



# SI4 Strain Indicator and Recorder

Strain Recorders-Static Strain & Data Loggers



### Features:

- Four Input Channels
- AC Power
- Auto Balance
- Analog output
- Excitation 2.5 Vdc
- Auto Calibration
- 1/4, 1/2 and full bridge
- 120, 350, 1K  $\Omega$  dummy gages
- Three Grids 60°-Delta Strain Gage Rosettes Data Reduction
- Strain Gage Type Transducer
- Data Storage
- Back Light LCD Display
- Communication Interface

### Description:

The SI4 is a strain gage indicator, which offers excellent stable performance in the measurement of strain.

It supports the Strain Gage Rosettes Data Reduction . Include the Three Grids 60°-Delta Strain Gage Rosettes` operation.

It can process static measurements and data storage, but also can use in stress analysis and strain gage based transducers.

The SI4 has a high resolution Liquid Crystal Display, auto balance control, accurate and high sensitivity analog output.

The bridge excitation supply is precisely regulated constant voltage.

Quarter	HB adj s:-s
HB opp s:-s	HB shear s:-s
HB adj s:vs	FB 4 active
FB shear	FB v opp
FB v adj	Undef FB
Undef HB/QB	



## SI4 Strain Indicator and Recorder

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### Specification:

- Display
  - 128 × 64 pixels LCD with backlight
- Input
  - 4 Channels
- Strain Gage Range
  - $\pm 10,000 \mu\epsilon$ , at G.F.=2
- Transducer Range
  - 2.0~50 mV/V for full-scale indication
- Accuracy
  - $\pm 0.1\%$  Reading  $\pm 3 \mu\epsilon$  for G.F.=2
- Auto Balance
  - Range :  $\pm 16000 \mu\epsilon$
  - Resolution :  $1 \mu\epsilon$
- Gage Factory
  - G.F. Range 0.5~10
- Constance Voltage Excitation
  - $2.5 \pm 0.1\%$  Vdc Ground balance driver, 30 mA. 50ppm
  - Noise :  $\leq 2.5 \mu\text{Vp-p}$ ,  $13.5 \mu\text{Vp-p}/^\circ\text{C}$  ( 0.00054 )
- Amperfilier
  - Temperature effect on zero:  $\pm 1.0 \text{mV}/^\circ\text{C}$  rti Max
  - Temperature effect on span:  $\pm 0.002\%/^\circ\text{C}$  Max
  - Warm - up drift: less than  $\pm 3$  counts at G.F. = 2 from turn-on ten minutes
  - Random drift at constant ambient temperature: less Than  $\pm 3 \mu\epsilon$  at G.F. = 2.0
  - Common-mode rejection: great than 90dB at 50~60 Hz
- Analog To Digital Conversion
  - Resolution 24 Bits
- DATA STORAGE
  - USB - Disk
  - Recording: 1 ~ 999 Sec.
  - Auto / manual
- Strain Gage Rosettes Data Reduction
  - $45^\circ / 60^\circ$ - three grids auto operation
  - Strain p
  - Strain q
  - $\theta$
- Analog Output:
  - Linear output : 0~5V Max
  - $\pm$  Full Range
  - Any one for four Channel
- Shunt Calibration:
  - Three internal shunt calibration resistors  $\pm 0.1\%$ .
  - 120 $\Omega$  Gages: 5000 $\mu\epsilon$
  - 350 $\Omega$  Gages: 5000 $\mu\epsilon$
  - 1000 $\Omega$  Gages: 5000 $\mu\epsilon$
- Balance
  - Auto or Manual
- Input Circuit
  - Configuration 2 to 4 wires plus grand-shield to accept 1/4, 1/2, Full bridge strain gages or transducer
  - Internal half bridge 120 $\Omega$ , 350 $\Omega$ , 1000 $\Omega$  completion gages
- Data Link
  - Serial Bus
- Power Requirement
  - 110~220 Vac  $\pm 10\%$ , 50 or 60 Hz
- Size
  - 200 × 95 × 270 mm
- Weight
  - 3.0 Kg
- Environmental
  - Temperature: operating  $-10^\circ\text{C} \sim 60^\circ\text{C}$
  - Storage:  $-20^\circ\text{C} \sim 70^\circ\text{C}$
  - Humidity: to 95%