Move into the future with reliable measurements

KYOWA

UNIVERSAL RECORDER

EDX-200A

HIGH-END + COMPACT

The high-speed DSP improves real-time processing functions!

A new compact high-end EDX

www.kyowa-ei.com

The new type of EDX provides real-time processing functions, such as dual sampling and digital filtering

Universal Recorder EDX-200A

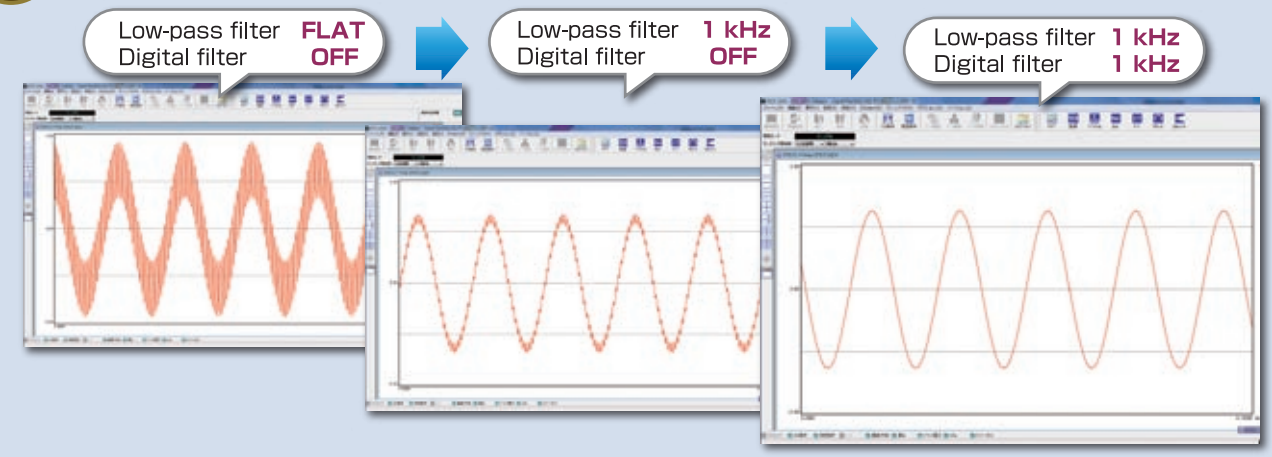
EDX-200A-2H CE
2 slots

EDX-200A-4H CE
4 slots

EDX-200A-4T
4 slots
Usable at high/low temperature
(-20 to 65°C)

1 A real-time digital filter is mounted >>>

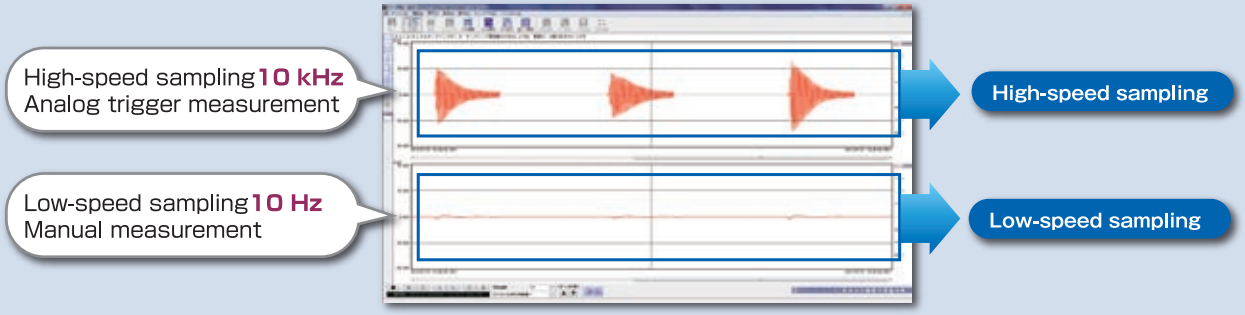
(DCS-100A monitor screen)



Merit The 8th-order digital filter enables the recording of fine waveforms.

2 High-speed/low-speed dual sampling >>>

(DAS-200A reproduction screen)



High-speed and low-speed sampling frequencies are available. During ordinary operation, recording is performed using low-speed sampling. Trigger measurement using high-speed sampling can be made only when a sudden change occurs.

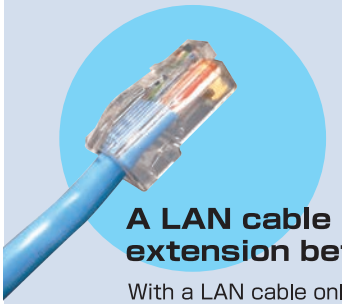
Merit Processing time can be minimized by selecting appropriate frequencies to reduce the volume of recorded data.

3 Multi-channel high-speed sampling >>>

Simultaneous high-speed sampling at 10 kHz(for all 32 channels)

Three channels can be measured simultaneously at a maximum of 100 kHz.

4 One-wire synchronization >>>



A LAN cable permits a 100m synchronous extension between devices.

With a LAN cable only, synchronous measurement is possible on up to eight units at a maximum length of 800 m (no LAN HUB needed).

Merit A maximum of eight units at distributed locations enable large-scale measurement.

5 An organic EL monitor is installed >>>

Measurement conditions on display

Data filename

Time display on the main body

Operation status on display (monitoring)

IP address

Without a PC, you can check the measuring conditions offline, the filename, the IP address, and other data. By using the CF card, you can read/set the measuring conditions and save the data.

Merit A measurement key is provided also on the main body to enable on-site standalone measurement.

6 EDX-200A-2H/4H cards mountable >>>

As cards for EDX-200A-4T, please contact Kyowa distributors.

CVM-40A NEW

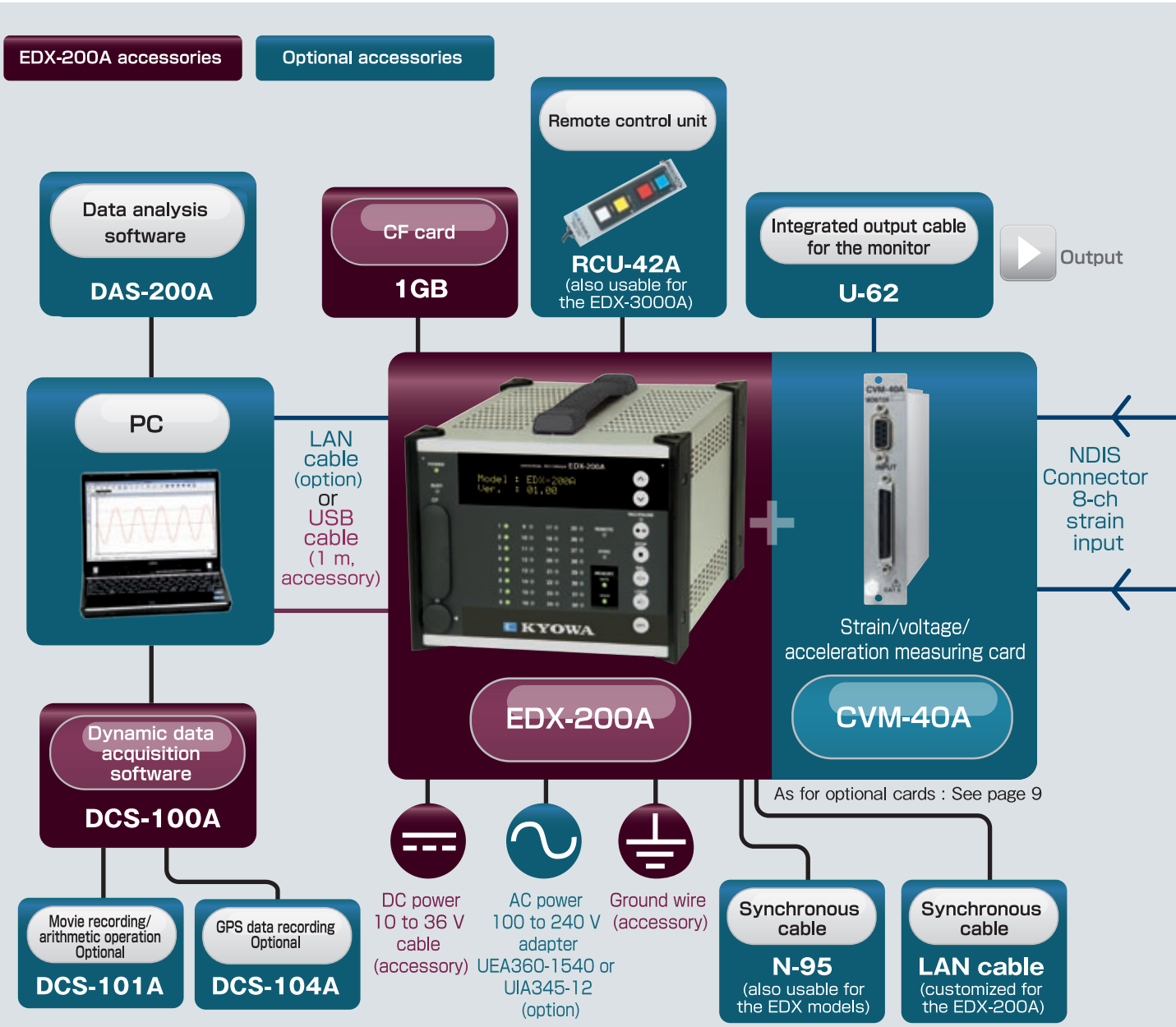
High-resolution conditioner strain compatible with multiple inputs for strain/voltage/piezoelectric acceleration

A selectable input method for each channel ensures flexible measurement.

* For more details, please see pages 14

Merit In addition to versatility, the optional card CVM-40A permits multiple inputs.

