

CDV/CDA-900A

Signal Conditioners

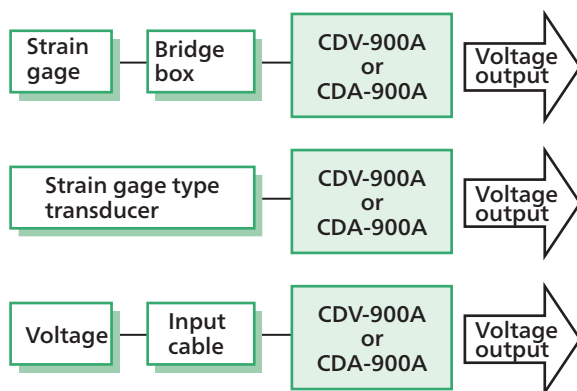


High S/N is ensured by the strain DC amplifiers

- Easy Setting
- High Sensitivity (up to 10000 times)
- Fast Response (DC to 500kHz)
- Long-distance Testing (up to 2km)
- Excellent Nonlinearity (within $\pm 0.01\%$ FS)
- Universal Power Supply (AC100 to 240V/ DC10.5 to 15V)
- TEDS Compatible
- Automatic TEDS/remote sensing discrimination
- Low noise (30% reduction when compared to conventionals)

Note : Please contact us for CDV/CDA-900A-DC (compatible with EU's RoHS Directive 2011/65/EU) .

Block diagram



Note : Output noise will increase in case of combining with a torque transducer.

Specifications

Model	CDV-900A	CDA-900A
Bridge excitation mode	Constant voltage	Constant current
Bridge excitation *1	1,2,5,10V	120Ω : 8.3, 16.7mA 350Ω : 5.7, 14.3, 28.6mA
Applicable bridge resistance	60 ~ 1000Ω	120Ω, 350Ω
User's Function	Bridge resistance compensation	Bridge resistance compensation
Remote sensing mode	Auto (on/off automatically) Manual (on constantly)	N/A
Extension cable length	Up to 2km *2 (by using a sensing cable)	Up to 2km *3

Note : *1: Setting by DIP switch 1 to 4 on rear panel
*2: By a 6-conductor (0.5mm²) shielded cable with remote sensing
*3: By a 4-conductor (0.5mm²) shielded cable

Applicable sensors :	Strain gage, strain gage transducer and voltage														
Number of input channels :	1														
Gage factor :	2.00 fixed														
Balance adjustment (auto BAL):	Range: within $\pm 2\%$ ($\pm 10000\mu\text{m}/\text{m}$) Accuracy: $\pm 1\mu\text{m}/\text{m}$ (at sensitivity of 10V/1000 $\mu\text{m}/\text{m}$) Storage: saved in nonvolatile memory														
Nonlinearity :	Within $\pm 0.01\%$ FS														
Input impedance :	10MΩ + 10MΩ or more														
Output impedance :	Approx. 2 Ω														
Calibration (CAL) :	Equivalent strain: $\pm(1$ to 9999 $\mu\text{m}/\text{m})$ DC voltage: $\pm(10$ to 99990 $\mu\text{V})$ Accuracy: within $\pm(0.2\%+0.5\mu\text{m}/\text{m})$ within $\pm(0.1\%+5.0\mu\text{V RTI})$														
Sensitivity adjustment :	CAL SW & VOLTAGE SW(both required) CAL SW: 100 to 9999 $\mu\text{m}/\text{m}$ (1 $\mu\text{m}/\text{m}$ step) 1000 to 99990 μV (10 μV step) VOLTAGE SW: 1.00 to 10.00V (0.01V step) Accuracy: within $\pm(0.5\% + 5\text{mV})$ Range: x200 to x10000														
Fine sensitivity adjustment :	Range: 1 to 1/2.5														
Frequency response :	Range: DC to 500kHz (amplitude deviation: 1 to -3dB)														
Low pass filter (LPF) :	Transfer characteristic : 4th order Butterworth Cutoff frequency : 10,100,1k,10k,100kHz and FLAT (6 steps) Amplitude ratio : -3 \pm 1dB(at cutoff point) Attenuation : -24 \pm 1dB/oct.														
High pass filter (HPF) :	Cutoff frequency: 0.2Hz and off (2 steps)														
Output (dual) :	OUTPUT A: $\pm 10\text{V}$ (load resistance: 5kΩ or more) OUTPUT B: $\pm 10\text{V}$ (load resistance: 5kΩ or more)														
Noise (at BV: 2V, bridge resistance: 120Ω, sensitivity: 10V / 1000 $\mu\text{m}/\text{m}$)	<table border="1"> <thead> <tr> <th>Low pass filter (LPF)</th> <th>Noise</th> </tr> </thead> <tbody> <tr> <td>FLAT</td> <td>40$\mu\text{Vp-p}$ or less</td> </tr> <tr> <td>100kHz</td> <td>16$\mu\text{Vp-p}$ or less</td> </tr> <tr> <td>10kHz</td> <td>6$\mu\text{Vp-p}$ or less</td> </tr> <tr> <td>1kHz</td> <td>4$\mu\text{Vp-p}$ or less</td> </tr> <tr> <td>100Hz</td> <td>3$\mu\text{Vp-p}$ or less</td> </tr> <tr> <td>10Hz</td> <td>2$\mu\text{Vp-p}$ or less</td> </tr> </tbody> </table>	Low pass filter (LPF)	Noise	FLAT	40 $\mu\text{Vp-p}$ or less	100kHz	16 $\mu\text{Vp-p}$ or less	10kHz	6 $\mu\text{Vp-p}$ or less	1kHz	4 $\mu\text{Vp-p}$ or less	100Hz	3 $\mu\text{Vp-p}$ or less	10Hz	2 $\mu\text{Vp-p}$ or less
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(at sensibility: 10V / 1000 $\mu\text{m}/\text{m}$)															

