

Memory Recorder/Analyzer

Enables Synchronous Acquisition/Reproduction of Measurement and Moving Image Data



EDX-3000A

- ◆ Signals in 32 channels can simultaneously be sampled at a maximum 200 kHz.
- ◆ Various conditioner cards are selectable as required for each specific application.
- ◆ The conditioner cards are common to EDX-100A/2000A.

Hardware Specifications

Model: EDX-3000A

Number of Input Channels: Max. 64 (with 8 CDV-40B cards mounted)

Analog Input: Can connect conditioner cards for EDX-2000A/100A.

Digital Input: 32 bits, TTL level, contact input

CAN Data Input: Can connect one CAN-40A or 41A card.

Voice Input: 1 channel

TEDS Compatibility: Conditioner cards CDV-40B/A(-F), DPM-42A(-F) and CCA-40A(-F) are TEDS compatible.

Analog Output: Analog output connector of conditioner cards except for CDV-40B/A(-F) and CAN-40A or 41A enables voltage monitoring in ± 5 V FS.

Sampling System: Simultaneous sampling of all channels

Sampling Frequency

1/2/5 System

1 Hz to 200 kHz for up to 32-channel data acquisition

1 Hz to 100 kHz for up to 64-channel data acquisition

1 Hz to 10 kHz for real-time simultaneous data processing)

2n System

1 Hz to 131072 Hz for up to 32-channel data acquisition

1 Hz to 65536 Hz for up to 64-channel data acquisition

1 Hz to 8192 Hz for real-time simultaneous data processing)

Data Storage: 100 GB or more with internal hard disk

Synchronous Operation: Synchronous cable enables cascade connection of up to 10 units of EDX-3000A.

Indicators:

Removable 15-inch color LCD (option)

Channel status LED indicators, REC/PAUSE

Small-sized LCD for various status indications

Operation Keys:

REC, STOP and BAL on front panel

External Control I/O:

Keyboard and mouse are optional.

CONT IN/OUT for remote control or synchronous operation

Ext. Trigger IN/OUT (BNC)

Ext. Clock IN/OUT (BNC)

Interface Ports:

Mini DIN 6-pin for connection to keyboard conforming to 106

15-pin VGA connector to external display

USB 2.0 ports, 2 on the front and 6 on the rear

LAN port, 10/100/1000Base-T, for online control

Stand-alone Operation: Optional display, keyboard and mouse enable the user to set measuring conditions, monitor signals under measurement and perform data acquisition, reproduction and analyzing with no PC connected.

Data Acquisition with Mainframe: REC/PAUSE, STOP and BAL keys on the mainframe enable data acquisition with no display, keyboard and mouse connected.

Power Supply: 100 to 240 VAC, 50/60 Hz

Battery is built in against instantaneous power failure.

Operating Temperature/Humidity Range:

0 to 40°C, 20 to 80% RH (noncondensing)

Storage Temperature Range: -20 to 60°C

Dimensions: 440 (W) x 186 (H) x 341 (D) mm, excluding LCD and protrusions

Software Specifications

Measuring Condition Setting

Measuring Channel Conditions: Channel number, range, high-pass filter (DC cut), low-pass filter, calibration coefficient, offset, unit and channel name

Measuring Mode

Manual measurement: Data acquisition through keys on the mainframe or remote control unit

Interval measurement: Automatic data acquisition based on designated time intervals

Trigger measurement: Automatic data acquisition based on trigger conditions.

Number of Savable Measured Data:

Up to the capacity of the internal hard disk if

sampling at 1 Hz to 10 kHz

2 to 2,000,000,000 (measurements in all channels) if

sampling at higher than 10 kHz

Data File Format: KYOWA standard file format KS2

Measurement/Data Acquisition

Monitoring

Y-time graph: 1, 2 or 4 Y-time graphs on 1 window

X-Y graph: 1 X-Y graph on 1 window

Numeric list: Measurements in numeric list

Bar graph: Max. 32 channels

Simultaneous Moving Image Data Acquisition:

Moving image signals are recorded in

synchronization with the sampling frequency

selected for analog data acquisition.

