



## SR12 Twelve Channel Strain Gage Indicator



### Features:

- 12 input channels
- Direct reading LCD display
- $\pm 1$  micro-strain resolution at Gage Factor equal to 2
- Quarter, half and full bridge circuits
- Built-in bridge completion
- 120  $\Omega$  , 350  $\Omega$  dummy gages
- Automatic zero-balancing and calibration
- Highly reliable gold plate binding post terminal
- Friendly intuitive, menu-driven operations
- EIA-RS-232C datum link
- Keypad operable
- Rugged, portable and lightweight
- Line-voltage power

### Applications:

- Material Test
- Strain Indicator
- Stress Indicator
- Material elasticity Indicator
- Load Cell Indicator
- Force Indicator
- Torque Indicator
- Pressure Indicator
- Acceleration Indicator
- Micro-Resistance Indicator
- Semiconductor Strain Gage Indicator
- Strain/Stress Analysis

### Description:

SR12 Twelve Channel Strain Gage Indicator is an economical instrument with high accuracy and multiple functions.

It is a Strain Gage Indicator and also function as a Strain Gage Transducer Indicator.

As a Strain Gage Indicator, it can support 10 types of bridges and dummies. While if it is used as a Strain Gage Transducer Indicator, there are 24 bits A/D converts to make the measurement.



## SR12 Twelve Channel Strain Gage Indicator

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Strain Gage Indicator

### Specification:

- **Hardware Specifications**  
All specifications nominal or typical at +23° C unless other noted
- **Inputs**
  - 12 Channels
  - Highly reliable gold plated binding post terminal accept independent bridge inputs.
  - Accommodates 10-36 AWG ( 3.0 to 0.127 mm dia. ) wire.
- **Bridge Configurations**
  - Quarter-, half-, and full-bridge circuits
  - Internal bridge completion provided for 120  $\Omega$  and 350  $\Omega$  on quarter-bridges, 60  $\Omega$  to 2 k  $\Omega$  half- or full-bridge
- **Display**  
Full dot-matrix structure with 4 Row  $\times$  40 Chars dots  
FSTN positive, gray translucence LCD with backlight.
- **Data Conversion**  
24 Bits High-resolution sigma-delta converter. 60 Hz and 50 Hz noise rejection.
- **Measurable Range**  
 $\pm 31,000 \mu\epsilon$  (  $\pm 1 \mu\epsilon$  resolution )  
at Gage Factor = 2.000
- **Accuracy**  
 $\pm 0.1\%$  of reading  $\pm 3$  counts.  
( Normal mode operation at Gage Factor = 2.000 )
- **Gage Factor Settings**  
Range 0.500 to 10.000
- **mV/V Settings**  
Range 0.500 to 10.000
- **Balance**  
Single key operation to initiate automatic software balance
- **Bridge Excitation**  
2.5 VDC  $\pm 1\text{mv}\%$
- **Communication Interface**  
EIA-RS-232C Serial Bus with type D connector.  
Used for transferring data and firmware.
- **Calibration**
  - Shunt calibration across each dummy resistor to simulate 5,000  $\mu\epsilon$  (  $\pm 0.1\%$  ).
  - Remote calibration supported via accessible switch contacts at input female D-sub.
- **Power Requirement**  
110 or 220 VAC  $\pm 10\%$  by switch, 50 or 60 Hz, 3 A
- **Dimension & Weight**
  - 9.9"  $\times$  7.1"  $\times$  4.0" ( 250 mm X 180 mm X 100 mm )
  - 6.8 Lb ( 3 Kg )
- **Operational Environment**
  - Operating temperature: -10° C  $\sim$  60° C
  - Storage temperature: -20° C  $\sim$  70° C
  - Humidity: Below 95% RH, non-condensing
- **Firmware Features**
  - **Scaling**  
Automatic scaling for micro-strain, based upon gage factor. Automatic calculation of mV/V.  
Linear scaling for other engineering units
  - **Units**  
Strain, Stress, Weight, Force, Pressure, Torque, Length, Acceleration, Angle, Temperature, Resistance
  - **Bridge Types**
    - ◆ Quarter-bridge
    - ◆ Half-bridge, adjacent arms, equal and opposite strains
    - ◆ Half-bridge opposite arms equal strains
    - ◆ Shear bridge, 2 active arms
    - ◆ Poisson half-bridge
    - ◆ Full-bridge 4 fully active arms
    - ◆ Shear bridge, 4 active arms
    - ◆ Full-bridge, Poisson gages in opposite arms
    - ◆ Full-bridge, Poisson gages in adjacent arms
    - ◆ Undefined full-bridge
    - ◆ Undefined half-bridge; quarter-bridge
  - **Bridge Balance**
    - Automatic
- **Model Option:**  
SR12A.  
Accuracy  
 $\pm 0.25\%$  of reading  $\pm 6$  counts.  
\*Note: All other specifications are the same as SR12.