

Strain/Voltage/Acceleration Measuring Card CVM-40A

The high-resolution conditioner card can input strain, voltage and acceleration signals.

▶ Features

Multi-functional input

In addition to strain and voltage signals, any of the 8 channels can input signals of piezoelectric acceleration transducer with built-in amplifier.

High Elongation Strain Measurement

Strain levels up to 500,000 $\mu\text{m}/\text{m}$ can be measured.

24-bit A-D converter

High resolution measurement is available with EDX-200A.

Antialiasing filters are provided standard.

Initial Value Check Function

Enable to confirm initial value of strain-gage bridge and strain gage type transducer.



Various Input Adapters

VI-8A

VI-8A is a voltage input box for collective input of voltage and acceleration in 8 channels.

DBS-120A-8, DBS-350A-8

DBS-120A-8/350A-8 are bridge boxes dedicated to quarter bridge and for collective input in 8 channels.

DB-120V-8, DB-350V-8

DB-120A-8/350A-8 are bridge boxes applicable to any of quarter, half or full bridge and for collective input in 8 channels.

• Product Concept

CDV-40A
Strain/Voltage Measuring Card

+

CCA-40A
Charge Amplifier Card

CVM-40A



Strain



Voltage



Piezoelectric transducer
(with built-in amplifier)

contact us when CVM-40A will be mounted in EDX-100A, or 3000A.



EDX-200A

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Specifications

Item	Strain Measurement	Voltage Measurement	Piezoelectric Acceleration Measurement
Name	Strain/Voltage/Acceleration Measuring Card		
Model	CVM-40A		
Number of Input Channels	8		
Applicable Transducer	Strain gage, strain-gage transducer	Voltage-output sensor	Piezoelectric acceleration transducer with built-in amplifier
Input Mode	Balanced differential input	Balanced differential input*1,2	Unbalanced input*3
Input Impedance	—	(1 M Ω + 1 M Ω) within $\pm 10\%$ *4	—
Bridge Excitation (BV)/ Sensor Power Supply	Constant-voltage output BV2V: 2 VDC $\pm 0.5\%$ BV5V: 5 VDC $\pm 0.5\%$	Constant-voltage output BV2V: 2 VDC, 5 VDC or OFF 100 mW/channel or less	Constant-current output: Approx. 4 mA Applied voltage: Approx. 23 VDC Load: 1 k Ω or less
Applicable Gage Factor	2.00 fixed	—	—
Applicable Bridge Resistance	BV2V: 120 to 1000 Ω BV5V: 350 to 1000 Ω	—	—
Balance Adjustment/ Zero Suppress	Auto balance ON Initial unbalance of bridge is canceled by analog circuit, thereby zeroing the value under no load. Auto balance OFF Initial unbalance of bridge is not canceled, thereby enabling confirmation of initial unbalance of bridge.	Zero suppress ON Input voltage is canceled by analog circuit, thereby zeroing the measured value. Auto balance OFF Input voltage is not canceled, thereby indicating the input voltage as it is.	—
Balance Adjustment Range	BV2V: Resistance $\pm 10\%$ ($\pm 50000 \mu\text{m/m}$) BV5V: Resistance $\pm 4\%$ ($\pm 20000 \mu\text{m/m}$)	$\pm 5 \text{ V}$	—
Measuring Range	BV2V: 5k, 10k, 50k, 100k, 500k $\mu\text{m/m}$ BV5V: 5k, 10k, 50k, 100k, 200k $\mu\text{m/m}$	1, 5, 10, 50 V	100, 500, 1000, 5000 mV
Range Accuracy	Within $\pm 0.2\%$ FS		Within 1.0% FS
Calibration, Shunt Calibration	$\pm 100\%$, $\pm 50\%$ of the preset range and shunt calibration*5	$\pm 100\%$, $\pm 50\%$ of the preset range	
Nonlinearity	Within $\pm 0.1\%$ FS		Within 0.2% FS
Frequency Response Range	DC coupling: DC to 5 kHz, deviation +1 dB to -3 dB DC coupling: 0.2, 1 Hz to 5 kHz (Refer to "High-pass Filter.")		0.5 Hz to 5 kHz Deviation +1 dB to -3 dB
Low-pass Filter	Transfer characteristics: 5th order Butterworth Cutoff frequency: 30, 100, 300, 1k, 3k [Hz], F (Flat) and AUTO*6 Cutoff accuracy: Within $-3 \pm 1 \text{ dB}$ Attenuation: $-30 \pm 3 \text{ dB/oct.}$		
High-pass Filter	Cutoff frequency: 0.2 Hz, 1 Hz Attenuation characteristic: -6 dB/oct.		—
Resolution	24 bits*7		
Distortion Factor	—		1% or less
Monitor Output	Accuracy: $\pm 5 \text{ V}$ within $\pm 0.5\%$ (\pm full scale) Nonlinearity: Within $\pm 0.5\%$ FS		
Dimensions	22 (W) x 119 (H) x 213 (D) mm (excluding protrusions)		
Weight	Approx. 400 g		
Additional Function	Reading information of TEDS-installed sensor		

*1. Use of the FV-1A input adapter changes the input mode to unbalanced input.

*2. Common mode input voltage range is $\pm 20 \text{ VDC}$ and absolute input voltage range, $\pm 50 \text{ VDC}$.

*3. FV-1A input adapter is usable.

*4. Use of the FV-1A input adapter (unbalanced input) makes the input impedance 1 M Ω within $\pm 10\%$.

*5. Shunt calibration with 350 Ω load connected outputs approx. 257 $\mu\text{m/m}$.

*6. Selection of AUTO sets the cutoff frequency to approx. 1/4 the preset sampling frequency.

*7. Resolution of 24 bits is ensured when mounted to EDX-200A or EDX-3000A. (The resolution is 16 bits when mounted to EDX-100A.)



JQA-0821
JQA-EM4824

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.

Reliability through integration

KYOWA

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