

CVM-41A

Strain/Voltage/Acceleration Measuring Card

Move into the future with reliable measurements



NEW PRODUCT INFORMATION

Simultaneous acquisition of strain, voltage and acceleration



Features

Provide most suitable range by adding ranges

Switchable Bridge excitation of 2, 5, and 10VDC

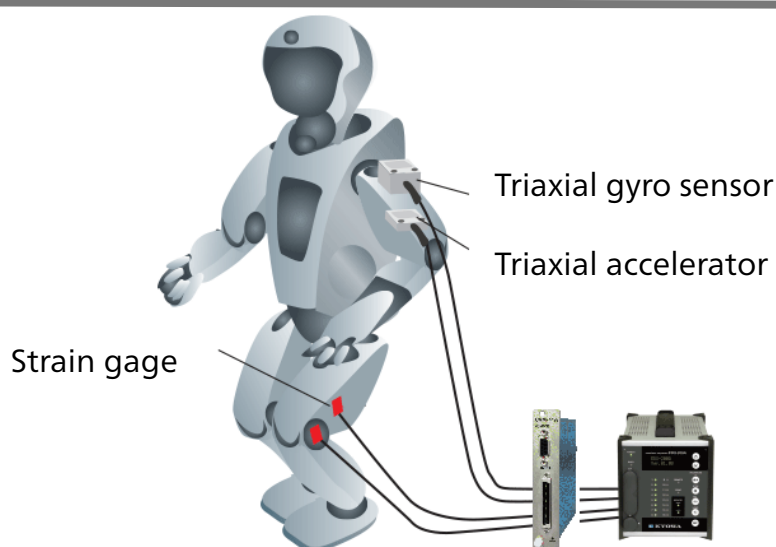
With zero suppression function to check initial balance

Antialiasing filters are provided standard

Applications

Posture control of robots

Using a EDX-200A with a CVM-41A,
can measure various sensors simultaneously.



Data recorders



EDX-3000A/B



EDX-200A



EDX-100A

Specifications

Item	Strain measurement	Voltage measurement	Acceleration measurement (Piezoelectric)
Applicable instruments	EDX-100A, EDX-200A, and EDX-3000A/B		
Number of input channels	8		
Measuring target	Strain gage (Using the bridge boxes.) Strain gage type transducer	Voltage Voltage output type sensor	Piezoelectric accelerometer (built-in amplifier)
Input mode	Balanced differential input	Balanced differential input (*1), (*2)	Unbalanced input (*3)
Input impedance	—	(1MΩ+1MΩ) Within ±10% (*4)	—
Bridge excitation (BV)	Constant voltage output	Constant voltage output	Constant current output: Approx. 4mA
Sensor power supply (Independently for each channels) (*5)	BV2V: 2VDC±0.5% BV5V: 5VDC±0.5% BV10V: 10VDC±0.5%	±1V, ±2.5V, ±5V or OFF 20mA/Channel or less	Excitation voltage: Approx. 23VDC Load: 1kΩ or less
Gage factor	2.00 fixed	—	—
Applicable bridge resistance	BV2V: 120 to 1,000Ω BV5V: 350 to 1,000Ω BV10V: 500 to 1,000Ω	—	—
Balance operation settings (Zero suppression)	[Auto-balance enabled] Cancel the unbalanced bridge portion in the analog circuit, and zero the measurement value. [Auto-balance disabled] Do not cancel the unbalanced bridge portion. (The initial unbalanced value in the bridge circuit can be confirmed.)	[Zero suppression enabled] Cancel the input voltage in the analog circuit, and zero the measurement value. [Zero suppression disabled] Do not cancel the input voltage in the analog circuit. (Display the input voltage as it is.)	—
Balance adjustment range (Zero suppression range)	BV2V: Resistance ±10% (±50,000 μm/m) BV5V: Resistance ±4% (±20,000 μm/m) BV10V: Resistance ±2% (±10,000 μm/m)	±5V	—

(*1) When using the voltage conversion adapter FV-1A and the voltage input box VI-8A, this becomes unbalanced input.

(*2) Common mode input voltage range ±20VDC, absolute maximum input voltage range ±50VDC.

(*3) The voltage conversion adapter FV-1A usage possible.

(*4) When using the voltage conversion adapter FV-1A (at unbalanced input), within 1MΩ±10%.

(*5) When using EDX-100A, No. of channels that can be set to bridge excitation 10VDC or sensor power supply ±5V mode, will be 3 times No. of card (CVM-41A) or less.

Measurement range	BV2V: 2k, 5k, 10k, 20k, 50k, 100k, 200k, 500k μm/m BV5V: 2k, 5k, 10k, 20k, 50k, 100k, 200k μm/m BV10V: 2k, 5k, 10k, 20k, 50k, 100k μm/m	1, 2, 5, 10, 20, 50 V	100, 200, 500, 1000, 2000, 5000 mV
Range accuracy	Within ±0.2%FS		Within ±1.0%FS
Nonlinearity	Within ±0.1%FS		Within ±0.2%FS
Calibration value (CAL) SHUNT CAL	±100% and ±50% of each range and SHUNT (*6)		±100% and ±50% of each range
Frequency response range	DC coupling: DC to 5kHz (deviation +1dB, -3dB) AC coupling: 0.2, 1Hz to 5kHz (Refer to high pass filter)		0.5Hz to 5kHz (deviation +1dB, -3dB)
Low pass filter	Transfer characteristics: 5th order Butterworth Cutoff frequency: 30, 100, 300, 1k, 3k Hz, FLAT and AUTO (*7) Cutoff accuracy: -3±1dB Attenuation: -30±3dB/oct.		
High pass filter	Cutoff frequency: 0.2, 1 Hz Roll-off characteristics: -6dB/oct.		—
A/D converter resolution	24 bits (When using EDX-100A, 16 bits resolution only.)		
Distortion factor	—		1% or less
Monitor output	Accuracy: ±5V±0.5% (At ±FS) Nonlinearity: Within ±0.5%FS		
Dimensions	22(W) × 119(H) × 213(D) mm (Excluding protrusions)		
Weight	Approx. 400 g		
Added functions	TEDS compatible (Load TEDS information)		

(*6) When SHUNT CAL has 350 load connected, Approx. 257 μm/m output.

(*7) With AUTO settings, the cutoff frequency is set to 1/4 of the sampling frequency.

Note) Transducer with remote sensing use N81 to N85.

Note) EDX-2000A/B are not supported.

Optional Accessories	Input cable for CVM card	U-121 to 123 and N-121 (Integrated input cable)
	Voltage conversion adapter	FV-1A
	Integrated output cable	U-62
	Input cable for CCA card	U-111
	Voltage input box VI series	VI-8A(E)(T)
	Quarter bridge compact bridge box	DBS-120A-8(C)(T), DBS-350A-8(C)(T)
	One-touch lock type bridge box	DB-120V-8(C), DB-350V-8(C)

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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.

Manufacturer's Representative

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