E00.D10AL Chassis-type Piezo Controller

User Manual

Version: V1.0 Date: 2025.01

Front Panel

Rear Panel

This manual describes the following products:

- E00.D10AL Chassis-type Piezo Controller

Declaration

- This user manual is only applicable to the E00.D10AL chassis-type piezo controller produced and sold by CoreMorrow. To avoid potential dangers that may threaten the safety of users' lives and property, please read this manual carefully before use. If you find any unclear or incorrect descriptions, please provide timely feedback to our company.
- This product can only be used within the specified environmental range. Please refer to the instructions in the manual during use. If there are any problems, please contact our company for technical support. If the product is not operated according to this manual or disassembled and modified by oneself, the company will not be responsible for any consequences arising therefrom.

Notice!

- Do not touch any exposed ends of the product and its accessories.
- There is high voltage inside, do not open the case without permission.
- Do not connect or disconnect input, output, or sensor cables with power on.
- Please keep surface clean and dry, and don't operate in humid or static environment.
- After use, output voltage should be cleared to zero before turning off the controller switch, such as switching the servo state to the open-loop state.

Danger!

- The piezo controller described in this manual is a high-voltage device capable of outputting high currents, which can cause serious or even fatal damage if not used properly.
- It is strongly recommended that you do not touch any parts that connect to the high voltage output.
- Special Note: If you connect it with other products in addition to our company, please follow the general accident prevention procedures.
- Operating the high-voltage ampliffcation requires training professional operators.

Warning!

- To avoid damage to the core PZT device, it is necessary to ensure that the positive and negative poles of PZT are connected correctly before applying voltage to the two poles of PZT. At the same time, the operating voltage must be within the allowable voltage range of PZT to avoid exceeding it and causing permanent damage to PZT devices.
- The modification or maintenance of the instrument must be carried out by personnel authorized by our company, and the corresponding original parts of our company must be used. If the instrument is damaged due to improper maintenance or improper use, our company will not be held responsible.

Cautious!

- The E00.D10AL chassis-type piezo controller housing is a heat dissipation conductor and needs to be installed in an area with a 3cm air circulation area on a horizontal plane or on a plane with a heat dissipation device to avoid damage to the controller.

Contents

1. Introduction

1.1 Typical characteristics

- 7 channels output, containing one constant voltage output
- AC100V power supply
- Nominal analog input: 0~10V
- Nominal output voltage: 0~120V
- Bandwidth: 10kHz
- Peak current: 1A
- Average current: 291mA
- Software control
- Chassis-type

1.2 Typical applications

- Driving 6-Axis Piezo Nanopositioning Stage

1.3 Order information

- This product is specially customized according to user needs

1.4 User Manual Notes

- The contents described in user manual are standard product descriptions, special product parameters are not described in detail in this manual.
- When using the piezo controller, the user manual should be placed near the system for easy reference in time. If the user manual is lost or damaged, please

contact our customer service department.

- If your user manual is incomplete, it will miss a lot of important information, cause serious or fatal injuries, and cause property damage.
- You have read and understood the contents of the user manual before installing and operating the E00.D10AL chassis-type piezo controller.
- Our company's official website (www.coremorrow. com) provides the latest user manual download.
- Only authorized professionals who meet the technical requirements can install, operate, maintain and clean the controller.

1.5 User Manual Download

User manual download process instructions

1. Open the website www.coremorrow.com;
2. Search for product model (e.g. E00.D10AL) or series (e.g. chassis-type piezo controller)on the website;
3. Click on the corresponding product to open the product details page;
4. On the product details page, scroll down to "Downloads";
5. Click on the desired file to download.

Be careful! If the manual is lost or there are problems downloading, please contact our customer service department.

