

Move into the future with reliable measurements



## EDX-10 Series Compact Recording System







# free!

## Measure with Freedom

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 power supplies and the fixed measurement location

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.

## Freedom from bulky, heavy equipment

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.

## Freedom from annoying setups and cables

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



# Measurements made simpler

- 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.



Development Team

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.



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.

# Business trip

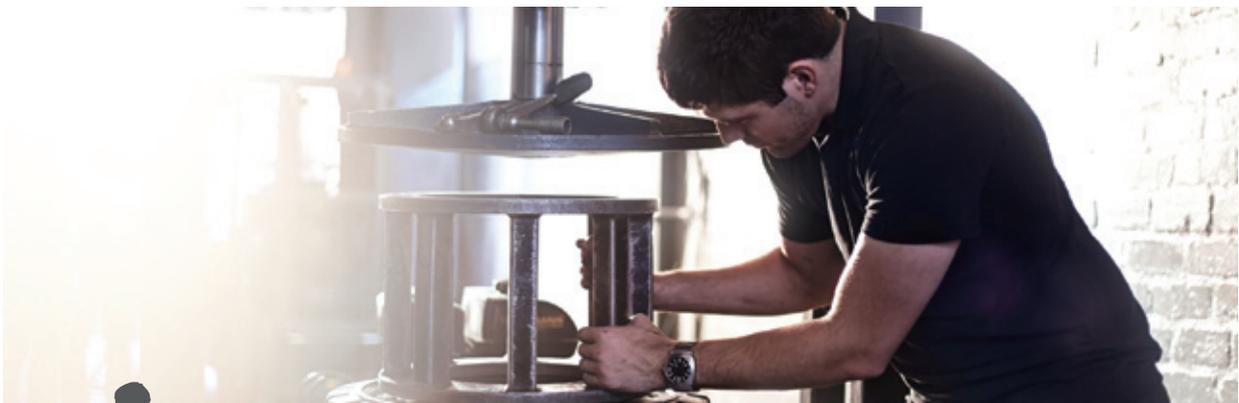
More portable gear.



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.

# Labo.

Start quickly and add units as needed.



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.

