

Conditioner Cards for EDX Series

Standard conditioner cards



CDV-40B(-F) CVM-41A DPM-42B(-F) CT-2A CTA-40A CCA-40A(-F) CFV-40A

Custom-designed conditioner cards



CAN-41A CDA-44AS/45AS CDV-44AS CDV-46AS AD-40AS(-F)

Standard conditioner cards specifications

Strain/Voltage Measurement Card CDV-40B*, CDV-40B-F

For measuring both strain (Strain gages and strain-gage transducers) and voltage (Model with antialiasing LPF is the CDV-40B-F.)

*Models with output are available, inquires are welcome.

Items	Strain	Voltage
Channels	8 (Integrated connector)	
Input Modes	Balanced differential	Unbalanced
Input Resistance	Approx. (10 + 10 MΩ)	Approx. 1 MΩ
Coupling	DC/AC (DC cut)	
Applicable Gage Factor	2.00	
Bridge Excitation	2 VDC ±2% (120 to 1k Ω)	
Balance Adjustment	Resistance ±2.4% (±12000 × 10 ⁻⁶ strain)	
Measuring Range	500, 1 k, 2 k, 5 k, 10 k, 20 k, 50 k [×10 ⁻⁶ strain], OFF	0.1, 0.2, 0.5, 1, 2, 5, 10 V, OFF
Range Accuracy	±0.2% FS, each range	
Calibration	±100%, ±50%, each range	
Nonlinearity	±0.1% FS	
Frequency Response	DC coupling: DC to 50 kHz, deviation: 1 to -3 dB AC coupling (DC cut): 0.2, 1 Hz to 50 kHz (See the HPF)	
LPF	Transfer characteristics: 2nd order Butterworth Cutoff frequencies: 8 steps of 10, 30, 100, 300, 1 k, 3 k, 10 k [Hz] and FLAT Amplitude ratio at cutoff point: -3±1 dB Attenuation: (-12±1) dB/oct.	
Antialiasing LPF (CDV-40B-F only)	Transfer characteristics: 8th order Butterworth Cutoff frequencies: Automatically set at sampling frequencies x 0.25 Attenuation: -48 dB±5 dB (At sampling frequency x 0.5) Note: Available when the LPF is set to AUTO on the DCS-100A.	
HPF (DC cut)	Cutoff frequencies: 0.2, 1 Hz Attenuation: -6 dB/oct.	
A/D Converter	16 bits	
TEDS	Reads information from TEDS-installed sensors.	
EMC Directive	EN61326-1 (Class A)	
RoHS Directive	EN50581	
Optional Accessories	<ul style="list-style-type: none"> ● 8-channel input cable U-38 to U-48 Note: If the transducer with a remote-sensing function, a 4-conductor extension cable (N-81 to N-85) enables measurement. But the remote-sensing function will be ineffective. ● Conversion adapter FV-1A 	

Strain/Voltage/Acceleration Measurement Card CVM-41A

A high resolution conditioner card for measuring strain, voltage, and acceleration (Piezoelectric sensor with an amplifier built in)

Items	Strain measurement	Voltage measurement	Acceleration measurement (piezoelectric)
Applicable Recorders	EDX-100A, EDX-200A, and EDX-5000A		
Channels	8		
Measuring Targets	Strain gages *1 Strain-gage transducers	Voltage	Piezoelectric accelerometers (Built-in amplifier)
Input Modes	Balanced differential input	Balanced differential input*2,3	Unbalanced input*4
Input Impedance	—	(1 + 1 MΩ) Within ±10%*5	—
Bridge Excitation or Power supply to sensors (Each channel settable *6)	Const. voltage output BV2V: 2 VDC BV5V: 5 VDC BV10V: 10 VDC	Const. voltage output BV2V: 2 VDC (±1 V) BV5V: 5 VDC (±2.5 V) BV10V: 10 VDC (±5 V) or OFF 20 mA/channels or less	Const. current output: Approx. 4 mA Excitation voltage: Approx. 23 VDC Load: 1 kΩ or less
Applicable Gage Factor	2.00 fixed		
Applicable Bridge Resistance	BV2V: 120 to 1000 Ω BV5V: 350 to 1000 Ω BV10V: 500 to 1000 Ω	—	—
Balance Operation Settings (Zero suppression)	[Autobalance enabled] Cancel the unbalanced bridge portion in the analog circuit, and zero the measurement value. [Autobalance 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 is)	—
Balance Adjustment Range	BV2V: Resistance ±10% (±50 k × 10 ⁻⁶ strain) BV5V: Resistance ±4% (±20 k × 10 ⁻⁶ strain) BV10V: Resistance ±2% (±10 k × 10 ⁻⁶ strain)	±5 V	—

