EDX-200A

Universal Recorders

Improved real-time processing function with high-speed DSP

- Incorporated real-time digital filter
  8th digital filter enables to acquire clear waveform.
- High-speed/low-speed dual sampling
  Measurement of high-speed and low-speed phenomena while constraining data quantities is possible.
- All channels simultaneous 10kHz high-speed sampling (for 32 channels)
  Measurement of 3 channels simultaneously at max. 100kHz
- Variety of input conditioner card
- One-wire synchronous
  With a maximum of 8 units using dispersion, support for large-scale measurements possible.
- Measurement execute key enables to measure without PC on site.
- Usable under high/low-temperature environments (EDX-200A-4T)

●Conditioner cards(For the detail refer to page P3-83)

Strain/voltage/acceleration measurement card	CVM-40A
Strain/voltage measurement card	CDV-40B/40B-F
Dynamic strain measurement 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-40A/41A
Strain/voltage measurement insulation card	CDV-44AS
Direct rated current expansion card (120Ω)	CDA-44AS
Direct rated current expansion card (350Ω)	CDA-45AS
AD Converter Cards	AD-40AS/40AS-F

EDX-200A-4T accepts only CVM-40A,CDV-40B/A,CDV-40B/A-F, CAN-40A, and CAN-41A for which temperature expansion

●Option cards(For the detail refer to page P3-73)

Multichannel CAN Card	ECAN-40
Time synchronization card	ETIM-40A
GPS/Multichannel CAN Card	EGPC-40A

EDX-200A Specifications

Model

Model	Maximum input CH	No. of conditioner slots	Optional slot nos.	Control software DCS-100A	Video collection/ basic arithmetic calculations software DCS-101A	Reference
EDX-200A-2H	16	2	1	●	×	With handle
EDX-200A-2H-0				×	×	
EDX-200A-2H-1				●	●	
EDX-200A-4H	32	4	1	●	×	
EDX-200A-4H-0				×	×	
EDX-200A-4H-1				●	●	
EDX-200A-4T	32	4	1	●	×	
EDX-200A-4T-0				×	×	
EDX-200A-4T-1				●	●	

(Note) Maximum input CH: When 8CH input conditioner card inserted

Measuring Target : Strain (gage, transducer), voltage, thermocouple, pulse (F/V)
Piezoelectric acceleration (built-in amplifier), CAN signal

Analog input : The conditioner card for EDX series
(For the detail refer to page P3-83)
Note:EDX-200A-4T accepts only CVM-40A, CDV-40B/A and CDV-40B/A-F for which temperature expansion measures are taken.
Once mounted, the conditioner cards cannot be replaced.

CAN data input : Either CAN-40A or CAN-41A can be mounted to the last slot.
Note: EDX-200A-4T accepts only CAN-40A or CAN-41A for which temperature expansion measures are taken.
Once mounted, the CAN card cannot be replaced.

Voice Memo Input : 1CH (input voice memo data can be recorded together with the measurement data)
Use remote control unit RCU-42A (optional accessory)
Use the data playback software DAS-200A (optional accessory) to play back recorded voice memos

Sampling : Sampling format all channels simultaneously

Sampling mode :
Normal : All channels collected using the same sampling frequency
Dual : High-speed or low-speed, collected using 2 types of sampling frequency set for each channel

Sampling frequency

1 / 2 / 5 series :	1Hz～100kHz	When up to 3 channel collection
	1Hz～50kHz	When up to 6 channel collection
	1Hz～20kHz	When up to 16 channel collection
	1Hz～10kHz	When up to 32 channel collection
2^n series :	2Hz～65536Hz	When up to 4 channel collection
	2Hz～32768Hz	When up to 9 channel collection
	2Hz～16384Hz	When up to 19 channel collection
	2Hz～8192Hz	When up to 32 channel collection

CAN data collection(By using CAN-40A/41A) :
1Hz～2kHz (1/2/5 series) Max. 24ch + no. of CAN data channels
2Hz～2048Hz (2n series) Max. 24ch+ no. of CAN data channels
(EDX-200A-2H is max. 8ch+no. of CAN data channels)
*In dual sampling mode, low-speed sampling frequency is selectable at 1/4 or less of high-speed sampling frequency
*Any card inserted to the optional slot does not restrict selection of sampling frequency.

