# EDX-100A

## Universal Recorder


## Compact & lightweight, up to 256 channels measurement

- Compact & lightweight
- Available with 1, 2 and 4 slots
- LAN port for establishing multichannel network (Max. 256 channels)

*For the Data Analysis Software DAS-200A, see chapter 4.

Note:
For LAN connection, use straight cables and a LAN hub.

### ●Conditioner cards (See page 3-93.)

| | |
|---|---|
| Strain/voltage measurement card | CDV-40B/40B-F |
| Dynamic strain amplifier card | DPM-42B |
| | DPM-42B-F |
| | DPM-42B-I |
| | DPM-42B-I-F |
| Thermocouple card | CTA-40A |
| F/V converter card | CFV-40A |
| Charge amplifier card | CCA-40A/40A-F |
| CAN card | CAN-41A |
| Strain/voltage measurement isolation card | CDV-44AS/46AS |
| Constant current amplifier card | CDA-44AS/45AS |
| Strain/voltage/acceleration measurement card | CVM-41A |
| AD converter card | AD-40AS/40AS-F |

Note: If the CVM-41A is installed in the EDX-100A, and the Bridge Excitation is set to BV 10 V, or the Power Supply to Sensors is set to 10 VDC (±5 V) ,then the number of settable channels of CVM-41A in EDX-100A is 3 times of units of CVM-41A.
Note: The EDX-100A limits the number of CFV-40A.
The number of CFV-40A is up to 1 for EDX-100A-1.
The number of CFV-40A is up to 2 for EDX-100A-2, EDX-100A-4.

## Specifications

**Models**

| Model name | Max. Channels | Card Slots | DCS-100A*1 | DCS-101A*2 | Remarks |
|---|---|---|---|---|---|
| EDX-100A-1 | 8 | 1 | Yes | | |
| EDX-100A-1-0 | | | | | |
| EDX-100A-1-1 | | | Yes | Yes | |
| EDX-100A-2 | 16 | 2 | Yes | | |
| EDX-100A-2-0 | | | | | |
| EDX-100A-2-1 | | | Yes | Yes | |
| EDX-100A-4 | 32 | 4 | Yes | | |
| EDX-100A-4-0 | | | | | |
| EDX-100A-4-1 | | | Yes | Yes | |
| EDX-100A-1H | 8 | 1 | Yes | | With handle grip |
| EDX-100A-1H-0 | | | | | |
| EDX-100A-1H-1 | | | Yes | Yes | |
| EDX-100A-2H | 16 | 2 | Yes | | |
| EDX-100A-2H-0 | | | | | |
| EDX-100A-2H-1 | | | Yes | Yes | |
| EDX-100A-4H | 32 | 4 | Yes | | |
| EDX-100A-4H-0 | | | | | |
| EDX-100A-4H-1 | | | Yes | Yes | |

Note: *1. Dynamic Data Acquisition Software
*2. Simultaneous Acquisition of Video and Numeric Data/ Arithmetic Operations/FFT Analysis Optional Software

| | |
|---|---|
| **Channels** | See table above. |
| **Analog Input** | Optional conditioner cards |
| | Implement with DPM, CDV, CTA, CFV, CCA, CVM |
| | installed |
| | For details, see page 3-93. |
| **CAN Data Input** | Accepts one card of CAN-41A |
| **Voice Memo Input** | 1 channel. |
| | Record voice memos included with recordings |
| | alongside with measurement data (during manual |
| | measurements) using a dedicated remote control |
| | (optional accessory) |
| **Sampling Frequency** | |
| **Sampling Methods** | Synchronous sampling of all channels |
| **Sampling Frequencies** | |
| | 1Hz to 100kHz(1-2-5 series): for 1 channel measurement |
| | 1Hz to 10kHz(1-2-5 series): for 16 channel measurement |
| | 1Hz to 5kHz(1-2-5 series): for 32 channel measuremen |
| | 1Hz to 1kHz(1-2-5 series): for CAN data measurementt |
| **Data Storage** | CF cards recommended by Kyowa |
| | (128 MB to 8 GB; 45× speed or higher) |
| | Offline data transfer to computers is enabled after the |
| | recording is complete |
| **Setting Conditions** | |
| Online: From the PC via LAN or USB port | |
| Offline: By reading from the CF card which has measuring conditions | |
| written with the DCS-100A data acquisition software | |
| **Saving Conditions** | Amplifier setting conditions and measuring conditions |
| | are saved in the internal nonvolatile memory, enabling |
| | immediate setup with previous conditions upon power-on. |
| **Measuring Modes** | |
| **Manual** | Data recording is manually started or stopped when |
| | data is recorded to a preset number of measured data. |
| | Manual mode allows recording of voice memo during data |
| | recording. |
| **Trigger** | Data recording is automatically started when the preset trigger |
| | condition is satisfied. |
| | Note that any CAN data mustn't be used as a trigger condition |
| **Interval** | Data recording is periodically made at preset intervals. |
| **Manual Start/Stop of Data Recording** | |
| | Possible by using the PC or by pressing the switch on the |
| | front panel or from the dedicated remote control unit |
| **Balance Adjustment** | |
| | Strain input channels are balanced by pressing the BAL. |
| | switch on the front panel or from the dedicated remote |
| | control unit or from the PC. |