Simplified configuration of the EDX-200A CVM-40A conditioner card



List of EDX-200 standard accessories and optional accessories

EDX-200A standard accessories

Item	Model
Dynamic recording software	DCS-100A (CD)
USB cable	N-38 (1m)
DC power cable	P-76 (2m)
Ground wire	P-72 (5m)
CF card (1 GB)	Implemented in the slot
Reserve fuse	Rated current of 8 A
Dummy panel (1 unit)	* Installed in a blank slot upon shipment
Instruction manual CD (Japanece/English)	
EDX accessory bag	

Optional accessories

Item	Model
AC adapter for the EDX-200A	4H : UEA360-1540 2H : UIA345-12
Multiple-input conditioner card	CVM-40A
CVM input cable (Integrated connector NDIS female connector (8-ch))	U-121(0.5m) U-122(1.0m) U-123(1.5m)
Voltage/piezoelectric-type input connector (1-ch)	FV-1A
1 gage compact bridge box (8-ch)	DBS-120/350A-8
One-touch lock type bridge box (8-ch)	DB-120/350V-8
Voltage input box	VI-8A
CVM input cable (both-end integrated connector)	N-121(1.5m)
Monitor output cable (integrated connector BNC connector)	U-62(1.1m)
EDX dummy panel (set of 3 units)	EDX3P-DUMMY
EDX dummy panel (1 unit)	EDX1P-DUMMY
Synchronous cable	N-95(2m)
Remote control unit	RCU-42A(1.5m)

Input options

CVM input cable

U-121, U-122, U-123

U-121 (0.5m)
U-122(1m)
U-123(1.5m)

CVM integrated input cable

N-121

CVM integrated input cable (8ch)

1 gage compact bridge box

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

Bridge box for a 1-gage (inputs can be made for 8 channels simultaneously)

One-touch lock type bridge box

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

Bridge box 1, 2, and 4 gages (inputs can be made for 8 channels simultaneously)

Voltage input box

VI-8A

BNC connectors are integrated in this small input relay box for 8 channels.

Charge converter

CA10M-BPM
(from Fuji Ceramics Corp.)

Strain gage transducers

(e.g., load cell, pressure transducer, acceleration transducer, and torque transducer)

Input

Voltage/ piezoelectric-type input (BNC connector)

FV-1A

Input

By installing a FV-1A-voltage/piezoelectric-type input (BNC connector), you can connect a voltage input or a piezoelectric accelerometer

Strain gages

Input

Voltage

Input

Piezoelectric acceleration sensors

ASPA/ASPB/ASPC
(with built-in amplifier)

Input

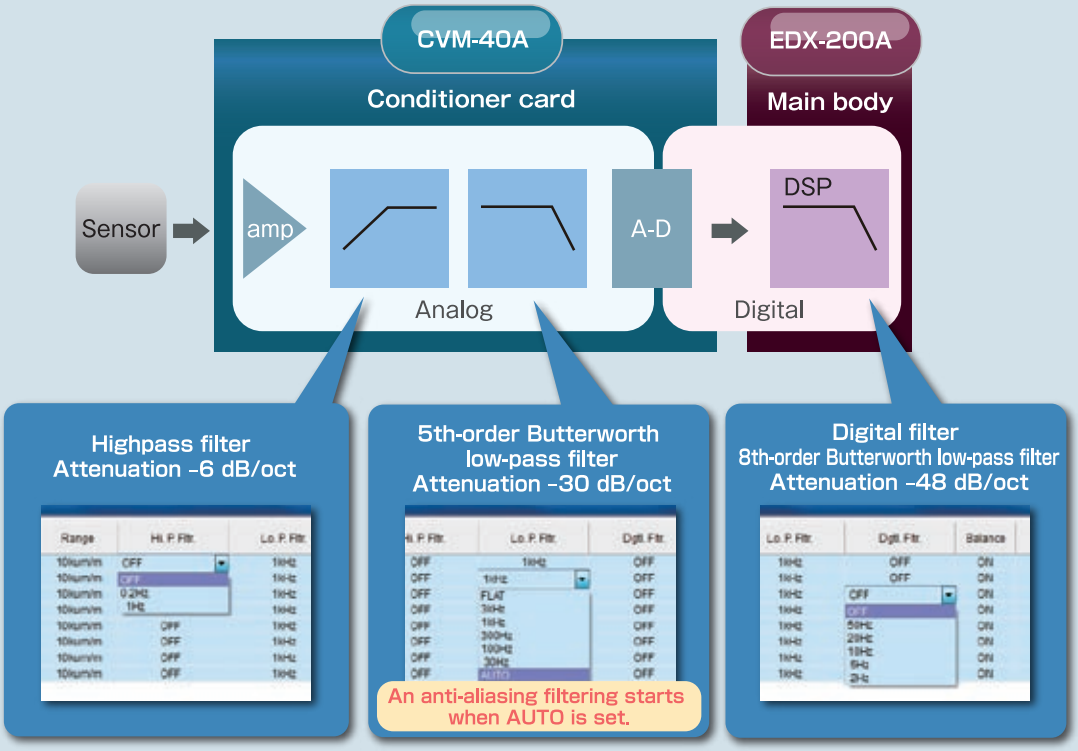
Using piezoelectric elements, this acceleration sensor can make inputs on the EDX series and conditioner cards CVM-40A/CCA-40A, and is suitable for the measurement of very fast phenomena.

charge-type accelerometers

Input

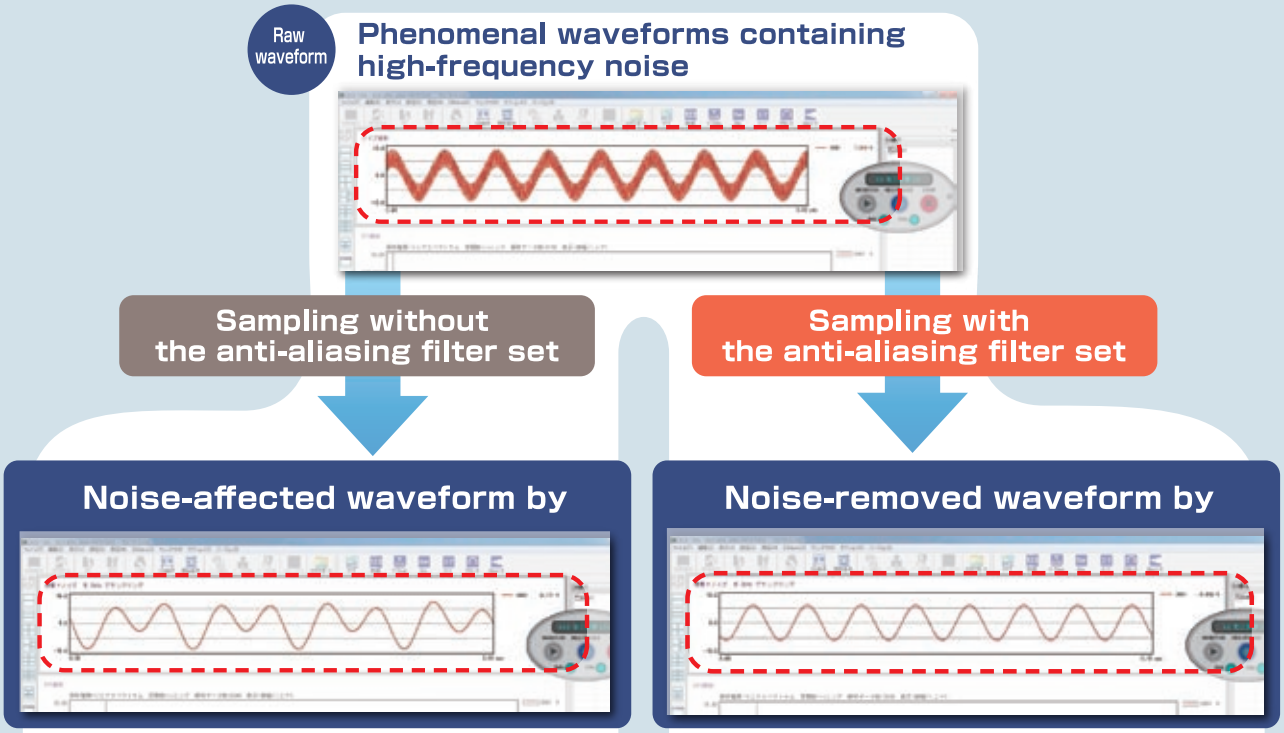
Appropriate filters can be installed for different measuring environments and conditions.

Simplified filter examples



Digital filters can be used in combination with analog filters (high-speed/low-speed) mounted on conditioner cards (Digital filters do not apply to CAN input data).

Noise removal through an anti-aliasing filter



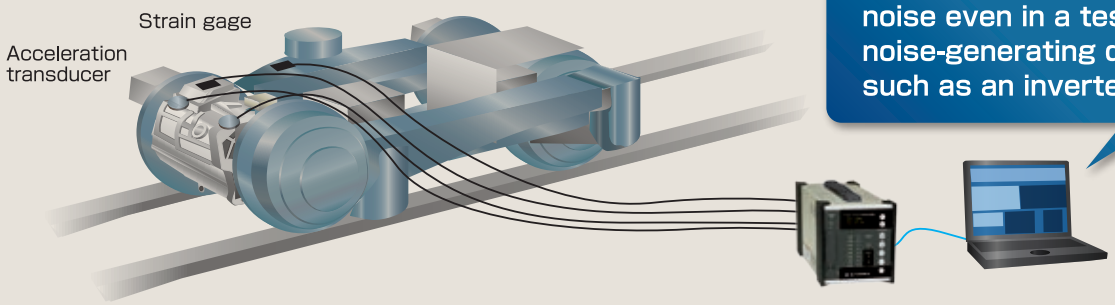
Noises of more than half of the preset sampling frequency affect the data obtained, producing fake waveforms. Such phenomenon cannot be removed by an ordinary analog filter or digital filter.

The application of an anti-aliasing filter (low-pass filter set for AUTO) enables the production of waveforms free from noise that is otherwise generated in data sampling.

Example of EDX-200A system configuration

Digital filter

●Vibration testing of railway trucks

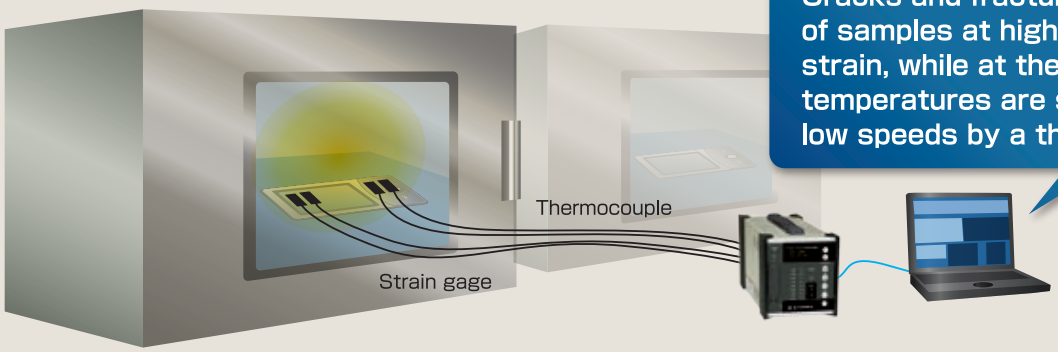


POINT

The digital filter reduces noise even in a test involving noise-generating devices, such as an inverter motor.