Digital Filter :	8th Butterworth low pass filter (application on CAN data not possible)
	Amplitude ratio at cutoff point -3dB
	Attenuation characteristics -48dB/oct.
	Concurrent usage with low pass filter incorporating conditioner card possible
Display :	CH status display LED :
	EDX-200A-2H : 16
	EDX-200A-4H : 32
	EDX-200A-4TH : 32
	Unit status display LED :
	EDX-200A-2H : 7
	EDX-200A-4H : 7
	EDX-200A-4T : 7
	Unit status display organic EL monitor :
	EDX-200A-2H : 1
	EDX-200A-4H : 1
	EDX-200A-4T : 1
Operating Switch :	
UP, DOWN	: Status display organic EL monitor display switching
REC/PAUSE	: Start/pause data recording.
STOP	: Stop data recording.
BAL.	: Implement balance (balance adjustment)
LOAD	: Read and configure conditions from CF card
OPT.	: Execute arbitrary configured functions
ID	: EDX identifier configuration
POWER	: Power switch
USB/LAN	: Communications I/F switching
External Control Connector :	CONT IN, CONT OUT
	(remote control, for simultaneous operation)
Communications Interface :	USB (USB2.0 High Speed) 1 port
	Connector configuration : series B receptacle
	LAN (10/100BASE-T) 2 port (however, following ports are for simultaneous operation)
	Connector configuration : RJ45 modular jack
Synchronized Operation :	With synchronization cable (N-95) connection, number of units with simultaneous operation : 8
	With LAN cable connection, number of units with simultaneous operation : 8
Setting Conditions :	
Online : From the PC through 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 :	Recording of conditioner configuration conditions and measurement conditions within the EDX built- in nonvolatile memory, and immediate commencement of data collection using the previously configured measurement conditions after power-on is possible.
Data Recording :	CF card
	Capacity: 128M～16GB (Kyowa recommended product)
Measurement Modes :	Manual measurement/trigger measurement/ interval measurement
Manual measurement :	Data recording is manually started/stopped or stopped when data is recorded to a preset number of measured data.
	Manual mode allows recording of voice memo during data recording.
Trigger measurement :	Data recording is automatically started when the preset trigger condition is satisfied.
	Note that any CAN data cannot be used as the trigger condition.
Interval measurement :	Automatically recording functions based upon previously-set interval conditions
	Combination with measured mode when in dual sampling

High-speed sampling channel	Low-speed sampling channel
Manual	Manual
Trigger	Manual
	Interval
Interval	Interval

