



Data Logger

Amplifier

Indicator
&
Display

Handheld

EDX-10 Series

Compact Recording System



Compact design with support for power supply from PC

- Channels: Max. 16
- Synchronous 4-channel sampling at max. 20 kHz (For one measuring unit)
- USB bus power-compatible*
- Stack-type connection not required for synchronous cables, reducing wiring
- Wide variety of input cables and input adapters

This is a measuring instrument that can perform measurements simply by being connected to a PC via USB interface. Its ability to be stored in a desk drawer or business bag makes it ideal for small-scale measurements.

*For details, see specifications of EDX-10B.

Model

Control Unit

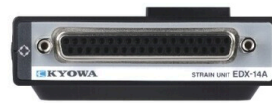


EDX-10B

Measuring Unit



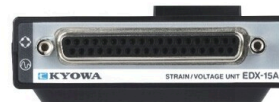
EDX-11A
(Strain, Bridge Excitation
2 VDC)



EDX-14A
(Strain, Low-power type,
Bridge Excitation 1 VDC)



EDX-12A
(Voltage)



EDX-15A
(Strain, Voltage,
Bridge Excitation 1 VDC)



DCS-100A
(Standard Accessories
of EDX-10B)



EDX-13A
(Thermocouples)



EDX-10B Specifications

Interface	Compliant to USB specification 2.0 Connector types: USB standard-B receptacle
Measurement Units	Up to 4 units by 16 channels
Sampling Frequency	1 Hz to 20k Hz (The number of channels 1 to 4) 1 Hz to 10k Hz (The number of channels 1 to 8) 1 Hz to 5k Hz (The number of channels 1 to 16)
Operating Temperature	0 to 40 °C
Operating Humidity	20 to 90 % (non-condensing)
Power Supply	5 VDC USB bus-power ^(*) ^(*) , or optional accessory 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
Compliance	Directive 2014/30/EU(EMC) Directive 2011/65/EU, (EU)2015/863(10 restricted substances) (RoHS)

■ **Standard Accessories** USB cable N-38 (1 m)
Ground wire P-72 (5 m)
DVD (Dynamic data acquisition software DCS-100A)

■ **Optional Accessories** AC adapter UN312-0520-AC
(This AC adapter is for Japan and U.S.A. only. Contact us for other countries.)

(*)1 When using USB bus-power, please connect directly to the USB port of the PC without using a USB hub.

(*)2 The number of measurement units at USB bus-power operation, refer to the following table.

(*)3 When using AC adapter, it can be connected up to 4 units in any combination using the EDX-11A/12A/13A/14A/15A.

USB Port	The number of EDX-11A	The number of EDX-12A/13A/14A/15A	The maximum number of the unit
3.0	0	Up to 4 units in any combination	4
	1	Until either 1 unit	2
	2	0	
2.0	0	Up to 2 units in any combination	2
	1	0	1

EDX-11A Specifications

Measuring Targets	Strain-gage transducers, strain gage*
Channels	4
Measuring Range	10 k, 50 k × 10 ⁻⁶ strain (2 steps)
Balance Adjustment	Within ±1/2 FS of setting range
Compatible Bridge Resistance	120 Ω to 1 kΩ
Bridge Excitation	2 VDC
Gage Factor	2.00 fixed
Range Accuracy	Within ±0.3% FS
Nonlinearity	Within ±0.1% FS
AD Converter	24 bits
Frequency Response	DC to 2 kHz
LPF	Transfer characteristic: 2nd order Butterworth Cutoff frequencies: 100 Hz, 2 kHz
Operating Temperature	0 to 40 °C
Operating Humidity	20 to 90% (Non-condensing)
Input Connector	D-sub 37-pin connector
Power Supply	5 VDC supplied by control unit
Current Consumption	180 mA or less (120 Ω 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)
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)

*Bridge boxes or input adapters are required for strain measurement.