Dual sampling

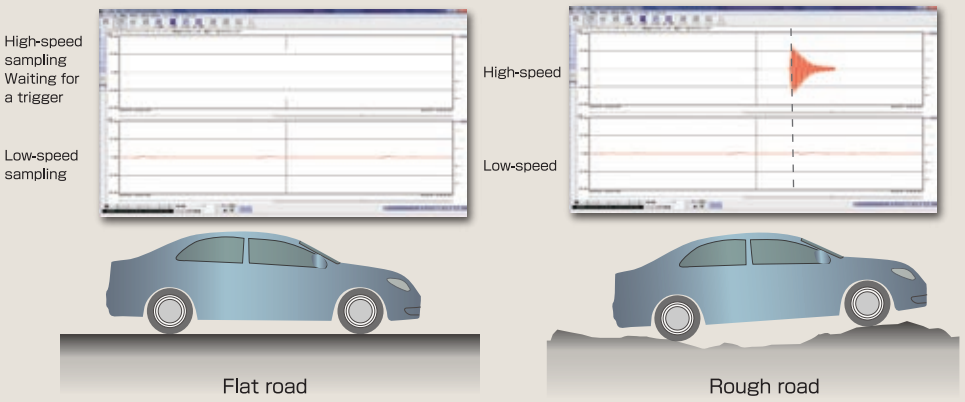
●Testing of materials under changing temperatures inside a temperature chamber



POINT

Cracks and fractures consist of samples at high speeds by strain, while at the same time, temperatures are sampled at low speeds by a thermocouple.

●Running test of automobiles

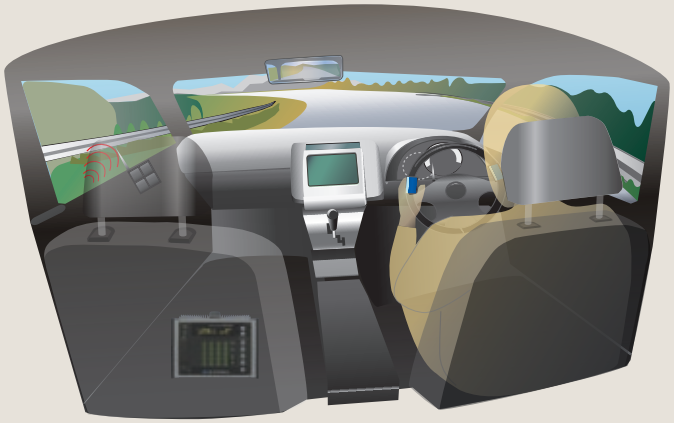


POINT

On a normal road, low-speed sampling is performed. High-speed sampling can be started once a violent phenomenon is generated.

Usable at high/low temperature (EDX-200A-4T)

●Automobile performance (Engine oil pressure, etc.) test at a cold district



POINT

Can operate at low temperature of -20 °C in winter, and at high temperature up to 65 °C in summer.

SOFT WARE

DCS-100A dynamic data acquisition software

Main functions software

•Diverse graph/numerical value monitor display
Freely arrange the graph/numerical value window.
PC monitor screen can be set and stored in a free layout fitting for each experiment of six types of graph windows (Time-series graph, bar graph, X-Y graph, digital graph, circle graph and, bar meter).

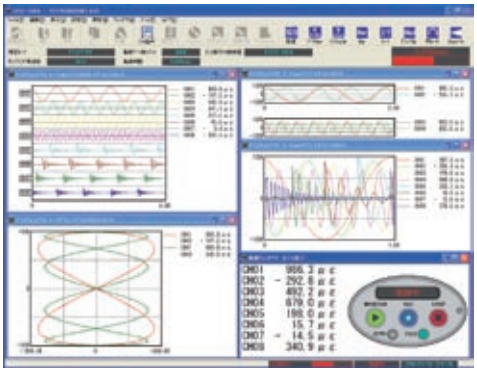
•Both data recording window and data reproduction window can be monitored simultaneously.

•PC Recorded data can be stored directly to hard disk.
(Sampling frequency and measuring channel number are limited.)

•Data processing/analysis software is possible to start from toolbar.
DAS-200A

•Applicable measuring instrument

- EDX-10A series
- EDX-100A
- EDX-200A
- EDX-2000B
- EDX-3000A
- EDS-400A
- PCD-300 series
- NTB-500A
- UCAM-550A



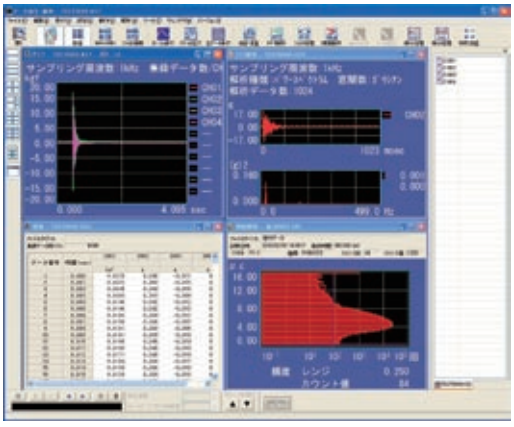
DAS-200A data analysis software

This software is used to read, reproduce, and analyze data file in KYOWA standard data file formats (extension KS1/KS2). The software can also reproduce movies and voice notes.

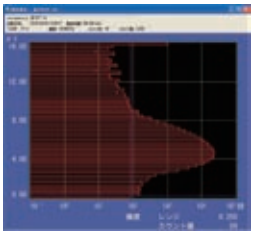
Main functions software

•Data reproduction
Y-time graph, X-Y graph, numerical value, file information, MAX/MIN display

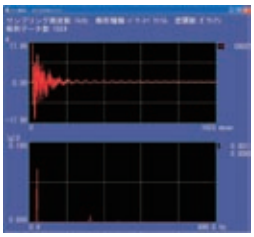
•Data analysis
Statistical operation, arithmetic operation, FFT analysis, histogram analysis, filter processing, differentiation/integration, lifetime prediction



Full screen



Frequency analysis



FFT analysis

Recommendation POINT

Data recorded by dual sampling using the EDX-200A can be read. Data sampled at high and low speeds can be displayed together in a single graph for checking.

CONDITIONER CARDS & CLOCK SYNCHRONIZATION CARD

NEW

TEDS compatible

Strain/Voltage/Acceleration measuring card

CVM-40A

Compatible with multiple inputs for strain/voltage/ piezoelectric accelerometer

- Measurement of up to 500,000 μm/m
- High resolution with a 24-bit A-D converter
- An anti-aliasing filter as a standard function
- Initial unbalanced values verifiable

TEDS compatible

Strain/voltage measuring card

CDV-40B-F

Strain input or voltage input selectable for different channels

An 8th-order Butterworth anti-aliasing filter is installed.

★The CDV-40B is available without an anti-aliasing filter.

TEDS compatible

Strain/voltage measurement insulation card

CDV-44AS

This card performs well against common mode noise even on sites with powered devices.

- Input-output insulated amplifier
- Zero suppression function in the voltage range
- Voltage of up to 50 V measurable

TEDS compatible

DC constant-current amplification card

CDA-44AS/45AS

This measuring card is specifically useful for infrastructure and cable extension.

- Amplifier with input-output insulation
- Voltage can be inputted.
- Frequency response of DC up to 200 Hz

TEDS compatible

Dynamic strain measuring card

DPM-42B-F

A noise-resistant carrier wave-type

Most appropriate for strain measurement

An 8th-order Butterworth anti-aliasing filter is installed.

★The DPM-42B is available without an anti-aliasing filter.

For temperature measurement

CTA-40A

Compatible with K-type and T-type thermocouples

This card can make measurement using two types of thermocouples: K (CA) and T (CC). Insulation is provided on this card between inputs and outputs, as well as between channels.

F/V converter card

CFV-40A

For pulse frequency measurement for the rotation detector

This card is intended to measure the frequency of inputted pulses. It has a power supply to the sensor. Insulation is provided on this card between inputs and outputs

TEDS compatible

Charge amplifier card

CCA-40A-F

For the voltage-output piezoelectric accelerometer

An 8th-order Butterworth type anti-aliasing filter is installed.e

★The CCA-40A is available without an anti-aliasing filter.

NEW

Multichannel CAN Card

ECAN-40A

For optional slot of EDX-200A-2H/4H/4T*

- CAN input of up to 512 channels
- Capable of CAN data output
- CANdb-compatible
- No drop in analog-channel sampling frequency

* Using ECAN-40AM72

CAN card

CAN-40A/CAN-41A

For data frame measurement on the Controller Area Network

NEW

AD Converter Cards

AD-40AS-F

- Built-in Antialiasing Filter (AD-40AS-F only)
- Providing power to sensors (±2.5V each channel)

NEW

Clock Synchronization Card

ETIM-40A

Insertable into optional slot of EDX-200A-2H/4H/4T*

- Enable synchronized interval measurement between EDX-200As remotely-placed EDX-200A by receiving clock data from GPS satellite.
- 8-bit digital I/O

* Using ETIM-40AM72

★Sensor data are read in the main body when a TEDS (Transducer Electronic Data Sheet)-compatible card is connected to a TEDS-installed sensor. You can make settings correctly with ease.

★The anti-aliasing filter is a low-pass filter designed to prevent false signal outputs by limiting the bandwidth.

* For detailed conditioner card specifications, please see pages 14 to 18.

