

DYNAMIC STRAIN AMPLIFIER

MODEL

ST-AM1000

Description

본 제품은 Dynamic strain amplifier로서 단독, 또는 sub rack case를 사용하여 Multi-channel로 사용이 가능하며, 각 util 별로 전압출력이 LED로 표시되어 사용자가 관측을 하면서 측정할 수 있습니다.
사용 용도로 strain gauge 응용 sensor류와 potentiometer, mV 출력용 sensor와 half 및 full bridge의 strain 측정에 활용이 가능한 고급형 제품입니다.

Feature

- Fully adjustable calibrated gain from 1 to 11000
- Accepts all strain gage inputs (foil or piezoresistive), potentiometer, DCOT's, etc.
- Bridge excitation from 1 to 10Vdc(5 steps)
- Input impedance above 1GΩ.
- Four-frequency low-pass active filter (10Hz to 10kHz)
- Automatic bridge balance ($\pm 4000 \mu \epsilon$)
- Double shunt calibration (120Ω, 350Ω, 2000 $\mu \epsilon$, 200 $\mu \epsilon$)
- Outputs voltage display (7-segment 4-digits LED)
- Size : 218 (H) × 43 (W) × 258 (D) (mm)
- Weight : Approx. 1.2kg

Specification

Excitation	5 steps : 1V, 2V, 5V, 7.5V, 10V Current : 170mA, max. Remote sensing circuit : error -0.0005%/Ω at lead resistance (350Ω load) Noise and ripple : 0.05% p-p, max (dc 10kHz) Stability : $\pm 0.01\%/^{\circ}\text{C}$
Input	Strain gauge : quarter, half or full bridge(50 to 1000Ω). Built-in 120Ω and 350Ω dummy resistor Transducer : Piezoresistive strain gauge types, potentiometer, DCOT transducers displacement. 1st Gain : $\times 1$, $\times 10$, $\times 100$, $\times 400$, $\times 1000$ 5steps 2nd Gain : $\times 1$ to $\times 11$ continuously variable Vernier multiplier : 10-turn counting knob with direct readout Fine Adjust
Amplifier	Frequency response : 100kHz (-3dB), max Input resistance : 1GΩ, differential or common mode Input capacitance : 4pF, differential or common mode Input voltage range : $\pm 10\text{V}$, differential mode $12\text{V}-(G/2 \times V_d)$, common mode (V_d =actual differential input voltage) Bias current : $\pm 30\text{nA}$, typical, each input Common-mode rejection ($G=100$) : 100dB, min, dc to 60Hz with 1kΩ source imbalance Stability ($G < 1000$) : 5ppm/ $^{\circ}\text{C}$, max Noise ($G=100$) : 0.01 to 10Hz, 0.3 $\mu\text{Vp-p}$ R.T.I
Filter	Characteristic : low-pass active 2-pole Butterworth standard Frequencies (-3dB) : 10Hz, 100Hz, 1kHz, 10kHz, wide-band
Amplifier output (BNC connector)	Output 1 : $\pm 10\text{V}$ @100mA max Output 2 : $\pm 10\text{V}$ @10mA max
Monitor voltage display	Display character : 7-segment 4-digits LED Display range : 0.000V ~ $\pm 10.00\text{V}$
Monitor test terminal	EXC+, - / SIG+, - / OUT+, -
GAIN	1 ~ 11000 magnifications, Max
Frequency response	100kHz (-3dB), Max
Bridge balance	Auto ranging : $\pm 4000 \mu \epsilon$ (2mV/V) Auto balance time : 1 second, typical Manual balance range : $\pm 1\text{V}$ Storage : non-volatile data memory (EEPROM)
Low pass filter	4 steps 10Hz, 100Hz, 1kHz, 10kHz (-3dB)
Linearity	$\pm 0.01\%$
Stability	$\pm 0.01\%/^{\circ}\text{C}$
Shunt calibration	Bridge resistance 120Ω : 200 $\mu \epsilon$ and 2000 $\mu \epsilon$ calibrations Bridge resistance 350Ω : 200 $\mu \epsilon$ and 2000 $\mu \epsilon$ calibrations
Input impedance	more than 1GΩ
Power	AC 110V or 220V (switch selected), 50/60Hz, 7.5watts 3-Wire line code (2-wire : Power / 1-wire : Ground)



Dimension (Unit : mm)

