



AB Series Strain Indicator Calibrator



Features:

True Wheatstone bridge circuitry
 Independent model AB-120 for 120 Ω , and
 model AB-350 for 350 Ω
 Simulates quarter, half, and full-bridge
 12 position preset range
 Quarter-bridge strain range direct reading:
 ± 200 to $\pm 100\,000\ \mu$
 Half and Full-bridge strain range direct reading:
 ± 200 to $\pm 100\,000\ \mu$
 Transducer range: $\pm 0.2\ \text{mV/V}$ to $\pm 100\ \text{mV/V}$
 Reversing switch for plus and minus calibration
 High precision resistors used throughout to
 ensure excellent stability
 Accuracy 0.02 percent

Applications:

Strain Indicator Calibrator
 Stress Indicator Calibrator
 Material elasticity Indicator Calibrator
 Load Cell Indicator Calibrator
 Micro-Resistance Indicator Calibrator

Load Cell Signal Conditioning Calibrator
 Foil Strain Gage Signal Conditioning Calibrator
 Semiconductor Strain Gage Signal Conditioning
 Calibrator

Description:

The Model AB calibrator is a Wheatstone bridge and generates a true change of resistance in one arms of the bridge.

It simulates the actual behavior of a strain gage in negative strain calibrator based on the Wheatstone bridge principle requires stable components.

Multiple ultra-stable and hi-stable precision resistors are used in the Model AB calibrator to provide the stability, repeatability and accuracy required in a laboratory strain gages instrument.



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Special Purpose Instrument

Specification:

Accuracy

- 0.02% of setting $\pm 0.2 \mu\epsilon$ (0.0001 mV/V), full bridge
- 0.02% of setting $\pm 1.0 \mu\epsilon$ (0.0001 mV/V), quarter bridge and half bridge

Repeatability

- $\pm 1 \mu\epsilon$ (0.0001 mV/V), maximum

Stability

- (0.02% of setting $\pm 0.2 \mu\epsilon$) /° C, maximum

Thermal EMF

- 1.0 μ V/V of excitation, maximum

Bridge Resistances

- Model AB-120 for 120 Ω
- Model AB-350 for 350 Ω

Output Resistance

- $\pm 0.02\%$, maximum, from nominal at "0" $\mu\epsilon$
 $\pm 10.0\%$ at $\pm 100,000 \mu$ (Quarter Bridge)

Circuit

- True $\pm \Delta R$ in two adjacent arms , plus two fixed arms for bridge completion

Simulation

- Quarter bridge, one active arm
- Half bridge, two active arm
- Full bridge, two active arm

Range

- Two Active Arm 0 to $\pm 100000 \mu\epsilon$
- Quarter, Half and Full bridge, two Active Arm:
0, ± 200 , ± 500 , $\pm 1,000$, $\pm 2,000$, $\pm 3,000$, $\pm 4,000$,
 $\pm 5,000$, $\pm 10,000$, $\pm 20,000$, $\pm 50,000$, $\pm 100,000 \mu$
@ G. F. = 2.000/ Active Arm
- Half and Full bridge: transducer
 0.000 , ± 0.200 , ± 0.500 , ± 1.000 , ± 2.000 , ± 3.000 ,
 ± 4.000 , ± 5.000 , ± 10.000 , ± 20.000 , ± 50.000 ,
 ± 100.00 mV/V

Excitation

- To Meet Accuracy and Repeatability Specifications
 - 120 Ω : up to 7 VDC
 - 350 Ω : up to 10 VDC
- Maximum Permissible
 - 120 Ω : 10V AC or DC
 - 350 Ω : 17V AC or DC

Output @ 0

- 150 $\mu\epsilon$ (0.075 mV/V), maximum in full-bridge mode

Environment

- Temperature
 - $+10^\circ \text{C}$ to $+38^\circ \text{C}$ ($+50^\circ \text{F}$ to $+100^\circ \text{F}$)
- Humidity
 - Up to 70% RH, non-condensing

Dimension

- Aluminum case
- 170 \times 94 \times 115 mm (6.7 L \times 3.7 W \times 4.6 H in)

Weight

- $< 0.7 \text{ kg}$ ($< 1.6 \text{ LB}$)
- All specifications are nominal or typical at $+23^\circ \text{C}$ unless noted.

Model Options

- AB-120 for 120 Ω
- AB-350 for 350 Ω