| | |
|---|---|
| **Saved Data Format** | |
| | Kyowa standard format KS2, which enables data analysis with the optional Data Analysis Software DAS-200A |
| **Collecting Data** | LAN or USB port enables online data transfer to the PC, while CF card enables offline data transfer. |
| **TEDS** | Reads sensor's information and sets to channel condition automatically. |
| | Supported conditioner cards: CDV-40B (-F), DPM-42B (-F), DPM-42B-I (-F), CCA-40A (-F), CDV-44AS, CDA-44AS/45AS, CVM-41A, AD-40AS (-F) |
| **Synchronous Operation** | |
| | Synchronous cable enables cascade connection of up to 8 units of the EDX-100A. While data is recorded as a separate file in the CF card inserted into each unit, files of all cards are combined into a single file after online or offline data transfer to the PC. |
| **Analog Output** | All, except for CDV-40B (-F), AD-40AS (-F), and CAN-41A. |
| | Conditioner cards provide an analog output connector, enabling voltage monitoring (±5 VFS). |
| **CF Card Slot** | 1 (For data recording and condition setting) |
| **Interfaces** | LAN and USB (For control and data transfer), switchable |
| **LAN I/F** | 10BASE-T／100BASE-TX Connector: RJ45 modular jack |
| **USB I/F** | Conforms to USB 2.0 (High speed). |
| | Connector: Series B receptacle |
| **Operation Switches** | REC/PAUSE: Starts/pauses data recording. |
| | STOP: Stops data recording. |
| | BAL.: Executes balance adjustment. |
| | READ: Reads and sets conditions. |
| | ID: Sets ID No. of EDX-100A. |
| | LAN/USB: Switches communication port. |
| **Indicators** | Operation status indicator LEDs: 7 |
| | Channel status indicator LEDs: The number corresponds to the number of channels provided. |
| **External Control Connectors** | |
| | CONT IN and CONT OUT (For remote control and synchronous operation) |
| **Operating Temperature** | 0 to 50°C |
| **Operating Humidity** | 20 to 90% (Non-condensing) |
| **Storage Temperature** | -20 to 60°C |
| **Vibration Resistant** | ±29.42 m/s$^2$ (3 G), 5 to 55 Hz (When operating) |
| | ±49.03 m/s$^2$ (5 G), 5 to 55 Hz (When not operating) |
| **Impact Resistant** | 196.1 m/s$^2$ (20 G)/11 ms |
| **Power Supply** | 10 to 18 VDC |
| | Connector: RM12BRD-4PH (Hirose) |
| | DC power supply or optional dedicated AC adapter is required. |
| **Current Consumption** | |
| EDX-100A-1: | Approx. 1.2 A (When operated on 12 VDC with 1 CDV-40B card mounted and full load applied) |
| EDX-100A-2: | Approx. 1.8 A (When operated on 12 VDC with 2 CDV-40B cards mounted and full load applied) |
| EDX-100A-4: | Approx. 2.8 A (When operated on 12 VDC with 4 CDV-40B cards mounted and full load applied) |
| **Dimensions** | EDX-100A-1: 70.0 W × 132.5 H × 255 D mm |
| | EDX-100A-2: 92.5 W × 132.5 H × 255 D mm |
| | EDX-100A-4: 137.5 W × 132.5 H × 255 D mm |
| | *Excluding protrusions |
| **Weight** | EDX-100A-1: 1.6 kg (1.7 kg with 1 CDV-40B card mounted) |
| | EDX-100A-2: 1.8 kg (2.0 kg with 2 CDV-40B cards mounted) |
| | EDX-100A-4: 2.0 kg (2.6 kg with 4 CDV-40B cards mounted) |

**Standard Accessories**

DC power cable P-76
Ground wire P-72
USB cable N-38
CF card (1 GB)
DVD (Dynamic data acquisition software DCS-100A)
*DCS-100A is optional for models with suffix "-0".