Simultaneous Data Processing:

Data can be processed during measurement in progress with

some restriction on the sampling frequency.

FFT analysis: Possible during monitoring or data

acquisition

Types of FFT analysis: Linear spectrum, power

spectrum, cross spectrum, auto-correlation,

cross-correlation

Number of analyzed data: 256, 512, 1024, 2048

Window functions: Hamming, Hanning, Fejer,

Blackman, Gaussian

Arithmetic operation: Possible between each

channel during monitoring or data acquisition

Operators: +, -, *, /, sine, cosine, tangent, arc

sine, arc cosine, arc tangent, common logarithm,

natural logarithm, exponent

Triaxial rosette analysis (maximum principal strain,

minimum principal strain, maximum shearing

strain, maximum principal stress, minimum

principal stress, maximum shearing stress,

direction of principal strain

Data Reproduction

Graph Display: Display conditions can be set in 4 patterns per graph.

Y-time graph: 1, 2 or 4 Y-time graphs are displayed

on 1 window, max. 16 channels per graph

X-Y graph: 1 X-Y graph is displayed on 1 window. 4

channels each for X and Y axes can be selected.

All data display: All data is displayed in 4 channels

each per window.

Numeric Data Display: Acquired measurements are displayed in list format.

With desired 16 channels per window, a maximum

10000 data can be displayed per channel.

Cursor: Enables reading of the value at the cursor position in proper engineering unit.

Editing Data File: Data of desired sections or channels can be cropped from the acquired data file to a new data file.

Simultaneous Reproduction with Moving Image

Data: Analog and moving image data can synchronously be reproduced.

Analysis

Statistic Operation: Enables review of a list of maxima, minima, averages and standard deviations in a desired section of the acquired data file together with positions of maxima and minima.

Arithmetic Operation: Possible between channels in 1 or 2 data files to save the result in a new file (a maximum 320 arithmetic expressions can be set).

Arithmetic expression: Within 60 digits

Operators: +, -, *, /, sine, cosine, tangent, arc

sine, arc cosine, arc tangent, common

logarithm, natural logarithm, exponent

Triaxial rosette analysis (maximum principal

strain, minimum principal strain, maximum

shearing strain, maximum principal stress,

minimum principal stress, maximum shearing

stress, direction of principal strain)

FFT Analysis

Types of FFT analysis: Linear spectrum, power spectrum, cross spectrum, auto-correlation,

cross-correlation, coherence, transfer

function

Window functions: OFF, Hamming, Hanning,

Fejer, Blackman, Gaussian

Number of analyzed measurements: 256, 512,

1024, 2048, 4096, 8192, 16384, 32768

Filter: 12 steps of 1, 2, 5, 10, 20, 50, 100, 200,

500, 1k, 2k [Hz] and FLAT

Number of integrating times: 0 to 2

Number of averaging times: 1 to (0: Whole

waveform)

Number of shifting data: 2 or more

Histogram Analysis

Selectable channels: All channels

Algorithms available:

Peak/valley

Maxima/minima

1-dimensional rainfall

Amplitude

1-dimensional time at level

1-dimensional rainfall + peak/valley

1-dimensional rainfall + maxima/minima

2-dimensional rainfall

Number of slices:

Even number in a range of 10 (± 5) to 256 (± 128) for

1D algorithms

Even number in a range of 10 to 50 for 2D

algorithms

• Slice width, hysteresis, offset (for maxima/minima), etc. can be set.

Filtering

Digital filter: IIR filter with fourth order Butterworth characteristics (no phase delay and approx. -6 dB at the cutoff frequency)

High-pass/low-pass filter: FLAT to 500 kHz (effective

up to one-half the sampling frequency)

The following are possible in filtering:

• Graphic presentation and saving of filtering result

• Mirroring

• Saving filtering result in an additional file

Differentiation/Integration

The following are possible:

• Graphic presentation and saving of

differentiated/integrated result

• Setting differentiation/integration times and the

unit after differentiation/integration

• Correcting averages in integration



JQA-0821
JQA-EM4824

Specifications are subject to change without notice for improvement.



Safety precautions

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

Reliability through integration



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