Recording Start/Stop :	PC, operation switch (panel screen), or using dedicated remote control
Balance Adjustment Operation :	Strain input channel balance adjustment performed using PC operation switch, panel screen), or dedicated remote control
Recording data format :	KYOWA standard file format KS2
	Analysis using optional data analysis software DAS-200A and NI DIAdem is possible
Data Recover :	Online recovery using PC, or offline recovery using direct reading from CF card to PC
TEDS Function :	Only when using online control from a PC
	Supported conditioner card : CDV-40B(-F), DPM-42B(-F, -I, -I-F), CCA-40A(-F), CDV-44AS, CDA-44AS, CDA-45AS, CVM-40A
	Note: EDX-200A-4T accepts only CVM-40A,CDV-40B and CDV-40B-F for which temperature expansion measures are taken.
Power Supply :	DC10 to 36V
	connector type: RM12BRD-4PH (Hirose Electric)
	Use DC power source or AC adapter (optional accessory)
Current Consumption :	
EDX-200A-2H : Approx. 1.6A (DC12V, when CDV-40B ×2 installed)	
EDX-200A-4H : Approx. 2.6A (DC12V, when CDV-40B ×4 installed)	
EDX-200A-4T : Approx. 2.6A (DC12V, when CDV-40B ×4 installed)	
Usable Temperature Range : 0 to 50°C(EDX-200A-4T:-20 to 65°C)	
Used Humidity Range : 20～90%RH (noncondensing)	
Storage Temperature Range : -20 to 60°C(EDX-200A-4T:-30 to 70°C)	
Vibration Resistance :	
49.0m/s^2 (5G), 5～55Hz 1 cycle 1 min., each axis 15 cycles (non-operating)	
29.4m/s^2 (3G), 5～55Hz 1 cycle 1 min., each axis 15cycle (operating)	
Impact Resistance : 196.1m/s^2 (20G)/11msec	
EMC Directive : EN61326-1(Class A)	
Dimensions :	EDX-200A-2H : 120mm (W) ×132.5mm (H) ×255mm (D) not including protrusions
	EDX-200A-4H : 165mm (W) ×132.5mm (H) ×255mm (D) not including protrusions
	EDX-200A-4T : 185.2mm (W) ×142.8mm (H) ×255mm (D) not including protrusions
Weight :	EDX-200A-2H : Unit approx. 1.8kg (when CDV-40B ×2 installed, approx. 2.0kg)
	EDX-200A-4H : Unit approx. 2.1kg (when CDV-40B ×4 installed, approx. 2.6kg)
	EDX-200A-4T : Unit approx. 3.7kg (when CDV-40B ×4 installed, approx. 4.2kg)

The corresponding plan to EU' s RoHS Directive 2011/65/EU in fiscal 2015

Standard Accessories

Dynamic data acquisition software DCS-100A (CD)
USB cable N-38 (1m)
DC power Supply cable P-76 (2m)
Earth wire P-72 (5m)
CF card (1GB) Inserted in slot
Fused, rated current 8A
Dummy panel (1) *Ships with the dummy panel in the empty slot
Instruction manual (J/E, on CD)
EDX accessory bag

Optional Accessories

EDX-200A AC adapter 4H,4T: UEA360-1540, 2H:UIA345-12
CVM input cable (integrated connector NDIS female connector 8ch)
U-121 (0.5m), U-122 (1.0m), U-123 (1.5m)
Voltage/piezoelectric input connector (1ch) FV-1A
1 gage compact bridge boxes (8ch) DBS-120/350A-8
Compact bridge boxes (8ch) DB-120/350V-8
Voltage input box VI-8A
CVM input cable (both end integrated connector) N-121 (1.5m)
Monitor output cable (integrated connector BNC connector) U-62 (1.1m)
EDX dummy panel (set of 3) EDX3P-DUMMY
EDX dummy panel (1) EDX1P-DUMMY
Synchronization cable N-95 (2m)
Remote control unit RCU-42A (1.5m)

Sensor to recommend
Strain Gages
Encapsulated Strain Gages
Load Cells
Pressure Transducers
Acceleration Transducers
Torque Transducers
Displacement Transducers
thermocouple
Voltage
CAN

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Voltage
CAN

●DCS-100A software specifications (standard accessories)

(Not included with EDX-200A-4H-0, EDX-200A-2H-0)

- Various graph/numerical value monitor display – Free positioning of graph/numerical value window
- Control of Kyowa recorders possible
- Direct saving of collection data on PC hard disk possible
- Data processing and analysis software (optional) can be started from the tool bar