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

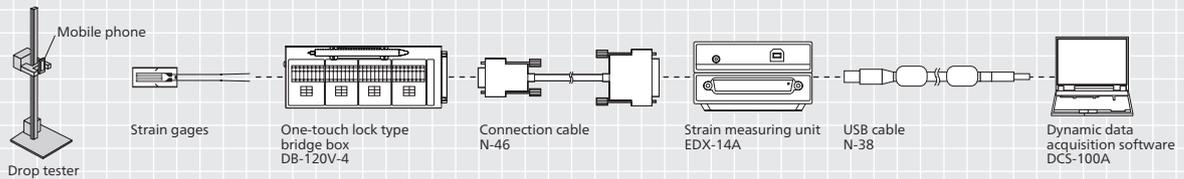


# Strain Measuring Unit EDX-14A

Low Power

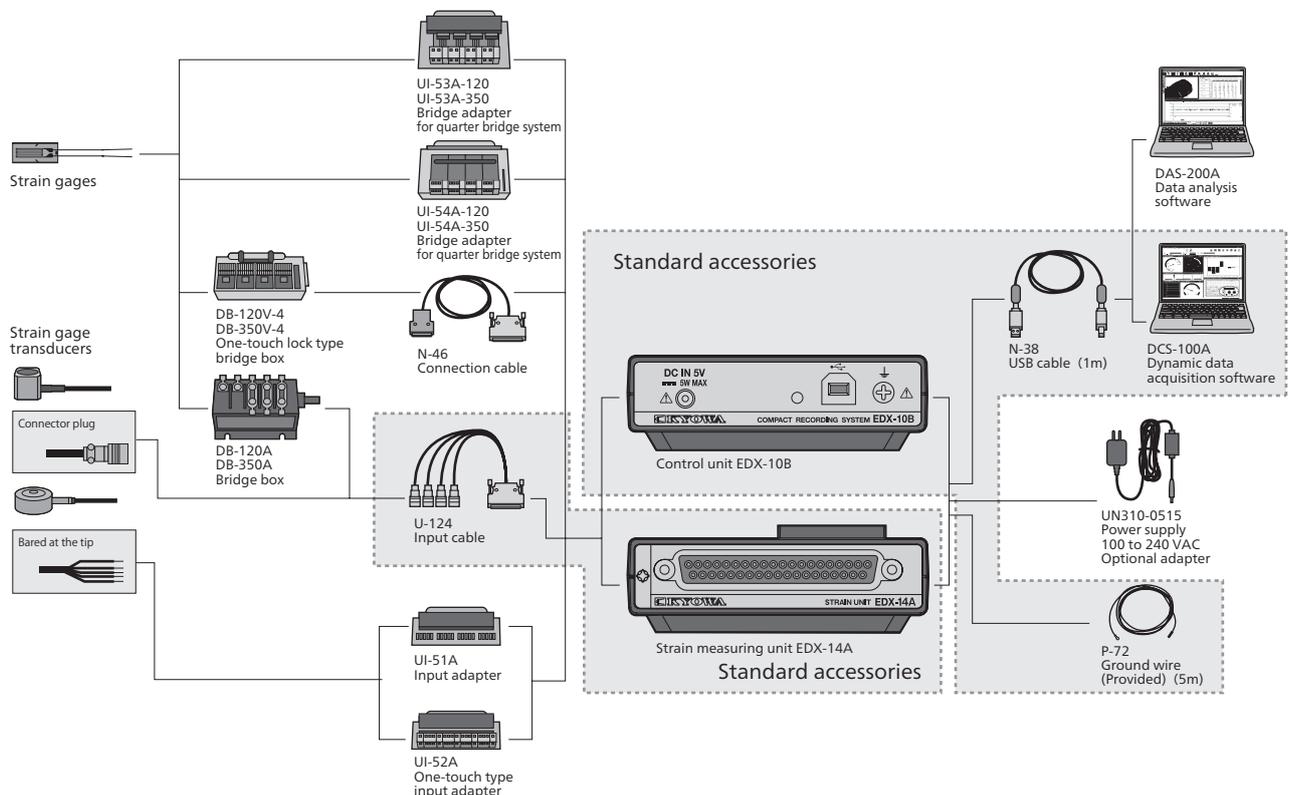


## Sample application | Mobile phone drop test



## Strain measuring unit with DC bridge excitation.

