EDX-10 Series
Compact Recording System
Taking the measurements you need should be easier

Kyowa meets your needs with the EDX series.

With the compact and lightweight EDX-10 series, you can measure up to 16 channels by connecting the device to your computer.

Freedom from annoying setups and cables

Each compact unit has dimensions of just 84 mm x 26.6 mm x 84 mm (W/H/D) and weighs around 130 to 170 g. It's small enough to carry around in your bag and handy for quick measurements when you are out and about.

Even when outdoors or separated from a fixed power source, the EDX-10 series lets you measure up to 4 units and 16 channels by supplying power from your computer's USB port.

You can customize your measurement system's configuration by simply stacking the units you need.

Freedom from power supplies and the fixed measurement location

Measure with Freedom

Freedom from bulky, heavy equipment
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Freedom from bulky, heavy equipment
You can customize your measurement system’s configuration by simply stacking the units you need.
Connect a strain gage to the recorder with just one touch
Connect the recorder to your computer with a USB cable
Start the control software and setup

Product configuration is simple, thus can reduce total time from setup to put away.

“Measurements can be much simpler” This is Kyowa’s proposal.
Our goal is to design products you will want to take everywhere.

Our customers told us measurements take time to prepare and they’re hard to perform. Kyowa often heard them. Then, we wanted to make it more user-friendly for students or anyone who has never taken a measurement, but has an interest in it, to do so. That’s why we developed the EDX-10 series. We designed it so you start measurements just by connecting a USB cable. We also made it small enough to store in a desk drawer or a business bag with the aim of providing a compact recorder you can take out whenever you want to use it. We hope you will use the EDX-10 series to experience the joy of measuring for yourself.
Field  Take measurements anywhere you have a computer.

Business trip  More portable gear.

Labo.  Start quickly and add units as needed.

When taking measurements outside, we may often have trouble finding a power source, or that source may be unstable. However, the EDX-10 series can be a help because it can get the power in a laptop.

Many measurements are taken on a trip to check for defects. The combination of a computer and the EDX-10 series is incredibly convenient because it allows them to fit in a single briefcase. Preparation, measurements and removal are all simple.

I might be nervous on my first measurement, but the software that comes standard with my device is very user-friendly. In the future, we would like to add up to 16 channels to take a great variety of measurements.
Field Business trip

Start quickly and add units as needed.

More portable gear.

Take measurements anywhere you have a computer.

I might be nervous on my first measurement, but the software that comes standard with my device is very user-friendly.

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When taking measurements outside, we may often have trouble finding a power source, or that source may be unstable. However, the EDX-10 series can be a help because it can get the power in a laptop.

Operating up to 16 channels with a USB bus power.*

* Max 8 channels when using the EDX-11A

Connect to the computer

Input cable U-124

Bridge adapter for quarter bridge system UI-54A*

* Optional accessory

Connect to strain gages

Connect to thermocouples

From 4 channels in single unit to 16 channels in 4 units

Fasten units with screws

Place units horizontally is possible
Strain Measuring Unit EDX-14A

Sample application | Mobile phone drop test

Strain measuring unit with DC bridge excitation.

System configuration

Standard accessories

Strain measuring unit EDX-14A

Low Power
Voltage Measuring Unit EDX-12A

Sample application | Solar panel performance test

Voltage measuring unit.

System configuration

Standard accessories

Voltage output transducer

Voltage input box

BNC connection cable

One-touch type input adapter UI-52A

BNC input cable

One-touch type input adapter UI-51A

One-touch type input adapter UI-52A

Control unit EDX-10B

Voltage measuring unit EDX-12A

USB cable N-38

USB cable N-38

Dynamic data acquisition software DCS-100A

Dynamic data acquisition software DCS-100A

Power supply 100 to 240 VAC

Optional adapter UN310-0515

Optional adapter UN310-0515

Ground wire (Provided) 5m

Ground wire (Provided) 5m

USB cable 1m

USB cable 1m

BNC input cable

BNC input cable

One-touch lock type bridge box DB-120V-4

One-touch lock type bridge box DB-120V-4

Bridge box connection cable VI-8A

Bridge box connection cable VI-8A

Bridge adapter for quarter bridge system UI-53A-120

Bridge adapter for quarter bridge system UI-53A-120

Bridge adapter for quarter bridge system UI-53A-350

Bridge adapter for quarter bridge system UI-53A-350

Bridge box DB-120A

Bridge box DB-120A

Bridge box DB-350A

Bridge box DB-350A

Dynamic data acquisition software DCS-200A

Data analysis software DAS-200A
Thermocouple Measuring Unit EDX-13A

Sample application | Refrigerator endurance test


System configuration

Standard accessories

Thermocouples

Thermocouple measuring unit EDX-13A

USB cable

Dynamic data acquisition software

DCS-100A

Data analysis software

DAS-200A

Power supply

100 to 240 VAC

Optional adapter

P-72

Ground wire (Provided) 5m

USB cable 1m

Control unit EDX-10B

Thermocouple measuring unit EDX-13A

No. 18

Sample application | Load test


Sample application | Refrigerator endurance test

Unit simultaneously measures strain and voltage. The EDX-10 series lets you build an efficient system.

