



SAFETY PRECAUTIONS

MEMORY RECORDER/ANALYZER

EDX-5000A

Thank you for purchasing KYOWA’s product EDX-5000A Memory Recorder/Analyzer. Read the Instruction Manual carefully in order to make full use of the high performance capabilities of the product.
Do not use the product in methods other than described in the Instruction Manual.
For the Instruction Manual, refer to the attached DVD with the EDX-5000A.

STANDARD ACCESSORIES

When unpacking, check the contents to ensure that all accessories are enclosed referring to “LIST OF STANDARD ACCESSORIES FOR EDX-5000A”.

SAFETY PRECAUTIONS(Do not forget to read the safety precautions prior to use.)

The Memory Recorder/Analyzer EDX-5000A is designed in accordance with "13. HARDWARE SPECIFICATIONS" and "14. SOFTWARE SPECIFICATIONS." Do not use the EDX-5000A in an environment exceeding the specifications. Or, system may be damaged.

PRIOR TO USE

For safe use of the EDX-5000A, do not forget to read the "Safety Precautions" prior to use.
KYOWA ELECTRONIC INSTRUMENTS CO., LTD. assumes no liability for any damage resulting from the user's failure to comply with the safety precautions.

SAFETY SYMBOLS

For safety operation of the EDX-5000A, the following “WARNING” and “CAUTION” symbols are used in SAFETY PRECAUTIONS of this manual and indicated on the EDX-5000A.

⚠ WARNIG	Improper operation of the system may result in death or severe injury of the operator.
⚠ CAUTION	Improper operation of the system may result in injury of the operator and physical damage of the system.

⚠**WARNING**

- Power Supply
To prevent a fire hazard, ensure that the local line voltage is within the range of power supply voltage specified for the EDX-5000A before connecting the instrument to the AC or DC power outlet.
- Inflammable Environment
To prevent the risk of fire and explosion, do not operate the EDX-5000A in area exposed to flammable gases, vapors, or dust.
- Abnormal Condition
To prevent fire hazards, if smoke is emerging from the EDX-5000A, immediately turn OFF the power switch and disconnect the power cable from the AC power outlet to terminate the system operation.
- Abnormal Condition
To prevent fire hazards, if smoke is emerging from the EDX-5000A, immediately turn OFF the power switch and disconnect the power cable from the AC power outlet to terminate the system operation.

- Protective Ground
Unless the instrument is grounded using a 3-pin power cable, be sure to ground the "GND" terminal. Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CVM-40A, CVM-41A
Do not apply an input voltage exceeding the range (-50 V to +50 V) specified for the voltage measurement mode of the CVM-40A, CVM-41A Strain/Voltage/Acceleration Measurement Card (hereinafter referred to as the CVM-40A, CVM-41A). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CDV-40B/A (-F)
Do not apply an input voltage exceeding the range (-10 V to +10 V) specified for the voltage measurement mode of the CDV-40B/A (-F) Strain/Voltage Measurement Card (hereinafter referred to as the CDV-40B/A (-F)). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CCA-40A (-F)
Do not apply an input voltage exceeding the range (-5 V to +5 V) specified for the CCA-40A (-F) Charge Amplifier Card (hereinafter referred to as the CCA-40A (-F)). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CFV-40A
Do not apply an input voltage exceeding the range (-50 V to +50 V) specified for the CFV-40A F/V Converter Card (hereinafter referred to as the CFV-40A). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CDV-44AS
Do not apply an input voltage exceeding the range (-50 V to +50 V) specified for the voltage measurement mode of the CDV-44AS Strain/Voltage Measurement Insulation Card (hereinafter referred to as the CDV-44AS). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CDA-44AS
Do not apply an input voltage exceeding the range (-50 V to +50 V) specified for the voltage measurement mode of the CDA-44AS Signal Conditioner Card (hereinafter referred to as the CDA-44AS). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by CDA-45AS
Do not apply an input voltage exceeding the range (-50 V to +50 V) specified for the voltage measurement mode of the CDA-45AS Signal Conditioner Card (hereinafter referred to as the CDA-45AS). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Maximum Input Voltage Range for Measurement by AD-40AS(-F)
Do not apply an input voltage exceeding the range (-10 V to +10 V) specified for the AD-40AS(-F) A/D Converter Card (hereinafter referred to as the AD-40AS(-F)). Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Applicable input: DPM-42B/A (-F), DPM-42B-I (-F)
The dynamic strain amplifier card DPM-42B/A (-F), DPM-42B-I (-F) is a dedicated conditioner card for inputting strain. Do not connect an apparatus other than a strain sensor. Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Applicable input: CTA-40A
The thermocouple card CTA-40A is a dedicated conditioner card for inputting a thermocouple. Do not connect an apparatus other than a thermocouple. Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- Applicable input: EGPC-50A (Optional accessories, Optional module for GPS / Multi channel CAN)
Do not input to GPS / CAN port other than CAN data or GPS sensor signal attached to EGPC-50A. Failure to do so will pose the risk of electric shock, deteriorated performance and system failure.
- About cleaning
When the EDX-5000A is getting dirty, clean it with a dry soft cloth. If dust or the like is adhered inside the main body, clean it with air blow and do not touch the electronic parts.

