unless the damage is the result of negligent use or other violations of the warranty.

Specifications

Frequency response (±1.0 dB) @ Gain ≤40 dB	Hz	2 to 200 k
Frequency response (±1.0 dB) @ Gain 50 dB	Hz	2 to 100 k
Output channel(s)		1
Output impedance	Ω	30
Direct coupling input to output		Yes
Inherent noise, LIN (20 Hz to 20 kHz), grounded input	µVrms	<4
Inherent noise, A-weighted, (20 Hz to 20 kHz), grounded input	µVrms	<2.8
Inherent noise, A-weighted with dummy preamplifier (20 Hz to 20 kHz),	µVrms	<4
Inherent noise, LIN with dummy micophone (20 Hz to 20 kHz)	µVrms	<5.6
Gain settings, 10 dB steps	dB	0 to + 50
Gain error	dB	< 0.2
A-weighting filter according to		IEC 60651 Type 0
High-pass filter		3-pole Butterworth, -1 dB @ 20 Hz
Linear mode		Yes
SysCheck level @ 1 kHz	Vrms	1
Type		Traditional power supply (LEMO)
Input channel(s), traditional power supply		1
Preamplifier supply	V	28 / 120
Polarization voltage	V	0 / 200
Overload indication		Yes
PC controlable		No
External filter option		No
Power amplifier overload detection		No
Power supply, battery		10 x LR6 (AA)
Power supply, external	Vdc	12 to 18
Power consumption	mA	180 to 210

Battery life, 28 V preamp. supply	h	11
Battery life, 120 V preamp. supply	h	9
Battery low indication		Yes
Fuse	mA	250 (slow)
Temperature range, operation	°C / °F	-10 to +50 / 14 to 122
Weight	g / oz	770 / 27.16

GRAS Sound & Vibration reserves the right to change specifications and accessories without notice.

Included Items

GRAS EL0001	10 x LR6 (AA) alkaline cells
One of these Power Supplies:	(Depending on country)
GRAS AB0002	Power supply 230 VAC to 15 VDC. EU-connector
GRAS AB0006	Power supply 230 VAC to 15 VDC. UK-connector
GRAS AB0003	Power supply 120 VAC to 15 VDC. USA-connector

Optional

GRAS AK0040	19″ Rack mounting System
12AK-S20	12AK Power Module (Excluding Power Supply)

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GRAS Worldwide

Subsidiaries and distributors in more than 40 countries

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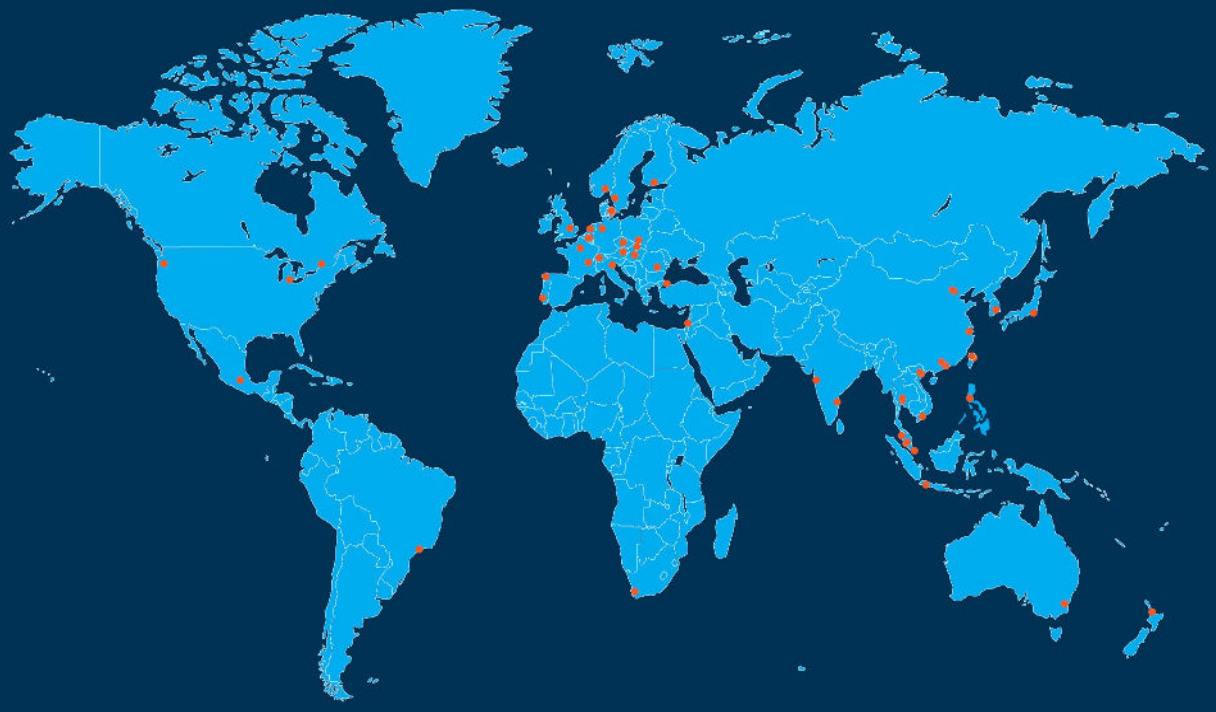

About GRAS Sound & Vibration

GRAS is a worldwide leader in the sound and vibration industry. We develop and manufacture state-of-the-art measurement microphones to industries where acoustic measuring accuracy and repeatability is of utmost importance in R&D, QA and production. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, and consumer electronics. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect and trust.

GRAS Sound & Vibration is represented through subsidiaries and distributors in more than 40 countries and is part of Axiometrix Solutions, a leading test solutions provider comprised of globally recognized measurement brands. Read more at www.GRASacoustics.com

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