■ **Standard Accessories** Strain input cable U-124 (30 cm)

■ **Optional Accessories** Bridge box connection cable U-126 (50 cm)
Input connector set EDX10-DSUB
Input adapter UI-51A
One-touch type input adapter UI-52A, UI-55A
Bridge adapter for quarter bridge system UI-53B-120/350
Bridge adapter for quarter bridge system UI-54B-120/350

EDX-12A Specifications

Measuring Targets	Voltage
Channels	4 (Single end)
Measuring Range	10 V, 50 V (2 steps)
Range Accuracy	Within ±0.3% FS
Balance Adjustment	Within ±1/2 FS of setting range
Nonlinearity	Within ±0.1% FS
AD Converter	24 bits
Frequency Response	DC to 2 kHz
LPF	Cutoff frequencies: Lo (100 Hz), Hi (2 kHz) Transfer characteristic: 2nd order Butterworth
Operating Temperature	0 to 40 °C
Operating Humidity	20 to 90% (Non-condensing)
Input Connector	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)
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)

■ **Standard Accessories** Input adapter UI-51A

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

EDX-14A Specifications

Compatible Sensor	Strain gage transducers, strain gages*
Channels	4
Measurement Range	10000, 50000 × 10 ⁻⁶ strain (2 steps)
Compatible Bridge Resistance	120 Ω to 1 kΩ
Excitation Voltage	1 VDC
Gage Factor	2.00 fixed
Range Accuracy	Within ±0.3% FS
Balance Adjustment	Within ±1/2 FS of setting range
Nonlinearity	Within ±0.1% FS
AD Converter Resolution	24 bit
Frequency Response	DC to 2 kHz
Low-pass Filter	2nd order Butterworth Cutoff frequency: 100 Hz, 2 k Hz
Operating Temperature	0 to 40 °C
Operating Humidity	20 to 90% (Non-condensing)
Input Connector	37-pin D-sub connector
Power Supply	5 VDC supplied by control unit
Current Consumption	140 mA or less (120 Ω load with all channels connected, at power source 5 VDC)
Weight	Approx. 150 g
Dimensions	84.0 W × 26.6 H × 84.0 D mm (Excluding protrusions)
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)

*When using the strain gage will require additional the bridge box or the input adapter.

■ **Standard Accessories** Strain input cable U-124 (30 cm)

■ **Optional Accessories** Bridge box connection cable U-126 (50 cm)
Input connector set EDX10-DSUB
Input adapter UI-51A
One-touch type input adapter UI-52A
Bridge adapter for quarter bridge system UI-53B-120/350
Bridge adapter for quarter bridge system UI-54B-120/350
One-touch type input adapter UI-55A



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Range, Resolution, Accuracy, Accuracy of Internal Reference Junction Compensator

Types	Range	Resolution	Accuracy		Accuracy of internal reference junction compensator
K	-200.0 to +1370.0°C	0.1°C	-200.0 to below -100.0°C -100.0 to 1370.0°C	±(0.2% of reading + 0.6°C) ±(0.1% of reading + 0.4°C)	±1.0°C (Input terminal temperature at equilibrium) [Ambient temperature: 25 ±10°C] When using at condition 1 and 2
T	-200.0 to +400.0°C		-200.0 to below -100.0°C -100.0 to 400.0°C	±(0.2% of reading + 0.6°C) ±(0.1% of reading + 0.4°C)	
J	-200.0 to +1200.0°C		-200.0 to below -100.0°C -100.0 to 1200.0°C	±(0.2% of reading + 0.6°C) ±(0.1% of reading + 0.4°C)	±2.0°C (Input terminal temperature in equilibrium) For temperatures other than those in the ambient temperature and operating temperature described above
N	-200.0 to +1300.0°C		-200.0 to below -100.0°C -100.0 to 1300.0°C	±(0.2% of reading + 0.6°C) ±(0.1% of reading + 0.4°C)	

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

The measurement error of the internal reference junction compensator = Error due to the measurement accuracy + Error of the internal reference junction compensator + Error of the thermocouples

EDX-13A Specifications

Measuring Targets	Thermocouples
Channels	4
Input Connector	Screw type terminal box
Measuring Targets	K, T, J, N (Resistance of thermocouple: 1 kΩ or less)
Range, Resolution, Accuracy, Accuracy of Internal Reference Junction Compensator	See table above.
Check Functions	Burnout check
AD Converter	24 bits
Sampling System	Scanning
Inside Sampling Frequencies	Approx. 0.5 Hz, approx. 2.0 Hz
Operating Temperature	0 to 40°C
Operating Humidity	20 to 90% (Non-condensing)
Power Supply	5 VDC supplied by control unit
Current Consumption	120 mA or less (5 VDC)
Weight	Approx. 130 g
Dimensions	84.0 W × 26.6 H × 84.0 D mm (Excluding protrusions)
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)

■ **Standard Accessories** Terminal box 1piece, screwdriver 1piece

*To satisfy the accuracy of internal reference junction compensator ±1.0°C, measurement conditions are as follows.

