

CDV-900A, CDA-900A

Signal Conditioners

Move into the future with reliable measurements



NEW PRODUCT INFORMATION

High S/N is ensured by the strain DC amplifiers
Working time is reduced thanks to easy setting

Features

High Sensitivity
(up to 10000 times)

Fast Response
(DC to 500kHz)

Long-distance Testing
(up to 2km)

Excellent Nonlinearity
(within $\pm 0.01\%$ FS)

CE Marking Compliance

(CDV/CDA-900A-DC only)

Model	CDV-900A	CDV-900A-DC	CDA-900A	CDA-900A-DC
Bridge excitation mode	Constant voltage		Constant current	
Bridge excitation *1	1, 2, 5 and 10V		120 Ω : 8.3 and 16.7mA 350 Ω : 5.7, 14.3 and 28.6mA	
Applicable bridge resistance	60 to 1000 Ω		120 Ω and 350 Ω	
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	
CE Marking	N/A	Compliant	N/A	Compliant



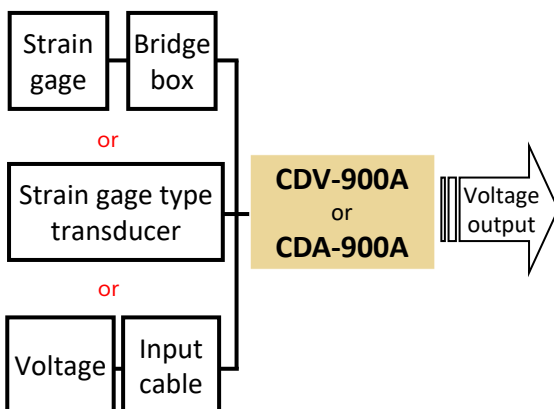
(CDV-900A-DC and CDA-900A-DC are CE marking compliance only.)

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

Block diagram

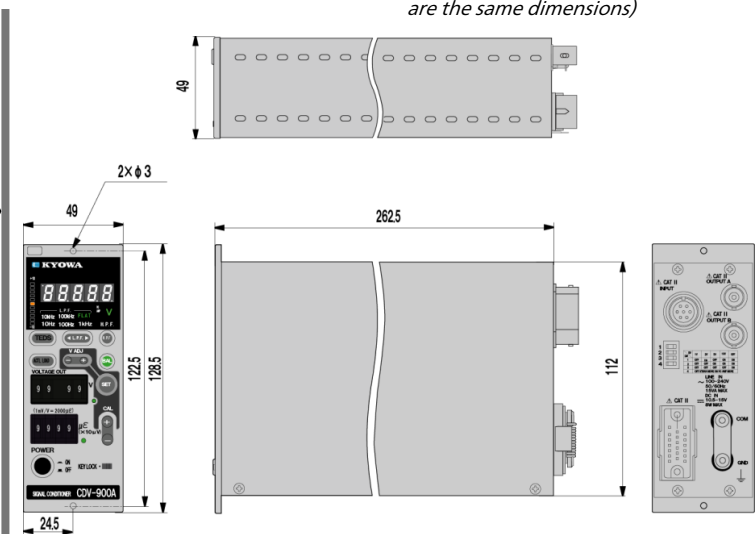


Note: Output noise will increase in case of combining with a torque transducer.

Dimensions

(CDV-900A and CDA-900A)

(CDV-900A-DC and CDA-900A-DC are the same dimensions)



Specifications















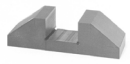


Applicable sensors	Strain gage, strain gage transducer and voltage
No. of input channels	1
Gage factor	2.00 fixed
Balance adjustment (Auto BAL)	Accuracy: $\pm 1\mu\text{m/m}$ (at sensitivity of 10V/1000 $\mu\text{m/m}$) Storage: saved in nonvolatile memory
Nonlinearity	Within $\pm 0.01\%$ FS
Input impedance	10M Ω +10M Ω or more
Output impedance	Approx. 2 Ω
Calibration (CAL)	Equivalent strain: $\pm(1 \text{ to } 9999\mu\text{m/m})$ DC Voltage: $\pm(10 \text{ to } 99990\mu\text{V})$ Setting SW: 4-digit CAL SW Accuracy: Within $\pm(0.2\%+0.5\mu\text{m/m})$ Within $\pm(0.1\%+5.0\mu\text{V RTI})$
Sensitivity SW	Setting SW: both CAL SW and VOLTAGE OUT SW CAL SW: 100 to 9999 $\mu\text{m/m}(1\mu\text{m/m step})$ 1000 to 99990 $\mu\text{V}(10\mu\text{V step})$ VOLTAGE OUT SW: 1.00 to 10.00V(0.01V step) Accuracy: Within $\pm(0.5\%+5\text{mV})$ Range: 200 to $\times 10000$
Fine sensitivity	Adjustment range: 1 to 1/2.5
Frequency response	Range: DC to 500kHz(Amplitude deviation: +1, -3dB)
Low pass filter(LPF)	Transfer characteristic: 4 th order Butterworth Cutoff frequency: 10, 100, 1k, 10k, 100kHz and FLAT Amplitude ratio: -3 ± 1 dB Attenuation: -24 ± 1 dB/oct.
High pass filter(HPF)	Cutoff frequency: 0.2Hz and OFF
Output	OUTPUT A: $\pm 10\text{V}$ (Load resistance: 5k Ω or more) OUTPUT B: $\pm 10\text{V}$ (Load resistance: 5k Ω or more)