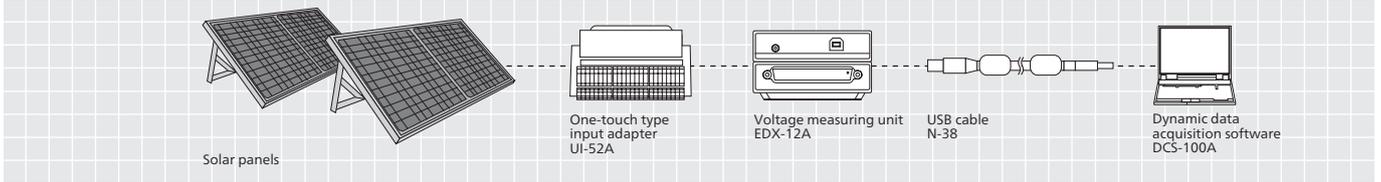
### System configuration



# Voltage Measuring Unit EDX-12A

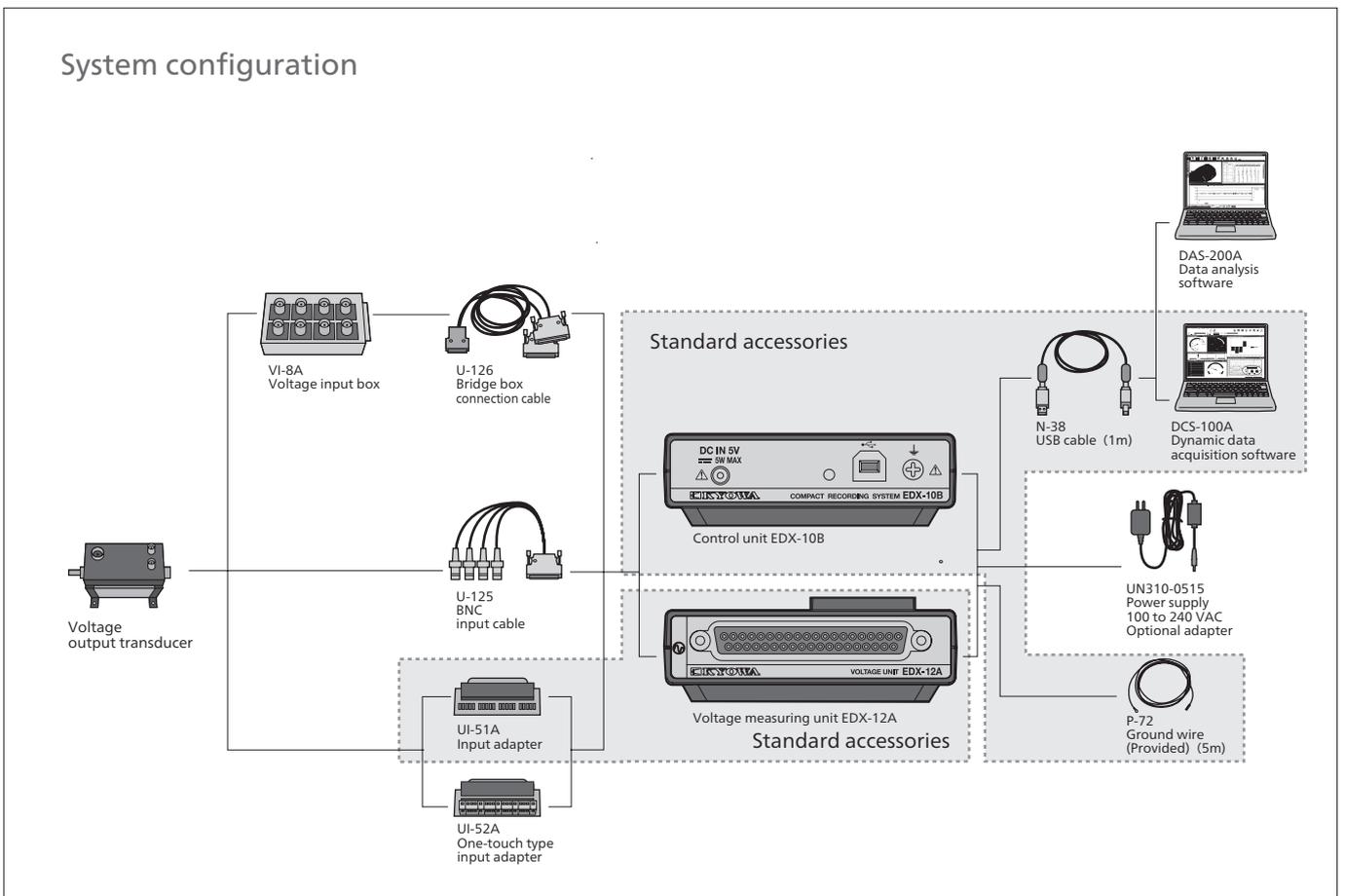


## Sample application | Solar panel performance test



## Voltage measuring unit.

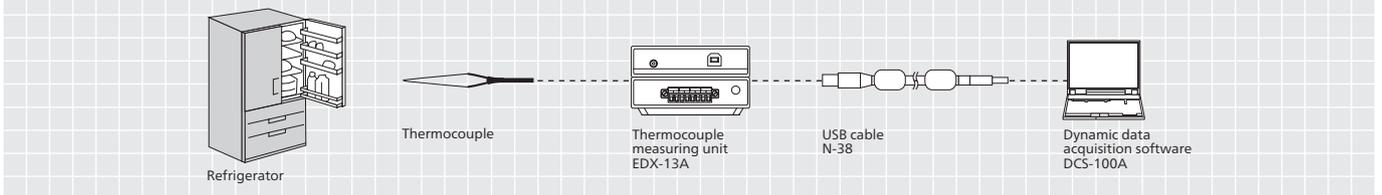
