



## SR1 Strain Gage Indicator



### Features:

- One input channel
- Direct reading LCD display
- $\pm 0.3$  micro-strain resolution at Gage Factor equal 2
- 1/4 , 1/2 and full bridge circuits
- Built-in bridge completion
- 120  $\Omega$ , 350  $\Omega$  dummy gages
- Automatic zero-balancing and calibration
- Intuitive, menu-driven operations
- EIA-RS-232C data link
- Operation from keypad
- Portable, lightweight and rugged line-voltage power

### Applications:

### Description:

The SR1 Strain gage Indicator is a low price, high accuracy and multi-function instrument.

It is a Strain gage Indicator and is a Strain gage transducer indicator.

Being Strain gage Indicator supports 10 kinds bridge type and dummy, Strain gage Transducer Indicator has 18 bits A/D convert to measure.



## SR1 Strain Gage Indicator

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### Specification:

- **Hardware Specifications**

All specifications nominal or typical at +23°C unless noted

  - **Inputs**

Eccentric-lever-release terminal blocks accept up to independent bridge inputs Accommodates 16-28 AWG ( 1.3 to 0.35 mm dia. )
  - **Bridge Configurations**

1/4, 1/2, and full-bridge circuits  
Internal bridge completion provided for 120Ω 350Ω and 1/4 bridges, 60Ω to 2KΩ half or full bridge
- **Display**

Full dot-matrix structure with 2 row × 8 Chars dots  
FSTN positive, gray transreflective LCD with backlight.  
Display update is twice/second
- **Data Conversion**

High-resolution sigma-delta converter. 60Hz or 50Hz noise rejection. User selectable
- **Basic Range**

± 31,000με ( ± 0.3με 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 9.900
- **Balance**

Single key operation to initiate automatic software balance
- **Bridge Excitation**

2.5Vdc ±0.01%
- **Communication Interface**

EIA-RS-232C Serial Bus with type D connector.  
Used for transferring stored data and firmware.
- **Calibration**

Shunt calibration across each dummy resistor to simulate 5000με ( ± 0.1% ). Remote calibration supported via accessible switch contacts at input terminal block
- **Power Requirement**

110 or 220 Vac ± 10% by switch, 50 or 60 Hz, 0.5A
- **Operational Environment**
  - Temperature: operating -10°C ~ 60°C
  - Storage: -20°C ~ 70°C
  - Humidity: to 95%, non-condensing
- **Firmware Features**
  - **Display Update Rate**
    - 2 readings per second
  - **Scaling**

Automatic scaling for micro-strain, based upon gage factor, with nonlinearity correction based upon bridge type. Automatic calculation of mV/V.  
Linear scaling for other engineering units

    - **Units**

με, mV/V, psi, ksi, GPa, MPa, Pa, g, lbf/lb, Kg, in, mm, mil, rpm, m, s, A, N, V, Ohms, hp, deg, rad, oz, mV, m/s<sup>2</sup>, ton
  - **Bridge Types**
    - ◆ 1/4 bridge
    - ◆ 1/2 bridge, adjacent arms, equal and opposite strains
    - ◆ 1/2 bridge opposite arms equal strains
    - ◆ Shear bridge, 2 active arms
    - ◆ Poisson 1/2 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 1/2 bridge ; 1/4 bridge
  - **Bridge Balance**
    - Automatic
    - Manual offset adjust
    - Disabled
  - **Model and Option**
    - SR1H: 1ppm Bridge
    - SR1L: 5ppm Bridge
- **Dimension & Weight**
  - 1.2 Kg
  - 160 × 160 × 60 mm