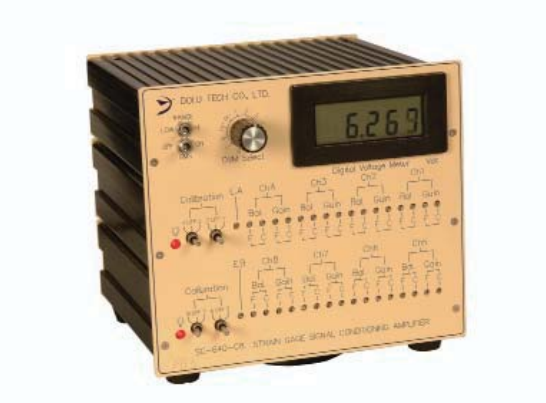
SC-640 Strain Gage Conditioning Amplifier



Features:

- Constant voltage excitation 2.5 ~ 10.0 VDC 400 mA Max
- Max frequency response: 5 kHz
- Ground balance
- Low-pass active 4-pole Butterworth standard
- Balance ± 13,000 με
- Optional bridge completion and shunt-calibration resistor modules
- Optional 28-channel fits into standard 19-in rack mount chassis
- Optional 12-channel portable rack

Applications:

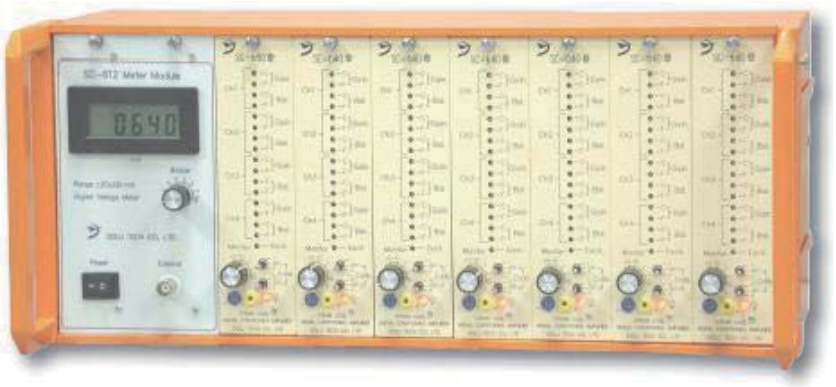
- Dynamic Material Test
- Strain/Stress Analysis
- Dynamic Material Elasticity Testing
- Load Cell Signal Conditioning
- Foil Strain Gage Signal Conditioning
- Semiconductor Strain Gage Signal Conditioning

Description:

SC-640 Strain gage conditioning amplifier is designed with multi-channel and for the high accuracy measurement. Each module is designed with 4 channels.

Max frequency response is at 5 kHz.

The application examples for the measuring strain gage type transducer are for the temperature, accelerator, load cell, micro-displacement, torque and pressure transducers.



SC-640 Strain Gage Conditioning Amplifier

Specification:

- Input
  - Input Impedance: 10GW, 2PF
  - Input Current: 2nA

- Excitation
  - Range: 2.5 to 10.0 VDC, 400 mA Max.
  - Noise: 100 μ V ± 0.002% Vpp
  - Load Regulation : ± 200 μ V, ± 0.01%
  - Type: Ground balance

- Amplifier
  - Gain: 50 to 4000 standard
  - Frequency Response
    - DC to 10 kHz; -3 (± 0.2dB) at all gain settings
  - Slow Rate
    - 0.5V/ μ sec min at all gain settings
  - Noise: 350 Ω source impedance, DC coupled
  - Referred-to-Input (RTI):

    10 Hz 5 μ V-pp
    100 Hz 22nV
    1 kHz 18nV
    5 kHz 16nV
  - CMR (Common-Mode Rejection):
    - Ration DC to 60 Hz

- Balance Range
  - Coarse balance: ± 10,000 με
  - Fine balance: ± 300 με

- Output
  - Linear output: ± 5.0 V Max
  - Output load: 2 k Ω min. resistance
  - Bandwidth: DC to 4 kHz, - 3 dB nominal
  - Output noise : Less than 400 μ VRMS at 400 μ V/ με output level

- Calibration
  - Shunt calibration resistors are provided across switch

- Filter
  - Low-pass active 4-pole Butterworth standard
  - BW: 10, 100, 1 kHz (-3 ± 2dB) by Jumper

- Dimension & Weight
  - 1.8" × 6.5" × 6.7" (46 × 166 × 170 mm)
  - 2 Lb (0.9 Kg)

- Bridge Completion and Shunt-calibration Resistor Modules
  - SC-640-CA: 0.01%, 1 ppm
  - SC-640-CB: 0.1%, 20 ppm
    - Two 500 Ω half or full bridges. Internal dummy gages are provided with 120 Ω , 350 Ω and 1000 Ω quarter bridges
    - Shunt calibration resistors are provided across intern simulator 1,000 με

- Power Supply
  - SC-612: Power supply for 7 modules (for 28 channels)
    - Output: set, dual 13VAC, 1,000mA
    - Input: 110 or 220 VAC ± 10% by switch, 50 or 60 Hz, 1.0A
  - Switch 7 modules: EXC. & each channel output to front panel BNC connector
    - Dimension: 1.8" × 6.5" × 6.7" (46 × 166 × 170 mm)
    - Weight: 5.3 Lb (2.4 Kg)

- SC-647 Portable Enclosure (for 28 channels)
  - Accepts 1 SC-612 power module and 7 SC-640 strain gage amplifier fits standard
  - 19-in electronic equipment
  - Dimension: 16.5" X 7.0" X 8.7" (420 X 177 X 220 mm)
  - Weight: 6.2 Lb (2.8 Kg)

- SC-640-C08 Portable Enclosure (for 8 channels)
  - Accepts power modular and 2 SC-640 strain gage amplifier
  - Dimension: 5.9" (W) X 5.3" (H) X 5.5" (D)
    (150 (W) X 135 (H) X 140 (D) mm)
  - Weight: 4.8 Lb (2.2 Kg)

- Operational Environment
  - Operation temperature: -10° C ~ 60° C
  - Storage: -20° C ~ 70° C
  - Humidity: Below 95% RH, non-condensing