EDX-200A Main Body Specifications

Model name ●Accessory provided ×Accessory not provided

Model name	Maximum number of input channels	Number of conditioner slots	Number of optional slots	DCS-100A control software	DCS-101A animation recording/ arithmetic operation software	Remarks
EDX-200A-4T*	32	4	1	●	×	With handle
EDX-200A-4H				●	×	
EDX-200A-4H-0				×	×	
EDX-200A-4H-1				●	●	
EDX-200A-2H	16	2	1	●	×	
EDX-200A-2H-0				×	×	
EDX-200A-2H-1				●	●	

* Usable at high/low temperature (-20 to 65°C)

Weight, Approx.	EDX-200A-4T : 4.2 kg (with 4 CDV-40B cards mounted) EDX-200A-4H : 2.1 kg (2.6 kg with 4 CDV-40B cards mounted) EDX-200A-2H : 1.8 kg (2.0 kg with 2 CDV-40B cards mounted)
External dimensions	EDX-200A-4T: 185.2 (W) ×142.8 (H) ×255 (D) mm, excluding protrusions EDX-200A-4H: 165 (W) ×132.5 (H) ×255 (D) mm, excluding protrusions EDX-200A-2H: 120 (W) ×132.5 (H) ×255 (D) mm, excluding protrusions
Measurement parameters	Strain (gage, transducer), voltage, thermocouple, pulse (F/V), piezoelectric acceleration (built-in amplifier), CAN signal
Voice memo input	The DAS-200A data reproduction software (option) is used to reproduce voice memos recorded using the 1channel (inputted voice memos can be recorded together with measurement data) RCU-42A remote control unit (option).
Sampling	Sampling method All channels, synchronized Sampling mode Normal: All channels recorded at the same sampling frequency Dual: Either high-speed or low-speed sampling frequency is set for each channel for recording. Sampling frequency 1/2/5 system 1 Hz to 100 kHz Data recording on up to 3 channels 1 Hz to 50 kHz Data recording on up to 6 channels 1 Hz to 20 kHz Data recording on up to 16 channels 1 Hz to 10 kHz Data recording on up to 32 channels 2^n system 2 Hz to 65,536 Hz Data recording on up to 4 channels 2 Hz to 32,768 Hz Data recording on up to 9 channels 2 Hz to 16,384 Hz Data recording on up to 19 channels 2 Hz to 8,192 Hz Data recording on up to 32 channels For CAN data recording 1 Hz to 2 kHz (1/2/5 system) Maximum 24 channels + the number of CAN data channels 2 Hz to 2,048 Hz (2^n system) Maximum 24 channels + the number of CAN data channels (For the EDX-200A-2H, a maximum of eight channels + the number of CAN data channels) * For low-speed sampling frequency in dual sampling mode, 1/4 or less of the high-speed sampling frequency is selectable.
Digital filter	8th-order Butterworth low-pass filter (not adapted to CAN data) Amplitude ratio at cutoff point : -3 dB Attenuation : -48 dB/oct. Usable together with a low-pass filter having a conditioner card installed
Display unit	Channel status display LED : Several channels LED for main body status display : 7 units Organic EL monitor for main body status display : 1 unit
Operation switch	UP/DOWN : Displays switching on the organic EL monitor for status display REC/PAUSE : Start/pause of recording STOP: Discontinuance of recording BAL.: Execution of balancing (balance adjustment) LOAD: Reading and setting of conditions from the CF card OPT.: Execution of arbitrary functions set ID: Setting of the EDX identification number POWER: Power switch USB /LAN: Switching of communication interfaces
External control connector	CONT.IN,CONT.OUT (for remote control and synchronous operation)

Communication interface	USB (USB 2.0 High Speed): 1 port Connector shape: Series-B receptacle LAN (10/100BASE-T): 2 ports (The lower port is used for synchronous operation.) Connector shape: RJ45 modular jack
Synchronous operation	Number of units under synchronous operation when connected to a synchronous cable (N-95): 8 Number of units under synchronous operation when connected to a LAN cable: 8
Condition setting	Online setting: On a PC using a LAN or USB interface Offline setting: Loading the measurement conditions inside the CF card into this system (Use the DCS-100A for the measurement conditions.)
Storage conditions	The conditioner setting conditions and measurement conditions are saved in non-volatile memory installed in the EDX. Data recording is possible using the previous measurement conditions, right after the system is turned on the next time.
Data storage	CF card Capacity: 128 MB to 16 GB (our recommendation)
Measurement mode	Manual measurement/trigger measurement/interval measurement Manual measurement The user manually starts and stops data recording or stops recording when a specified amount of data has been recorded. Voice memos can be recorded during manual operation. Trigger measurement Recording is started automatically under preset trigger conditions. * CAN data cannot be used for the trigger. Interval measurement Recording is started automatically under preset interval conditions.

Combination of measurement modes in dual sampling mode

High-speed sampling channel	Low-speed sampling channel
Manual setting	Manual setting
Trigger setting	Manual setting
	Interval setting
Interval setting	Interval setting

Recording start /stop	Executable on a PC, by using the operation switch (on the panel); or by a dedicated remote control
Balance adjustment	Balance adjustment for the strain input channel is executed using a PC, by using the operation switch (on the panel) or by a dedicated remote control.
Recorded data format	Kyowa standard format KS2 Analysis can be made using the DAS-200A data analysis software (option).
Data collection	Online collection using a PC, or offline collection by inserting a CF card into the PC
TEDS functions	Only during online control using a PC Compatible conditioner card : CDV-40B(-F), DPM-42B(-F,-I,-I-F), CCA-40A (-F), CDV-44AS, CDA-44AS, CDA-45AS, CVM-40A
Power	DC 10-36 V, connector type: RM12BRD-4PH (Hirose Electric) DC power or AC adapter (option)
Consumption current	EDX-200A-4H/4T: Approx. 2.6 A (DC12 V, CDV-40B: 4 units equipped) EDX-200A-2H: Approx. 1.6 A (DC12 V, CDV-40B: 2 units equipped)
Operating temperature range	EDX-200A-4T : -20 to 65 °C EDX-200A-2H/4H : 0 to 50 °C
Operating humidity range	20 to 90%RH (Noncondensing)
Storage temperature range	EDX-200A-4T : -30 to 70 °C EDX-200A-2H/4H : -20 to 60 °C
Vibration resistance	49.0m/s² (5G), 5~55Hz, 1 cycle, 1 min, each axis 15 cycles (When not operating) 29.4m/s² (3G), 5~55Hz, 1 cycle, 1 min, each axis 15 cycles (When operating)
Impact resistance	196.1m/s² (20G) / 11ms

DCS-100A Software Specifications (Standard Accessory)
(Not provided for the EDX-200A-xx-0)

- Varied monitor displays of graph and numerical values, and flexible layouts of graph/numeric windows
- Flexible control of a variety of recorders made by Kyowa Electric Instruments
- Direct storage of recorded data on the PC's hard disk
- Easy toolbar startup for data processing and analysis software (sold separately)

Controllable number of units	Up to 8 (maximum of 256 channels)
Interface	LAN, USB
Recording	Measurement data is stored in the CF card on the EDX-200A or on the PC's hard disk (in KS2 files).
Compatible conditioner card	CDV-40B/A (-F), DPM-42B (-F,-I,-I-F), CCA-40A (-F), CVM-40A, CDA-44AS/45AS, CTA-40A, CFV-40A, CAN-40A, CAN-41A, ECAN-40A, ETIM-40A, AD-40A(-F), CDV-44AS
Channel conditions	Measurement ON/OFF, mode, range, filter, balance ON/OFF, CAL range, CAL ON/OFF, calibration factor, offset, unit, channel name, Measuring range, decimal point, rated capacity, rated output, digital filter, sampling frequency (selection of high-speed, low-speed, or high-speed + low-speed for dual sampling) (display items are selectable)
Compatible with TEDS	Reading of TEDS information and automatic setting for channel conditions
Dual sampling	Display of high-/low-speed sampling data on numeric/graph windows Storage of high-/low-speed sampling data in different files
Setting/reading of parameters	Reading and setting of internal parameters in the EDX-200A
Data file collection	Collection of KS2 files inside the CF card on the EDX-200A
Data file deletion	Deletion of KS2 files from the CF card on the EDX-200A
Environmental setting	
Hardware configuration setting	Setting of the number of units connected and device names Reading of hardware configuration from the EDX-200A
Communication check	Reading of the EDX-200A version
Automatic conversion of data files	Automatic file conversion at the end of measurement (CSV format, XLS format, XLSX format, RPC III format)
Arbitrary unit setting	Arbitrary setting enabled for up to three types of units
Other	Oscillator switching (internal/external), operation beeps, balance standard value, AD data format (16 bits, 24 bits)

Measurement conditions for storing measurement data in the CF card on the EDX-200A

Sampling frequency	1 to 100 kHz (1/2/5system, 2^n system, external clock) * Some limitations due to measurement channels Compatible with dual sampling (high-/low-speed sampling setting possible)
Data file size	Maximum 4 GB
Measurement mode	Manual, Manual (number of recorded data specified), Interval, Analog trigger, External trigger, Composite trigger
Manual measurement	Recording performed from REC to STOP or from REC to the specified amount of recorded data
Interval measurement	Automatic recording by setting the recording start time and recording intervals
Trigger measurement	Recording started/ended in accordance with preset trigger conditions (absolute trigger with a fixed trigger threshold)
• Common trigger conditions	
(1) End trigger	Setting possible
(2) Amount of delay	For start/end, a maximum of 262, 144 data/channel The amount of delay differs depending on the measurement channel.
• Analog trigger conditions	
(1) Trigger channel	Any one channel
(2) Trigger level	Setting by physical quantity
(3) Trigger slope	Rising edge/falling edge
• External trigger measurement	
(1) Trigger slope	Rising edge/falling edge
• Composite trigger conditions	
(1) Trigger source	Selection from analog channels (four arbitrary master EDX channels), an external trigger, and a manual trigger; the trigger source can be identified logically by AND/OR.
(2) Trigger level	Set by physical quantity
(3) Trigger slope	Rising edge/falling edge