2. Appearance and Panel Introduction

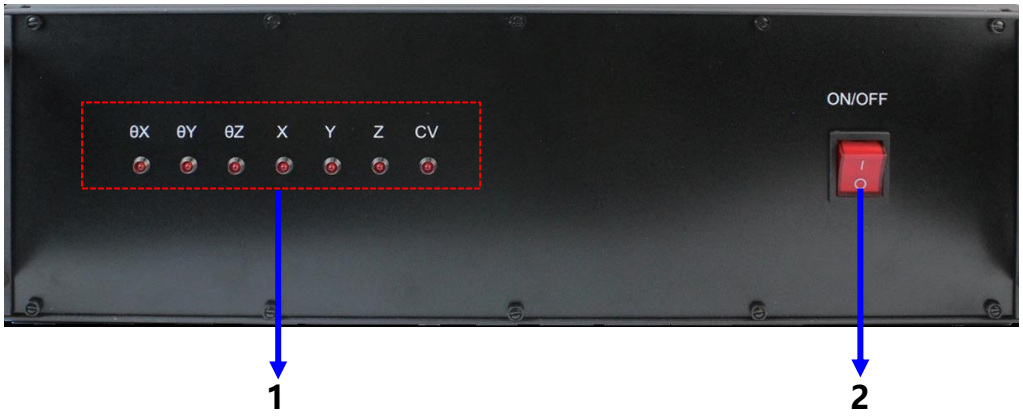
2.1 Appearance

Front Panel

Rear Panel

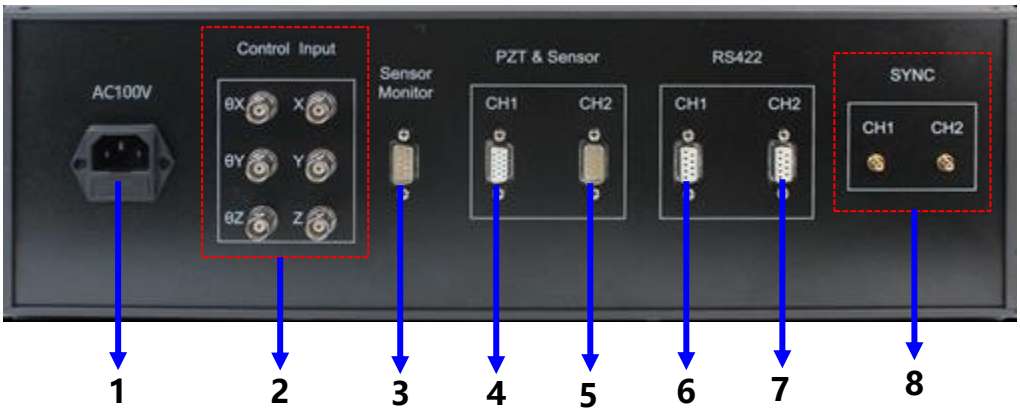
2.2 Panel Introduction

2.2.1 Front Panel



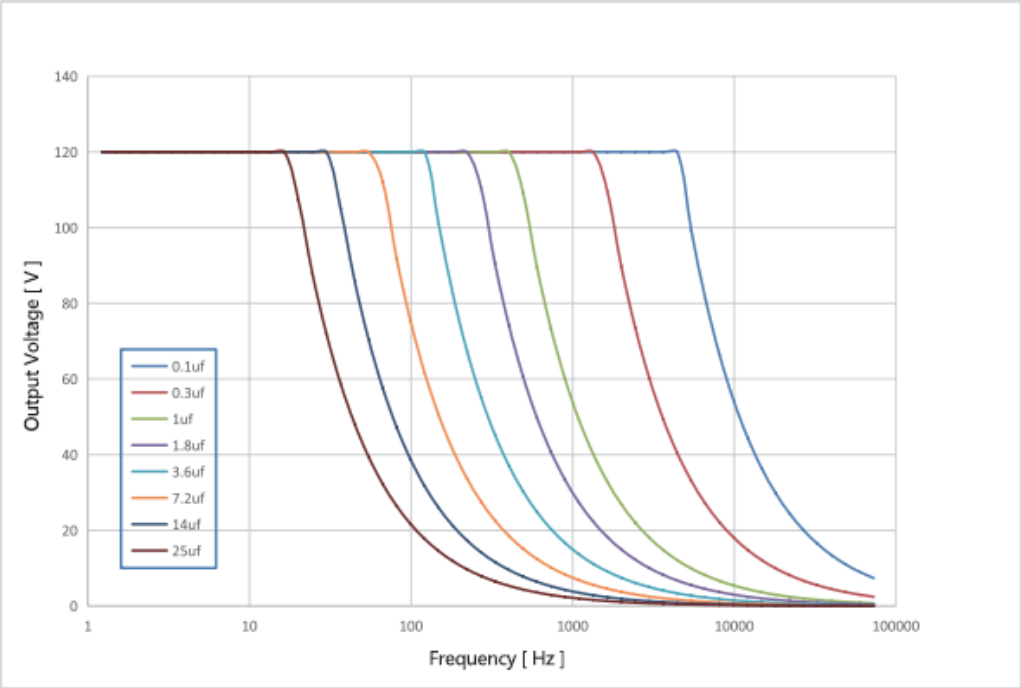
No.	Function	Type	Description
1	Alarm Indicator	LED	Short circuit and overload alarm indication
2	Power switch	KCD2	Power on and off