**Optional Accessories**

USB cable N-39 (2 m)
Synchronous cable N-128
Camera synchronous cable N-98, N-99, N-101
AC adapter UIA345-12 (For U.S.A.: UNI345-1238)
Cable fixture
Synchronous extension unit ESYN-30A
Remote control unit RCU-41A
Battery unit for instantaneous power failure EDB-41B
Monitor unit EMON-20A
Dummy panel EDX2000-DUMMY

## DCS-100A software, specification for control of EDX-100A

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

| | |
|---|---|
| **Units** | Up to 8 units (up to 256 channels.) |
| **Interfaces** | LAN or USB |
| **Saving Format** | Saves the measured data in the EDX-100A CF card or PC folder in the KS2 format file. |
| **Channel Conditions** | Measuring ON/OFF, Measuring mode, Range, High-pass filter, Low-pass filter,Balance adjustment ON/OFF, CAL range, CAL ON/OFF, Calibr. const., Offset, Unit, Channel name, Measuring range, Rated capacity, Rated output, Deci Digits, Internal sensitivity compensation ON/OFF, Offset ZERO ON/OFF (Display items can freely be selected.) |
| **Loading TEDS Sensor Information** | |
| | Loads the TEDS information automatically and sets the channel conditions. |
| **Setting Parameter and Loading Parameter** | |
| | Loads and sets the EDX-100A internal parameter. |
| **Collecting Data File** | PC collects the KS2 format file, saved in the EDX-100A CF card, via LAN/USB. |
| | To collect the KS2 format file, insert the CF card in the PC. |
| **Deleting Data File** | PC deletes the KS2 format file, saved in the EDX-100A CF card, via LAN/USB. |
| **Setting Environment** | |
| **Setting Hardware Configuration** | |
| | Sets the number of units and device names. |
| | Loads the hardware configurations from the EDX-100A. |
| **Communication Check** | Loads the EDX-100A version. |
| **Setting IP Address** | PC sets the EDX-100A via LAN/USB. |
| | Saves the IP address setting file in the CF card. |
| **Device Confirmation** | LEDs, on the EDX-100A front panel, light up. |
| **Others** | Oscillator switching (internal/external), operating beep sound |
| **■When Saving the Measured Data in the EDX-100A CF Card** | |
| **Sampling Frequency** | 1 Hz to 100k Hz 1/2/5 system, 2n system, external clock)*Limited by the number of channels. |
| **File Size** | Up to 2 GB. |
| | *The number of data varies with the number of channels. |
| **Measure Mode** | Manual, Manual (Set Record Data), Interval, Analog Trigger, External Trigger,Complex 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. |
| **Trigger Measurement** | Starts/stops recording data based on the pre-set trigger conditions. |
| **Common trigger conditions** | |
| **End Trigger** | Settable |
| **Delay** | Up to 262144 data for both start and end. |
| | The delay time varies with the number of channels. |
| **Analog Trigger Conditions** | |
| **Trigger Channel** | Any 1 channel of the master unit |
| **Trigger Level** | Physical quantity |
| **Trigger Slope** | Positive or Negative |
| **External Trigger Conditions** | |
| **Trigger Slope** | Positive or Negative |
| **Complex Trigger Conditions** | |
| **Trigger Source** | Select from the analog channels (any 2 channels of the master unit) or external trigger. |
| | Capable of judging the trigger source by using the logical AND and OR operators. |
| **Trigger Level** | Physical quantity |
| **Trigger Slope** | Positive or Negative |
| **■When saving the measured data in the PC folder** | |
| **Sampling Frequency** | 1 Hz to 100k Hz (1/2/5 system, 2n system, external clock) |
| **File Size** | Up to the hard disk capacity. |
| **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. |
| **End Trigger** | Settable |
| **Delay** | Up to 262144 data 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. |

