

Compact Recording System  
**EDX-10A series**

CE



# Easy & Compact

# “Easy & Compact”

Our new compact recorder ensures easy connection to a PC,  
the easy addition of channels, and easy operation!

Don't you want to be able to take measurements with ease?

The EDX series can provide you with the solution.

When connected to your PC, the compact and lightweight EDX-10A series enables  
the measurement of 4 channels (1 control unit and 1 measuring unit)

to 16 channels (1 control unit and 4 measuring units).

Configured in a stacked structure, the EDX-10A series facilitates connection between units.

All necessary measuring functions are packed into the smallest-possible system.

Compact Recording System

**EDX-10A series**

# Actual size



**84mm**



**Stacked  
configuration**

Control unit  
**EDX-10A**

Strain measuring unit  
**EDX-11A**

**One measuring unit can measure 4 channels  
(up to 4 units for 16 channels).**

# High-speed simultaneous all-channel sampling (with 4 channels) at 20 kHz

## 1 Compact and Lightweight

Having the high-level necessary functions of a high-speed high-precision measurement, this product is extremely compact and lightweight, and can be carried comfortably in a 320-gram (84 [W] x 48 [H] x 84 [D], a 4-channel configuration), can carry in a bag.

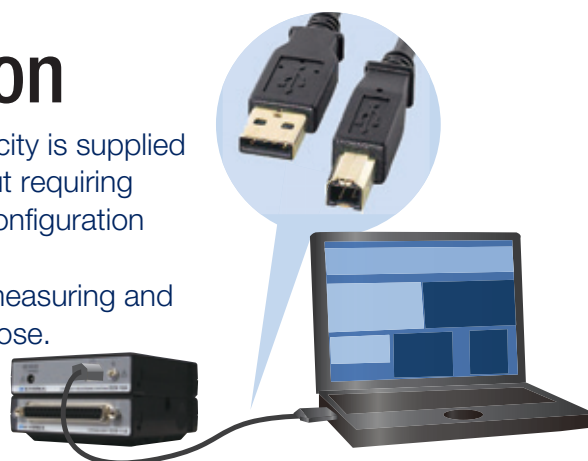


## 2 Simple Configuration

In measurement with 1 measuring unit, electricity is supplied from the PC through the USB interface without requiring another power supply.\* The simple stacked configuration does not need even a synchronous cable.

You can save cost by selecting the smallest measuring and calibration instrument that matches your purpose.

\* To connect 2 to 4 measuring units, an optional AC adaptor is required.



## 3 Easy-to-use Software

Establishing a good reputation for ease of use, DCS-100A software is included with the product as a standard accessory. This software ensures smooth operation in displaying various graphs, numerical values on the monitor, in laying out graphic and numerical windows freely on the screen.

Dynamic data acquisition software  
DCS-100A

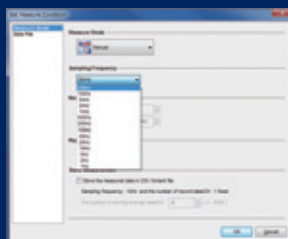
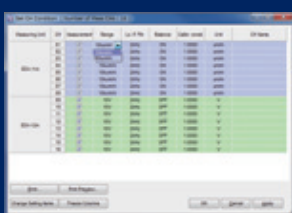


### ● Simple 3-step settings

**Step1** Set channel conditions.

**Step2** Set the measuring conditions.

**Step3** Take a measurement.





## Compact Recording System

# EDX-10A series Lineup

The products in the EDX-10A series consist of measuring instruments capable of carrying out measurement simply by connecting a PC through a USB interface.

Two types of measuring units are available: the EDX-11A, which is capable of measuring load, pressure, displacement, and other parameters by using a strain gage transducer; and the EDX-12A, which is capable of measuring voltages.

When a single measuring unit is used, power is supplied over a USB interface, and thus no other power supply is required. The stacked unit configuration eliminates the need to use synchronous cables between units.

