

VI-8A INSTRUCTION MANUAL

Voltage Input Box

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The contents of the Instruction Manual, standard accessories, and specifications of the VI-8A are subjected to change without prior notice.

STANDARD ACCESSORIES

The Voltage Input Box VI-8A (hereinafter referred to as the VI-8A) comes with the following accessories.

After unpacking, check to be sure that they are included.

Rubber Foot	4
Instruction Manual	1
Warranty and Test Certificate	1 each
For the VI-8A	
N-121 cable (Connector for the CVM-40A/41A equipped)	1
For the VI-8A-T	
N-121 cable (Connector for the CVM-40A/41A equipped)	1
DBS-MOUNT (mounting board)	1
Cross-recessed countersunk flat head screw M3 × 6	4
For the VI-8A-C	
N-105 cable (Connector for the CDV-40A/B (-F) equipped)	1
For the VI-8A-CT	
N-105 cable (Connector for the CDV-40A/B (-F) equipped)	1
DBS-MOUNT (mounting board)	1
Cross-recessed countersunk flat head screw M3 × 6	4

SAFETY PRECAUTIONS

The Voltage Input Box VI-8A is a small-sized input junction box for gathering signals from 8 BNC connectors into one.

The VI-8A is used for measuring voltage with the Strain/Voltage Measurement Card CDV-40A/B (-F)* and is used for measuring voltage and voltage-output-type piezoelectric accelerometer with the Strain/Voltage/Acceleration Measurement Card CVM-40A/41A*.

Do not use the VI-8A with other than the CVM-40A/41A and CDV-40A/B (-F). Or, it may cause trouble.

Note: The CVM-40A and CDV-40B/A (-F) are conditioner cards for the EDX series.

EDX series: EDX-200A, EDX-3000A/B, EDX-100A, and EDX-2000A/B (You cannot use the CVM-40A/41A in the EDX-2000A/B.)

PRIOR TO USE

For safe use of the VI-8A, do not forget to read the "Safety Precautions" prior to use.

Kyowa Electronic Instruments Co., Ltd. assumes no liability for any damages resulting from the user's failure to comply with the safety precautions.

SAFETY SYMBOLS

For safety operation of the VI-8A, the following symbol marks are used in the Instruction Manual.

