

DA-18A (Carrier type)

Pursuing ease of use Resistant to noise Carrier type

- Carrier type bridge excitation system that is resistant to noise
- Equipped with two types of display units: level meter and digital value
- Low power consumption, 20% less than conventional products
- Automatic tracking type capacity balancing
- Reading of TEDS sensor information and automatic setting function
- Dual output method
- Built-in low-pass filter
- External control of balance and calibration output



Dynamic strainmeter DA-18A

This is a carrier type dynamic strainmeter that is designed for ease of use and resistance to noise. A digital setting method is adopted for sensitivity adjustment to easily perform accurate sensitivity adjustments. In addition, highly reliable dynamic strain measurement is possible with such functions as digital monitoring of measurement values. It can be configured for multichannel use by incorporating it into the case or rack.

Specifications

Number of measuring points	1 point
Applicable gauge resistance	60–1000 Ω
Gauge factor	2.00
Bridge excitation	2 or 0.5 Vrms (5 kHz)
Balancing method	
Resistance	Electronic automatic (remote control possible) Adjustment time: About 2 seconds Using nonvolatile memory
Capacity	Electronic automatic tracking
Balancing range	
Resistance	$\pm 10000 \times 10^{-6}$ strain
Capacity	3000 pF
Balancing accuracy	$\pm 1 \times 10^{-6}$ strain or less (Bridge excitation 2 Vrms, SENS of 200×10^{-6} strain or less)
Rated output (RO)	1 to 10 V can be set in 1 V steps
Sensitivity adjustment (SENS)	For rated output of 1 V, 50 to 5000×10^{-6} strain For rated output of 10 V, 500 to 10000×10^{-6} strain Both can be set in 1×10^{-6} strain steps (Bridge excitation 2 Vrms)
Sensitivity	50×10^{-6} strain, at bridge excitation of 2 Vrms
OUT 1	1 V (5 kΩ load)
OUT 2	1 V (5 kΩ load)
Measurement range	$\pm 50000 \times 10^{-6}$ strain (bridge excitation 2 Vrms)
Nonlinearity	$\pm 0.1\%$ FS
Maximum output	
OUT 1	± 10 V (5 kΩ load)
OUT 2	± 10 V (5 kΩ load)
Calibration output	
Voltage	$\pm$ RO
Accuracy	$\pm 0.5\%$ RO
Response frequency	DC to 2.5 kHz (-3 dB ± 1 dB) (Low pass filter: PASS, with coupling DC)
Low-pass filter	

Cutoff frequency	10, 30, 100, 300 Hz (-3 dB ± 1 dB) and PASS
Cutoff property	Butterworth property -12 dB ± 1 dB/oct (10 to 300 Hz)
High-pass filter	Coupling AC mode
Cutoff frequency	About 0.3 Hz
S/N ratio	For bridge excitation 2 Vrms, maximum output 10 V 60 dBp-p or more (SENS = 100×10^{-6} strain or more, RO = 1 V, LPF = PASS) 64 dBp-p or more (SENS = 200×10^{-6} strain or more, RO = 1 V, LPF = PASS)
Stability	
Zero point	$\pm 0.1 \times 10^{-6}$ strain/ $^{\circ}$ C (at max. sensitivity) $\pm 0.5 \times 10^{-6}$ strain/24 h (at max. sensitivity)
Sensitivity	$\pm 0.05\%$ FS/ $^{\circ}$ C $\pm 0.2\%$ FS/24h
TEDS	Reading of TEDS sensor information, automatic setting of coefficients, display of physical quantities
Output monitor	Four-digit 1/2 digital display (Voltage output, physical quantity, TEDS information display and over display function available) 21-point LED level meter
Vibration tolerance	29.4 m/s^2 (50 Hz, 0.6 mmp-p) three directions
Operating temperature/humidity range	-10 to $+50^{\circ}$ C 85% RH or less (No condensation)
Power supply	
AC power supply	(1) Rated voltage AC 100 V, 50/60 Hz Allowable voltage: AC 90 to 110 V, 50/60 Hz (2) Rated voltage AC 220 V, 50/60 Hz Allowable voltage: AC 198 to 242 V, 50/60 Hz (Either (1) or (2) as specified by the customer) Maximum power consumption 6 VA max. (AC 100 V)
DC power supply	Rated voltage DC 12 to 24 V Allowable voltage DC 10 to 30 V Maximum power consumption 0.25 A max. (DC 12 V)
Outside dimension	40 (W) $\times$ 140 (H) $\times$ 266 (D) mm (Excluding protrusions)
Mass	Approx. 870 g

Standard accessories

Instruction Manual	1
AC power cable (CR-04)*	1
Output cable (CR-31).....	2
Accessory box	1
Dedicated mounting screw (M3 bind screw).....	2
Vinyl washer	2
Warranty certificate	1

* CR-061 included with DC power supply specification