**System configuration**

**Standard accessories**

*Please use conversion adapters FV-1A to connect voltage signals or voltage output type transducers.*
Series Lineup

Control Unit EDX-10B

- Specifications
  - Interface: USB2.0 compliant
  - Max Units: 4 (16 channels)
  - Sampling Frequency: 1 Hz to 20 kHz (1 to 4 channels)
  - Operating Temperature: 0 to 40°C
  - Current Consumption: 140 mA or less (5 VDC)
  - Weight: Approx. 170 g
  - Dimensions: 84.0(W)x26.6(D)x84.0(H)mm (Excluding protrusions)
  - Control Software: DCS-100A
  - EMC Directive: EN61326-1(Class A)
  - RoHS Directive: EN50581

- Optional accessories
  - USB cable N-38 (1 m), Ground wire P-72 (5 m),
  - Cables N-46 (1.5m), Input connector set EDX10-DSUB, Input adapter UI-51A,
  - Terminal box 1 piece, Screwdriver 1 piece

Example of configuration on using USB bus power:
- When EDX-11A is not included, any of max. 4 units can be connected.
- When EDX-11A is included refer to the under table.

<table>
<thead>
<tr>
<th>Number of EDX-11A</th>
<th>Max. measuring units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: The combination of measuring units for power supply by USB port are as follows.

- Standard accessories
  - USB cable N-38 (1 m), Ground wire P-72 (5 m),
  - Dynamic data acquisition software DCS-100A (DV)

- Optional accessories
  - AC adapter UN310-0515

Strain Measuring Unit EDX-11A

- Specifications
  - Measuring Targets: Strain gage transducers, strain gages
  - Number of Channels: 4
  - Measuring Range: 10k, 50k μm/m (2 steps)
  - Bridge Excitation: 2 VDC
  - Gage Factor: 2.00 fixed
  - Range Accuracy: Each range within ±0.3%FS
  - Nonlinearity: Within ±0.1%FS
  - Frequency Response: DC to 2 kHz
  - LPF: 2nd-order Butterworth Cutoff frequencies: 100 Hz, 2 kHz

- Standard accessories
  - Input cable U-124 (30 cm)

- Optional accessories
  - Cables N-46 (1.5m), Input connector set EDX10-DSUB, Input adapter UI-51A,
  - One-touch type input adapter UI-52A, Bridge adapter for quarter bridge system UI-53A-120/350

Voltage Measuring Unit EDX-12A

- Specifications
  - Measuring Targets: Voltage
  - Number of Channels: 4 (single end)
  - Measuring Range: 10 V, 50 V (2 steps)
  - Range Accuracy: Each range within ±0.3%FS
  - Nonlinearity: Within ±0.1%FS
  - Frequency Response: DC to 2 kHz
  - LPF: 2nd-order Butterworth Cutoff frequencies: 100 Hz, 2 kHz
  - A/D Converter: 24 bits

- Optional accessories
  - BNC input cable U-125 (30cm), Bridge box connection cable U-126(50 cm),
  - Input connector set EDX10-DSUB, One-touch type input adapter UI-52A

- Specifications
  - Interface: USB2.0 compliant
  - Max Units: Max. 4 (16 channels)
  - Sampling Frequency: 1 Hz to 20 kHz (1 to 4 channels)
  - Operating Temperature: 0 to 40°C
  - Current Consumption: 140 mA or less (5 VDC)
  - Weight: Approx. 150 g
  - Dimensions: 84.0(W)x26.6(D)x84.0(H)mm (Excluding protrusions)
  - Control Software: DCS-100A
  - EMC Directive: EN61326-1(Class A)
  - RoHS Directive: EN50581

- Optional accessories
  - BNC input cable U-125 (30cm), Bridge box connection cable U-126(50 cm),
  - Input connector set EDX10-DSUB, One-touch type input adapter UI-52A

- Specifications
  - Interface: USB2.0 compliant
  - Max Units: Max. 4 (16 channels)
  - Sampling Frequency: 1 Hz to 20 kHz (1 to 4 channels)
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  - Weight: Approx. 150 g
  - Dimensions: 84.0(W)x26.6(D)x84.0(H)mm (Excluding protrusions)
  - Control Software: DCS-100A
  - EMC Directive: EN61326-1(Class A)
  - RoHS Directive: EN50581