## System configuration



# Thermocouple Measuring Unit EDX-13A

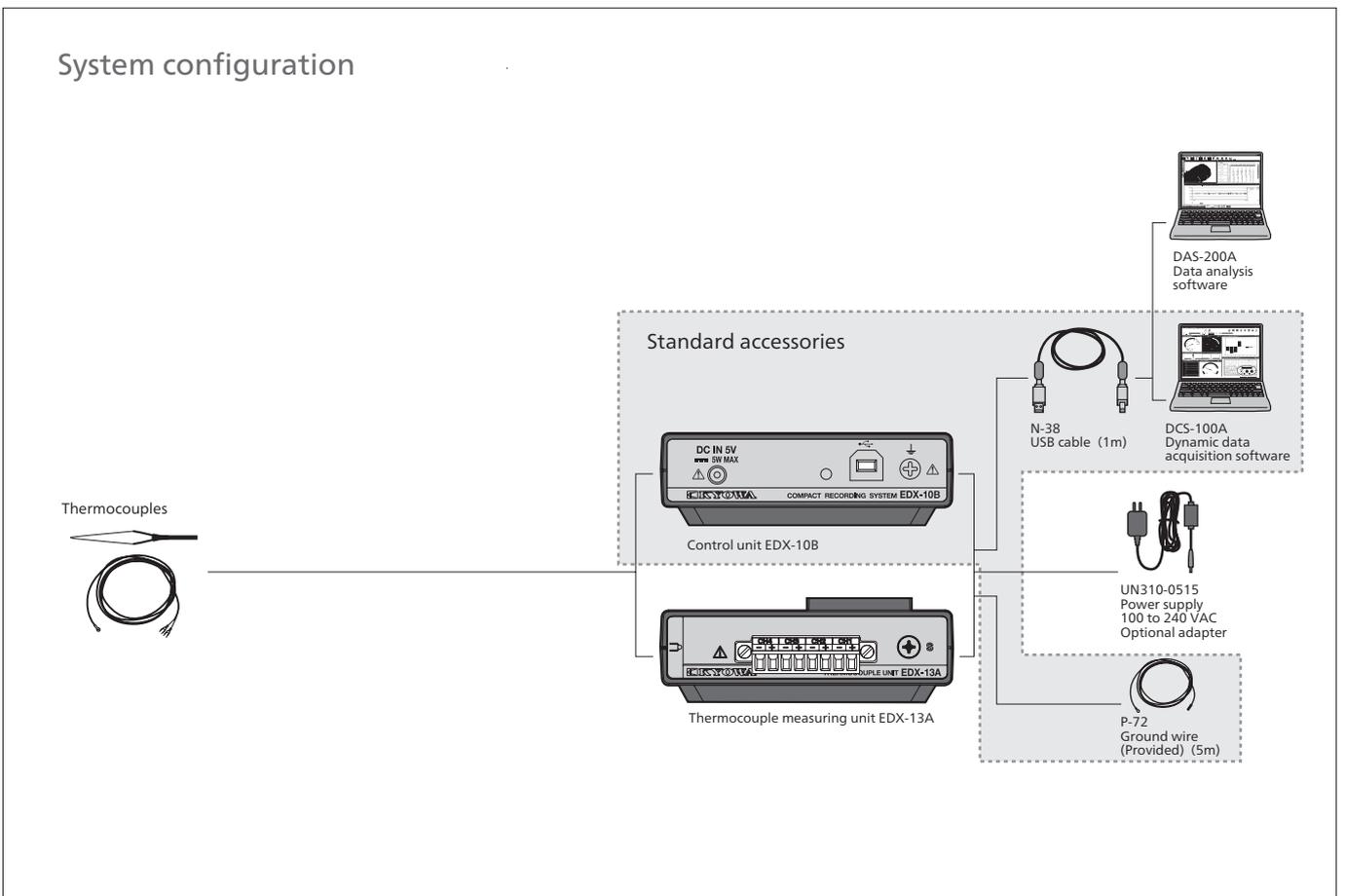


## Sample application | Refrigerator endurance test



Thermocouple measuring unit. Compatible with type K, T, J and N thermocouples.

