



ENDEVCO® MODELS 2721B/4221A LABORATORY CHARGE AMPLIFIERS

Small dc-Powered General Purpose

The ENDEVCO Model 2721B is a low-cost charge amplifier for use with piezoelectric transducers. Its small size and dc-operation is suited to both laboratory and field use.

Operation is very simple. Just dial in the transducer sensitivity (1 to 1100 pC/g) and select the desired gain switch position. Output is then normalized in mV/g.

The 2721BM1 model with 1 Hz response, is designed for use with ISOSHEAR® accelerometers on low frequency measurements. The M1 should not be used with any other accelerometers which may exhibit low-frequency error signals caused by thermal transients.

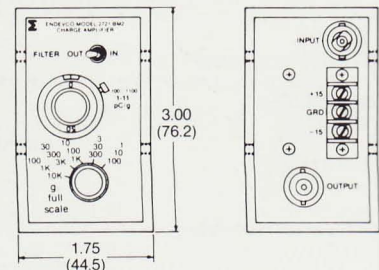
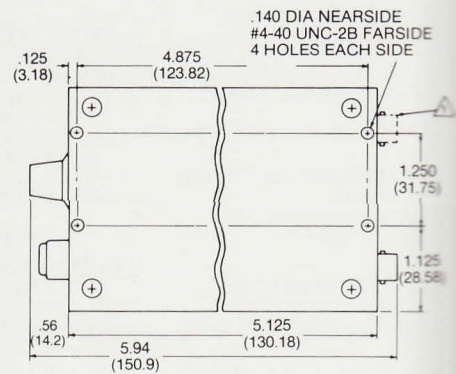
An additional feature of the Model 2721B is a front panel switch for selecting a single-pole, low-pass filter provided by a user-installed capacitor.

Up to 10 units may be powered from an ENDEVCO Model 4221A ac-operated power supply.



SPECIFICATIONS

INPUT CONNECTION	INPUT CHARACTERISTICS
	Single-ended with one side connected to circuit ground and case
SOURCE IMPEDANCE	
Resistance	k Ω 1, minimum
Capacitance	pF 30 000, maximum
MAXIMUM INPUT	pC pk 30 000 without overloading
OUTPUT CONNECTION	OUTPUT CHARACTERISTICS
	Single-ended with one side connected to circuit ground and case
OUTPUT IMPEDANCE	Ω 10 \pm 10% in series with 8 μ F, minimum
LINEAR OUTPUT VOLTAGE	V \pm 10.0, or greater, with 5 k Ω load, minimum
LINEAR OUTPUT CURRENT	mA \pm 2.0, or greater
MAXIMUM OUTPUT OFFSET	Vdc \pm 0.050
RESIDUAL NOISE	$Q_n \leq \sqrt{Q_a^2 + Q_b^2}$ pC rms referred to input or $<100 \mu$ V referred to output, whichever is greater, where: $Q_a = 0.03$ pC rms + 0.008 pC rms/1000 pF of source capacitance, and $Q_b = 100/R_s$ pC rms (for source shunt resistance, $R_s \leq 100k\Omega$)
SYSTEM SENSITIVITY	TRANSFER CHARACTERISTICS
	Amplifier gain is continuously adjustable to provide normalized system output for transducer sensitivities from 1 to 1100 pC/g
SELECTABLE RANGES (in increments of 1, 3, 10)	mV/g 1 to 100 (for 1 to 11 pC/g transducer sensitivities); 10 to 1000 (for 10 to 110 pC/g transducer sensitivities); 100 to 10 000 (for 100 to 1100 pC/g transducer sensitivities)
GAIN ERROR	% \pm 1; \pm 2 for source resistance <10 k Ω or source capacitance of >10 000 pF
GAIN DRIFT	%/°F \pm 0.02, maximum %/°C \pm 0.036, maximum
FREQUENCY RESPONSE	\pm 5%, 3 Hz to 10 kHz with source resistance >100 k Ω ; \pm 5%, 5 Hz to 10 kHz with source resistance 10 k Ω to 100 k Ω ; \pm 5%, 50 Hz to 10 kHz with source resistance 1 k Ω to 10 k Ω
SLEW RATE	pC/ μ s 1000 or greater
SUPPLY VOLTAGE	POWER REQUIREMENTS
SUPPLY CURRENT	Vdc +15/-15, typical; limits: +14/-14 to +18/-18 mA 7.5, typical, 9.5, maximum, at +15/-15 Vdc
WEIGHT	PHYSICAL
FINISH	oz (gm) 16 (450)
MOUNTING	Black anodized case, gray panel Four clearance holes 0.140 in (3.56 mm) diameter one side, four threaded holes 4-40 UNC-2B other side (allows bolting)
CONNECTORS	
Input	Coaxial, 10-32 receptacle
Output	Coaxial BNC receptacle
Power	3-terminal barrier strip
CONTROLS	
Gain Range	Five position rotary switch. Ten-turn potentiometer and turn-counting dial, calibrates amplifier for specific transducer sensitivity
Filter In-Out	Selects a single-pole, low-pass filter provided by a user-installed capacitor
TEMPERATURE	ENVIRONMENTAL
Operating	°F (°C) +32 to +167 (0 to +75)
Non-operating	°F (°C) -67 to +187 (-55 to +85)
HUMIDITY	% RH 95, maximum



NOTE: Δ "T" OPTION (BNC) CONNECTOR, NORMALLY SUPPLIED WITH 10-32 THD INPUT CONNECTOR.

Dimensions in inches and (millimetres)

OPTION AVAILABLE

Model 2721BM1 provides 1 Hz low end frequency response.

ACCESSORIES INCLUDED

EHR77 Adhesive-Mount Rubber Feet (4)
EH200 Mounting Screws (4)
Instruction Manual

ACCESSORIES OPTIONAL

Model 4221A Power Supply, powers up to ten Model 2721B, operates on 100 to 130V, 50 to 400 Hz. Alternative 200 to 300 V (Suffix V) or 90 to 100 V (Suffix W)

Model 4914A Rack Adaptor fits standard 19-inch rack and holds up to nine Model 2721B and one Model 4221A Power supply.

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Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

SIGNAL
CONDITIONING

THIS SIDE: 2721B/4221A
REVERSE SIDE: 4416A