



DT2000 Strain Gage Indicator



Features:

- DT2000 is a portable, rechargeable battery operated strain gage indicator. It offers excellent stable performance in the strain measurement.
- It can process not only static and dynamic measurements, but also the stress analysis and strain gauging based on transducers.
- DT2000 is actually a strain indicator with built-in signal conditioning amplifier.
- Battery operation
- Portable Enclosure

Applications:

- Dynamic 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
- Dynamic Material Elasticity Testing
- SHPB Signal Conditioning
- Load Cell Signal Conditioning
- Foil Strain Gage Signal Conditioning
- Semiconductor Strain Gage Signal Conditioning

Description:

DT2000 has a high resolution Liquid Crystal Display, auto balance control, accurate peak hold function and high sensitivity analog output. It even includes the unique features of " signal conditioning " and " wide bandwidth amplification " if using in dynamic measurements.

The bridge excitation supply comes from the precisely regulated constant voltage. The battery capacity can be viewed on the LCD display by manual push button, and if the battery capacity is lower than the operation need, the LCD will show " Low Battery " automatically while DT2000 is switched on.



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1-1

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Specification:

- Display
 - Liquid crystal display: $\pm 1.9.9.9.9$ counts
- Measurable Range
 - $\pm 19999 \mu\epsilon$, $10 \geq G. F. > 0.4$, Multiplier $\times 1$
 - $\pm 199990 \mu\epsilon$, $10 \geq G. F. > 0.4$, Multiplier $\times 10$
- Transducer Range
 - 2.0 ~ 50 mV/V for full-scale indication ($\pm 1.9.9.9.9$ counts), Multiplier $\times 1$
 - 20 ~ 500 mV/V for full-scale indication ($\pm 1.9.9.9.9$ counts), Multiplier $\times 10$
- Accuracy
 - $\pm 0.05\%$ Reading $\pm 4 \mu\epsilon$ for $G. F. > 1$, Multiplier $\times 1$
 - $\pm 0.03\%$ Reading $\pm 10 \mu\epsilon$ for $G. F. > 1$, Multiplier $\times 10$
- Auto Balance
 - Range: $\pm 16000 \mu\epsilon$
 - Resolution: $0.5 \mu\epsilon$
 - Accuracy: $\pm 3 \mu\epsilon$
 - Time: 8 seconds max
 - Memory: Lithium battery 3 V
- Gage Factor
 - Range: 0.4 ~ 100 for full-scale indication
 - Transducer: 2.0 ~ 500 mV/V
- Constant Voltage Excitation
 - Range: 1, 2, 5 $\pm 0.1\%$ VDC Ground balance driver, 100mA
 - Noise: $\leq 10 \mu$ Vp-p
 - Remote sense: Excitation error less than 0.0005%/ Ω of lead resistance
 - Temperature stability: $\pm 0.001\%$ / $^{\circ}$ C
- Amplifier
 - Temperature effect on zero $\pm 1.0 \mu$ V/ $^{\circ}$ C RTI Max
 - Temperature effect on span $\pm 0.005\%$ / $^{\circ}$ C Max
 - Warm-up drift: Less than ± 3 counts at $G. F. = 2$
- Frequency Response
 - DC TO 120 kHz
- Filter
 - Four-pole base low-pass filter
 - Selectable: 50 / 500 / 5 kHz ± 0.2 dB
- Analog Output
 - Linear output: ± 5.0 V, Max
 - Adjustable from 100 μ V/counts ~ 1mV/counts
 - Output load: 200 Ω Max
- Noise
 - ± 4 Counts, at 50 Hz BW
 - ± 50 Counts, at 120 kHz BW
- Shunt Calibration
 - Three internal shunt calibration resistors $\pm 0.01\%$
 - 120 Ω Gages: 5000 $\mu\epsilon$
 - 350 Ω Gages: 5000 $\mu\epsilon$
 - 1000 Ω Gages: 1000 $\mu\epsilon$
- Input Circuit
 - Configuring 2 to 6 wires plus guard shield to accept quarter-, half-, full-bridge strain gages or transducer
 - Internal half-bridge 120 Ω , 350 Ω , 1000 Ω completion gages
- Peak Hold
 - Accuracy: $\pm 0.1\%$, $\pm 4\%$ counts.
 - Response: 8 μ sec at B.W. 120 kHz
 - Hold stability: 5 counts/minute max. (25 $^{\circ}$ C)
- Rechargeable Batteries
 - Maintenance-free YUASA NP1.2-12 batteries $\times 2$ sets
 - Charging time: 4 hours. Operation time: 6~12 hours
- Power Requirement
 - Input: 110 or 220 VAC $\pm 10\%$ by switch, 50 or 60 Hz, 1.5A
- Dimension & Weight
 - 6" \times 7" \times 5" (152 mm X 178 mm X 127 mm)
 - 6.6 Lb (3.0 Kg)
- Operational Environment
 - Operation temperature: -10 $^{\circ}$ C ~ 60 $^{\circ}$ C
 - Storage: -20 $^{\circ}$ C ~ 70 $^{\circ}$ C
 - Humidity: Below 95% RH, non-condensing