Items	Strain measurement	Voltage measurement	Acceleration measurement (piezoelectric)
Measuring Range	BV2V: 5 k, 10 k, 20 k, 50 k, 100 k, 200 k, 500 k × 10 ⁻⁶ strain BV5V: 5 k, 10 k, 20 k, 50 k, 100 k, 200 k × 10 ⁻⁶ strain BV10V: 2 k, 5 k, 10 k, 20 k, 50 k, 100 k × 10 ⁻⁶ strain	1, 2, 5, 10, 20, and 50 V	100, 200, 500, 1000, 2000, and 5000 mV
Range Accuracy	Within ±0.2%FS		Within ±1.0%FS
Nonlinearity	Within ±0.1%FS		Within ±0.2%FS
Calibration (CAL) SHUNT CAL	±100% and ±50% of each range and SHUNT *7	±100% and ±50% of each range	
Frequency Response	DC coupling: DC to 5 kHz, deviation +1dB, -3dB AC coupling: 0.2, 1 Hz to 5 kHz (See the HPF.)	0.5 Hz to 5 kHz Deviation +1dB, -3dB	
LPF	Transmission characteristics: 5 Butterworth type Cutoff frequencies: 30, 100, 300, 1 k, 3 kHz, FLAT, and AUTO *8 Cutoff accuracy: Within -3±1 dB Attenuation: (-30±3) dB /oct.		
HPF	Cutoff frequencies: 0.2 Hz, 1 Hz Attenuation: -6dB / oct.	—	
Resolution	24 bits *9		
Distortion Rate	—		1% or less
Monitor Output	Accuracy: Within ±5 V ±0.5% (With ±FS), Nonlinearity: Within ±0.5%FS		
Dimensions	22 W × 119 H × 213 D mm (Excluding protrusions)		
Weight	Approx. 400 g		
TEDS	Reads information from TEDS-installed sensors.		
EMC Directive	EN61326-1 (Class A)		
RoHS Directive	EN50581		

- *1 For strain measurement, using bridge boxes
- *2 When using the Conversion Adapter FV-1A, this becomes unbalanced input
- *3 Common mode input voltage range ±20 VDC, absolute input voltage range ±50 V
- *4 Conversion Adapter FV-1A usage possible
- *5 When using Conversion Adapter FV-1A (At unbalanced input), within 1 MΩ±10%
- *6 The max. channels of CVM-41A in EDX-100A is 3 times of units of CVM
- *7 When SHUNT CAL has 350 Ω load connected, Approx. 257 × 10⁻⁶ strain output
- *8 With AUTO settings, the cutoff frequency is set to 1/4 of the sampling frequency
- *9 When installed in EDX-100A, its resolution becomes 16 bits.

Standard Accessories

2 cross recessed binding head screw M3x6

Optional Accessories

- CCA input cable U-111
- CVM input cable U-121 to U-123
- CVM input integrated cable N-121
- Integrated output cable U-62
- Conversion adapter FV-1A
- Voltage input box VI-8A (-T)
- Bridge box for quarter bridge system
DB5-120B-8 (C) (T), DB5-350B-8 (C) (T)
- One-touch type bridge box DBV-120A-8 (C), DBV-350A-8 (C)

Dynamic Strain Measurement Card DPM-42B, DPM-42B-F (*1) DPM-42B-I (*2), DPM-42B-I-F (*1,*2)

A carrier wave type card for measuring low level strain. It is isolated between input and output, and between channels.