A single measuring unit can measure 4 channels and, when connected to added units, can accommodate a maximum of 16 channels—most suitable for small-scale measurements.

- In measurement with a single measuring unit, power can be taken from a PC's USB interface.
- A single measuring unit can measure 4 channels, and 4 units connected are capable of measuring 16 channels by using an AC adaptor (optional).
- The stacked unit configuration eliminates the need to use synchronous cables.
- A single measuring unit can perform simultaneous sampling from 4 channels at a maximum of 20 kHz.
- Compact and lightweight
- Simple connection via a USB cable
- DCS-100A dynamic data acquisition software, provided as a standard accessory, simplifies the data monitoring and acquisition process.
- The acquired data can be analyzed using the optional data analysis software DAS-200A in Kyowa standard format KS2.
- An input cable or an input adaptor enables smooth sensor connection.



## Control Unit

## EDX-10A

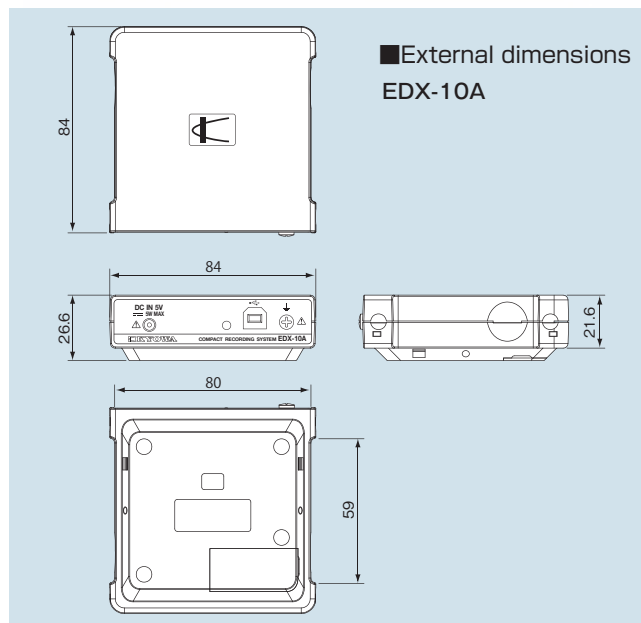
The control unit is designed to control the measuring unit and the PC via a USB cable.

- In measurement with a single measuring unit, power can be supplied from the PC via a USB interface.
- A set of 4 measuring units enables the measurement of 16 channels (by using an optional AC adaptor).



### Specifications

Interface	USB2.0 Connector shape: USB standard B receptacle
Number of units mounted	Maximum of 4 (16 channels)
Sampling frequency	1Hz to 20kHz : 1 to 4 channel 1Hz to 10kHz : 1 to 8 channel 1Hz to 5kHz : 1 to 16 channel 1/2/5 system Simultaneous sampling of all channels
Operating temperature range	0 to 40°C
Power supply	DC 5 V Supplied from a PC via a USB interface when a single measuring unit is used; for the combined use of 2 or more units, power is supplied via an AC adaptor.
Consumption current	140 mA or less (at a power supply DC of 5 V)
Weight	Approx. 170 g
External dimensions	84.0 (W) x 26.6 (H) x 84.0 (D) mm (excluding protrusions)
EMC standard	EN61326-1