2.2.2 Rear Panel



No.	Function	Type	Description
1	AC220V, Insurance socket	IPZ-4	Power connector socket
2	Control Input	BNC	θx, θy, θz, X, Y, Z, analog control signal input
3	Sensor Monitor	DB9(male seat)	θx, θy, θz, X, Y, Z, sensor output signal monitoring terminal
4	CH1 PZT&Sensor	DB15(female seat)	θx, θy, θz: Output votlage to drive piezo actuator Sensor input signal
5	CH2 PZT&Sensor	DB15(male seat)	X, Y, Z: Output votlage to drive piezo actuator Sensor input signal
6	CH1 High speed serial port	DB9(female seat)	θx, θy, θz, high speed synchronous serial port
7	CH2 High speed serial port	DB9(female seat)	X, Y, Z, high speed synchronous serial port
8	CH1 CH2 Synchronous trigger	SMB	Trigger signal control output

3. Voltage vs Frequency Curves



4. Parameter

4.1 Technical Data

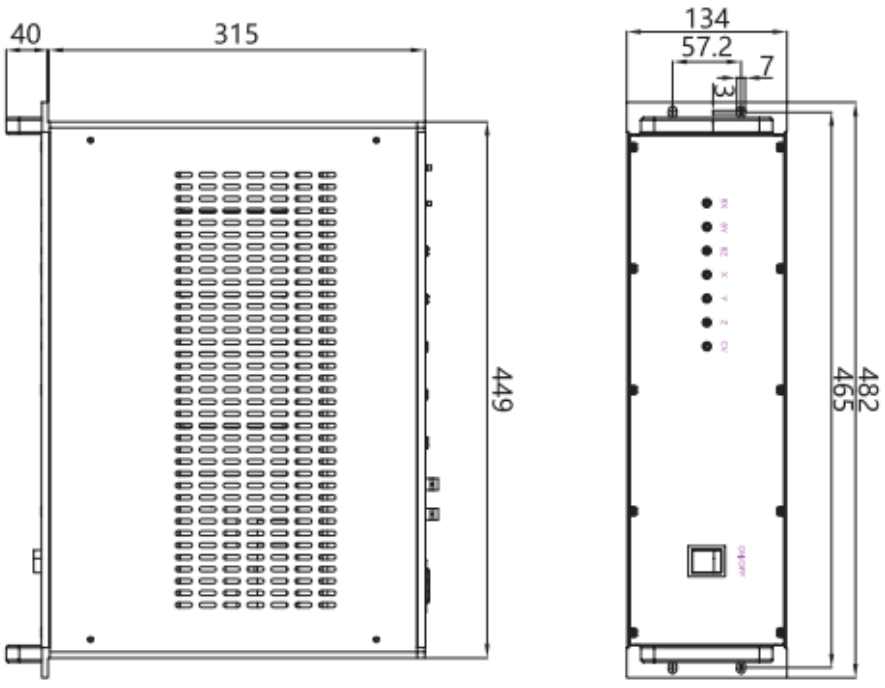
Type	E00.D10AL
Drive	
Channels	7, containing 1 constant voltage output
Analog input(V)	0~10
Output voltage(V)	0~120
Ripple(mV)	5
Unloaded bandwidth(kHz)	10
Ave. Current(mA)	291
Peak current(A)	1
Control input interface	BNC
Servo control	
Sensor type	SGS(or LVDT,CAP)
Servo	Analog P-I +Notch filter
Sensor interface	DB15HD
Sensor output voltage(V)	0~10
Communication	
Computer interface	RS-422
Baud rate	9600, 19200, 38400, 57600, 76800, 115200, 128000, 230400, 256000, 5250000
Output wave frequency(Hz)	10k
I/O interface	SMB
Others	
Operating temperature(°C)	0~50
Power supply	AC 100V±10%, 50Hz±10%
Current limit	Short-circuited proof
L×H×D(mm)	449×134×315