Storing measurement data in the PC hard disk

Sampling frequency	1 to 100 kHz (1/2/5 system, 2^n system, external clock)
Data file size	To hard disk capacity
Measurement mode	Manual, manual (the number of recorded data specified), interval
Manual measurement	Recording performed from REC to STOP or from REC to the specified amount of recorded data
Interval measurement	Automatic recording by setting the recording start time and recording intervals
Analog trigger measurement	Recording is started/ended under preset trigger conditions. (absolute trigger with a fixed trigger threshold)
(1) End trigger	Setting possible
(2) Amount of delay	For start/end, a maximum of 264, 144 data/channel The amount of delay varies depending on the number of measurement channels.
(3) Trigger channel	Any one channel
(4) Trigger level	Setting by physical quantity
(5) Trigger slope	Rising edge/falling edge

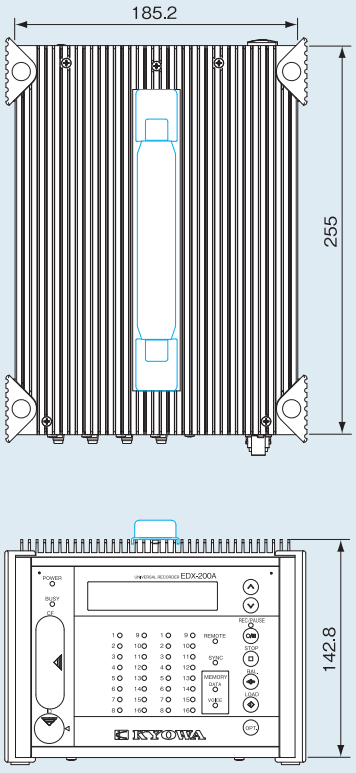
Monitor screen	
Chronological graph	The X-axis is the time axis, and the Y-axis displays physical quantity measurements for up to 16 channels. Up to four graphs displayed on a screen
Chronological (DIV) graph	The X-axis is the time axis, and the Y-axis displays physical quantity measurements for up to 16 channels. Unlike the chronological graph described above, it is possible to move the zero-point position on the display channel to any position on the Y-axis.
X-Y graph	The X/Y axes can display a graph by combining any eight channels.
Bar graph	Display of up to 32 channels on a graph; up to four graphs displayed on a screen peak hold ON/OFF (numeric display possible)
Bar meter	Any channel can be displayed horizontally/vertically.
Circle meter	Display of any channel with a circle meter
Numeric display	Display of any *1 channel, 16 channels, and all channels (*display of maximum/minimum values for each channel)
Display color	Arbitrary change of graph unit possible
Title and label	Setting possible for any title and X/Y axis label
Number of items on simultaneous display	Numeric value: 32, graph: 32 Display of up to 64 items composed of numeric values and graphs (including graphs and numeric values displayed in data reproduction) * The maximum number of items may not be displayed depending on the PC performance
Measurement operation Storage of recorded data	Data is stored in the EDX main body. Depending on the sampling frequency and the number of measurement channels, you can save directly on the PC hard disk, without storing data in medium in the EDX main body.
Automatic collection of data files	Automatic collection of recorded files in the PC hard disk immediately after the completion of recording

Automatic conversion into a CSV file	Automatic conversion into a CSV file immediately after the completion of recording
File integration	Data files recorded on control devices by synchronous operation are integrated immediately after they are collected and converted into one data file.
Data file format Storage form	To store recorded data on a PC, the Kyowa standard file format (“KS2 format”) is used.
Readable format	File format stored in the medium on a control device and the KS2 format stored by this software
Data reproduction Chronological graph	The X-axis is the time axis, and the Y-axis displays the measured physical quantities for up to 16 channels. Display of up to four graphs on a screen
Chronological (DIV) graph	The X-axis is the time axis, and the Y-axis displays the measured physical quantities for up to 16 channels. Unlike the chronological graph described above, it is possible to move the zero-point position on the display channel to any position of the parting line on the Y-axis.
X-Y graph	Display on the X/Y axes of graphs for any combination of eight channels
Numeric display	List display
Screen display color	Changeable by graph unit
Title and label	Setting possible for any title and X/Y axis label
Cursor display	Display of an engineering value at the cursor position

Number of items on simultaneous display	32 numerical values and 32 graphs Display of up to 64 numeric values and graphs combined (including graphs and numeric values displayed on the monitor screen) * The maximum number of items displayable may vary depending on the PC performance.
Displayable data file size	Data files displayable at time in graph/numeric display If the file size exceeds 10 Mb, any part of a 10-Mb file may be displayed by setting a display range.
File conversion	Arbitrary range, file cutouts in arbitrary channels, CSV file conversion, Excel format conversion, RPC III format conversion
Operating environment OS	Windows XP, Windows-Vista, Windows 7, Windows 8/8.1 Japanese/English, 32/64-bit compatible (only 32-bit compatible for Windows XP) * WOW64 for a 64-bit OS Operation in an environment (Windows 32-bit On Windows 64-bit)
CPU	Pentium4 2 GHz-equivalent or more (Pentium III 1 GHz-equivalent or more for Windows XP)
Memory	2 GB or more (1 GB or more for Windows XP)
Display	Resolution: 1024 × 768 pixels or more
HDD	20 MB + measurement data storage at installation
Interface	100 BASE-TX, USB (depending on devices under control)

■External Dimensions (The blue parts show the handle.)

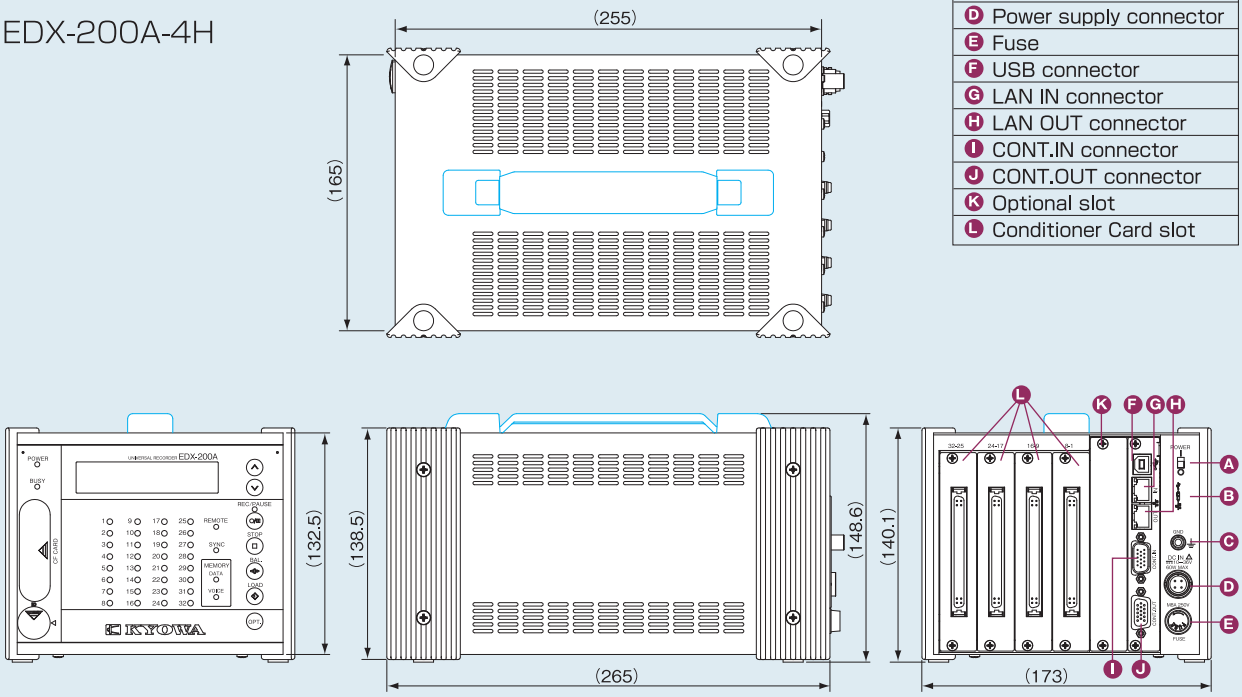
EDX-200A-4T



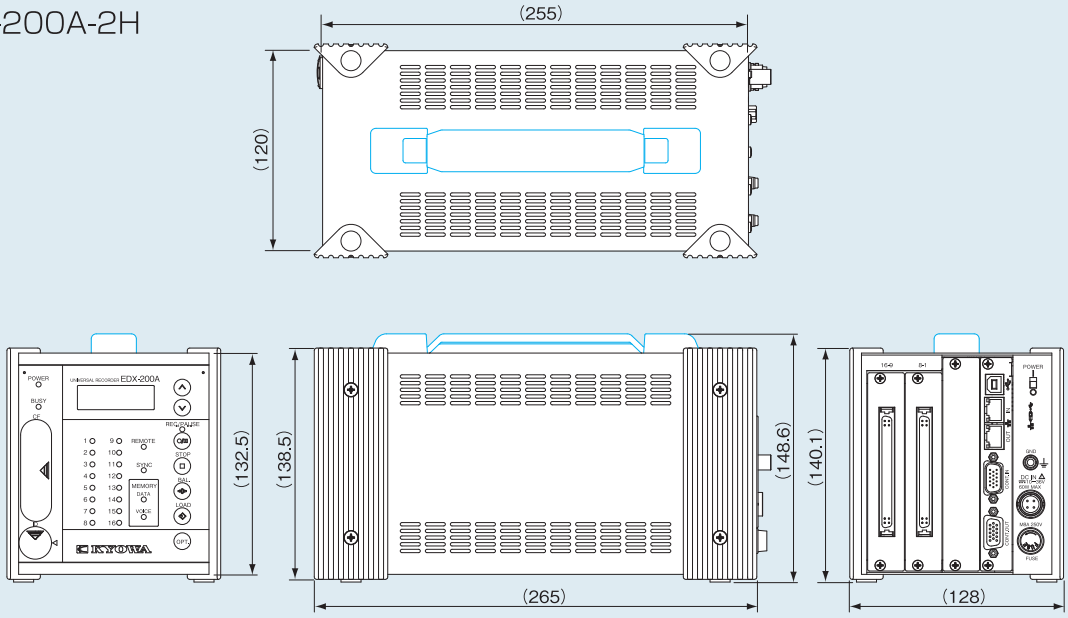
■External Dimensions (The blue parts show the handle.)