⚠WARNING

- When using the CVM-40A, CVM-41A or CDV-40B/A (-F), keep in mind the following points.
 1. Use a tester or the like to measure the voltage between negative sides of the DC voltage and confirm that the voltage is approximately 0 V.
 2. Confirm that the voltage between the negative side of the DC voltage and the GND terminal of the EDX-5000A is approximately 0 V.
 3. When connecting an input, correctly connect the positive and negative sides.Failure to comply with the above precautions will result in a short circuit of the signal source (DC power supply, etc.) to be measured in the CVM-40A, CVM-41A or CDV-40B/A (-F), thus causing a fire hazard.
- Do not raise the display in an environment subject to vibration. If you use the display which raised in an environment subject to vibration, the indicator part will move, causing it to collide with people and things, or cause the system failure. Be sure to flip down the display and use it in a fixed state.
- Use the EDX-5000A in the specified operating temperature range of 0 to 40 °C. Use at temperature exceeding the specified range may cause low performance and system failure. If using under direct sunlight or in a cold place is inevitable, prepare a sunscreen or take proper measures to keep it warm.
- Use the EDX-5000A in the specified operating humidity range of 20 to 80%RH. Use in a humid place exceeding the specified range or expose to water may cause low performance and system failure.

⚠CAUTION

- Do not use the EDX-5000A immediately after an abrupt change of environment. Leave the EDX-5000A as it is to acclimate to the environment. Abrupt change in ambient temperature due to transportation, etc. may cause dew condensation, which may result in low performance and system failure.
- Do not use the EDX-5000A where it is subject to significant vibration or impact.
 - The vibration resistance of the EDX-5000A -H(E) and EDX-5000A -S(E) is
 - When in operation: 29.42m/s²(3 G), 5 to 55 Hz,
 - When not in operation: 49.03m/s²(5 G), 5 to 55 Hz,
 - For the EDX-5000A -H(E) (with HDD)
 - When in operation: 9.8m/s²(1 G), 10 to 200 Hz
 - For the EDX-5000A -S(E) (with SSD)
 - When in operation: 19.6m/s²(2 G), 10 to 200 Hz
 - The impact resistance of the EDX-5000A-H(E) and EDX-5000A-S(E) is
 - 196.1m/s²(20 G)／11 msUse the EDX-5000A in an area where vibration and impact can be kept within the scope of specifications. Continuous vibration or severe impact may cause deteriorated performance and system failure. Set the EDX-5000A on a vibration-isolated platform to reduce the applied vibration and impact. Be sure to use the EDX-5000A-S(E) in an area where continuous vibration and impact occur, in a vehicle, etc., even if the vibration and impact are within the specified range.
- Do not use the EDX-5000A in strong electromagnetic field. Use the EDX-5000A in an environment where a PC is usable. Use the EDX-5000A near to telemetry system, microwave oven, electronic furnace or any other equipment which generating strong magnetic field may cause low performance, erroneous operation and system failure.
- Do not use the EDX-5000A under poor condition of power supply. Operate the EDX-5000A within the range of 100 to 240 VAC (50/60 Hz) with power consumption of 300 VA or less, or the range of 10 to 30 VDC. Use the power supply without experiencing of instantaneous power failure and free from noise for EDX-5000A.
- Do not use incorrectly rated power cables.
- Do not turn ON the power immediately after turning it OFF. When the power is turned OFF, do not turn ON the power until the power supply is automatically cut off. In addition, do not cut off the AC power supply or the DC power supply when operating. Or, it may damage the internal disk of the memory recorder/analyzer.
- Do not place the EDX-5000A where it is difficult to pull the power plug out.

