



## 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 ±100 000 μ
- Half and Full-bridge strain range direct reading: ±200 to ±100 000 μ
- Transducer range: ±0.2 mV/V to ±100 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.



## AB Series Strain Indicator Calibrator

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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  $\mu$  V/V of excitation, maximum

#### Bridge Resistances

- Model AB-120 for 120  $\Omega$
- Model AB-350 for 350  $\Omega$

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

#### Excitation

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

#### Output @ 0

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

#### Environment

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

#### Dimension

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

#### Weight

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

#### Model Options

- AB-120 for 120  $\Omega$
- AB-350 for 350  $\Omega$