ROGA Instruments INTELLIGENT TESTING EQUIPMENT
www.roga-instruments.com

AV14 Set

Vibration Monitor
Structure-borne sound monitoring

USES

- Vibration Monitoring
- Vibration Source Location
- Machine Diagnostics

FEATURES

- Piezoelectric accelerometer input
- Adjustable Headphones output
- Preamplifier Function (additional output)

The 1-channel charge amplifier AV14 has been constructed mainly to monitor structure borne sound and vibration signals. It has a measuring channel for a charge coupled piezoelectric accelerometer. You get a voltage proportional to the acceleration independent of the amplification of the headphone amplifier.

The instrument can be used as a battery operated signal conditioner for accelerometers with output for DAQ unit's analyzers or similar instruments.

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Technical Data

Inputs

Piezoelectric accelerometer input.....µDOT

Headphones - Amplifier

Frequency response: ..... –3 dB between
..... 30 Hz –20 kHz
Max. Output voltage: ..... 4 Vpp*) at 150 Ω
Distortion factor:..... < 1 % at 1 kHz and 4 Vpp
Output socket: ..... 3.5 mm stereo jack

Measuring Amplifier

Output socket: .....BNC (on rear panel)
Max. Output voltage: .....5 Vpp
Output Impedance:.....50 Ω in series with 10 µF
Max. Impedance: .....> 10 kΩ, < 10 nF
Frequency response: ..... –3 dB between
.....1 Hz – 30 kHz

LED

„Supply Voltage”..... green
„IEPE Supply Voltage” ..... green
“Charging” (rear panel) .....red

Power Supply

Supply:
Rechargeable NiMH Accu .....8,4 V/ 220 mAh
Battery Charge:..... 9 -1 5V USB mini, approx. 14 h
Current Consumption:.... 5 to 15 mA, depends on
..... adjusted amplification
Accu lifetime:..... approx. 10-30 h, depends on
.....headphone level

Operation conditions

Operating temperature range: ....+/- 0°C to +50°C

Mechanical Data

Cabinet material: .....Aluminum
Dimensions (W × H × D):..... 55 × 25 × 100 mm
Weight with batteries: .....ca. 250 g

Safety

IEC61010

EMC

EN55103-1, EN55103-2

Accessories included

- Internal rechargeable battery
- External AC adaptor, 100-240 VAC / 12V DC
- 222A100 Accelerometer
- B001-100N Holding magnet insulating type – 100 Newton holding force
- 009-UNF-BNC-1.5; Accelerometer Sensor Cable 1.5 meter

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222A100 Low Cost Accelerometer

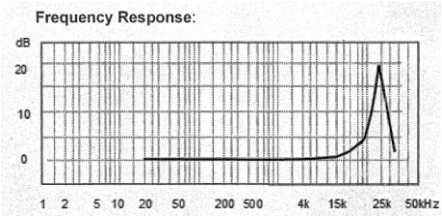
KD37 Successor - Single Axis & High Sensitivity

Properties

- High sensitivity accelerometer with share ceramics
- Charge output, no external power required
- Wide dynamic range
- Rugged stainless steel housing

Piezo design	Share design	
Output	Charge	
Charge sensitivity	100	pC/g
Sensitivity tolerance	20	%
Measurement range, ±	800	g Peak
Destruction limit	5000	g
Capacitance without cable	4560	pF
Transverse sensitivity	<5	%
Upper frequency limit (±1 dB)	6000	Hz
Resonant frequency	>25	kHz
Resonance amplitude	25	dB
Operating temperature range	-54 - 150	°C
Temperature coefficient of voltage sensitivity	0,07	%/K
Temperature transient sensitivity	30	m/s²/K
Acoustic noise sensitivity	0,1	m/s²/Pa
Magnetic field sensitivity	10	m/s²/T
Size (DxH)	16.2 x 20.1	mm
Weight without cable	20	g
Case material	Stainless steel	
Connector direction	radial	
Connector	M5 | UNF10-32	
Mounting	M5	

Typical Frequency Response



Connection Accessories

- 009-UNF-UNF-2: Low-noise cable; 2 m; UNF 10-32 to BNC; 120 °C; D2,1

Mounting Accessories

- B001-100N magnetic base insulating type

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