Number of Units that can be Controlled : Max. 8 (max. 256 CH)
Interface : LAN, USB
Collection : Measurement data is saved on the EDX-200A CF card or PC hard disk (saved as KS2 file).
Applicable conditioner cards : CDV-40B/A(-F), DPM-42B(-F,-I,-I-F), CCA-40A(-F), CVM-40A, CDA-44AS/45AS, CTA-40A, CFV-40A, CAN-40A, CAN-41A, CDV-44AS,AD-40AS(-F)
Channel conditions : Measurement ON/OFF, mode, range, high pass filter, balance ON/OFF, CAL range, CAL ON/OFF, correction coefficient, offset, units, CH name, measurement range, decimal point, number of subsequent digits, rated capacity, rated output, digital filter, sampling frequency (select dual sampling high-speed, low-speed, high-speed+low-speed) (selection of arbitrary display items possible)
Reading TEDS Information : Automatic setting of TEDS information reading and of channel conditions
Dual Sampling : Display of high-speed/low-speed sampling data in numerical value or graph window possible
High-speed/low-speed sampling data is stored in separate files
Parameter Settings and Reading :
Reading and configuration of EDX-200A internal parameters possible
Data File Recovery : Recovery of KS2 files within EDX-200A CF card
Data File Deletion : Deletion of KS2 within EDX-200A CF card
Environment Settings
Hardware configuration setting :
Hardware configuration setting, connected units, configuration of equipment name
Reading of hardware configuration from EDX-200A possible
Communications Check : Read EDX-200A version
Data File Automatic Conversion : At the end of measurement, automatically converts the file (CSV format, XLS format, XLSX format, RPCIII format).
Arbitrary Unit Settings : The user can register 3 types of unit types from those that can be set
Other : Oscillator switching (internal, external) operation beep sound, balance standard value, AD data format, (16 bit, 24 bit)

Measurement Conditions When Storing Recording data on the EDS-200A CF Card

Sampling frequency :
1～100kHz (1/2/5 series, 2^n series, external clock)
*Limitations exist depending on measurement channel
Dual sampling support (configuration of high-speed/low-speed sampling possible)
Data file size : Max. 4GB
Measured mode : Manual, manual (specified amount of collection data), interval, analog trigger, external trigger, composite trigger
Manual measurement : Measurement is made from a press of the REC button to a press of the STOP button or to completion of recording to the preset number of measurements.
Interval measurement : Measurement is made automatically at preset intervals from the preset starting time.
Trigger measurement : Start/stop recordig based upon specified trigger conditions (The trigger standard values are set absolute triggers)
· Common trigger conditions
(1) End trigger : Settings possible
(2) Delay : For both start/stop, maximum 262,144 data items/1CH
Delay differs depending on the number of measurement channels
· Analog trigger conditions
(1) Trigger channel : Arbitrary 1 channel
(2) Trigger level : Set depending on physical quantity
(3) Trigger slope : Start-up/shutdown
· External trigger measurement
(1) Trigger slope : Start-up/shutdown
· Composite trigger conditions
(1) Trigger source : Select from analog CH (master EDX arbitrary 4CH), external trigger, manual trigger. Logical distinction using AND/OR for trigger source possible
(2) Trigger level : Set depending on physical quantity
(3) Trigger slope : Start-up/shutdown