## Strain Measuring Unit

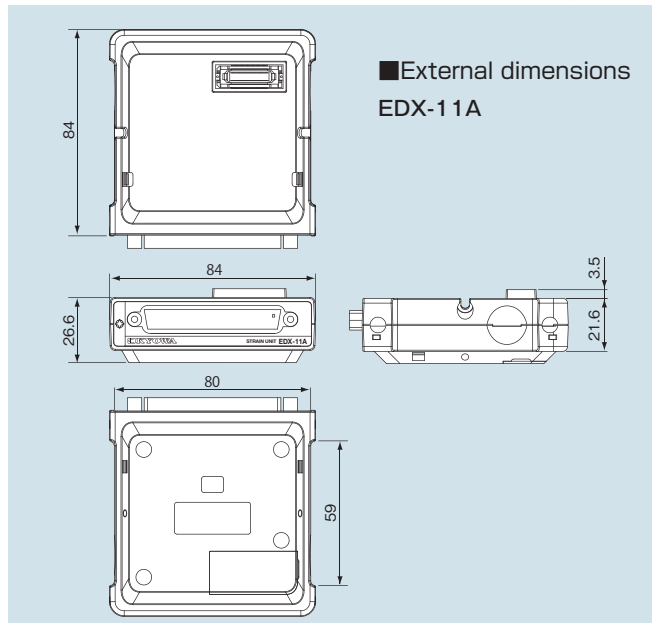
# EDX-11A

The strain measuring unit is designed to measure strains using a DC bridge excitation supply.

- A single unit can measure 4 channels.
- This unit is connected to the control unit to perform measurement.

### Specifications

Object to be measured	Strain gage transducer Strain gage (bridge box used)
Number of input channels	4
Measurement range	10,000, 50,000 $\mu\text{m}/\text{m}$ (2 ranges)
Applicable bridge resistance	120 $\Omega$ to 1 k $\Omega$
Bridge excitation	DC 2 V
Gage factor	Fixed at 2.00
Range accuracy	$\pm 0.3\%$ FS for each range
Nonlinearity	$\pm 0.1\%$ FS
AD resolution	24 bit
Frequency response range	DC to 2kHz
Low-pass filter	Cutoff frequency: Lo (100 Hz), hi (2 kHz) 2nd-order Butterworth properties
Operating temperature range	0 to 40°C
Input connector	D-sub 37-pin connector
Power supply	DC 5 V supplied from a control unit
Consumption current	180 mA or less (120- $\Omega$ load, connected to all channels at a power supply DC 5 V)
Weight	Approx. 150 g
External dimensions	84.0 (W) x 26.6 (H) x 84.0 (D) mm (excluding protrusions)
EMC standard	EN61326-1



## Voltage Measuring Unit

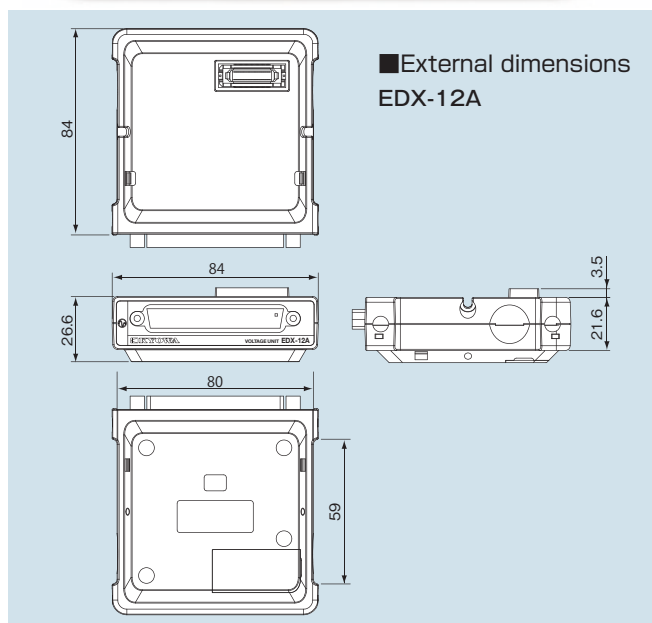
# EDX-12A

The voltage measuring unit is designed to measure voltage.