Back side
Ⓐ POWER switch
Ⓑ USB /LAN switch
Ⓒ GND terminal
Ⓓ Power supply connector
Ⓔ Fuse
Ⓕ USB connector
Ⓖ LAN IN connector
Ⓗ LAN OUT connector
Ⓘ CONT.IN connector
Ⓙ CONT.OUT connector
Ⓚ Optional slot
Ⓛ Conditioner Card slot

EDX-200A-4H



EDX-200A-2H



Strain/voltage/acceleration measuring card

CVM-40A

Items	Strain measurement	Voltage measurement	Acceleration measurement (piezoelectric-type)
Name	Strain/voltage/acceleration card		
Model	CVM-40A Note: Moisture-proofed CVM-40A M72 for EDX-200A-4T		
Number of input channels	8		
Measuring target	Strain gage Strain gage transducer	Voltage	Piezoelectric accelerometer (with built-in amplifier)
Input mode	Balance differential input	Balance differential input ① ②	Unbalanced input ③
Input impedance	—	(1 MΩ+ 1 MΩ) ±10% ④	—
Bridge excitation (BV) Sensor power supply	Constant voltage output BV2V: DC 2 V ±0.5% BV5V: DC 5 V ± 0.5%	Constant voltage output DC 2 V, DC 5 V or OFF 100 mW/CH or less	Constant current output: About 4mA Applied voltage: About DC 23 V Load: 1 kΩ or less
Applicable gage factor	2.00 fixed	—	—
Applicable bridge resistance	BV2V: 120 to 1, 000 Ω BV5V: 350 to 1, 000 Ω	—	—
Balance operation setting (zero suppression)	[Auto-balance enabled] The unbalanced portion of the bridge is cancelled on the analog circuit to make the measurement value zero. [Auto-balance disabled] The unbalanced portion of the bridge is not cancelled (initial unbalanced values in the bridge circuit can be checked).	[Zero suppression enabled] Input voltages are cancelled on the analog circuit to make the measurement value zero. [Zero suppression disabled] Input voltages are not cancelled on the analog circuit (input voltages are directly displayed).	—
Balance adjustment range	BV2V: Resistance ±10% (±50,000 μm/m) BV5V: Resistance ±4% (±20,000 μm/m)	±5V	—
Measuring range	BV2V: 5k,10k,50k,100k, 500k μm/m BV5V: 5k,10k,50k,100k, 200k μm/m	1, 5, 10, 50V	100, 500, 1000, 5000mV
Range accuracy	±0.2% FS		±1.0% FS
Calibration value (CAL) SHUNT CAL	±100%, ±50% of each range and SHUNT⑤	±100%, ±50% of each range	
Nonlinearity	±0.1% FS		±0.2% FS
Frequency response range	DC coupling : DC up to 5 kHz, Deviation : +1 dB, -3 dB AC coupling : 0.2, 1 Hz to 5 kHz (Refer to the clause on Highpass filter)		0.5Hz to 5kHz Deviation : +1dB,-3dB
Low-pass filter	Transmission characteristics: 5th-order Butterworth Cutoff frequency: 30, 100, 300, 1k, 3 kHz, FLAT and AUTO ⑥ Cutoff accuracy: -3 ±1 dB, Attenuation: -30 ±3 dB/oct.		
Highpass filter	Cutoff frequency: 0.2 Hz, 1 Hz Attenuation: -6 dB/oct.	—	
ADC resolution	24 bits		
Distortion factor	—	1% or less	
Monitor output	Accuracy: ±5 V ±0.5% (at ±FS) Nonlinearity: ±0.5% FS		
Dimensions	22 (W) × 119 (H) ×213 (D) mm (excluding protrusions)		
Weight	Approx. 400g		
TEDS	TEDS compatible (Load TEDS information)		

①Balanced input when using the FV-1A input adapter
②In-phase input voltage range of ±20 VDC, absolute input voltage range of ±50 V
③FV-1A input adapter compatible
④1MΩ ±10% when using the FV-1A input adapter (non-balance input)
⑤SHUNT CAL outputs a strain of about 257×10^{-6}, when a 350 Ω load is connected.
⑥When set to AUTO, cutoff frequencies are set to about 1/4 of the setting sampling frequency.
Note: As for converters with remote sensing, the N-81 to N-85 are used together.

Strain/voltage measurement card

CDV-40B,CDV-40B-F*
(with an anti-aliasing filter)

Item	Strain measurement	Voltage measurement
Number of input channels	8 (integrated connector)	
Input mode	Balance differential input	Unbalanced input
Input resistance	About (10 MΩ + 10 MΩ)	About 1 MΩ
Coupling	DC/AC (DC cut)	
Applicable gage factor	2.00 (fixed)	——
Bridge excitation	DC 2.00±2% (120 to 1 kΩ)	——
Balance adjustment range	Resistance ±2.4% (±12,000 μm/m)	——
Measuring range	500,1k,2k,5k,10k,20k, 50k×10^{-6} strains, OFF	0.1,0.2,0.5,1, 2,5,10V, OFF
Range accuracy	For each range: ±0.2% FS	
Calibration value (CAL)	For each range: ±100%, ±50%, accuracy: ±0.3%	
Nonlinearity	±0.1% FS	
Frequency response range	DC coupling : DC to 50 kHz, Deviation : + 1 dB, -3 dB DC cut (AC coupling) : 0.2, 1 Hz to 50 kHz (Refer to the description of the Highpass filter)	
Low-pass filter	Transmission characteristics : 2nd-order Butterworth Cutoff frequency : Eight frequencies of 10, 30, 100, 300, 1k, 3k, 10 kHz and F (flat) Cutoff accuracy : -3 dB±1dB Attenuation : -12±1dB/oct.	
Anti-aliasing filter (CDV-40B-F only)	8th-order Butterworth type Cutoff frequency : Automatically set to the sampling frequency × 0.25 Breaking property : -48 dB ±5 dB (at the sampling frequency × 0.5) Note: DCS-100A low-pass filter set to "AUTO"	
Highpass filter (DC cut)	Cutoff frequency : 0.2Hz, 1Hz Attenuation : -6dB/oct.	
ADC resolution	16 bits	
TEDS	TEDS compatible (Load TEDS information)	

Note: Moisture-proofed CDV-40B M72 and CDV-40B-F M72 for EDX-200A-4T

Optional accessories

Voltage conversion adapter (FV-1A), eight-channel input cable (U-38 to 48)
Note: For converters with remote sensing, the N-81 to N-85 are used together.

Strain/voltage measurement insulation card

CDV-44AS

This card performs well against common mode noise even on sites with powered devices.

Measuring target	Strain gage (4-gage method) strain gage transducer, voltage
Number of input channels	4
Input resistance	About 10 MΩ + 10 MΩ (strain mode) About 1 MΩ (voltage mode)
Mode of input	Balance differential input (strain mode) Non-balance input (voltage mode)
IMRR	120 dB (at 500 μm/m range)
Gage factor	2.00 (fixed) (strain mode)
Frequency response range	DC connected: DC to 5 kHz, deviation between +1 dB and -3 dB DC cut (AC connected): 0.2 Hz (see "Highpass filter")
Bridge excitation	DC 2 V±2% (strain mode)
Range accuracy	±0.3% FS
Applicable bridge resistance	120 to 1,000 Ω (strain mode)
Measuring range	500, 1k, 2k, 5k, 10k, 20k×10^{-6} strains, and OFF (strain mode) 1, 2, 5, 10V, 20V, 50V, and OFF (voltage mode)
Balance adjustment range	±2.4% (±12,000 μm/m) (when measuring strain) ±5 V (when measuring voltage)
ZERO accuracy	±0.3% FS (voltage OFF mode)
Nonlinearity	±0.1% FS
Calibration value (CAL)	Output of ±100%, ±50% of each range Accuracy: ±0.3% FS
Monitor output	Accuracy: ±5 V ±0.5% (±5 V for the full scale of each range)
Low-pass filter	Transmission characteristics : 2nd-order Butterworth type Cutoff frequencies: 10, 30, 100, 300, 1k, F (flat) Cutoff accuracy: -3 ±1 dB Attenuation : Within -12 ±1 dB/oct.
Highpass filter	Cutoff frequency: 0.2 Hz Attenuation : -6dB/oct. ±1dB/oct.
ADC resolution	16 bits
TEDS	TEDS compatible (Load TEDS information)
Insulation	Between input and case (output) Between channels: Withstand voltage of DC 500 V for 1 minute

Standard accessories: Voltage conversion adapter for insulation amplifier (FV-2A set of four)

Optional accessories: Cable for monitor output (U-64)

Note: For converters with remote sensing, the N-81 to N-85 are used together.

Constant direct current amplifier card

CDA−44AS,45AS

This card enables cable extension smoothly.

Measuring target	Strain gage (4-gage method) strain gage transducer, voltage
Number of input channels	4
Input resistance	Approx. 10 MΩ + 10 MΩ (strain mode) Approx. 1 MΩ (voltage mode)
Mode of input	Balance differential input (strain mode) Non-balance input (voltage mode)
IMRR	120 dB (at 500 μm/m range)
Frequency response range	DC coupling : DC to 200 Hz, Deviation : +1 dB and -3 dB DC cut (AC coupling) : 0.2 Hz (see "Highpass filter")
Gage factor	2.00 (fixed) (strain mode)
Bridge excitation	CDA-44AS: Approx.DC 16.7 mA (constant current) when connected to a gage resistance of 120 Ω * When resistance for sensitivity and temperature properties is inserted into the BV line of the Transducer, sensitivity/temperature property compensation is not performed. CDA-45AS: Approx. DC 5.7 mA (constant current) when connected to a gage resistance of 350 Ω * When resistance for sensitivity and temperature properties is inserted into the BV line of the Transducer, sensitivity/temperature property compensation is not performed.
Cable length Applicable bridge resistance	CDA-44AS: For applicable bridge resistance of 120 Ω, the cable length must be within 500m (at the cross section of 0.5 mm²) CDA-45AS: For applicable bridge resistance of 350 Ω, the cable length must be within 1,000m (at the cross section of 0.5 mm²)
Range accuracy	±0.3% FS
Balance adjustment range	500, 1k, 2k, 5k, 10k, 20k μm/m, and OFF (strain mode) 1, 2, 5, 10V, 20V, 50V, and OFF (voltage mode)
Measuring range	±2.4% (±12,000 μm/m) (when measuring strain) ±5 V (when measuring voltage)
ZERO accuracy	±0.3% FS (voltage OFF mode)
Nonlinearity	±0.1% FS
Calibration value (CAL)	Output of ±100%, ±50% of each range Accuracy: ±0.3% FS
Monitor output	Accuracy: ±5 V ±0.5%
Low-pass filter	Transmission characteristics : 2nd-order Butterworth type Cutoff frequency: 1, 3, 10, 30, 100, F (flat) Cutoff accuracy: -3 ±1 dB Attenuation : -12 ±1 dB/oct.
Highpass filter	Cutoff frequency : 0.2 Hz Attenuation : -6 dB/oct. ±1 dB/oct.
ADC resolution	16 bits
TEDS	TEDS compatible (Load TEDS information)
Insulation	Between input and case (output) Between channels: Withstand voltage of DC 500 V for 1 minute

Standard accessories: Voltage conversion adapter for insulation amplifier (FV-2A set of four)

Optional accessories: Cable for monitor output (U-64)

Note: For converters with remote sensing, the N-81 to N-85 are used together.