When Saving Measurement Data on a PC hard disk

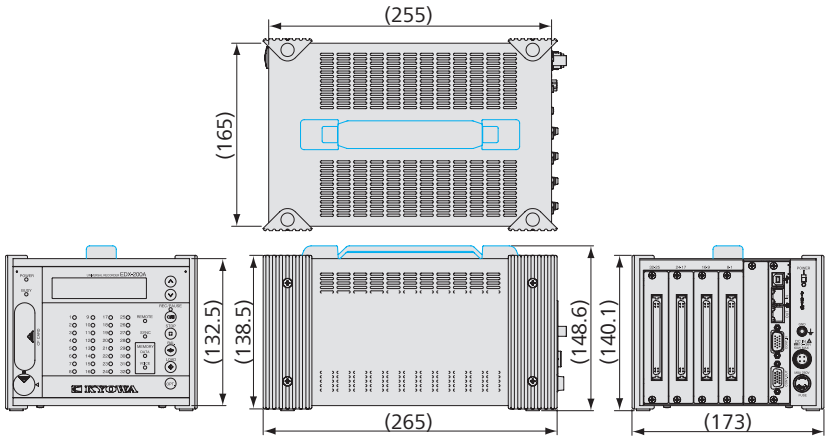
Sampling frequency : 1～100kHz (1/2/5 series, 2^n series, external clock)
Data file size : Until limits of hard disk capacity
Measurement mode : Manual, manual (specified amount of collection data), interval
Manual measurement : Measurement is made from a press of the REC button to a press of the STOP button or to completion of recording to the preset number of measurements.
Interval measurement : Measurement is made automatically at preset intervals from the preset starting time.
Trigger measurement : Start/stop recordig based upon specific trigger conditions (The trigger standard values are set absolute triggers)
(1) End trigger : Settings possible
(2) Delay : For both start/stop, maximum 264,144 data items/1CH
Delay differs depending on the number of measurement channels
(3) Trigger channel : Arbitrary 1 channel
(4) Trigger level : Set depending on physical quantity
(5) Trigger slope : Start-up/shutdown
Monitor Display
Y-Time graph : The X axis is the time axis, and the Y axis is the measured physical display, and display of a maximum 16 channels is possible
Display of 1 to 4 graphs on 1 screen is possible
parting line.
Y-Time (DIV) graph : The X axis is the time axis, and the Y axis is the physical quantity, and display of a maximum 16 channels is possible
Different to the time series graph above, the displayed channels 0 point position can be changed to an arbitrary point on the Y axis
X-Y graph : Graph display for both the X/Y axis using arbitrary 8 channel combinations is possible
Bar graph : Display of a maximum of 32 channels on 1 graph is possible. Display of 1 to 4 graphs on 1 screen possible.
Peak hold ON/OFF (numerical value display possible)
Bar meter : Display of an arbitrary channel horizontally or vertically is possible
Circular meter : Display of an arbitrary channel with the Circular meter is possible
Numerical value display : Arbitrary 1 channel display, arbitrary 16 channel display (maximum value & minimum value display of each channel possible)
Screen Display Colors : Arbitrary change of graph units possible
Title, label : Arbitrary setting of title and X/Y axis labels possible
Simultaneous display items :
numerical value display: 32, various graphs: 32
With numerical value display and graph display, display of up to 64 items possible (including graph display displayed in data reproduction/ numerical value display items.)
(*) Display of the maximum numbers may not be possible, depending on the PC CPU speed and memory capacity.
Measurement Operation
Data save destination : Saved to media within the EDX
Depending on the sampling frequency and the number of measuring channels, it may be possible to save directly to the PC hard disk, instead of to media within the EDX.
Data file automatic recovery : When Measuerment is completed, the acquisition files may be automatically recovered to the PC hard disk.
Automatic Conversion to CSV file : After end of recording, automatically converts to CSV file
File connection : Synchronous operation means that data files registered from different control devices can be connected as a file, and converted into a single data file.
Data File Format
Save format : When saving collection data on the PC, these are saved in the Kyowa standard file format (indicated below as KS2)
Readable formats : KS2 format saved in controlled devices media and in this software
Data Reproduction
Y-Time graph : The X axis is the time axis, and the Y axis is the measured physical display, and display of a maximum 16 channels is possible
Y-Time (DIV) graph : The X axis is the time axis, and the Y axis is the physical quantity, and display of a maximum 16 channels is possible
Different to the time series graph above, the displayed channels 0 point position can be changed to an arbitrary point on the Y axis parting line.
X-Y graph : Graph display for both the X/Y axis using arbitrary 8 channel combinations is possible
Numerical value display : List display
Screen display colors : Arbitrary change of graph units possible
Title, label : Arbitrary setting of title and X/Y axis labels possible
Cursor display : Cursor location engineering value numerical value display