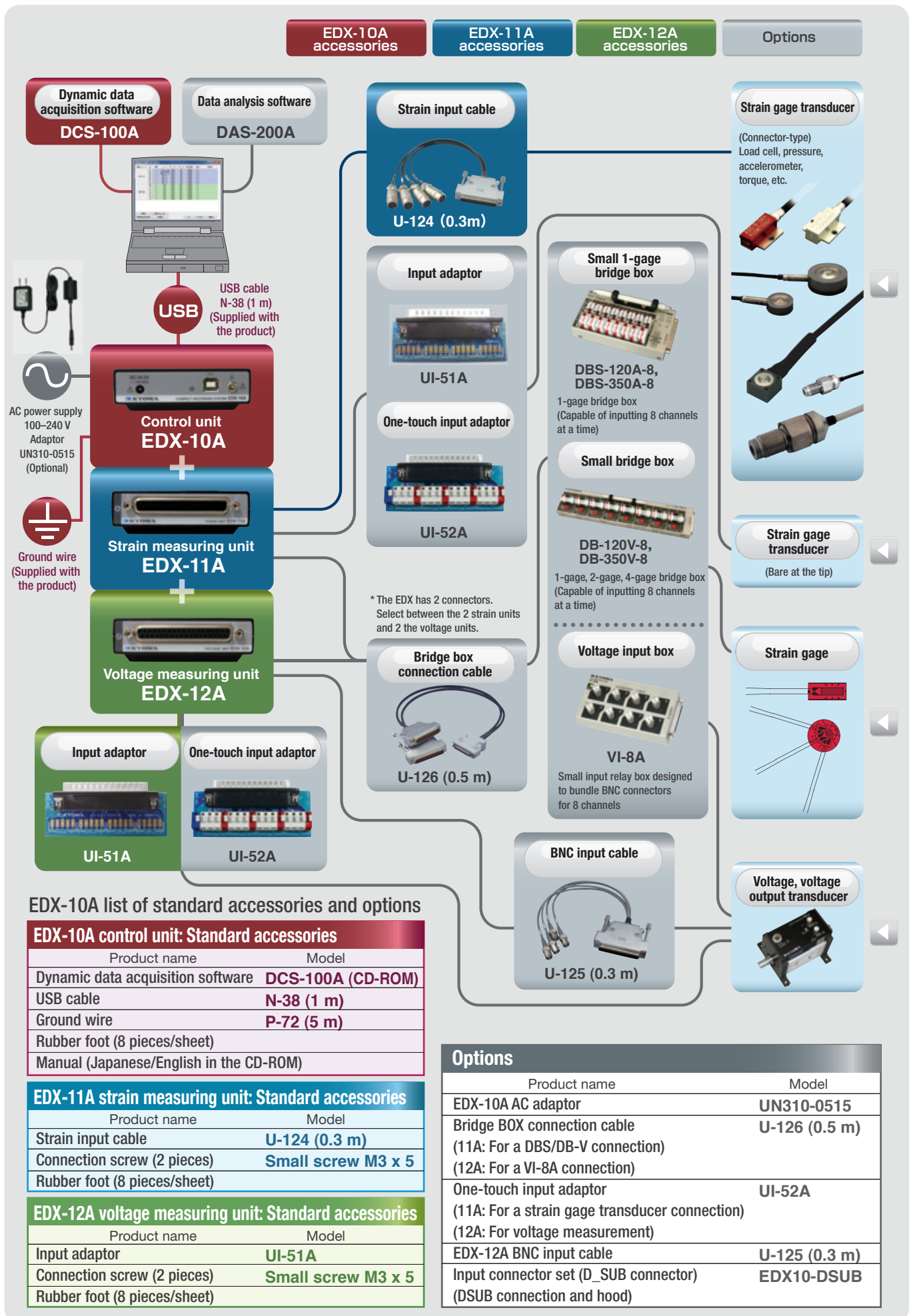
- A single unit can measure 4 channels.
- This unit is connected to the control unit to perform measurement.