Dynamic strain measurement card

DPM-42B, DPM-42B-F(*1) DPM-42B-I(*2), DPM-42B-I-F(*1,*2)

These cards are for strain gage and strain gage transducers, utilizing carrier waves for bridge excitaton, and are suitable for low-level strain measurement. These cards provide insulation between the input and output, as well as between channels.

*1 : with an anti-aliasing filter *2 : withstand the inverter noise

Measuring target	Strain gage, strain gage transducer
Number of input channels	4
Frequency response range	DC up to 5 kHz (deviation: ±10%)
Carrier wave frequency	12 kHz
Adaptive bridge resistance	120 to 1,000 Ω
Gage factor	2.00 (fixed)
Bridge excitation	2 Vrms, 0.5 Vrms switching, 12 kHz sine wave
Balance adjustment range	Resistance: ±2.4% (±12,000 μm/m) Capacity: 2,000 pF
Method of balance adjustment	Resistance: Electronic auto balance (stored in nonvolatile memory) Capacity: CST method (automatic tracking)
Measuring range	Bridge excitaton of 2 Vrms : 200, 500, 1,000, 2,000, 5,000, 10,000, 20,000 μm/m, and OFF (8 steps) Bridge excitaton of 0.5 Vrms : 1,000, 2,000, 5,000, 10,000, 20,000, 50,000 μm/m, and OFF (7 steps)

Calibration value (CAL)	Outputs ±100%, ±50% of each range
Nonlinearity	±0.2% FS
Low-pass filter	Transmission characteristics : 2nd-order Butterworth type Cutoff frequency : 10, 30, 100, 300, 1 kHz and FLAT (6 steps) Cutoff accuracy: -3dB ±1dB Attenuation : -12 ±1dB/oct.
Anti-aliasing filter (DPM-42B-F and DPM-42B-I-F)	8th-order Butterworth type Cutoff frequency: Automatically set to the sampling frequency×0.25 Breaking property: -48dB ±5dB (at the sampling frequency×0.5) Note: With a low-pass filter on the DCS-100A set to "AUTO"
ADC resolution	16 bits
Check function	Input check function: Inputs checked by inserting a resistor in one side of the bridge
TEDS	TEDS compatible (Load TEDS information)
Monitor output	Accuracy: ±5 V ±0.5% (when ±FS), Nonlinearity: Within 0.5% FS
Withstand voltage	Between input-output: AC 250 V for 1 minute

Optional accessories: Cable for monitor output (U-64)

Note: For converters with remote sensing, the N-81 to N-85 are used together.

Thermocouple card

CTA-40A

This card is capable of measuring temperatures using two types of thermocouples, K (CA) and T (CC). This card provides insulation between inputs and outputs, as well as between channels.

Measuring target	Thermocouple
Number of input channels	8
Applicable thermocouples	K (CA), T (CC)
Thermocouple resistance value	200 Ω or less (when burnout is ON) 1,000 Ω or less (when burnout is OFF)
Measuring range	Six levels: K1230, K480, K240, T400, T210, and OFF
Total accuracy	Ambient temperature : 20 ±3°C ± (0.5% rdg + 1)°C At an ambient temperature of 0 to 40°C ± (0.5% rdg + 2)°C
Calibration value (CAL)	Output of ±100%, ±50% of each range and 0°C in absolute value
Frequency response range	DC up to 10 Hz
ADC resolution	16 bits
Burnout	Internal : ON/OFF is enabled during a burnout ["Burnout" displayed]. Note : When thermocouple resistance is high, high-accuracy measurement is enabled by setting the burnout function to OFF.
Monitor output	Accuracy: 5 V ±0.5% (at +FS), nonlinearity: ±0.5% FS
Insulation	Between input-output, and between channels: DC 500 V 50 MΩ or more

Measuring range	Measuring ranges
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

Standard accessories: One 8-channel input cable (U-104), temperature-measuring adapter (8 CT-2A units)

Optional accessories: Integrated output cable (U-62)

F/V converter card

CFV-40A

This card measures inputted pulse frequencies, having a power supply to the sensor. The card provides insulation between input and output.

Measuring target	AC signal output sensor
Number of input channels	4
Input signal	AC (zero cross), TTL level (including an open collector signal)
Input voltage range	±(0.5 V to 50 V) : Large hysteresis ±(0.1 V to 50 V) : Small hysteresis
Measuring range	50, 100, 500, 1k, 2k, 5k, 10k, 20kHz, and OFF Accuracy : ±0.1% FS (9 steps)
Calibration value (CAL)	Output of 100%, 50% (addition) and 0% (absolute-value) of each range
Response time	10 µsec or less (in case of successive input pulses) Two cycles of input frequencies + 50 µsec or less (in case of input pulses cut off)
ADC resolution	16 bits
Power supply for sensor	DC 12 V : ±10% (50 mA or less for each channel)
Monitor output	Accuracy : 5 V ±0.5% (at +FS), nonlinearity: ±0.1% FS
Insulation	Between input-output and between channels: DC 500 V 50 MΩ or more
Others	Up to two of these cards can be inserted into the EDX-200A-4H.

Standard accessories: Voltage conversion adapter (FV-1A set of four)

Optional accessories: Input cable (U-12), cable for monitor output (U-64)

Charge amplifier card

CCA-40A,CCA-40A-F
(with an anti-aliasing filter)

Conditioner for piezoelectric accelerometers

Measuring target	piezoelectric accelerometer
Applicable accelerometer	Built-in amplifier (voltage output-type)
Number of input channels	8
Power supply to sensors	Constant current power (constant current: 4 mA, applied voltage: about DC 24 V, load 1 kΩ or less)
Frequency response range	1 to 20 kHz (deviation: +1 dB, -3 dB)
Measuring range	20, 50, 100, 200, 500, 1,000, 2,000, 5,000 mV, and OFF (9 steps) Accuracy: ±1% FS
Calibration value	DC CAL ±100%, ±50% of each range Accuracy: ±0.2% FS AC CAL 100%, 50% of each range Accuracy: ±1% FS Frequency accuracy: 100 Hz ±5%
Low-pass filter	Transmission characteristics : 2nd-order Butterworth type Cutoff frequency : Five levels: 300, 1 k, 3 k, 10 k, and FLAT Cutoff accuracy : -3 dB ±1 dB Attenuation : -12 dB/oct. ±1 dB/oct.
Anti-aliasing filter (CCA-40A-F only)	8th-order Butterworth type Cutoff frequency : Automatically set to the sampling frequency × 0.25 Breaking property : -48 dB ±5 dB (at the sampling frequency × 0.5) Note: When the low-pass filter on the DCS-100A is set to "AUTO"
Distortion factor	1% or less
ADC resolution	16 bits
Monitor output	Accuracy: 5 V ±1% (at ±FS)
TEDS	TEDS compatible (Load TEDS information)

Standard accessories: Input cable (U-111)

Optional accessories: Integrated output cable (U-62), BNCP-C25J-A conversion adapter (BNC-miniature)

Multichannel CAN Card

ECAN-40A

With this card installed in the optional slot, CAN input of up to 512 channels can be added without sacrificing the number of analog input channels

Applicable instrument	EDX-200A-4H and EDX-200A-2H Note : Moisture-proofed ECAN-40A M72 for EDX-200A-4T (Installable in optional slot)
Number of CAN ports	2
Number of input channels	Up to 512 channels (total for 2 ports)
Compatible CAN version	Compatible with Bosch2.0B active (ISO-11898 & ISO-115 19-2 complaint)
Baud rates	High speed CAN 1000/800/500/250/125/100/83.3/62.5/50/33.3/25/10 [kbps] Low speed CAN 125/100/83.3/62.5/50/33.3/25/10 [kbps]
CAN data output	Output at start: Output any given CAN data when measurement starts Output at stop: Output any given CAN data when measurement stops Manual output: Output any given CAN data at an arbitrary timing. Interval output: Output any given CAN data in a predetermined fixed cycle.
Digital I/O I/O points	Up to 8 points
I/O setting	Switch among digital input, digital output and remote-controlled input for each bit (Common applied to all). * Remote-controlled input: Measurement can be started/stopped, BAL can be executed, etc.
Input type	Insulation type, TTL level input
Input voltage	5 VDC max.
Insulation method	Digital isolator
Output type	Insulation type, open collector type output (with 10 kΩ internal pull-up resistors)
Output voltage	5 VDC
Output current	25 mA max. (per point)
Insulation method	Digital isolator
Connector type	CAN port Dsub connector (male) 9-pin Digital I/O port MDR connector (female) 14-pin
Operating temperature range	0 to 50 ℃
Operating humidity range	20 to 90%RH (non-condensing)
Storage temperature range	-20 to 60℃
Dimensions	22.0 mm (W) × 128.0 mm (H) × 221.5 mm (D)
Weight	Approx. 170 g

Standard accessories: Software DCS-105A
The connector plug for digital-input/output ports / shell case. 1 piece each

CAN card

CAN-40A,CAN-41A

These cards are used to measure data frames on the CAN (Controller Area Network). The CAN-40A records up to 16 types of data frames, while the CAN-41A (dual input) records data frames from two different communication lines (32 types in total), simultaneously, with regular analog data.