*1: With antialiasing LPF *2: Low inverter noise type

Measuring Targets	Strain gages, strain-gage transducers	
Channels	4	
Frequency Response	DC to 5 kHz (Deviation: ±10%)	
Carrier Wave Frequency	12 kHz	
Applicable Bridge Resistance	120 to 1000 Ω	
Gage Factor	2.00 fixed	
Bridge Excitation	2 V _{rms} , 0.5 V _{rms} switching, 12 kHz sine wave	
Balance Adjustment Range	Resistance: ±2.4% (±12000 × 10 ⁻⁶ strain) Capacity: 2000 pF	
Balance Adjustment Methods		
Resistance: Auto balance (Saved in nonvolatile memory)		
Capacity: CST method (Capacitance self-tracking)		
Measuring Range	With bridge excitation 2 V _{rms} : 200, 500, 1 k, 2 k, 5 k, 10 k, 20 k × 10 ⁻⁶ strain and OFF - 8 steps With bridge excitation 0.5 V _{rms} : 1 k, 2 k, 5 k, 10 k, 20 k, 50 k × 10 ⁻⁶ strain and OFF - 7 steps	
Calibration Values (CAL)	Output at ±100% and ±50% of each range	
Nonlinearity	Within ±0.2%FS	
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 10, 30, 100, 300, 1 k Hz and FLAT (6 steps) Amplitude ratio at cutoff point: -3 ±1 dB Attenuation: (-12±1) dB/oct.	
Antialiasing LPF (DPM-42B-F, DPM-42B-I-F)		
8th order Butterworth type Cutoff frequencies: Automatic setting at ×0.25 sampling frequency Attenuation: -48 ±5 dB (When ×0.5 sampling frequency) Note: Enabled when "AUTO" set in DCS-100A LPF settings		
Resolution	16 bits	
Check Functions	Input resistance into one side of the bridge, and check input	
TEDS	Reads information from TEDS-installed sensors.	
Monitor Output	Accuracy: Within ±5 V ±0.5% (At ±FS) Nonlinearity: Within 0.5% FS	
Withstand Voltage	Between input and output: 250 VAC, 1 min.	
EMC Directive	EN61326-1 (Class A)	
Optional Accessories	Monitor output cable U-64	
Note: If the transducer with a remote-sensing function, a 4-conductor extension cable (N-81 to N-85) enables measurement. But the remote-sensing function will be ineffective.		

Thermocouple Card CTA-40A

This card measures temperatures using 2 types of thermocouples K (CA) and T (CC). It is isolated between input and output, and between channels.

Measuring Targets	Thermocouples													
Channels	8													
Thermocouple Resistance	200 Ω or less (Burnout ON) 1000 Ω or less (Burnout OFF)													
Measuring Range	K1230, K480, K240, T400, T210 and OFF - 6 steps													
	<table border="1"> <thead> <tr> <th>Range Names</th> <th>Measuring Range</th> </tr> </thead> <tbody> <tr> <td>K1230</td> <td>-200 to 1230 °C</td> </tr> <tr> <td>K480</td> <td>-200 to 480 °C</td> </tr> <tr> <td>K240</td> <td>-200 to 240 °C</td> </tr> <tr> <td>T400</td> <td>-200 to 400 °C</td> </tr> <tr> <td>T210</td> <td>-200 to 210 °C</td> </tr> </tbody> </table>	Range Names	Measuring Range	K1230	-200 to 1230 °C	K480	-200 to 480 °C	K240	-200 to 240 °C	T400	-200 to 400 °C	T210	-200 to 210 °C	
Range Names	Measuring Range													
K1230	-200 to 1230 °C													
K480	-200 to 480 °C													
K240	-200 to 240 °C													
T400	-200 to 400 °C													
T210	-200 to 210 °C													
General Accuracy	Within ±(0.5% of reading+1)°C (At ambient temp. 20±3°C) Within ±(0.5% of reading+2)°C (At ambient temp. 0 to 40°C)													
Calibration (CAL)	Output at 100% and 50% and 0°C as absolute value of each range													
Frequency Response	DC to 10 Hz													
Resolution	16 bits													
Burnout	Built-in: At burnout [Burnout display], with ON/OFF Note: If high thermocouple resistance, turn the burnout function OFF to improve accuracy.													
Monitor Output	Accuracy: Within 5 V ±0.5% (At +FS) Nonlinearity: Within ±0.5%FS													
Isolation	Between input and output, and between channels: 50 MΩ or more (500 VDC)													
EMC Directive	EN61326-1 (Class A)													
Standard Accessories	8-channel input cable U-104 Temperature measuring adapter CT-2A ×8													
Optional Accessories	Integrated output cable U-62													



■ Charge Amplifier Card CCA-40A, CCA-40A-F

This card measures acceleration using piezoelectric accelerometers. (Type with antialiasing LPF is CCA-40A-F.)

Measuring Targets	Piezoelectric accelerometers
Applied Accelerometers	Built-in amplifier (Voltage output) type
Channels	8
Power Supply to Sensors	Constant current power (Current: 4 mA, excitation voltage: Approx. 24 VDC, load 1 k Ω or less)
Frequency Response	1 to 20 kHz (Deviation: +1 dB, -3 dB)
Measuring Range	20, 50, 100, 200, 500, 1000, 2000, 5000 mV and OFF—9 steps Accuracy: Within $\pm 1\%$ FS
Calibration	DC CAL $\pm 100\%$ and $\pm 50\%$ of each range Accuracy: Within $\pm 0.2\%$ FS AC CAL 100% and 50% of each range Accuracy: Within $\pm 1\%$ FS Frequency accuracy: Within 100 Hz $\pm 5\%$
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 300, 1 k, 3 k, 10 k Hz and FLAT (5 steps) Amplitude ratio at cutoff point: -3 ± 1 dB Attenuation: (-12 ± 1) dB/oct.
Antialiasing LPF (Only applicable to CCA-40A-F)	8th order Butterworth type Cutoff frequencies: Automatic setting at $\times 0.25$ sampling frequency Attenuation: -48 ± 5 dB (When $\times 0.5$ sampling frequency) Note: Available when the LPF is set to AUTO.
Distortion Factor	1% or less
Resolution	16 bits
Monitor Output	Accuracy: Within 5 V $\pm 1\%$ (At +FS)
TEDS	Reads information from TEDS-installed sensors.
EMC Directive	EN61326-1 (Class A)
Standard Accessories	Input cable U-111
Optional Accessories	Integrated output cable U-62 Input cable U-109 Conversion adapter (BNC-miniature) BNCP-C25J-A Conversion adapter (Miniature-Tajimi) CCA-1B Conversion adapter (BNC-Tajimi) CCA-2B

■ F/V Converter Card CFV-40A

This card measures the frequency of pulses, and provide power supply to the sensors. It is isolated between input and output.

Measuring Targets	Alternating signal output sensors
Channels	4
Input Signals	AC (Zero cross), TTL level (Including open collector signals)
Input Voltage	$\pm(0.5$ V to 50 V): High hysteresis $\pm(0.1$ V to 50 V): Low hysteresis
Measuring Range	50, 100, 500, 1 k, 2 k, 5 k, 10 k, 20 kHz and OFF — 9 steps Accuracy: Within $\pm 0.1\%$ FS
Calibration (CAL)	Output at 100%, 50% (added), and 0% (Absolute value) of each range
Response Time	10 μ s (Continuous pulses input) or less (2 cycles of input pulses + 50 μ s) or less (Input pulses are broken)
Resolution	16 bits
Sensor Power supply	12 VDC: Within $\pm 10\%$ (Each channel 50 mA or less)
Monitor Output	Accuracy: Within 5 V $\pm 0.5\%$ (At +FS) Nonlinearity: Within $\pm 0.1\%$ FS
Isolation	Between input and output, and between channels: 50 M Ω or more (500 VDC)
Standard Accessories	Conversion adapter FV-1A x4
Optional Accessories	Input cable U-12, U-13 Monitor output cable U-64

■ CAN Card CAN-41A

This card measures data frames on the Controller Area Network. The dual input CAN-41A collects data frames for 2 systems of different communications systems as analog data at the same time.

CAN Board Numbers	2 (2 nodes)
Connector Configuration	D-sub 9 pin (male)
Supported CAN Version	Bosch2.0B active support (ISO-11898 specifications-compliant) High-speed CAN/low-speed CAN switching
Measurement ID Numbers	Max. 32
CAN Controller Operation Clock	40 MHz, 32 MHz
Baud Rate	With high-speed CAN 1000, 800, 500, 250, 125, 100, 83.3, 62.5, 50, 33.3, 25, 20, and 10 kbps With low-speed CAN 125, 100, 83.3, 62.5, 50, 33.3, 25, 20, and 10 kbps
Communications Conditions	Sample points, sampling frequency, resynchronization jump width selection.
Measuring Channel Conditions	Start bit, bit length, data type, calibration coefficient (Conditions for conversion of extracting CAN data to physical quantity)
Graph Display	Simultaneous display of graph, numerical value, frame, and analog data
Others	Only one card is mounted in the last slot of the EDX. When measuring CAN data, the sampling frequency is restricted. EDX-200A: 2048 Hz EDX-100A: 1 kHz
EMC Directive	EN61326-1 (Class A)
RoHS Directive	EN50581
Standard Accessories	Integrated output cable U-62

■ Constant Current Amplifier Card CDA-44AS, 45AS

Measurement card suitable for cable extension

Measuring Target	Strain gages (Full bridge system) Strain-gage transducers, voltage
Channels	4
Input Resistance	Approx. 10 + 10 M Ω (Strain mode) Approx. 1 M Ω (Voltage mode)
Input Format	Balanced differential input (Strain mode) Unbalanced input (Voltage mode)
IMRR	120 dB (When 500 $\times 10^{-6}$ strain range)
Frequency Response	DC coupling: DC to 200 Hz, deviation: +1 dB, -3 dB DC cut (AC coupling): 0.2 Hz (See the HPF)
Gage Factor	2.00 fixed (Strain mode)
Bridge Excitation	CDA-44AS: Approx. DC 16.7 mA (Constant current) when gage resistance 120 Ω connected *If sensitivity or temperature resistance is in the transducer bridge excitation lines, then sensitivity and temperature characteristics are not corrected. CDA-45AS: Approx. DC 5.7 mA (Constant current) when gage resistance 350 Ω connected *If sensitivity or temperature resistance is in the transducer bridge excitation lines, then sensitivity and temperature characteristics are not corrected.
Cable Length	CDV-44AS: 500 m, CDV-45AS: Within 1 km (At cross section: 0.5 mm ²)
Range Accuracy	Within $\pm 0.3\%$ FS
Measuring Range	500, 1 k, 2 k, 5 k, 10 k, 20 k $\times 10^{-6}$ strain, OFF (Strain mode) 1, 2, 5, 10, 20, 50 V, OFF (Voltage mode)
Balance Adjustment	Within $\pm 2.4\%$ ($\pm 12000 \times 10^{-6}$ strain) (At strain measurement) Within ± 5 V (At voltage measurement)
ZERO Accuracy	Within $\pm 0.3\%$ FS (Voltage OFF mode)
Nonlinearity	Within $\pm 0.1\%$ FS
Calibration (CAL)	Output at $\pm 100\%$ and $\pm 50\%$ of each range Accuracy: Within $\pm 0.3\%$ FS
Monitor Output	Accuracy: Within ± 5 V $\pm 0.5\%$
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 1, 3, 10, 30, 100 Hz and FLAT (6 steps) Amplitude ratio at cutoff point: -3 ± 1 dB Attenuation: (-12 ± 1) dB/oct.
HPF	Cutoff frequencies: 0.2 Hz Attenuation: Within (-6 ± 1) dB/oct.
A/D Converter	16 bits
TEDS	Reads information from TEDS-installed sensors.
Isolation	Between input and case (output), and between Between channels: Withstand voltage 500 VDC, 1 min.
Standard Accessories	Conversion adapter FV-2A x 4
Optional Accessories	Input cable U-03 Monitor output cable U-64 Note: If the transducer with a remote-sensing function, a 4-conductor extension cable (N-81 to N-85) enables measurement. But the remote-sensing function will be ineffective.

■ **Strain/Voltage Measurement Isolation Card CDV-44AS**

Measurement card strong against common mode noise even in workplaces with power machinery.

Measuring Targets	Strain gages (Full-bridge system) Strain-gage transducers, voltage
Channels	4
Input Resistance	Approx. 10 + 10 MΩ (Strain mode) Approx. 1 MΩ (Voltage mode)
Input Format	Balanced differential input (Strain mode) Unbalanced input (Voltage mode)
IMRR	120 dB (When 500 × 10 ⁻⁶ strain range)
Gage Factor	2.00 fixed (Strain mode)
Frequency Response	With DC coupling DC to 5 kHz, deviation within +1 dB, -3 dB DC cut (With AC coupling) 0.2 Hz (See the HPF)
Bridge Excitation	Within 2 VDC±2% (Strain mode)
Range Accuracy	Within ±0.3%FS
Applicable Bridge Resistance	120 to 1000 Ω (Strain mode)
Measuring Range	500, 1 k, 2 k, 5 k, 10 k, 20 k × 10 ⁻⁶ strain, and OFF (Strain mode) 1, 2, 5, 10, 20, 50 V, and OFF (Voltage mode)
Balance Adjustment Range	Within ±2.4% (±12000 × 10 ⁻⁶ strain) (At strain measurement) Within ±5 V (At voltage measurement)
ZERO Accuracy	Within ±0.3% FS (Voltage OFF mode)
Nonlinearity	Within ±0.1%FS
Calibration Values (CAL)	Output at ±100% and ±50% of each range Accuracy: Within ±0.3%FS
Monitor Output	Accuracy: Within ±5 V±0.5% (±5 V to full scale of each range)
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 10, 30, 100, 300, 1 k, Hz and FLAT (6 steps) Amplitude ratio at cutoff point: -3 ±1 dB Attenuation: (-12±1) dB/oct.
HPF	Cutoff frequencies: 0.2 Hz Attenuation: Within (-6±1) dB/oct.
A/D Converter	16 bits
TEDS	Reads information from TEDS-installed sensors.
Isolation	Between input and case (Output): Withstand voltage 500 VDC, 1 min. Between channels: Withstand voltage 500 VDC, 1 min.
Standard Accessories	
Conversion adapter FV-2A × 4	
Optional Accessories	
Input cable U-03 Monitor output cable U-64 (2 m) Note: If the transducer with a remote-sensing function, a 4-conductor extension cable (N-81 to N-85) enables measurement. But the remote-sensing function will be ineffective.	

● **Custom-designed conditioner card specifications**

■ **Strain/Voltage Measurement Isolation Card CDV-46AS**

Measurement card strong against hum noise even in workplaces where using long sensor cables.

Measuring Targets	Strain gages (Full-bridge system) Strain-gage transducers, voltage
Channels	4
Input Format	Balanced differential input (Strain mode) Unbalanced input (Voltage mode)
Input Resistance	Approx. 10 + 10 MΩ (Strain mode) Approx. 1 MΩ (Voltage mode)
IMRR	120 dB (When 2k × 10 ⁻⁶ strain range)
Frequency Response	With DC coupling DC to 5 kHz, deviation within +1 dB, -3 dB DC cut (With AC coupling) 0.2 Hz (See the HPF)
Gage Factor	2.00 fixed (Strain mode)
Bridge Excitation	Within 2 VDC±2% (Strain mode)
Applicable Bridge Resistance	120 to 1000 Ω (Strain mode)
Measuring Range	2k, 5k, 10k, 20k, 50k, 100k × 10 ⁻⁶ strain, OFF (At strain measurement) 1, 2, 5, 10, 20, 50, OFF (At voltage measurement)

Range Accuracy	Within ±0.3%FS
Balance Adjustment Range	Within ±2.4% (±12000 × 10 ⁻⁶ strain) (At strain measurement) Within ±5 V (At voltage measurement)
ZERO Accuracy	Within ±0.3% FS (Voltage OFF mode)
Nonlinearity	Within ±0.1%FS
Calibration Values (CAL)	Output at ±100% and ±50% of each range Accuracy: Within ±0.3%FS
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 10, 30, 100, 300, 1 kHz and FLAT (6 steps) Amplitude ratio at cutoff point: -3 ±1 dB Attenuation: (-12±1) dB/oct.
HPF	Cutoff frequencies: 0.2 Hz, 1 Hz Attenuation: Within (-6±1) dB/oct.
A/D Converter	24 bits
Monitor Output	Accuracy: Within ±5 V±0.5% (±5 V to full scale of each range)
Isolation	Between input and case (output): Withstand voltage 500 VDC, 1 min. Between channels: Withstand voltage 500 VDC, 1 min.
TEDS	Reads information from TEDS-installed sensors.
Max. Sampling Frequency	100 kHz
Standard Accessories	
Conversion adapter FV-2A × 4	

■ **A/D Converter Card AD-40AS, AD-40AS-F**

AD-40AS is an 8-channel voltage input card. (AD-40AS-F equipped with antialiasing LPF is also available.)

Channels	8
Input Range	±5 V, ±10 V and OFF
Input Modes	Unbalanced (Not balanced differential)
Input Resistance	Approx. 1 MΩ
A/D Converter Methods	Successive approximation
A/D Converter	Resolution: 16 bits (± 32000 counts/FS)
Accuracy	Within ±0.2%FS
Nonlinearity	Within ±0.1%FS
Input Frequencies	Range: DC to 50 kHz Deviation: 1dB to -3dB
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 10, 30, 100, 300, 1 k, 3 k, 10 k Hz and FLAT (8 steps) Amplitude ratio at cutoff point: -3 ±1 dB Attenuation: (-12 ±1) dB/oct.
Antialiasing LPF (AD-40AS-F only)	
Transfer Characteristic: 8th order Butterworth Cutoff frequencies: A quarter of sampling frequency (auto setting) * Attenuation: -48 ± 5 dB *(Set LPF to [AUTO])	
Power Supply to Sensors	±2.5 V ± 1%, each channel
TEDS	Reads information from TEDS-installed sensors.
Optional Accessories	
8-channel input cable: U-127 (1.5 m) Voltage input box: VI-8A with a cable N-121 (1.5 m)	