### Specifications

Object to be measured	Voltage
Number of input channels	4 (single-ended)
Measurement range	10 V, 50 V (2 ranges)
Range accuracy	$\pm 0.3\%$ FS for each range
Nonlinearity	$\pm 0.1\%$ FS
AD resolution	24 bit
Response frequency range	DC to 2kHz
Low-pass filter	Cutoff frequency: Lo (100 Hz), Hi (2 kHz) 2nd-order Butterworth properties
Operating temperature range	0 to 40°C
Input connector	D-sub 37-pin connector
Power supply	DC 5 V supplied from control unit
Consumption current	110 mA or less (at a power supply DC 5 V)
Weight	Approx. 150 g
External dimensions	84.0 (W) x 26.6 (H) x 84.0 (D) mm (excluding protrusions)
EMC standard	EN61326-1



# EDX-10A Simple Configuration Image



## EDX-10A list of standard accessories and options

EDX-10A control unit: Standard accessories	
Product name	Model
Dynamic data acquisition software	<b>DCS-100A (CD-ROM)</b>
USB cable	<b>N-38 (1 m)</b>
Ground wire	<b>P-72 (5 m)</b>
Rubber foot (8 pieces/sheet)	
Manual (Japanese/English in the CD-ROM)	

EDX-11A strain measuring unit: Standard accessories	
Product name	Model
Strain input cable	<b>U-124 (0.3 m)</b>
Connection screw (2 pieces)	<b>Small screw M3 x 5</b>
Rubber foot (8 pieces/sheet)	

EDX-12A voltage measuring unit: Standard accessories	
Product name	Model
Input adaptor	<b>UI-51A</b>
Connection screw (2 pieces)	<b>Small screw M3 x 5</b>
Rubber foot (8 pieces/sheet)	

Options	
Product name	Model
EDX-10A AC adaptor	<b>UN310-0515</b>
Bridge BOX connection cable (11A: For a DBS/DB-V connection) (12A: For a VI-8A connection)	<b>U-126 (0.5 m)</b>
One-touch input adaptor (11A: For a strain gage transducer connection) (12A: For voltage measurement)	<b>UI-52A</b>
EDX-12A BNC input cable	<b>U-125 (0.3 m)</b>
Input connector set (D_SUB connector) (DSUB connection and hood)	<b>EDX10-DSUB</b>

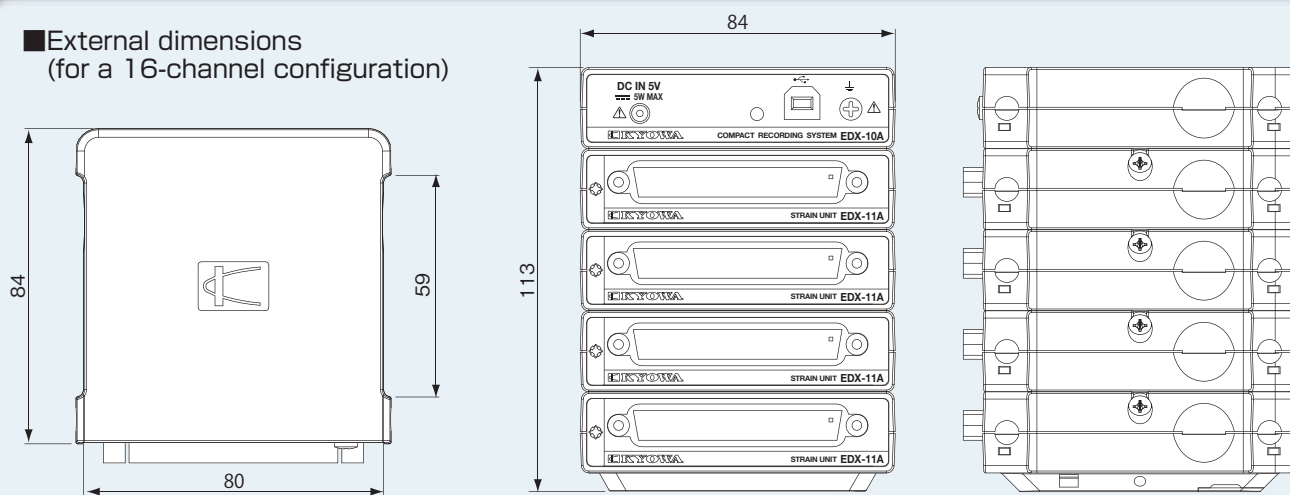
## DCS-100A Software Specifications (standard accessory)