Number of CAN ports	CAN-40A : 1 CAN-41A : 2 (two nodes)
Connector type	Dsub 9-pin (male)
Compatible CAN versions	Bosch2.0B active (based on ISO-11898 specifications) Switching between high and low speed CAN
Number of measurement IDs	CAN-40A : Up to 16 CAN-41A : Up to 32
Operating clock for CAN controller	40 MHz, 32 MHz
Communication rate (kbps)	At high-speed CAN : 1,000/800/500/250/125/ 100/83.3/62.5/50/33.3/25/20/10 At low-speed CAN : 125/100/83.3/62.5/50/33.3/25/20/10
Communication conditions	Selection of sampling points, sampling frequencies, and resynchronization jump widths
Measurement channel conditions	Start bit, bit length, data type, calibration factor (conditions for cutting out CAN data and converting them into physical quantity)
Graph display	Value display, frame display, and simultaneous graph display with analog data
Others	Only one card can be inserted on the final slot of the EDX-200A.

AD Converter Cards

AD-40AS, AD-40AS-F

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

No. of Input Channel	8
Input Range	±5V, ±10V and OFF
Input Method	Unbalanced (not balanced differential)
Input Resistance	Approx. 1MΩ
Sampling Method	All channels in sync
AD Converter	Method: Successive approximation Resolution: 16 bits (± 32000 counts/FS) Accuracy: Within ±0.2%FS
Nonlinearity	Within ±0.1%FS
Input Frequency	Range: DC to 50kHz Deviation: 1dB to -3dB
Low Pass Filter (LPF)	Transfer characteristics : 2nd order Butterworth Cutoff frequency : 10, 30, 100, 300, 1k, 3k, 10kHz and F (8 steps) Attenuation : Within (-12±1dB)/oct.
Antialiasing Filter (AD-40AS-F only)	Transfer characteristics : 8th order Butterworth Cutoff frequency : A quarter of sampling frequency (auto setting) Attenuation : Within (-48±5dB)/oct. *(Set LPF to [AUTO])
Power Supply to Sensors	Voltage: ±2.5V each channel Accuracy: Within ±1%
TEDS	TEDS compatible (Load TEDS information)

Optional accessories: Voltage input box: VI-8A with a cable N-121 (1.5m)
8-channel input cable: U-127 (1.5m)

Clock Synchronization Card

ETIM-40A

Insertable into Optional Slot of EDX-200A-2H/4H/4T

Applicable instruments	EDX-200A-4H, EDX-200A-2H and EDX-200A-4T Note: Moisture-proofed ETIM-40A M72 for EDX-200A-4T
Synchronization method	Clock data from GPS satellite starts universal recorders in EDX-200A series at the preset time for synchronized interval measurement
Digital I/O Number of I/O	Max. 8
I/O setting	Switch on bit-by-bit base to digital I/O or remote control input (Common ground) Note: Remote control input enables start/stop of measurement, balance adjustment, etc.
Input mode	Isolated TTL level

Input voltage	Max. 5VDC
Input isolation method	Digital isolator
Output mode	Isolated open collector (With 10 kΩ internal pull up resistors)
Output voltage	5VDC
Output current	Max. 25 mA/point
Output isolation method	Digital isolator
Connectors GPS sensor port	9-pin D-sub connector (male)
Digital I/O port	14-pin MDR connector (female)
Operating temperature range	0 to 50 °C (Noncondensing) ETIM-40A M72: -20 to 65 °C
Operating humidity range	20 to 90 %RH
Storage temperature range	-20 to 60 °C ETIM-40A M72 : -30 to 70 °C
Dimensions	22.0 mm (W) ×128.0 mm (H) × 221.5 mm (D)
Weight	Approx. 160 g
Standard accessory	GPS sensor（cable length: 5m） Connector plug/shell case for digital I/o port

Make a selection according to your system configuration.

Optional accessories

Voltage input box

VI-8A

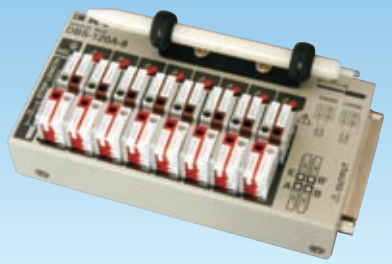
Model	Accessories		
	N-121	N-105	DBS-MOUNT
VI-8A	●		
VI-8A-T	●		●
VI-8A-C		●	
VI-8A-CT		●	●

N-121: Connection cable with a connector dedicated to the CVM-40A (cable length 1.5 m)
N-105: Connection cable with a connector dedicated to the CDV-40B/A (cable length 1.5 m)
DBS-MOUNT: Mounting plate

Measuring target	Voltage,piezoelectric accelerometer, charge-type accelerometer (when using a charge converter)
Number of input channels	8
Type of connector	BNC
SELECT LED	For checking the voltage input box connections
External dimensions	115 (W) × 22 (H) × 61.4 (D) mm (excluding protrusions)
Weight,approx.	Main body : 230 g With DBS-MOUNT installed : 290 g

1 gage compact bridge box

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



Model	Applicable gage resistance	Accessory		
		N-104	N-105	DBS-MOUNT
DBS-120A-8	120Ω	●		
DBS-120A-8T		●		●
DBS-120A-8C			●	
DBS-120A-8CT			●	●
DBS-350A-8	350Ω	●		
DBS-350A-8T		●		●
DBS-350A-8C			●	
DBS-350A-8CT			●	●

N-104: Connection cable having eight NDIS end connectors (cable length 1.5 m)
N-105: Connection cable having a connector dedicated to the CDV-40B/A (cable length 1.5 m)
DBS-MOUNT: Mounting plate

Measuring target	Strain gage
Number of input channels	8
Bridge configuration	1-gage/2-wire, 1-gage/3-wire The 1-gage/2-wire and 1-gage/3-wire systems can be switched using a switch.
Gage connection terminal	One-touch lock-type terminal block
SELECT LED	For checking bridge box connections
External dimensions	115 (W) × 22 (H) × 61.4 (D) mm (excluding protrusions)
Weight	Main body: Approx. 250g Approx. 300g with DBS-MOUNT
Wire range	Solid wire : φ0.4 mm to φ1.2 mm (UL AWG 16 to 26) Stranded wire: 0.2 mm² to 0.75 mm² (UL AWG 20 to 24)

One-touch lock type bridge box

DB-120V/350V

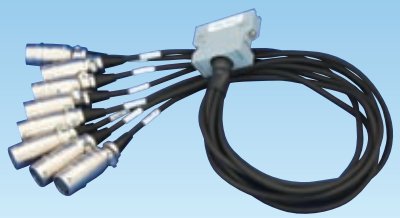
Model	Applicable gage resistance	Accessory	
		N-104	N-105
DB-120V-8	120Ω	●	
DB-120V-8C			●
DB-350V-8	350Ω	●	
DB-350V-8C			●

N-104: Connection cable having eight NDIS end connectors (cable length 1.5 m)
N-105: Connection cable having a connector dedicated to the CDV-40B/A (cable length 1.5 m)

Measuring target	Strain gage	
Number of input channels	8	
Bridge configuration	DB-120V-8 (C) 120 Ω 1-gage/2-wire 120 Ω 1-gage/3-wire 120 Ω 2-gage 120 Ω 2-opposite side 120 Ω 4-gage system	DB-350V-8 (C) 350 Ω 1-gage/2-wire 350 Ω 1-gage/3-wire 350 Ω 2-gage 350 Ω 2-opposite side 350 Ω 4-gage system
Gage connection terminal	One-touch lock-type terminal block	
Acceptable humidity range	0 to 40°C, 20 to 80% (No dew formation)	
Vibration resistance	29.4 m/s² (3G), 5 to 200 Hz	
External dimensions	286 (W) × 22 (H) × 61.4 (D) mm (excluding protrusions)	
Weight,approx.	Main body: 480 g	

CVM input cable (integrated connector, NDIS female connector eight channels)

U-121(0.5m)
U-122(1.0m)
U-123(1.5m)

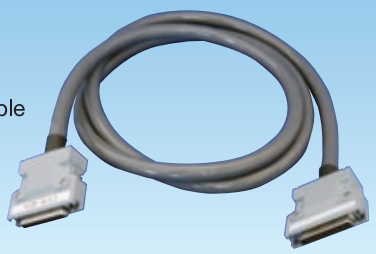


By connecting a strain gage transducer and by installing the FV-1A, you can connect voltage inputs or a piezoelectric acceleration sensor.

CVM input cable (both-end integrated connector)

N-121(1.5m)

Input integrated cable for CVM (eight channels in a batch)



The CVM can be connected to a voltage input box or a bridge box (DBS, DB-V).

DPM input cable (integrated connector, NDIS male connector)

N-104(1.5m)

A dynamic strain measurement card (DPM) can be connected to a bridge box (DBS, DB-V).

CDV input cable (both-end integrated connector)

N-105(1.5m)

A strain-voltage measurement card (CDV) can be connected to a voltage input box or a bridge box (DBS, DB-V).

Voltage/piezoelectric input connector (1 channel)

FV-1A

The installation of the "FV-1A Voltage/piezoelectric input (BNC connector)" provides for a connection with voltage input or a piezoelectric acceleration sensor.

Monitor output cable (integrated connector, BNC connector)

U-62

The eight BNC connectors produce monitor outputs from the CVM. (Also, a CTA card or a CCA card can be used.)

Synchronous cable

N-95(2m)

Used for synchronous measurement with the EDX-100A/3000A or for synchronous measurement using the USB I/F.

AC adapter for the EDX-200A

UEA-360-1540

Recommended when using the EDX-200A-4H

Recommended when using the UIA 345-12 EDX-200A-2H
For AC 100 to 240 V

RCU-42A remote control unit

RCU-42A

Shared with the EDX-3000A

This unit enables you to remotely execute the same functions as on the front panel of the main body. Equipped with a buzzer, the unit permits you to check for alarms at hand even where they are not audible from the main body.

Control functions	REC/PAUSE (Starts/pauses recording) STOP (Stops recording) BAL. (Performs balancing) OPT. (Allocates arbitrary functions) VOICE MEMO (Records voices using the internal microphone)
Display	LED display of "Recording / Standby Recording / Performing Balance"
Cable length	1.5 m

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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.

ISO 9001
ISO 14001
JQA-0821
JQA-EM4824

Move into the future with reliable measurements

KYOWA

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