



## SR1 Strain Gage Indicator



### Features:

- One input channel
- Direct reading LCD display
- $\pm 0.3$  micro-strain resolution at Gage Factor = 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
- 16-Bits analog output
- 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:

SR1 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 used as a Strain Gage Transducer Indicator, there are 24 bits A/D converts to make the measurement.

#### SR1 Data Logger RS-232

- Works up to 8 units SR1
- EIA-RS-232C datum link
- Real Time Chart
- Save Data File to Excel \*.csv format
- Free





## SR1 Strain Gage Indicator

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Strain Gage Indicator

### Specification:

- **Hardware Specifications**  
All specifications nominal or typical at +23° C unless otherwise noted
  - **Inputs**  
Highly reliable gold plated binding post terminal accept independent bridge inputs.  
Accommodates 10-36 AWG ( 3.0 to 0.127 mm dia. ) wire.  
D-Sub 9 pin terminal accept independent bridge or transducer inputs.
  - **Bridge Configurations**  
Quarter-, half-, and full-bridge circuits  
Internal bridge completion provided for 120 Ω and 350 Ω on quarter-bridges, 60 Ω to 2 k Ω half- or full-bridge
- **Display**  
Full dot-matrix structure with 2 Row × 8 Chars dots  
FSTN positive, gray translucence LCD with backlight.  
Display update is twice/second
- **Data Conversion**  
24 Bits High-resolution sigma-delta converter.  
60 Hz and 50 Hz noise rejection.
- **Measurable Range**  
± 31,000 με ( ± 0.3 με resolution )  
at Gage Factor = 2.000
- **Accuracy**  
± 0.1% of reading ± 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 ± 1mv%
- **Analog Output**  
16-Bits DAC, Output 2.5 VDC ± 2V, Data rate 4.5 / 8.2 / 10 Hz
- **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 5000 με ( ± 0.1% ). Remote calibration supported via accessible switch contacts at input female D-sub.
- **Power Requirement**  
110 or 220 VAC ± 10% by switch, 50 or 60 Hz, 0.5A
- **Dimension & Weight**
  - 6.3" × 6.3" × 2.4" ( 160 mm X 160 mm X 60 mm )
  - 2.6 Lb ( 1.2 Kg )
- **Operational Environment**
  - Operating temperature: -10° C ~ 60° C
  - Storage temperature: -20° C ~ 70° C
  - Humidity: Below 95% RH, non-condensing
- **Firmware Features**
  - **Display Update Rate**
    - 2 readings per second
  - **Scaling**  
Automatic scaling for micro-strain, based upon gage factor, with non-linearity correction based upon bridge type. Automatic calculation of mV/V. Linear scaling for other engineering units
  - **Units**  
Strain, Stress, Weight, Force, Pressure, Torque, Length, Accelerator, 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
    - Manual offset adjustment
    - Disabled