Condition 1: Mount the EDX-13A on the bottom when using it with measuring units other than the EDX-13A.

Condition 2: When measuring data, put the units down.



EDX-15A Specifications

Compatible Sensor	Strain gage transducer and strain gage ^(*) Voltage (Unbalanced input)
Channels	4
Measurement Range	Strain measurement: 10k, 50k × 10 ⁻⁶ strain (2 range) Voltage measurement: 10, 50 V (2 range)
Compatible Bridge Resistance	Strain measurement: 120 to 1 kΩ Voltage measurement: -
Excitation Voltage	Strain measurement: 1 VDC Voltage measurement: -
Gage Factor	Strain measurement: 2.00 fixed Voltage measurement: -
Range Accuracy	Within ±0.3% FS
Balance Adjustment	Within ±1/2 FS of setting range
Nonlinearity	Within ±0.1% FS
AD Converter Resolution	24 bit
Frequency Response	DC to 2 kHz
Low-pass Filter	2nd order Butterworth Cutoff frequency: 100 Hz, 2 k Hz
Operating Temperature	0 to 40°C
Operating Humidity	20 to 90% (Non-condensing)
Input Connector	37-pin D-sub connector
Power Supply	5 VDC supplied by control unit
Current Consumption	150 mA or less (120 Ω load with all channels connected, at power source 5 VDC)
Weight	Approx. 150 g

Dimensions	84.0 W × 26.6 H × 84.0 D mm (Excluding protrusions)
Compliance	Directive 2014/30/EU (EMC) Directive 2011/65/EU, (EU)2015/863 (10 restricted substances) (RoHS)

(*)1) When using the strain gage will require additional the bridge box or the input adapter.

■ **Standard Accessories** Strain input cable U-124 (30 cm)
Conversion adapter FV-1A ×4

■ **Optional Accessories** Bridge box connection cable U-126 (50 cm)
Input connector set EDX10-DSUB
Input adapter UI-51A
One-touch type input adapter UI-52A
Bridge adapter for quarter bridge system UI-53B-120/350
Bridge adapter for quarter bridge system UI-54B-120/350
One-touch type input adapter UI-55A
BNC input cable U-125 (30 cm)

DCS-100A Specification for Control of EDX-10 Series

*For details of DCS-100A, see chapter 4.