 WARNING	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.
	Prohibited acts

WARNING

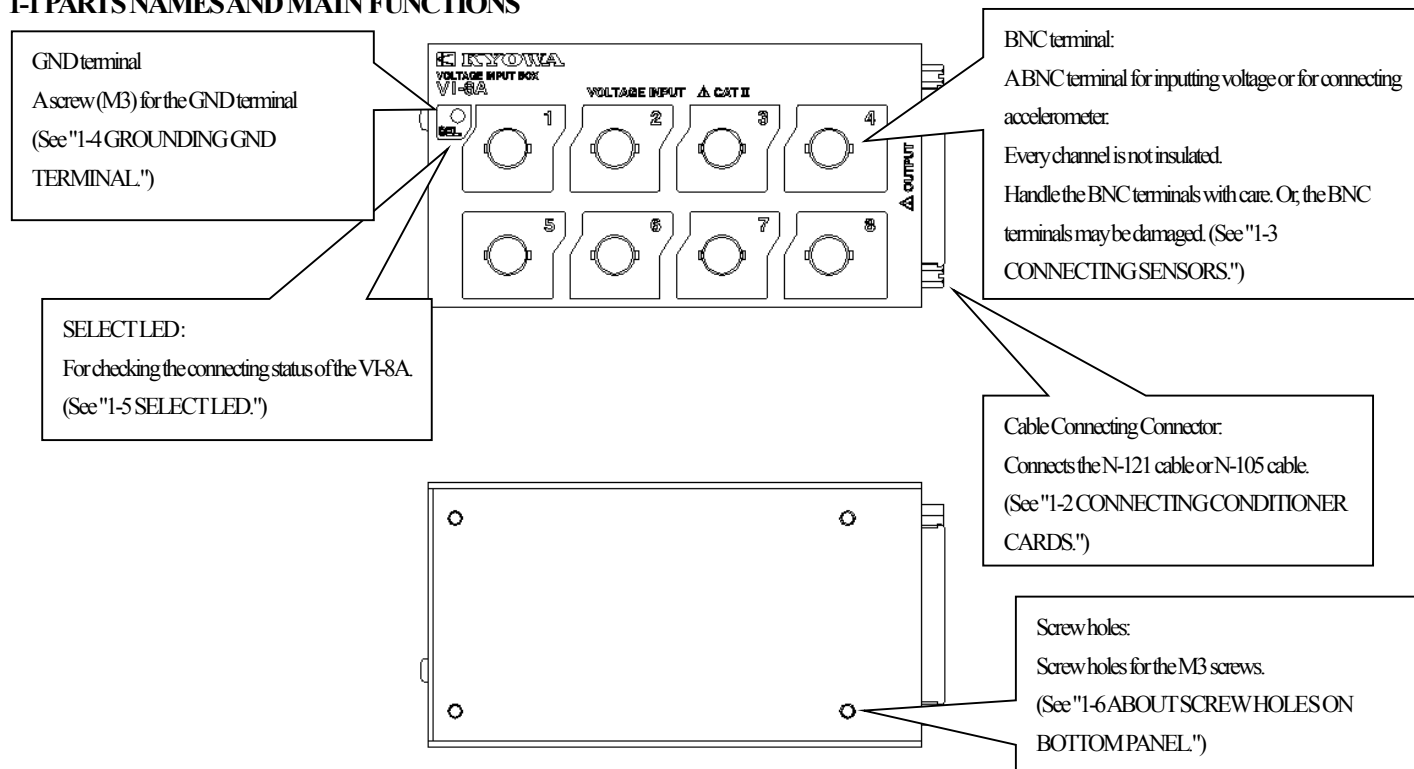
- Avoid using in environment with inflammable gas, etc.
To prevent fire and explosion hazards, do not operate the VI-8A where it is exposed to inflammable gases, inflammable vapors or inflammable dust.
- Do not operate the VI-8A in environment with excessive moisture, dust or oil dust.
- If the VI-8A is emitting smoke, ignited, or producing abnormal heat, immediately turn OFF the EDX series.
- When using the VI-8A, **every CH is not insulated**.
Therefore, note the followings.
In addition, input available voltage ranges are within ± 50 V for the CVM-40A/41A and is ± 10 V for the CDV-40A/B (-F).
Do not input voltage exceeding the above available range. Or, it may cause troubles.
- ⊗ (1) Correctly connect leadwires to input voltage. Or, internal circuits have short-circuited and cause troubles. In addition, the VI-8A, EDX series and peripherals may emit smoke and cause a fire.
- ⊗ (2) You cannot measure the middle voltage of the battery connected with the sensors. Or, internal circuits have short-circuited and cause troubles. In addition, the VI-8A, EDX series and batteries may emit smoke, burst and/or ignite.