- Displays measurements in numerical values and various graphs
- Controls Kyowa's measuring instruments
- Saves measurements directly on the PC hard disk
- Starts the data processing/analysis software (optional) from the toolbar

Number of measuring units	Maximum of 4 (maximum of 16 channels)
Interface	USB
Data acquisition	Measurement data is saved on the PC hard disk (in KS2 files).
Channel conditions	Measurement ON/OFF, mode, range, low-pass filter, calibration factor, offset, unit, channel name, measurement range, number of decimals, rated capacity, upper value check, lower value check (any display item selectable)
Sampling frequency	1 to 20 kHz (1/2/5 systems) * Limited by the channel measured
Measurement mode	"Manual," "Manual" (specifying the amount of acquired data), "Interval," "Analog trigger"
Manual measurement	Data is acquired between REC and STOP or until the amount of the acquired data specified is reached after REC.
Interval measurement	Data acquisition is automatically performed after settings are made for the start time and acquisition interval.
Analog trigger measurement	Data acquisition is started/ended under preset trigger conditions (at a fixed trigger level).
Termination trigger Delay amount	Settings possible For start/end, a maximum of 262,144 bits of data/1 channel The amount of delay differs depending on the number of channels measured.
Trigger channel Trigger level Trigger slope	Any 1 channel Setting by physical quantity Rising edge/falling edge
Static measurement	Each time data acquisition is started, measurement data processed using a moving-average model is added to and saved as a CSV file. * Workable in "manual" or "interval" mode
Repeated data acquisition	In long-term data acquisition, a specified amount of data is saved in KS2 file at specified intervals. * Workable in manual mode (with the amount of acquired data specified)
Environmental settings Hardware configuration settings	Settings for the number of units connected and the unit name Device name settings possible on the EDX-10A Hardware configuration readable from the EDX-10A
Automatic data file conversion	Automatic file conversion upon the termination of measurement (CSV, XLS, XLSX, and PPC III formats)
Random unit settings	The user can register three available units at random.
Monitor screen Chronological graph	Displays time on the X-axis, physical quantity on the Y-axis, up to 16 channels Displays up to 4 graphs on a screen
Chronological (DIV) graph	Displays time on the X-axis, physical quantity on the Y-axis, up to 16 channels Unlike the above chronological graph, the zero position of the channel displayed can be moved to any point on the Y-axis parting line.

X-Y graph	Any combination of 8 channels displayable in a graph on the X-Y axes
Bar graph	Up to 32 channels displayable on a single graph, up to 4 graphs on a single screen Peak Hold ON/OFF (numerical values displayable)
Bar meter	Any 1 channel displayable horizontally or vertically
Circle meter	Any 1 channel displayable in circle meter
Numerical display	One channel, 16 channels, all channels displayable at random (Maximum and minimum values displayable for any one channel only)
Display color	Changeable by graph
Title, label	Settings possible for title, X/Y axis label
Number of graphs simultaneously displayable	Numerical: 32; graph: 32 Up to 64 numerical values and graphs combined displayable (including graphs and numerical values displayed in data reproduction) * The maximum number may not be displayed depending on the CPU rate and memory capacity of the PC.
Data file Storable format	Storable in the Kyowa standard file format (hereinafter referred to as "KS2")
Destination	PC hard disk
Data reproduction Chronological graph	Displays time on the X-axis, physical quantity on the Y-axis, up to 16 channels Displays up to 4 graphs on a screen
Chronological (DIV) graph	Displays time on the X-axis, physical quantity on the Y-axis, up to 16 channels Unlike the above chronological graph, the zero position of the channel displayed can be moved to any point on the Y-axis parting line.
X-Y graph	Any combination of 8 channels displayable in a graph on the X-Y axes
Numerical display	Display on a list
Display color	Changeable by graph
Title, label	Settings possible for title, X-Y axis label
Cursor display	Cursor position displayed in engineering values
Number of graphs simultaneously displayable	Numerical: 32; graph: 32 Up to 64 numerical values and graphs combined displayable (including graphs and numerical values displayed in data reproduction) * The maximum number may not be displayed depending on the CPU rate and memory capacity of the PC.
Data file size displayable	Data files of up to 10 MB displayable at a time in the graph/numerical display When the file size exceeds 10 MB, 10-MB data within any range can be displayed by setting the display range.
File conversion	File retrieval from any range or any channels, CSV file conversion, Excel format conversion, RPC III format conversion
Operating environment OS	Windows XP, Windows Vista, Windows 7 Japanese/English, 32/64 bit (Only 32-bit on Windows XP) *WOW64 on a 64-bit OS (Windows 32-bit On Windows 64-bit)
CPU	Pentium 4, 2 GHz or above (Pentium III 1 GHz or above on Windows XP)
Memory	2 GB or more (1 GB or more on Windows XP)
Display	Resolution: 1024 x 768 pixels or more
HDD	20 MB + measurement data storage upon installation