- Do not pull the connecting cables. Connect cables with a certain allowance of length to avoid any unwanted force at the connection parts. Pulling connecting cables or applying unwanted force may cause system failure or interrupt measurement.
- Take proper precautions when using a USB memory or USB device (mouse and keyboard) in an environment with vibration. Do not take measurement while the USB memory or USB device remains inserted in a vibrating environment, which may cause a system failure or PC card failure.
- Do not seal ventilation holes where a fan is located at the back and where two fans are located at the front. Do not seal ventilation holes located at the top and bottom too. Failure in heat radiation causes the increase of temperature inside the EDX-5000A which may lead to low performance and system failure.
- Use a shielded cable as an I/O cable. The built-in battery which acts as countermeasure against instantaneous power failure is Ni-MH battery. It is a battery pack with 12 batteries (type: HR-4/5 FAUP) connected in series. Recycle or discard your battery in a responsible manner or contact KYOWA or our representatives.
- Charge the built-in battery which acts as countermeasure against instantaneous power failure under temperature range of 0 to 40°C or the battery may not be fully-charged and deterioration is accelerated.
- **If the EDX-5000A is not being used for a long period, the built-in battery which acts as countermeasure against instantaneous power failure should first be fully-charged. The battery discharges gradually over time naturally even if the EDX-5000A is not being used. If the battery is left almost empty, long-term storage may accelerate self-discharge of battery and lead to over-discharging. The battery can no longer be used and have to be replaced if it had been over-discharged. In addition, if the EDX-5000A has to be stored for a long term period, the self-discharge rate and deterioration rate of the battery are closely related to the storage temperature. It is recommended to store the battery at 25°C or lower temperature.**
- Use the EDX-5000A in area where elevation is 2000 m or below. (CE marking)
- The handle of the EDX-5000A is only for the purpose of support. When transporting, either picking up and carrying the case with both hands or carrying it on a trolley, etc is recommended.
- When carrying or transporting EDX-5000A, wear safety shoes.
- When the power is ON but no power is supplied to the EDX-5000A (the POWER LED is off), a fuse may have been blown. When replacing a fuse, use the fuse (rated according to current, voltage and type) provided with this product. Make sure to pull the power cable out before replacing a fuse.
- Avoid installing sensors and measuring using EDX-5000A near a welding machine. Failure to do so will pose the risk of error in data, erroneous operation and system failure.
- Do not disassemble or remodel the EDX-5000A. Failure to do so will pose the risk of electric shock and system failure. The warranty does not cover any damage or defective parts resulted from disassembling or remodeling.
- The number of CFV-40A that able to be mounted is up to 2 units.
- USB ports on the EDX-5000A are to be used to connect generic external storage devices, such as USB memory sticks, etc.
- When connecting external devices that are not external storage devices (USB mice, USB keyboards, etc.), devices that required to be installed with new driver software cannot be used. Furthermore, inserting or removing external storage devices and external input devices to the USB ports while conducting measurement will affect negatively on measurement, and hence should be avoided under any circumstances.
- When mounting the EDX-5000A in the vehicle, always set it on the car seat and securely fix it in position with a band or others. Do not directly mount it on the vehicle’s chassis. Otherwise unexpected vibration or impact may be applied to the EDX-5000A. Under this circumstance, set it on a vibration isolation platform to reduce the applied vibration and impact. Be sure to use the EDX-5000A-S(E) in an area where continuous vibration and impact occur, such as in a vehicle, etc., even if the vibration and impact are within the specified range.
- Do not configure OS settings to values other than those indicated by Kyowa. Configuring settings to values other than those indicated by Kyowa may negatively affect measurement performed by the EDX-5000A. Refrain from heedlessly changing these settings.