CAUTION

- Use the VI-8A and EDX series in the specified operating temperature range.
Use at temperatures exceeding the specified range may lower the performance and cause trouble. If use under direct sunlight or in a cold place is inevitable, prepare a sunscreen or take proper measures to keep it warm.
- Use the VI-8A and EDX series in the specified operating humidity range.
Use in a humid place exceeding the specified range or where it is exposed to splashing water may lower the performance and cause trouble.
- Do not store the VI-8A at a place exposing to direct sunlight or with excessively high temperature, humidity or to dust.
- Immediately stop the VI-8A if operating environment changes abruptly.
Leave the VI-8A as it is until it becomes adaptable to the environment. Abrupt change in ambient temperature due to transportation, etc. may cause dew condensation result to deteriorate its performance and cause trouble.
- Do not get the VI-8A close to water. Or never handle the VI-8A with wet hands.
- Do not use the VI-8A where it is subject to significant vibration or impact.
Use the VI-8A 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. At this time, set the VI-8A on a vibration isolation table to reduce the applied vibration and impact.
- Take care not to drop it during transportation and avoid applying strong impact.
- Do not use the VI-8A in strong electromagnetic field.
Use the VI-8A in a magnetic field environment where the PC may be used. If the VI-8A is used near devices generating strong magnetic field such as a telemetry system, microwave oven, electric furnace, etc., its performance may be lowered and erroneous operation and trouble may result.
- Do not pull cords and cables.
Lay cords and cables with a certain allowance so that unreasonable force is applied to the connections. Pulling or applying unreasonable force may cause trouble or interrupt the measurement.
- Do not attempt remodel the VI-8A. Kyowa Electronic Instruments Co., Ltd. assumes no liability for any failure, damage, and accidents resulting from user's remodeling.
- The VI-8A is intended for usage in easy and simple measurement. The VI-8A is neither intended nor warranted for usage in equipment that requires high quality and/or reliability or a malfunction of failure or which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, military affair instruments, mobile object instruments, medical instruments, all types of safety devices, etc.
- Do not connect the sensors other than specified. Or, damage of the product may result.
- Screw holes located on the rear panel are for the M3 screws (depth: 6 mm). Do not use screws longer than 6 mm as they may damage the VI-8A.
- Avoid installing sensors and VI-8A near a welding machine. Failure to do so will pose the risk of erroneous data, malfunction and failure.

1. HOW TO USE

1-1 PARTS NAMES AND MAIN FUNCTIONS



1-2 CONNECTING CONDITIONER CARDS

Use the following cables for connecting the conditioner cards.

For the CVM-40A/41A: N-121 cable (Connector for the CVM-40A/41A equipped)

For the CDV-40A/B (-F): N-105 cable (Connector for the CDV-40A/B (-F) equipped)

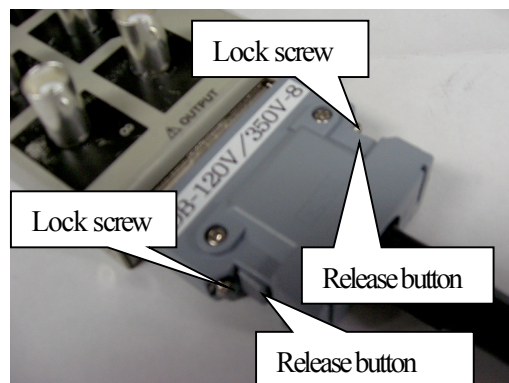
Each cable length is 1.5 m.

Since the N-121 or N-105 connector has a lock function to prevent itself from falling off, the N-121 or N-105 connector is locked just by inserting it.

For releasing, pull the connector with clipping the release buttons on both sides of the connector.

In addition, the lock screws are also equipped. You may fix the lock screws with a Phillips-head screw driver for M2.6.

Connector is not released if you fasten the lock screws even if the release buttons are clipped.



NOTE

N-121 is defined the connector of CVM-40A/41A and VI-8A. Please follow the connector label's direction (Model name written). Can not be used, other way around.

1-3 CONNECTING SENSORS

The applicable voltage input range and applicable accelerometer depends on a conditioner card to be connected.

Do not input voltage exceeding the specifications. Or, the VI-8A, connecting conditioner card, and EDX series may be damaged.

Connect the CVM-40A/41A and VI-8A by using the N-121 cable. Input voltage or connect a voltage output type piezoelectric accelerometer into the BNC terminals. The maximum voltage input range is within ± 50 V (Each negative side of the channels has the same potential.).

Connect the CDV-40A/B (-F) and VI-8A by using the N-105 cable. Input voltage into the BNC terminals. The maximum voltage input range is within ± 10 V (Each negative side of the channels has the same potential.).

1-4 GROUNDING GND TERMINAL

When using the VI-8A, be sure to ground the GND terminal. Or, it may cause electric shock, lower the performance and cause trouble.