## System configuration

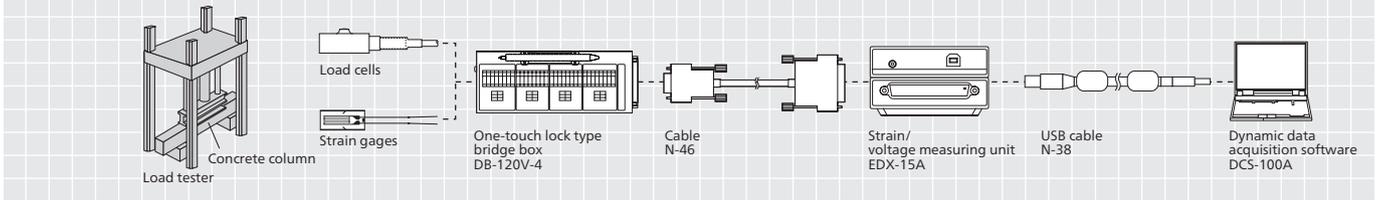


# Strain/Voltage Measuring Unit EDX-15A

Low Power

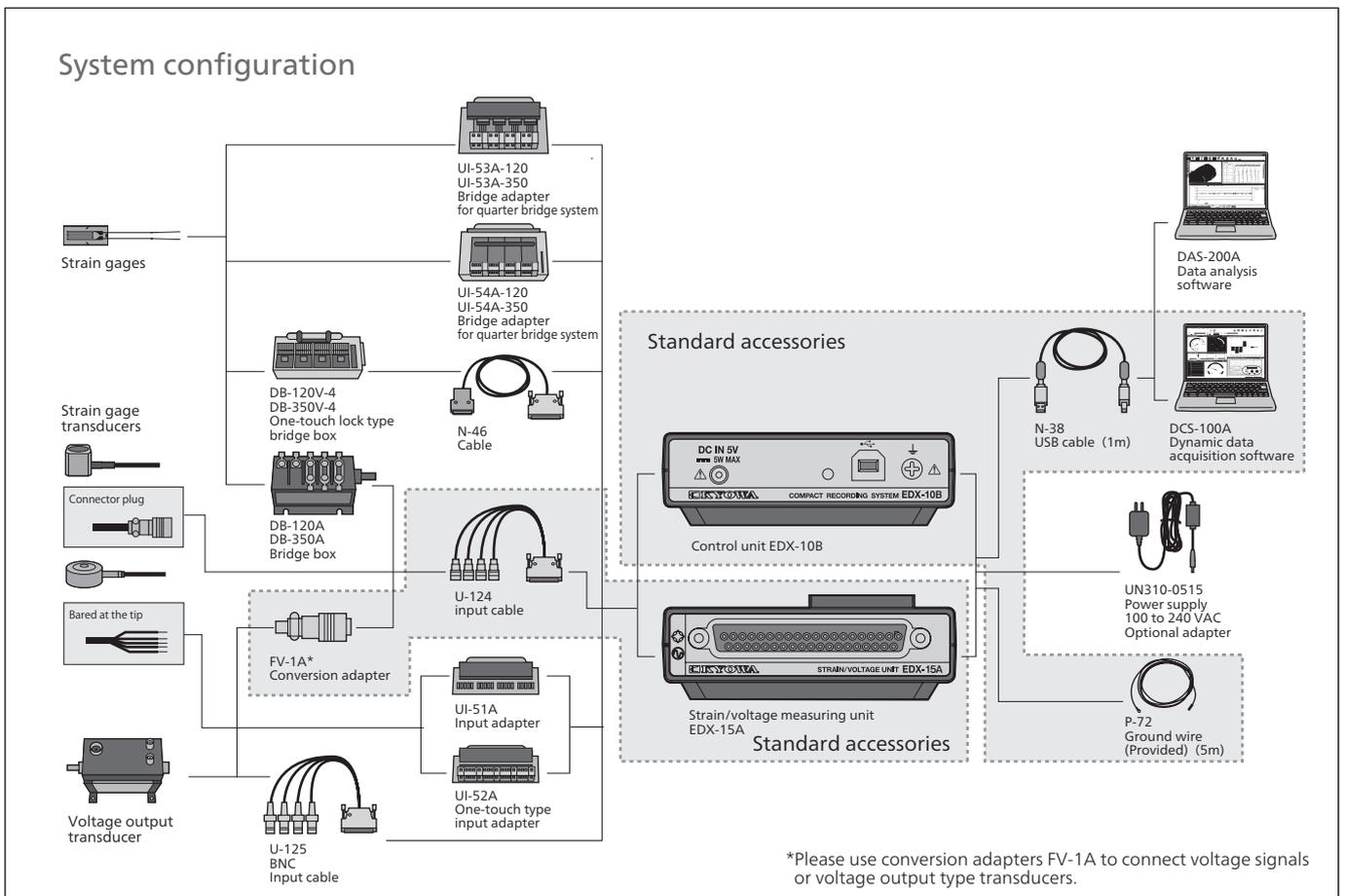


## Sample application | Load test



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

## System configuration



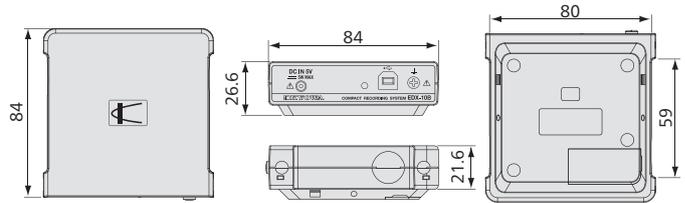
# Series Lineup

## Control Unit EDX-10B



### ■ Specifications

Interface	USB2.0 compliant
Max.Units	Max. 4 (16 channels)
Sampling Frequency	1 Hz to 20 k Hz (1 to 4 channels) 1 Hz to 10 k Hz (1 to 8 channels) 1 Hz to 5 k Hz (1 to 16 channels)
Operating Temperature	0 to 40°C
Power Supply	5 VDC by USB bus power or a AC adapter
Current Consumption	140 mA or less (5 VDC)
Weight	Approx. 170 g
Dimensions	84.0(W)×26.6(H)×84.0(D)mm (Excluding protrusions)
Control Software	DCS-100A
EMC Directive	EN61326-1(Class A)
RoHS Directive	EN50581



Example of configuration on using USB bus power:

- When EDX-11A is not included, any of max. 4 units can be connected. (Max. 2 units when using USB 2.0 port.)
- When EDX-11A is included refer to the under table.