- Optional accessories
  - BNC input cable U-125 (30cm), Bridge box connection cable U-126(50 cm),
  - Input connector set EDX10-DSUB, One-touch type input adapter UI-52A
Thermocouple Measuring Unit EDX-13A

Specifications
- Measuring Targets: Thermocouples
- Number of Channels: 4
- Measuring Range: K, J, T, N (Resistance of thermocouple: 1 kΩ or less)
- Measuring Targets: K, T, J, N (Resistance of thermocouple: 1 kΩ or less)
- Check Functions: Burnout check
- A/D Converter: 24 bits
- Sampling System: Scanning

<table>
<thead>
<tr>
<th>Type</th>
<th>Measuring Range</th>
<th>Resolution</th>
<th>Measuring Accuracy</th>
<th>Accuracy of internal reference junction compensator</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>–200.0 to 1370.0°C</td>
<td>0.1°C</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.1°C of reading +0.4°C</td>
</tr>
<tr>
<td>T</td>
<td>–200.0 to 400.0°C</td>
<td>0.1°F</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.1°F of reading +0.4°F</td>
</tr>
<tr>
<td>J</td>
<td>–200.0 to 1200.0°C</td>
<td>0.1°C</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.1% of reading +0.4°F</td>
</tr>
<tr>
<td>N</td>
<td>–200.0 to 1300.0°C</td>
<td>0.1°C</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.1% of reading +0.4°F</td>
</tr>
</tbody>
</table>

Note: The measurement accuracy does not include the accuracy of the internal reference junction compensator and thermocouples.

Strain Measuring Unit EDX-14A Low Power

Specifications
- Measuring Targets: Strain gage transducers, strain gages*
- Number of Channels: 4
- Measuring Range: 10k, 50k μm/m (2 steps)
- Applicable Bridge Resistance: 120 Ω to 1 kΩ
- Bridge Excitation: 1 VDC
- Gage Factor: 2.00 fixed
- Range Accuracy: Each range within ±0.3%FS
- Nonlinearity: Within ±0.1%FS
- Frequency Response: DC to 2 kHz
- A/D Converter: 24 bits

<table>
<thead>
<tr>
<th>Type</th>
<th>Measuring Range</th>
<th>Resolution</th>
<th>Measuring Accuracy</th>
<th>Power Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>5 VDC supplied by control unit</td>
</tr>
<tr>
<td>T</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>5 VDC supplied by control unit</td>
</tr>
<tr>
<td>J</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>5 VDC supplied by control unit</td>
</tr>
<tr>
<td>N</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>5 VDC supplied by control unit</td>
</tr>
</tbody>
</table>

*Bridge boxes or Bridge adapters are required for strain gage measurement

Strain/Voltage Measuring Unit EDX-15A Low Power

Specifications
- Measuring Targets: Strain gage transducers, strain gages*
- Number of Channels: 4
- Measuring Range: 10 k, 50 k μm/m (2 steps)
- Applicable Bridge Resistance: 120 Ω to 1 kΩ
- Bridge Excitation: 1 VDC
- Gage Factor: 2.00 fixed
- Range Accuracy: Each range within ±0.3%FS
- Nonlinearity: Within ±0.1%FS
- Frequency Response: DC to 2 kHz
- A/D Converter: 24 bits

<table>
<thead>
<tr>
<th>Type</th>
<th>Measuring Range</th>
<th>Resolution</th>
<th>Measuring Accuracy</th>
<th>Accuracy of internal reference junction compensator</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.3% of reading +0.6°C</td>
</tr>
<tr>
<td>T</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.3% of reading +0.6°C</td>
</tr>
<tr>
<td>J</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.3% of reading +0.6°C</td>
</tr>
<tr>
<td>N</td>
<td>–200.0 to 100.0°C or less</td>
<td>2.00 fixed</td>
<td>±0.2% of reading +0.6°C</td>
<td>±0.3% of reading +0.6°C</td>
</tr>
</tbody>
</table>

*Bridge boxes or Bridge adapters are required for strain gage measurement

Optional accessories
- Input cable U-124 (30 cm)
- Cables N-46 (1.5m), BNC input cable U-125 (30cm), Input adapter UI-51A, One-touch type input adapter UI-52A
- Bridge adapter for quarter bridge system UI-53A-120/350, Bridge adapter for quarter bridge system UI-54A-120/350

Note: The measurement accuracy does not include the accuracy of the internal reference junction compensator and thermocouples.
Software

Dynamic Data Acquisition Software  DCS-100A

1. Start up the DCS-100A
2. Auto load the EDX-10 unit configuration
3. Configure channels and measurements
4. Click the operation button to start monitoring and data acquisition.