### External dimensions (for a 16-channel configuration)



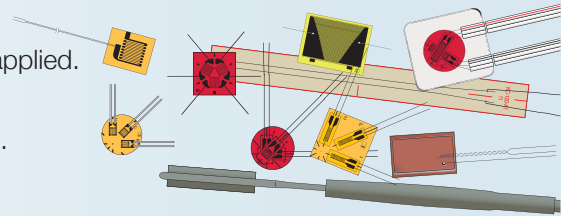


# A comprehensive manufacturer of measuring instruments presents: A lineup of products ranging from strain sensors to data acquisition and analytic systems

## Strain Gage

It has been more than 60 years since Kyowa Electronic Instruments Co., Ltd. started manufacturing first in Japan. With our rich experiences and technologies, we have been providing strain gages to customers in various environments fields.

The strain gage detects a "strain" as an electric signal that consists of a minimal mechanical change generated in response to any force applied. Electric resistance changes as a material changes its shape. The strain gage uses a change in electric resistance to detect a strain.



## Measuring Instruments

A strain gage, attached to an object to be measured, detects resistance changes in the gage and then measuring instruments amplifies them.



## Software

Electrically amplified voltage changes are read by a measuring instrument. Measurements are recorded and analyzed by software for multiple uses.



## Sensor

The sensors measure not only strains but also load, pressure, acceleration, displacement, torque, and other parameters, as a sensing element.



Lineup of dynamic data loggers



PCD-300B



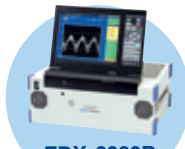
EDS-400A



EDX-100A



EDX-200A



EDX-2000B



EDX-3000A

We provide a wide range of data loggers.

Maximum number of input channels:  
**4 and 16**(4units)  
Sampling frequency:  
**Max10kHz**

Maximum number of input channels:  
**4 and 32**(8units)  
Sampling frequency:  
**Max100kHz/1 channel**  
20 kHz for all channels

Maximum number of input channels:  
**32 and 256**(8units)  
Sampling frequency:  
**Max100kHz/1 channel**  
5 kHz for all channels

Maximum number of input channels:  
**32 and 256**(8units)  
Sampling frequency:  
**Max100kHz/3 channel**  
10 kHz for all channels

Maximum number of input channels:  
**64 and 640**(10units)  
Sampling frequency:  
**Max200kHz/16 channel**  
50 kHz for all channels

Maximum number of input channels:  
**64 and 640**(10units)  
Sampling frequency:  
**Max200kHz/32 channel**  
100 kHz for all channels

[www.kyowa-ei.com](http://www.kyowa-ei.com)

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.



JQA-0821  
JQA-EM4824

Reliability through integration



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