1-5 SELECT LED

1-5-1 OUTLINE

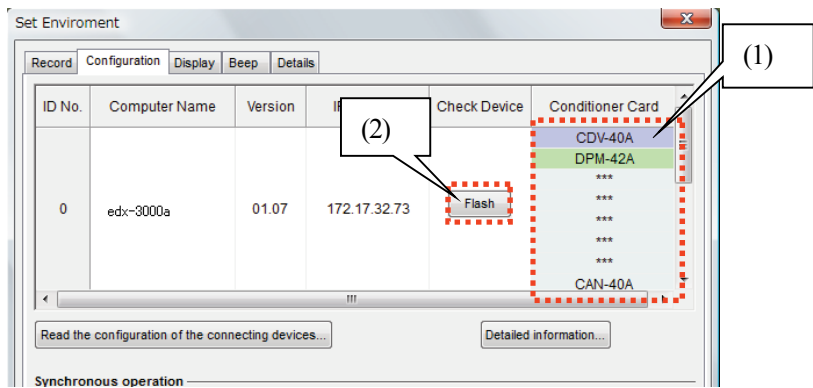
When using multiple VI-8A, by lightening the SELECT LEDs, you can identify which VI-8A are connected to the target CVM-40A/41A or CDV-40A/B (-F).

1-5-2 ON THE DCS-100A OR ON THE SOFTWARE OF THE EDX-3000A

Click the Environment icon and select the Configuration tab on the DCS-100A or on the software of the EDX-3000A.

Double click the target CVM-40A/41A or CDV-40A/B (-F) with a VI-8A on the Conditioner Card column (1) to light up the SELECT LED in green (the LED will light off in seconds).

Click the (2) **Flash** button to blink the all SELECT LEDs connected to the EDX series in green.

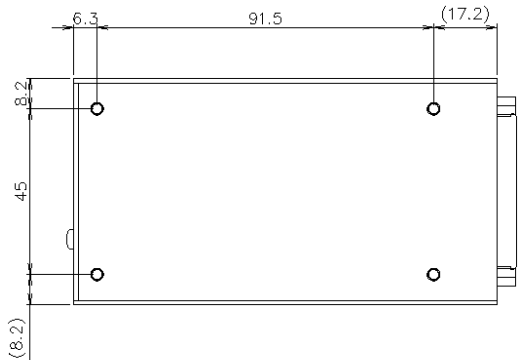


1-6 ABOUT SCREW HOLES ON BOTTOM PANEL

Four holes for M3 screws are arranged on the bottom panel of the VI-8A. The screw holes are for fixing the VI-8A with the fixing screws.

Depth of the screw holes are 6 mm.

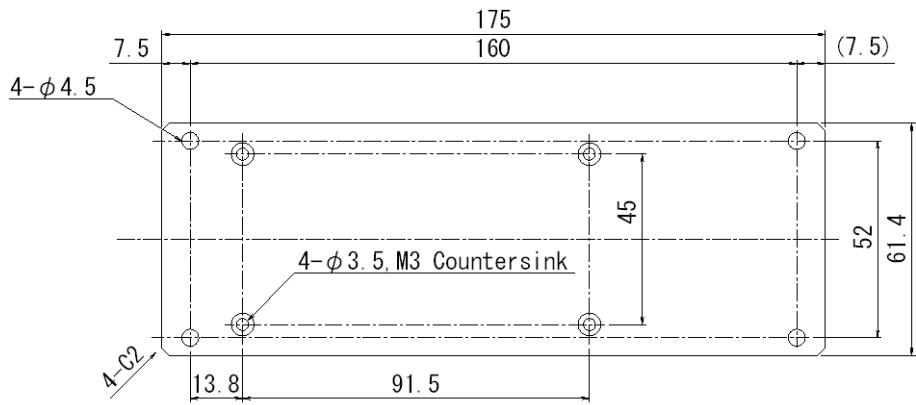
In addition, put the accessory rubber feet (4) when not using the holes.



Unit: mm

DBS-MOUNT (mounting board)

Plate thickness



Unit: mm