Standard Accessories

- AC power cable: P-25(With a conversion adapter CM-39 for CDV/CDA-900A)
- DC power cable: P-69(CDV/CDA-900A-DC only)
- Output cable: U-08 and U-59
- Instruction manual and simplified instruction manual seal

Noise (At BV:2V, bridge resistance:120 Ω , sensitivity: 10V/1000 $\mu\text{m/m}$)						
LPF	FLAT	100kHz	10kHz	1kHz	100Hz	10Hz
Noise($\mu\text{Vp-p RTI}$)	40 or less	16 or less	6 or less	4 or less	3 or less	2 or less
Safe input voltage	$\pm 15\text{V}$					
Safe common mode voltage	$\pm 10\text{V}$					
CMRR	100dB or more					
Stability(At sensitivity: 10V/1000 $\mu\text{m/m}$)						
	Temperature	Time	Power supply			
Zero	$\pm 1\mu\text{m/m}/^\circ\text{C}$	$\pm 5\mu\text{m/m}/24\text{h}$	$\pm 0.05\text{FS}/(\text{power fluctuation: } \pm 10\%)$			
Sensitivity	$\pm 0.01\%/^\circ\text{C}$	$\pm 0.01\%/24\text{h}$	$\pm 0.05\%/(\text{power fluctuation: } \pm 10\%)$			
Voltage withstand	1000VAC between AC line and chassis for 1 minute. (CDV/CDA-900A only)					
Display	4 1/2 digits 7-segment LED and 11-segment LED bar meter					
Overflow alarm	Flashing display(4 1/2 digits 7-segment LED)					
Check function	Bridge resistance check					
Key-lock function	Only POWER SW and dip SW can be operated					
Remote function	Performs BAL, CAL and key-lock					
TEDS	Read the TEDS information and set the VOLTAGE OUT data as output					
Actual load calibration	Registers VOLTAGE OUT data as output by the actual load applied					
Vibration resistance	5 to 200Hz, with 29.4m/s ² (3G) in X, Y and Z directions, for 12 cycles, 10 minutes/cycle					
Shock resistance	15G, 11ms or less, in X, Y and Z directions, every 3 cycles					
Temperature	Operating range: -10 to 50 $^\circ\text{C}$					
Humidity	Operating range: 20 to 85%RH(Non-condensing)					
Storage temperature	Range: -30 to 70 $^\circ\text{C}$					
Power supply	100 to 240VAC approx. 8VA(100VAC) 10.5 to 15VDC approx. 4W(12VDC) (CDV-900A-DC and CDA-900A-DC only)					
Dimensions	49(W) \times 128.5(H) \times 262.5(D)mm (excluding protrusions)					
Weight	Approx. 1 kg					
EMC directive	EN61326-1(class A). (CDV/CDA-900A-DC only)					

Optional Accessories

<p>■ Housing cases YC-A</p>  <table border="1"> <thead> <tr> <th>Model</th> <th>YC-3A</th> <th>YC-4A</th> <th>YC-6A</th> <th>YC-8A</th> </tr> </thead> <tbody> <tr> <td>No. of channels</td> <td>3</td> <td>4</td> <td>6</td> <td>8</td> </tr> </tbody> </table>	Model	YC-3A	YC-4A	YC-6A	YC-8A	No. of channels	3	4	6	8	<p>■ Bridge boxes</p> <table border="1"> <thead> <tr> <th>1-channel type</th> <th>8-channel type</th> </tr> </thead> <tbody> <tr> <td>DB-120A (for 120Ω) DB-350A (for 350Ω)</td> <td>DB-120C-2 (for 2-wire system) DB-120C-3 (for 3-wire system)</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>DB-120T-8</td> <td>DBS-120A-8 (120Ω) DBS-350A-8 (350Ω) For quarter bridge system</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td><i>A cable N-104 is required</i></td> </tr> </tbody> </table>	1-channel type	8-channel type	DB-120A (for 120 Ω) DB-350A (for 350 Ω)	DB-120C-2 (for 2-wire system) DB-120C-3 (for 3-wire system)			DB-120T-8	DBS-120A-8 (120 Ω) DBS-350A-8 (350 Ω) For quarter bridge system				<i>A cable N-104 is required</i>	<p>■ Extension cable N-81 to 85 and N-100</p> <table border="1"> <thead> <tr> <th>Model</th> <th>N-81</th> <th>N-82</th> <th>N-83</th> <th>N-84</th> <th>N-85</th> <th>N-100</th> </tr> </thead> <tbody> <tr> <td>Length</td> <td>5m</td> <td>10m</td> <td>20m</td> <td>30m</td> <td>50m</td> <td>100m</td> </tr> </tbody> </table> 	Model	N-81	N-82	N-83	N-84	N-85	N-100	Length	5m	10m	20m	30m	50m	100m
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<p>■ Amplifier stand FA-1B</p> 		<p>■ Input cable U-37 (For voltage measurement)</p> 																																				
<p>■ AC adapter SA-10A-AMP (For CDV/CDA-900A-DC)</p> 																																						

Specifications are subject to change without notice for improvement.



Safety precautions

Be sure to observe the safety precautions given in the instruction manual in order to ensure correct and safe operation.



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