

Strain Gage Simulator

FEATURES

- 5 Decade selector switches
- Resistance range: 30.00 to 1111.10Ω in 0.01Ω steps
- High precision resistors used throughout to ensure excellent stability
- Accuracy 0.02% of setting
- Simulates tension and compression strain for most widely used strain gage resistance values
- Simulates a broad range of RTDs for instrumentation setup and calibration



A precision decade resistor for accurately simulating the behavior of strain gages and RTDs

DESCRIPTION

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

As a precision strain gage 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 gage circuit due to the finite resistance of the strain gage 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 1111.10 ohms 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 1111.10 ohms, or to eliminate Wheatstone bridge nonlinearity effects when measuring high post-yield strains in quarter-bridge operation. In this mode, the resistance or strain gage 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 gage installations, or as a precision decade resistor.

SPECIFICATIONS

ACCURACY

0.02% of reading

MAXIMUM CURRENT (TO MEET ACCURACY AND REPEATABILITY SPECIFICATIONS)

120Ω: 65 mA

350Ω: 55 mA

1000Ω: 25 mA

STABILITY

±3 ppm/°C maximum

RESISTANCE RANGE

30.00 to 1111.10Ω in 0.01Ω steps

ENVIRONMENT

0°F to +120°F [-18°C to +49°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°C [+73°F]

Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay Precision Group"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify Vishay Precision Group's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

Vishay Precision Group makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, Vishay Precision Group disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on Vishay Precision Group's knowledge of typical requirements that are often placed on Vishay Precision Group products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of Vishay Precision Group.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay Precision Group products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay Precision Group for any damages arising or resulting from such use or sale. Please contact authorized Vishay Precision Group personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.