Simultaneous display items :
numerical value display : 32, various graphs : 32
With numerical value display and graph display, display of up to 64 items possible (including graph display displayed on monitor screen/ numerical value display items)
(*) Display of the maximum numbers may not be possible, depending on the PC CPU speed and memory capacity.
Display possible data file size : Data file size that can be displayed at one time in the graph/numerical value display is max. 10MB.
If 10Mbytes is exceeded, then by setting the display range, display of an arbitrary range of 10MB of data is possible.
File conversion : Arbitrary range or channel file clipping,
CSV file conversion, Excel format conversion, and RPCIII format conversion are possible

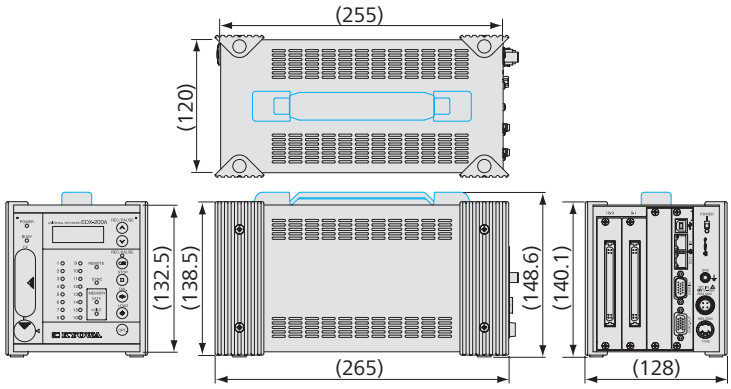
Operating Environment :	
OS :	Windows XP, Windows Vista, Windows 7, Windows8/8.1
	Japanese/English, 32/64 bit
	(If OS is Windows XP, only 32 bit is supported)
CPU :	Pentium4 2GHz or better
	(If OS is Windows XP, PentiumIII 1GHz equivalent or better)
Memory :	2GB or more
	(If OS is Windows XP, 1GB or more)
Display :	Resolution: 1024×768 dots or more
HDD :	At installation, 20MB+measurement data storage space
Interface :	100Base-TX, USB (depending on controlled devices)
	*If 64 bit OS, operate in WOW64
	Operates using WOW64 (Windows 32-bit On Windows 64-bit)

Dimensions(Handle grip in blue)

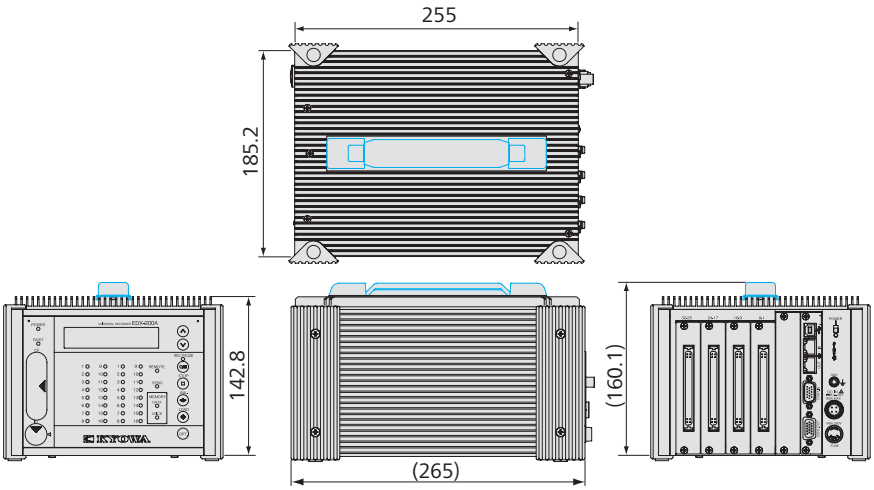
EDX-200A-4H



EDX-200A-2H



EDX-200A-4T



EDX-200A Recommended products for combination

Data Analysis Software DAS-200A
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