Common specifications:
- OS: Windows Vista, 7, 8/8.1, Japanese/English
- CPU: 32/64 bits support
- Memory: Core2Duo, 2 GHz or advanced
- Display: If 32-bit OS, 2GB or more
- Interface: If 64-bit OS, 4GB or more
- Monitor Display: 1024 × 768 pixels or more

- USB
- Y-time Graphs, Y-time (DIV) Graphs, X-Y Graphs, Bar Graphs, Circular Meters, Bar Meters, Numeric Window
- Measuring ON/OFF, Measuring mode, Range, LPF, Balance adjustment ON/OFF, Calibr. const., Offset, Unit, Channel name, Measuring range, Rated capacity, Rated output, Deci Digits, Chk. Val. (Up), Chk. Val. (Down)

Software:
- Dynamic Data Acquisition Software DCS-100A

*LabVIEW is a trademark of National Instruments Corporation.
*Windows is a trademark of Microsoft.
Simple data acquisition, just like taking a memo

User-friendly

Three easy steps are all you need to prepare for acquisition. And setup is intuitive. It is simple even if you rarely take measurements.

Easy customization

Such as mobile phone drop tests or concrete load tests, Kyowa has prepared a variety of measuring conditions so you can take measurements suited to your purpose. It is easy to acquire the data you want at will. Try customizing your own original conditions for measurement and display.

Diverse data display

The EDX-10 series enables you to collect data in real time and show it on a sub-display in dual display mode. So you can quickly check the data when you have acquired on the spot. There are multiple graphs you can enlarge for easier viewing.

### Common specifications

<table>
<thead>
<tr>
<th><strong>OS</strong></th>
<th>Windows Vista, 7, 8/8.1, Japanese/English</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32/64 bits support</td>
</tr>
<tr>
<td></td>
<td>If 64-bit OS, operates in WOW64 environment</td>
</tr>
<tr>
<td><strong>CPU</strong></td>
<td>Core2 Duo, 2 GHz or advanced</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>If 32-bit OS, 2GB or more</td>
</tr>
<tr>
<td></td>
<td>If 64-bit OS, 4GB or more</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>1024x768 pixels or more</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB</td>
</tr>
<tr>
<td><strong>Monitor Display</strong></td>
<td>Y-time Graphs, Y-time (DIV) Graphs, X-Y Graphs, Bar Graphs, Circular Meters, Bar Meters, Numeric Window</td>
</tr>
<tr>
<td><strong>Setting Channel Conditions &amp; Measuring Conditions</strong></td>
<td>Measuring ON/OFF, Measuring mode, Range, LPF, Balance adjustment ON/OFF, Calibr. const., Offset, Unit, Channel name, Measuring range, Rated capacity, Rated output, Deci Digits, Chk. Val. (Up), Chk. Val. (Down) (Display items can freely be selected.)</td>
</tr>
<tr>
<td><strong>Measuring mode</strong></td>
<td>Manual, manual (Data points preset), interval, analog trigger</td>
</tr>
<tr>
<td><strong>Data Confirmation</strong></td>
<td>Y-time Graphs, Y-time (DIV) Graphs, X-Y Graphs, Numeric Window</td>
</tr>
<tr>
<td><strong>Data file destination</strong></td>
<td>PC hard disk</td>
</tr>
<tr>
<td><strong>Data file size</strong></td>
<td>Depends on the capacity of PC hard disk</td>
</tr>
<tr>
<td><strong>Saving format</strong></td>
<td>Kyowa standard file format KS2 to save data in the PC</td>
</tr>
<tr>
<td><strong>File coupling</strong></td>
<td>Kyowa standard file format KS2 to save data in the PC</td>
</tr>
<tr>
<td><strong>Driver for the LabVIEW</strong></td>
<td>This comes with an instrument driver for the LabVIEW windows version (National Instruments corporation). It creates a program for controlling the EDX</td>
</tr>
</tbody>
</table>

*LabVIEW is a trademark of National Instruments Corporation.
*Windows is a trademark of Microsoft.

### Three easy steps

1. **Startup**
   - Start up the DCS-100A
   - Auto load the EDX-10 unit configuration

2. **Set Conditions**
   - Configure channels and measurements

3. **Start Measure**
   - Click the operation button to start monitoring and data acquisition
You can count on Kyowa.
Feel free to contact us, if there is something you would like to know or do not understand about Kyowa products.

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**Other Countries or Regions**
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http://www.kyowa-ei.com/

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**Safety Precautions**

Be sure to observe the safety precautions given in the instruction manual in order to ensure correct and safe operation.

* Specifications are subject to change without notice for improvement.

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