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## Model V/E-40

### Strain Guage Simulator

A precision decade resistor for accurately simulating the behavior of strain gauges and RTD's.

- 5 Decade Selector Switches
- Resistance Range: 30.00 to 1,111.10 Ohm in 0.01 Ohm steps
- High Precision Vishay Resistors used throughout to ensure Excellent Stability
- Accuracy: 0.02% of Setting
- Simulates Tension and Compression Strain for most widely used Strain Gauges Resistance Values
- Simulates a Broad Range of RTS's for Instrumentation Setup and Calibration



# DESCRIPTION

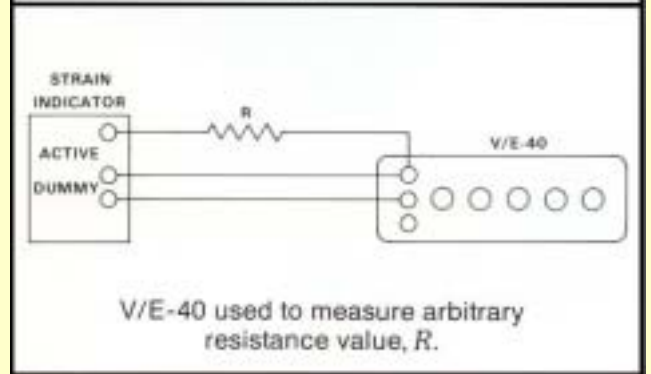
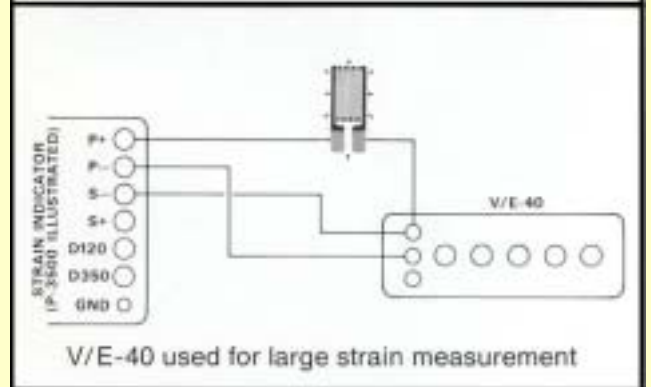
The V/E-40 Strain Gauge Simulator is an accurate, stable, compact, five-decade resistor specially designed to simulate the behavior of strain gauges and RTD's and for use in a broad range of measurement and calibration applications.

As a precision strain gauge simulator, the V/E-40 can be used to measure nonlinearity of the instrumentation in quarter-bridge operation, or to verify instrument calibration over the anticipated measurement range. It is also well-suited to measuring desensitization of the strain gauge circuit due to the finite resistance of the strain gauge leadwire system.

In a similar manner, the V/E-40 can be temporarily substituted for an RTD over a resistance range of 30.00 to 1,111.10 $\Omega$  to verify calibration of temperature measurement instrumentation.

The V/E-40 can also be used in conjunction with a conventional Wheatstone bridge strain indicator to measure arbitrary resistances between 30.00 and 1,111.10 $\Omega$ , or to eliminate Wheatstone bridge nonlinearity effects when measuring high post-yield strains in quarter-bridge operation. In this mode, the resistance or strain gauge to be measured is connected as one arm of a Wheatstone bridge, the V/E-40 is used as a decade resistor in an adjacent arm and the strain measuring instrument as a null detector.

Other applications include use as an investigative tool to troubleshoot faulty strain gauge installation, or as a precision decade resistor.



## Specifications

Accuracy: 0.02% of reading.

Maximum Current: To meet accuracy and repeatability specifications: 120 $\Omega$ : 65 mA; 350  $\Omega$ : 55 mA, 1,000 $\Omega$ : 25 mA.

Stability:  $\pm 3$  ppm/ $^{\circ}$ C, max.

Resistance Range: 30.00 to 1,111.10 $\Omega$  in 0.01 $\Omega$  steps

Environment: 0 $^{\circ}$  to +120 $^{\circ}$ F (-18 $^{\circ}$  to +49 $^{\circ}$ C), up to 70% relative humidity, non-condensing.

Size: 3-7/8 H x 9-1/8 W x 3-1/8 D in (98 x 232 x 89 mm).

Weight: 1.9 lb (0.85 kg).

*All specifications are nominal or typical at +23 $^{\circ}$ C (+73 $^{\circ}$ F).*