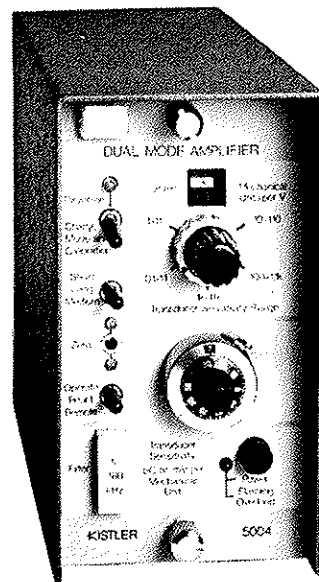


type 5004 dual mode amplifier

advance data bulletin K11.5004 3/81

An exceptionally versatile and easy-to-operate instrument for use with either high or PIEZOTRON[®] low impedance piezoelectric transducers.



offering such operational features as:

- *Twelve ranges, calibrated in mechanical units per volt and adjustment for the transducer sensitivity
- *Wide frequency response; can be tailored by a wide range of low pass bandwidth and notch plug-in filters
- *Unique scale indicator simplifies operation and avoids improper setting
- *Front panel zero adjust with LEDs to indicate any zero imbalance
- *LEDs indicate overload condition of amplifier and proper operation in PIEZOTRON mode
- *Remote control of Reset-Operate function

OPERATION

The 5004 is very easy to operate, requiring no mathematical manipulations, simply:

- *Set the sequence of numbers corresponding to the transducer sensitivity on the 10-turn potentiometer in pC/MU or mV/MU. (Mechanical Units, eg. PSI, g, lb, etc.)
- *Set the Transducer Sensitivity range selector to the appropriate range
- *Select the appropriate scale from one of the 12 calibrated positions
- *The selected charge amplifier scale in MU/V is displayed in the window
- *Recording and display equipment connected to the voltage output should be set for 1V/div. The selected charge amplifier scale then becomes the display or recorder scale in MU/div.

for transducer sensitivities

0.01 to 0.11	pC/MU or mV/MU*	MU/V	100 to 500,000
0.1 to 1.1	pC/MU or mV/MU	MU/V	10 to 50,000
1.0 to 11	pC/MU or mV/MU	MU/V	1 to 5,000
10 to 110	pC/MU or mV/MU	MU/V	.1 to 500
100 to 1100	pC/MU or mV/MU	MU/V	.01 to 50
Output voltage		V	±10
Output current		mA	≤±5
Output impedance		Ω	100
Input impedance (charge mode)		Ω	70
Input impedance (Piezotron mode)			100 kΩ parallel w 1 nF
Input cable, insulation resistance (charge mode)		TΩ	100
Frequency response, with standard filter (-3 dB)		kHz	≈0 to 180
Low frequency (-3 dB)		Hz	0.16
Time Constant			
Time constant (depending on selected range)			
	"Long"	s	1000 to 100,000
	"Medium"	s	1 to 5000
	"Short"	s	0.01 to 50
Amplitude, linearity		%FSO	<±0.05
Accuracy of ranges (charge mode)		%	<±1
of two most sensitive ranges		%	<±5
additional range error (Piezotron mode)		%	<±0.5
Calibration input			
referred to charge input		pC/mV	1 ± 0.5%
referred to Piezotron input		mV/mV	1
Noise at output; 10 Hz to 330 kHz, std. 180 kHz filter dial 10-00 & 1-00		mV _{rms}	0.1 & 1
Noise input (cable)		pC _{rms} /nF	0.01
Piezotron power supply (constant current source)		mA	4
Zero stability, short time constant, dial 10-00 & 1-00		mV	<±1 & <±5 in 10 hrs
Drift (due to leakage current) @ 20°C		pC/s	<±0.03
Operating temperature range		°C	0 to 50
Connectors	input & output	type	BNC neg
	remote control	type	6 pin; DIN 45322
	power	type	3 pin with gnd, IEC 320/VI, CEE-22VI
Power		VAC Hz & VA	100 to 130 50 to 60 & 8
Dimensions with case		in	2.9 W x 5.7 H x 8.3 D
Weight with case		lb	3.3
Mounting			case or rack (6 units to std. 19" rack,height 5¼")

* MU = mechanical unit (eg. PSI, lb, g, etc.)