Sensor to recommend

Encapsulated Strain Gages



Load Cells



Pressure Transducers



Acceleration Transducers



Displacement Transducers



Voltage





Safe input voltage :	± 15V
Safe common mode input :	± 10V
CMRR :	100dB or more
Stability (at sensibility : 10V / 1000µm/m)	
Temperature	Zero : ±1µm/m/°C
	Sensibility : ±0.01%/°C
Time	Zero : ±5µm/m/24h
	Sensibility : ±0.05%/24h
Power supply	Zero : ±0.05%FS (power fluctuation: ±10%)
	Sensibility : ±0.05% (power fluctuation: ±10%)
At sensibility :	10V / 1000µm/m
Overflow alarm :	Flashing display
Check function :	Bridge resistance check
Key-lock function :	Only power switch and dip switches can be operated
Remote function :	Performs BAL, CAL and key-lock
TEDS :	Reads TEDS information and sets VOLTAGE OUT as rated output
Actual load sensitivity setting :	Registers VOLTAGE OUT data as output by the actual load applied

Withstand voltage :	AC1000V between AC line and chassis for 1 minute
Vibration resistance :	5 to 200Hz, with 29.4m/s ² (3G) in X,Y and Z directions for 12 cycles, 10minutes/cycle
Shock resistance :	147.1m/s ² (15G), 11ms or less, in X,Y and Z directions, every 3 cycles
Temperature :	Operating range: -10 to 50 °C
Humidity :	Operating range: 20 to 85% RH (non-condensing)
Storage temperature :	Range: -30 to 70 °C
Power supply :	AC 100 to 240V, Approx. 8VA(at AC 100V) DC 10.5 to 15V, 4W(at DC 12V)
Dimensions :	49(W) x 128.5(H) x 262.5(D) (excluding protrusions)
Panel cut dimensions :	50x113 mm (for mounting CDA/CDV-900A)

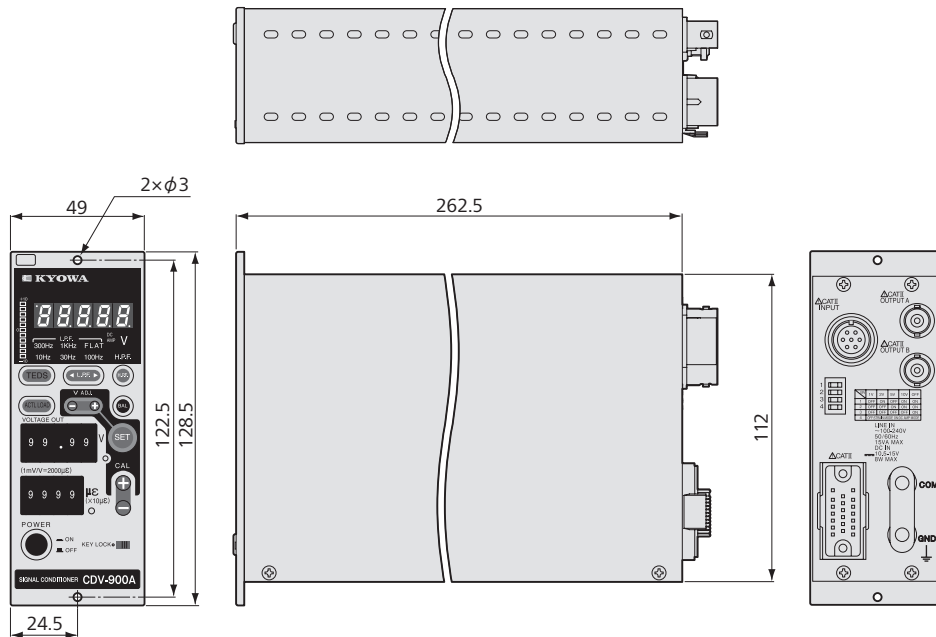
Standard Accessories

AC power cable P-25 (with 2 pin conversion plug CM-39)
Output cable U-08,U-59

Optional Accessories

Housing cases YC-A, noise filter F, and amplifier stand FA, refer to P. 3-18 to 19, and for Input cable U-37, refer to P.8-4, and for extension cables N-81 to 85, refer to P. 8-5.

■ Dimensions



Sensor to recommend

Encapsulated Strain Gages



Load Cells



Pressure Transducers



Acceleration Transducers



Displacement Transducers



Voltage



CDV/CDA-900A
Recommended
products for
combination

Sensor Interfaces
PCD-430A
→ 3-51

Memory Recorder/Analyzers
EDX-3000A
→ 3-79

AD Converter+PC