USB ports	Number of EDX-11A	Max. measuring units
3.0	1	2
	2	
2.0	1	1

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 (DVD)
- Optional accessories: AC adapter UN310-0515

## Strain Measuring Unit EDX-11A

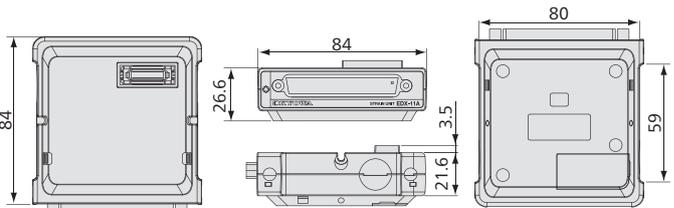


### ■ Specifications

Measuring Targets	Strain gage transducers, strain gages*
Number of Channels	4
Measuring Range	10k, 50k $\mu\text{m}/\text{m}$ (2 steps)
Applicable Bridge Resistance	120 $\Omega$ to 1 k $\Omega$
Bridge Excitation	2 VDC
Gage Factor	2.00 fixed
Range Accuracy	Each range within $\pm 0.3\%$ FS
Nonlinearity	Within $\pm 0.1\%$ FS
Frequency Response	DC to 2 kHz
LPF	2nd-order Butterworth Cutoff frequencies: 100 Hz, 2 k Hz

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, Bridge adapter for quarter bridge system UI-54A-120/350



A/D Converter	24 bits
Operating Temperature	0 to 40°C
Input Connectors	D-sub 37-pin connector
Power Supply	5 VDC supplied by control unit
Current Consumption	180 mA or less (120 $\Omega$ load with all channels connected, at power supply 5 VDC)
Weight	Approx. 150 g
Dimensions	84.0(W)×26.6(H)×84.0(D)mm (Excluding protrusions)
EMC Directive	EN61326-1(Class A)
RoHS Directive	EN50581

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

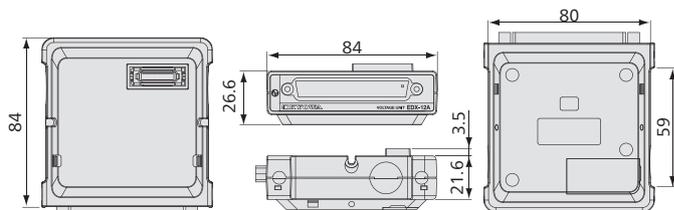
## Voltage Measuring Unit EDX-12A



### ■ Specifications

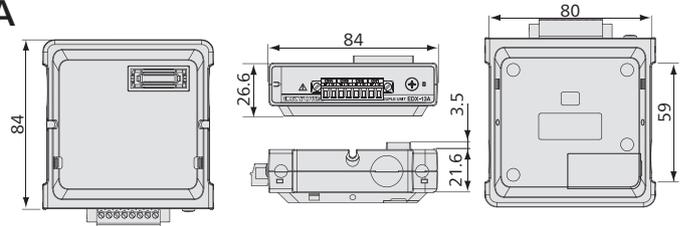
Measuring Targets	Voltage
Number of Channels	4 (single end)
Measuring Range	10 V, 50 V (2 steps)
Range Accuracy	Each range within $\pm 0.3\%$ FS
Nonlinearity	Within $\pm 0.1\%$ FS
Frequency Response	DC to 2 kHz
LPF	2nd-order Butterworth Cutoff frequencies: 100 Hz, 2 k Hz
A/D Converter	24 bits

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



Operating Temperature	0 to 40°C
Input Connectors	D-sub 37-pin connector
Power Supply	5 VDC supplied by control unit
Current Consumption	110 mA or less (5 VDC)
Weight	Approx. 150 g
Dimensions	84.0(W)×26.6(H)×84.0(D)mm (Excluding protrusions)
EMC Directive	EN61326-1(Class A)
RoHS Directive	EN50581