4.2 Environmental conditions

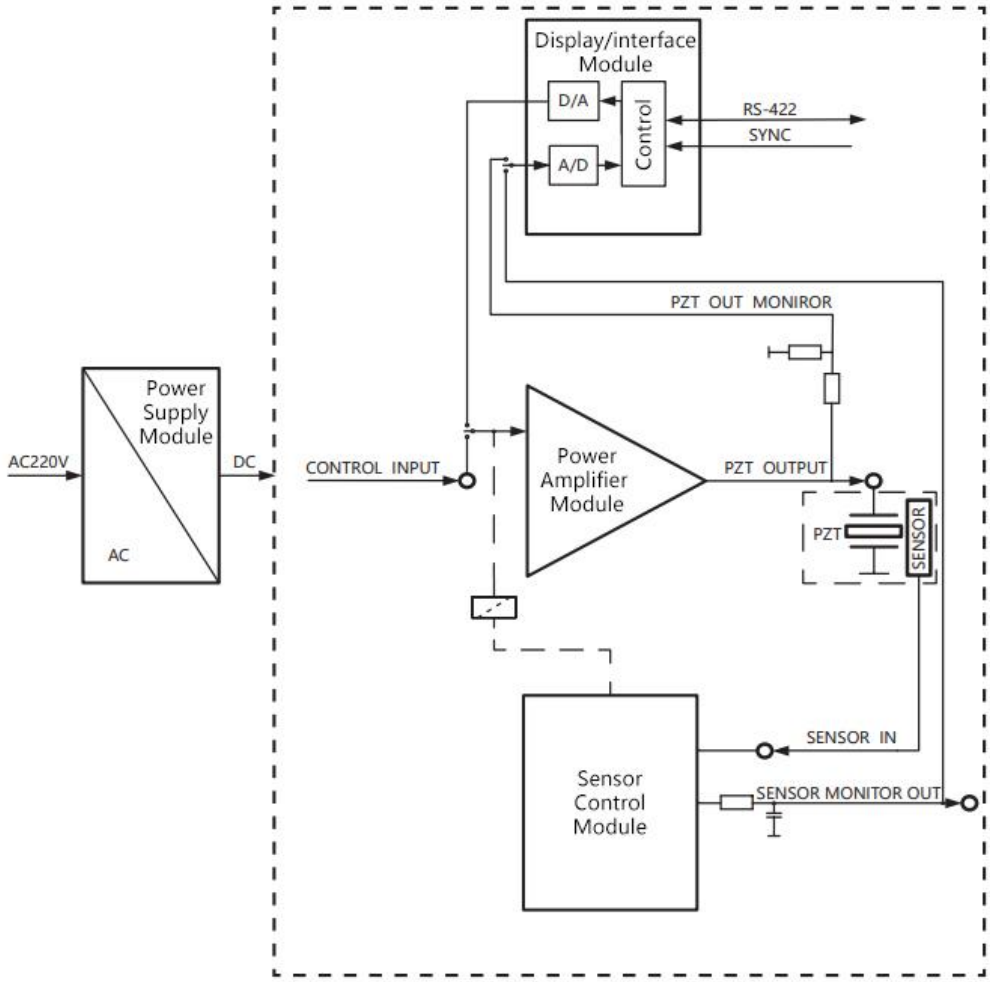
The operating environment of E00.D10AL chassis-type piezo controller:

Environmental conditions	Condition description
Application	For room use only
Environment humidity	Highest relative humidity 80%, temperature can reach 30℃ Highest relative humidity 50%, temperature can reach 40℃
Operating temperature	0~50℃
Storage temperature	-10~85℃

4.3 Drawing



4.4 Driving Principle



5. Cleaning, Transportation and Storage

5.1 Cleaning measures

Note! The PCB board of the function module in the E00.D10AL system is an ESD (electrostatic discharge) sensitive device. Take precautions against any static build-up of these devices before use to avoid contact with circuit component leads and PCB wiring. Before touching any electronic components, the body first touches the grounding conductor to discharge static electricity, ensuring avoiding that any type of conductive particles (metal, dust or debris, pencil lead, screws) enter the device. Be careful not to drop the equipment when cleaning, to avoid any form of mechanical shock!

- Disconnect the power plug of the E00.D10AL system before cleaning.
- Prevent cleaning fluid and any liquid from entering the system module to avoid short circuits.
- The surface of the system chassis and the front panel of the module, please do not use an organic solvent for surface wiping.

5.2 Transportation and storage

- This product is packed in carton. Transportation must be carried out under product packaging conditions, and direct rain and snow, direct contact with corrosive gases and strong vibrations should be avoided during transportation.
- The instrument can be transported under various conditions of normal transportation, and should avoid damp, load, collision, extrusion, irregular

placement and other adverse conditions during transportation.

- If the instrument is not used for a long time, the instrument should be packaged and stored.
- The instrument should be stored in a non-corrosive atmosphere and in a well ventilated, clean room.
- In the process of transportation, storage and use, attention should be paid to fire prevention, shockproof, waterproof and moisture proof.

6. Service and Maintenance

6.1 Disposal

➢ Waste products should be disposed according to national and local rules and regulations. In order to fulfill our responsibility as a product manufacturer, we will dispose all old equipments on the market in an environmentally friendly manner.

➢ If you have equipment that cannot be disposed, you can ship it to CoreMorrow.

Address: Building I2, No.191 Xuefu Road, Nangang District, Harbin, HLJ, China

Tel: +86-451-86268790

6.2 After-sales and maintenance

➢ The controller does not contain user repairable parts.

➢ The controller for any service need to provide product number and repair must be returned to factory.

➢ Any attempt to remove any part of the controller system will not be covered by warranty.

➢ The controller is a precision instrument and should be handled with care.

➢ In case of problems, please record the fault and contact the dealer or manufacturer, so that professional technicians can repair.

7. Contact us

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CoreMorrow Official and CTO WeChat are below: