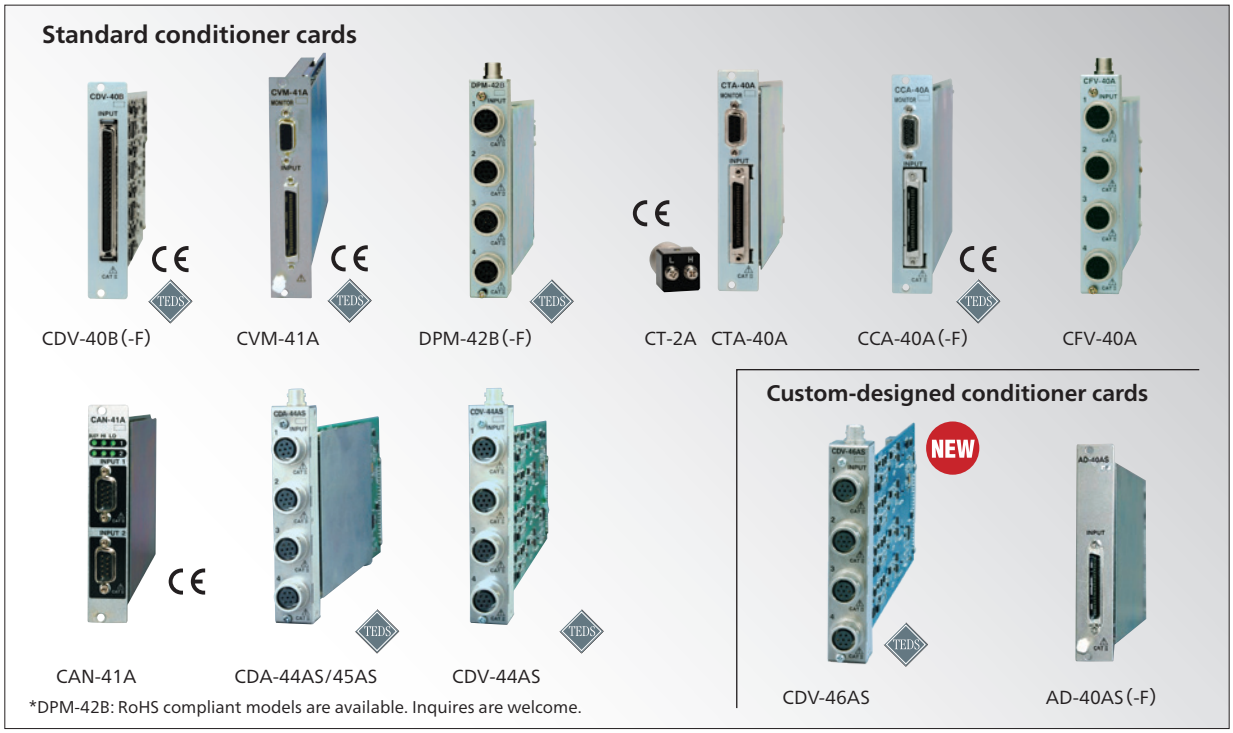
Conditioner Cards for EDX Series



Conditioner cards for EDX-200A, EDX-5000A.

●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
Measuring Targets	Strain gages, strain-gage transducers	Voltage
Channels	8	
Input Modes	Balanced differential	Unbalanced
Input Resistance	Within (10 MΩ + 10 MΩ) ±10%	Within 1 MΩ±10%
Coupling	DC/AC	
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)	
Gage Factor	2.00 fixed	——
Bridge Excitation	2 VDC ±2%	——
Compatible Bridge Resistance	120 to 1k Ω	——
Balance Adjustment Range	±2.4% or more (±12000 ×10^{-6} strain)	——
Balance Adjustment Method	Auto balance Accuracy: Within ±(0.1%FS +2×10^{-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 ±100%, ±50%, each range	
Calibration	Accuracy: Within ±0.3%FS	
Nonlinearity	Within ±0.1% FS	
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±1dB Attenuation: (-12±1) dB/oct.	
HPF (DC cut)	Cutoff frequencies: 0.2, 1 Hz Attenuation: -6 dB/oct.	
Antialiasing LFP (CDV-40B-F only)	The LPF setting on the DCS-100A:AUTO Transfer characteristics: 8th order Butterworth Cutoff frequencies: Automatically set at sampling frequencies × 0.25 Attenuation: -48 dB±5 dB (At sampling frequency ×0.5) Note: Enabled when the sampling frequency 100 HZ or more	
AD Converter	16 bits	
Sampling Frequency	200kHz (MAX)	
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)	

Optional Accessories

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 MΩ + 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
Gage Factor	2.00 fixed	——	——
Compatible 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	——

Data Recorders/ Analyzers

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, -7) 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.		
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)		

*1 For strain measurement, use 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 screws M3×6

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
DBS-120B-8 (C) (T), DBS-350B-8 (C) (T)
One-touch type bridge box DBV-120A-8 (C), DBV-350A-8 (C)

■Dynamic Strain Amplifier 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: Within ±10%)
Carrier Wave Frequency	12 kHz
Compatible Bridge Resistance	120 to 1000 Ω
Gage Factor	2.00 fixed
Bridge Excitation	2, 0.5 V_{rms} selectable
	12 kHz sine wave
Balance Adjustment Range	Resistance: Within ±2.4%
	(±12000 ×10^{-6} strain)
	Capacity: Within 2000 pF
Balance Adjustment Methods	
	Resistance: Auto balance
	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
SN Ratio	50 dBp-p or more (Range: 500 ×10^{-6} strain,
	DPM-42B, DPM-42B-F)
	44 dBp-p or more (Range: 500 ×10^{-6} strain,
	DPM-42B-I,DPM-42B-I-F)
LPF	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.
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 LPF settings.
Resolution	16 bits
Additional Functions	Input check function, TEDS
Monitor Output	Accuracy: ±5 V ±0.5% (At ±FS)
	Nonlinearity: Within 0.5%FS
Withstand Voltage	Between input and output: 250 VAC, 1 min.
Noise Resistant(DPM-42B-I, DPM-42B-I-F)	Low inverter noise
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

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
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)
Compliance	Directive 2914/30/EU (EMC)
	Directive 2011/65/EU, (EU)2015/863
	(10 restricted substances) (RoHS)
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
Input	Unbalanced
Power Supply to Sensors	Constant current power (Current: 4 mA,
	excitation voltage: Approx. 24 VDC,
	load 1 kΩ or less)
Frequency Response	1 to 20 kHz (Deviation: +1dB, -3dB)
Measuring Range	20, 50, 100, 200, 500, 1000, 2000, 5000 mV
	and OFF-9 steps
	Accuracy: Within ±1%FS
Calibration	DC CAL
	±100% and ±50% of each range
	Accuracy: Within ±0.2%FS
	AC CAL
	100% and 50% of each range
	Accuracy: Within ±1%FS
	Frequency accuracy: Within 100 Hz±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.
SN Ratio	50 dBp-p or more
Distortion Factor	1% or less
Resolution	16 bits
Monitor Output	Accuracy: Within ±1%FS
Additional Functions	Reads information from TEDS-installed sensors.
Antialiasing LPF (Only applicable to CCA-40A-F)	
	8th order Butterworth type
	Cutoff frequencies: Automatic setting at ×0.25 sampling frequency
	Attenuation: -48±5dB (When ×0.5 sampling frequency)
	Note: Available when the LPF is set to AUTO.
Compliance	Directive 2014/30/EU (EMC)
	Directive 2011/65/EU, (EU)2015/863
	(10 restricted substances) (RoHS)
Standard Accessories	Input cable U-111
Optional Accessories	Integrated output cable U-62 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 pulse, and supplies power 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	±(0.5 V to 50 V): High hysteresis
	±(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 ±0.1%FS
Calibration (CAL)	Output at 100%, 50% (added),
	and 0% (Absolute value) of each range
Response Time	10 µs (Continuous pulse input) or less
	(2 cycles of input pulse + 50 µs) or less
	(Input pulse are broken)
Resolution	16 bits
Sensor Power Supply	12 VDC: Within ±10% (Each channel 50 mA or less)
Monitor Output	Accuracy: Within 5 V ±0.5% (At +FS)
	Nonlinearity: Within ±0.1%FS
Isolation	Between input and output,
	and between channels: 50 MΩ or more
	(500 VDC)
Number of Cards Installed	Up to 2 cards
	• EDX-2000A/B-64, EDX-3000A/B
	When two F/V cards are installed: Up to 4 other cards
	When one F/V card is installed: Up to 6 other cards
	• EDX-100A-1, EDX-200A-1, EDX-200A-2H
	One F/V card can be installed
	• EDX-100A-2, EDX-100A-4, EDX-200A-4H,
	EDX-5000A-64/80
	Two F/V cards can be installed
Standard Accessories	Conversion adapter FV-1A ×4
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 Ports	2
Supported CAN Version	Bosch2.0B active support
	(ISO-11898 specifications-compliant)
	High-speed CAN/low-speed CAN selectable
Connector Shape	Dsub 9-pin(male)
Measurement ID	Max. 32
CAN Controller Operation Clock	40 MHz,32 MHz
Communication Speed(kbps)	high-speed CAN
	10, 25, 33.3, 50, 62.5, 83.3, 100, 125,
	250, 500, 800, 1000
	low-speed CAN
	10, 25, 33.3, 50, 62.5, 83.3, 100, 125
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 CAN-41A can be mounted in the last slot of the EDX-100A, or EDX-200A. CAN-41A can not be mounted in the EDX-5000A.
Compliance	Directive 2014/30/EU (EMC)
	Directive 2011/65/EU, (EU)2015/863
	(10 restricted substances) (RoHS)

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

Measurement card suitable for cable extension

Measuring Targets	Strain gages (Full bridge system)
	Strain-gage transducers, voltage
Channels	4
Input Resistance	Approx. 10 MΩ + 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)
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)
Compatible Bridge Resistance	CDA-44AS: 120 Ω
	CDA-45AS: 350 Ω
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	CDA-44AS: 500 m, CDA-45AS: Within 1 km
	(At cross section: 0.5 mm^2)
Range Accuracy	Within ±0.3%FS
Measuring Range	500, 1 k, 2 k, 5 k,10 k, 20 k ×10^{-6} strain, OFF (Strain mode)
	1, 2, 5, 10, 20, 50 V, OFF (Voltage mode)
Balance Adjustment	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 (CAL)	Output at ±100% and ±50% of each range
	Accuracy: Within ±0.3%FS
Monitor Output	Accuracy: Within ±5 V ±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.
AD Converter	16 bits
TEDS	Reads information from TEDS-installed sensors.
Isolation	Between input and case (output), and
	Between channels: Withstand voltage 500 VDC,1 min.
Standard Accessories	Conversion adapter FV-2A × 4
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.

■Strain/Voltage Measurement Isolation Card CDV-44AS

Measurement card robust 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 MΩ + 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
Compatible 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.
AD 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

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 robust 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 MΩ + 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)
Compatible 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
	Attenuation: Within (-6±1) dB/oct.
AD 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

■AD 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
AD Converter Methods	Successive approximation
AD 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)