# Thermocouple Measuring Unit EDX-13A



## Specifications

Measuring Targets	Thermocouples
Number of Channels	4
Measuring Targets	K, T, J, N (Resistance of thermocouple: 1 k $\Omega$ or less) (See the table below for details about the temperature measuring range, etc.)
Check Functions	Burnout check
A/D Converter	24 bits
Sampling System	Scanning

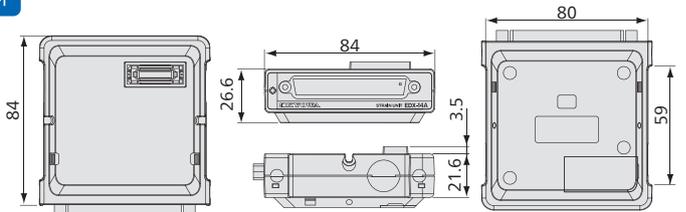
Inside Sampling Frequency	Approx. 0.5 Hz, approx. 2.0 Hz
Operating Temperature	0 to 40°C
Input Connectors	Screw type terminal box
Current Consumption	120 mA or less (5 VDC)
Weight	Approx. 130 g
Dimensions	84.0(W) $\times$ 26.6(H) $\times$ 84.0(D)mm (Excluding protrusions)
EMC Directive	EN61326-1(Class A)
RoHS Directive	EN50581

Type	Measuring Range	Resolution	Measuring Accuracy		Accuracy of internal reference junction compensator
K	-200.0 to 1370.0°C	0.1°C	-200.0 to -100.0°C or less -100.0 to 1370.0°C	$\pm$ (0.2% of reading +0.6°C) $\pm$ (0.1% of reading +0.4°C)	$\pm$ 1.0°C (Input terminal temperature at equilibrium) (Ambient temperature range: 25 $\pm$ 10°C)
T	-200.0 to 400.0°C		-200.0 to -100.0°C or less -100.0 to 400.0°C	$\pm$ (0.2% of reading +0.6°C) $\pm$ (0.1% of reading +0.4°C)	*Mount the EDX-13A on the bottom when using it with measuring units other than the EDX-13A. $\pm$ 2.0°C (Input terminal temperature in equilibrium) (For temperatures other than those in the ambient temperature and operating temperature ranges described above)
J	-200.0 to 1200.0°C		-200.0 to -100.0°C or less -100.0 to 1200.0°C	$\pm$ (0.2% of reading +0.6°C) $\pm$ (0.1% of reading +0.4°C)	
N	-200.0 to 1300.0°C		-200.0 to -100.0°C or less -100.0 to 1300.0°C	$\pm$ (0.2% of reading +0.6°C) $\pm$ (0.1% of reading +0.4°C)	

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

Standard accessories Terminal box 1 piece, Screwdriver 1 piece

# Strain Measuring Unit EDX-14A Low Power



## Specifications

Measuring Targets	Strain gage transducers, strain gages*
Number of Channels	4
Measuring Range	10k, 50k $\mu$ m/m (2 steps)
Applicable Bridge Resistance	120 $\Omega$ to 1 k $\Omega$
Bridge Excitation	1 VDC
Gage Factor	2.00 fixed
Range Accuracy	Each range within $\pm$ 0.3%FS
Nonlinearity	Within $\pm$ 0.1%FS
Frequency Response	DC to 2 kHz
LPF	2nd-order Butterworth Cutoff frequencies: 100 Hz, 2 k Hz

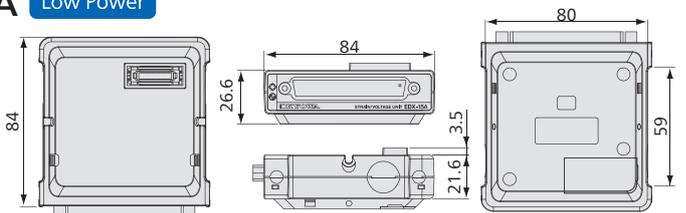
A/D Converter	24 bits
Operating Temperature	0 to 40°C
Input Connectors	D-sub 37-pin connector
Power Supply	5 VDC supplied by control unit
Current Consumption	140 mA or less (120 $\Omega$ load with all channels connected, at power supply 5 VDC)
Weight	Approx. 150 g
Dimensions	84.0(W) $\times$ 26.6(H) $\times$ 84.0(D)mm (Excluding protrusions)
EMC Directive	EN61326-1(Class A)
RoHS Directive	EN50581

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, Bridge adapter for quarter bridge system UI-54A-120/350