## ■Remote Control Unit RCU-41A

| | | |
|---|---|---|
| **Control BFunctions** | ①"REC/PAUSE": | Starts/pauses data recording. |
| | ②"STOP": | Stops data recording. |
| | ③"BAL": | Executes balance adjustment. |
| | ④"VOICE MEMO": | Records voice memo. |
| **Indicators** | REC/PAUSE, BAL | |
| **Cable Length** | Approx. 1.5 m | |
| | (Used by connecting to the CONT IN connector of | |
| | the EDX-100A recorder unit) | |
| **Dimensions** | 35 W × 110 H × 20 D mm | |
| | *Excluding protrusions | |
| **Weight** | Approx.200 g | |

## ■Synchronous Extension Unit ESYN-30A

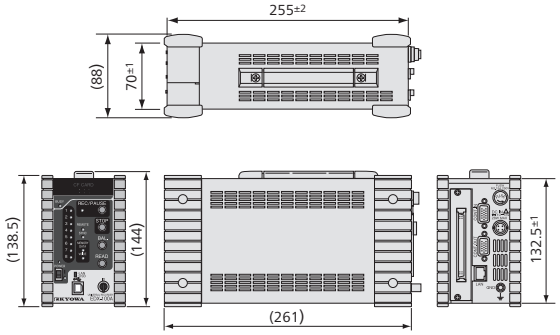
| | | |
|---|---|---|
| **Display** | POWER LED | |
| | With EDX-3000B connected: | Lit green |
| | With EDX-100A connected: | Lit orange |
| **Numbers of Connected Recorder** | | |
| EDX-3000B synchronous operation: | | Max. 10 |
| EDX-100A synchronous operation: | | Max. 8 |
| EDX-3000B, EDX-100A mixed synchronous operation *1: | | Max. 8 |
| **Total Synchronous Cable Length *2** | | |
| EDX-3000B synchronous operation: | | 1000 m or less |
| EDX-100A synchronous operation: | | 50 m or less |
| EDX-3000B, EDX-100A mixed synchronous operation *1: | | 50 m or less |
| **Synchronous Cable Length between Devices** | | |
| EDX-3000B synchronous operation: | | 100 m or less |
| EDX-100A synchronous operation: | | 50 m or less |
| EDX-3000B, EDX-100A mixed synchronous operation *1: | | 50 m or less |
| **Dimensions** | 92 W × 24.6 H ×55 D mm (Excluding protrusions) | |
| **Weight** | 250 g or less | |

*1 The ID number of EDX-100A must be higher than an ID number of EDX-3000B.
*2 Not including the synchronous cable length.
Note: When using ESYN-30A, do not use a remote control unit.

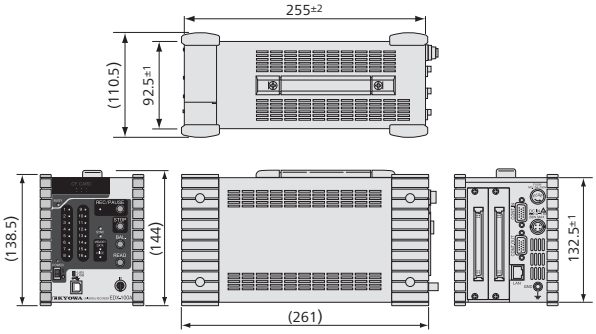
**Optional Accessories** EDX connection cables N-106, N-107
Terminators ESYN-1A (For slave),
ESYN-2A (For master)
Extension cables N-108, N-109, N-110, N-111

## ■Dimensions

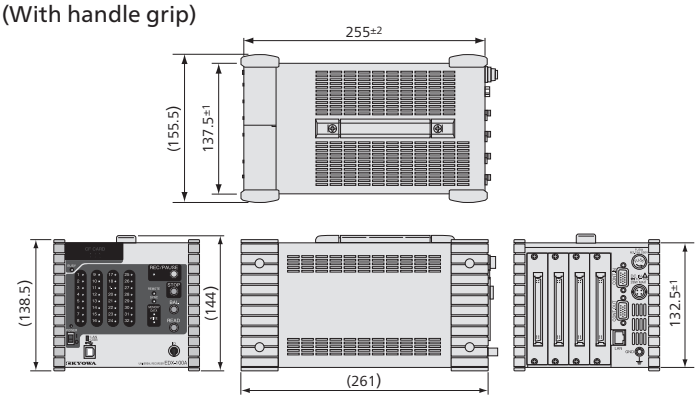
●1 Slot
EDX-100A-1
EDX-100A-1H
(With handle grip)




●2 Slots
EDX-100A-2
EDX-100A-2H
(With handle grip)




●4 Slots
EDX-100A-4
EDX-100A-4H
(With handle grip)




Data Recorders/ Analyzers