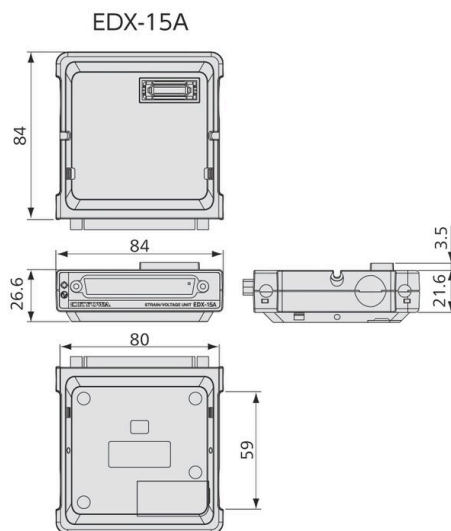
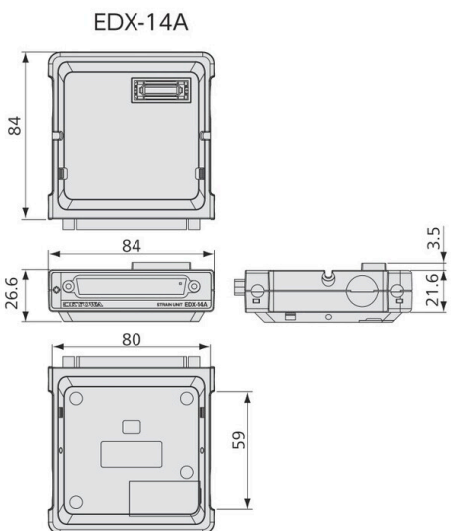
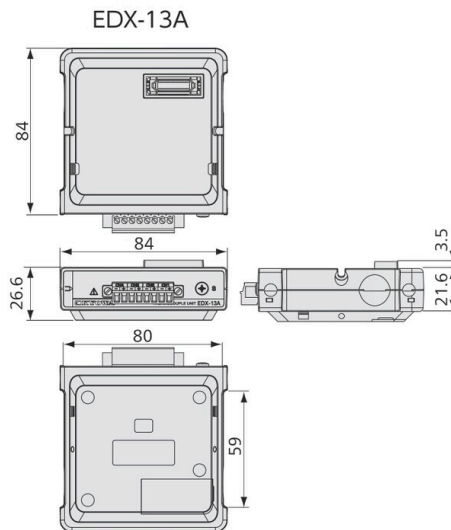
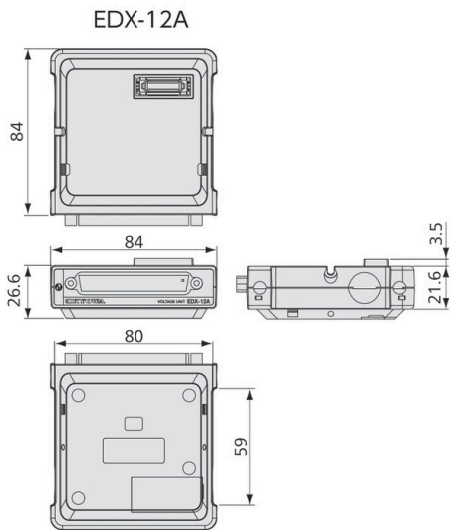
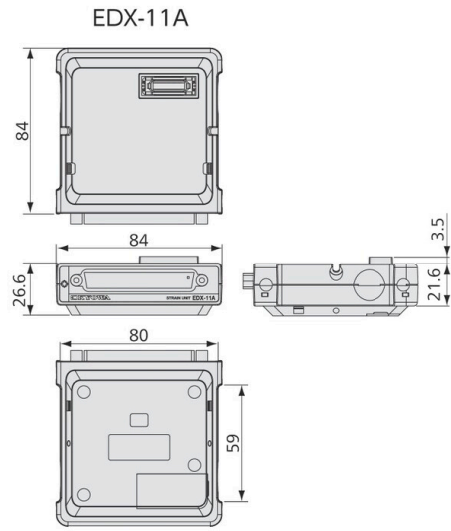
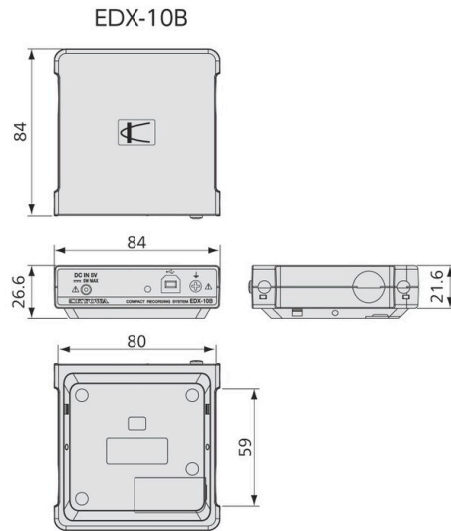
Units	Up to 4 units (up to 16 channels)
Interface	USB
Saving Format	Saves the measured data in the PC folder in the KS2 format file.
Channel Conditions	Measuring ON/OFF, Measuring mode, Range, Low-pass filter, Balance adjustment ON/OFF, Calibr. const., Offset, Unit, Channel name, Measuring range, Rated capacity, Rated output, Deci Digits, Chk. Val. (Up), Chk. Val. (Down) (Display items can freely be selected.)
Sampling Frequency	1 Hz to 20k Hz (1/2/5 system) *Limited by the number of channels.
Measure Mode	Manual, Manual (Set Record Data), Interval, Analog Trigger
Manual Measurement	Records data from REC to STOP or from REC to the number of data, specified on the Manual (Set Record Data).
Interval Measurement	Records data automatically based on the pre-set starting time and recording interval.
Analog Trigger Measurement	Starts/stops recording data based on the pre-set trigger conditions.

Trigger Condition

End Trigger	Settable
Delay	Up to 262144 data/CH for both start and end. The delay time varies with the number of channels.
Trigger Channel	Any 1 channel
Trigger Level	Physical quantity
Trigger Slope	Positive or Negative
Static Measurement	Every time the DCS-100A starts recording data, the DCS-100A additionally saves the moving-averaged measured data in a single CSV format file. *Measure Mode: Manual and Interval only.
Repeated Recording	When recording data for a long time, the DCS-100A saves data, every pre-set number of data or every pre-set interval, in the KS2 format file. *Measure Mode: Manual (Set Record Data) only.

Setting Environment

Setting Hardware Configuration	Sets the device names and measuring units. Sets the device name to the EDX-10B. Loads the hardware configurations from the EDX-10B.
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