\*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*	Voltage(Unbalanced)
Number of Channels	4	
Measuring Range	10 k, 50 k $\mu$ m/m (2 steps)	10, 50V
Applicable Bridge Resistance	120 $\Omega$ to 1 k $\Omega$	—
Bridge Excitation	1 VDC	—
Gage Factor	2.00 fixed	—
Range Accuracy	Each range within $\pm$ 0.3%FS	—
Nonlinearity	Within $\pm$ 0.1%FS	—
Frequency Response	DC to 2 kHz	—
LPF	2nd-order Butterworth Cutoff frequencies: 100 Hz, 2 k Hz	—
A/D Converter	24 bits	—

Operating Temperature	0 to 40°C
Input Connectors	D-sub 37-pin connector
Power Supply	5 VDC supplied by control unit
Current Consumption	150 mA or less (120 $\Omega$ load with all channels connected, at power supply 5 VDC)
Weight	Approx. 150 g
Dimensions	84.0(W) $\times$ 26.6(H) $\times$ 84.0(D)mm (Excluding protrusions)
EMC Directive	EN61326-1(Class A)
RoHS Directive	EN50581

Standard accessories Input cable U-124 (30 cm), Conversion adapter FV-1A x4

Optional accessories 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

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



# 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

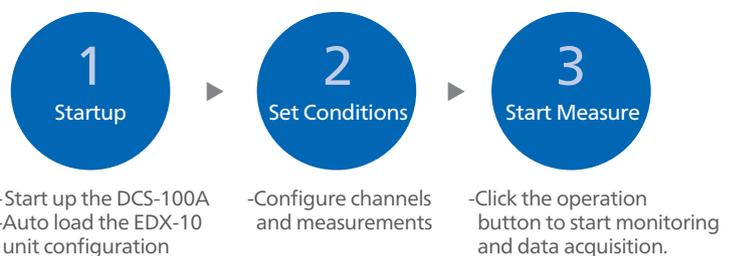
The EDX-10 series enables you to collect data in real time and show it on a sub-display in dual display mode. So you can quickly check the data when you have acquired on the spot. There are multiple graphs you can enlarge for easier viewing.

### Common specifications

OS	Windows Vista, 7, 8/8.1, Japanese/English 32/64 bits support If 64-bit OS, operates in WOW64 environment
CPU	Core2Duo, 2 GHz or advanced
Memory	If 32-bit OS, 2GB or more If 64-bit OS, 4GB or more
Display	1024×768 pixels or more
Interface	USB
Monitor Display	Y-time Graphs, Y-time (DIV) Graphs, X-Y Graphs, Bar Graphs, Circular Meters, Bar Meters, Numeric Window
Setting Channel Conditions & Measuring Conditions	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.)
Measuring mode	Manual, manual (Data points preset), interval, analog trigger
Data Confirmation	Y-time Graphs, Y-time (DIV) Graphs, X-Y Graphs, Numeric Window
Data file destination	PC hard disk
Data file size	Depends on the capacity of PC hard disk
Saving format	Kyowa standard file format KS2 to save data in the PC
File coupling	Kyowa standard file format KS2 to save data in the PC
Driver for the LabVIEW	This comes with an instrument driver for the LabVIEW windows version (National Instruments corporation). It creates a program for controlling the EDX.

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

### Three easy steps



# 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.



## Sales Network



### Americas Region

KYOWA AMERICAS, Inc.  
TEL: +1-248-348-0348  
E-mail:sales@kyowa-americas.com  
Web:http://www.kyowa-ei.us/

### China

KYOWA ELECTRONIC(SHANGHAI)TRADING CO.,LTD.  
TEL: +86-21-64477770  
E-mail:support-cn@d1.kyowa-ei.co.jp  
Web:http://www.kyowa-ei.cn/

### Thailand

KYOWA DENGYO(THAILAND) CO.,LTD.  
TEL: +66-2-117-3760  
E-mail:sales-thailand@kyowa-ei.co.th  
Web:http://www.kyowa-ei.co.th/

### Other Countries or Regions

Please visit below URL.  
<http://www.kyowa-ei.com/>

## Kyowa Electronic Instruments Co.,Ltd.

Overseas Department:  
3-5-1, Chofugaoka, Chofu, Tokyo 182-8520 Japan  
TEL: +81-42-489-7220 FAX: +81-42-488-1122  
E-mail: overseas@kyowa-ei.co.jp  
Web: <http://www.kyowa-ei.com/>



### 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.



JQA-0821  
JQA-EM4824

Manufacture's Representative