Product specification

DC-C60.MS3

Version: V1.0

statement

This user manual is a comprehensive guide for the **DC-C60.MS3** piezoelectric ceramic controller. Before operating the controller, please read this manual thoroughly. Follow the instructions in this manual during use. If any issues arise, contact our company for technical support. The company shall not be liable for any consequences caused by unauthorized modifications, disassembly, or improper operation.

Read the following content to prevent personal injury and avoid damage to this product or any connected devices. Use this product only within specified limits to eliminate potential hazards.

- Do not touch any exposed terminals on the product or accessories.
- High voltage inside. Do not open the chassis without authorization.
- Do not plug/unplug input/output cables or sensor cables while powered on.
- Keep the product surface clean and dry. Avoid operating in humid or high-static environments.
- Before turning off the controller, reset the output voltage to zero (e.g., switch from closed-loop to open-loop state).
- The piezoelectric power amplifier described in this manual is a high-voltage device capable of high-current output. Improper use may result in severe or fatal injuries.
- Strongly advised: Never touch any high-voltage output connections.
- If connecting third-party devices, follow general safety protocols.
- Exceeding the PZT′ s voltage tolerance will cause permanent damage. Ensure correct polarity and voltage range before applying power to PZT terminals.
- Unauthorized modifications or maintenance will void all liabilities. Only authorized personnel may perform maintenance using original components.

Product specification

1. Overview

1.1 Key Features

- 3-channel compact integrated design
- Power supply: 20V–30V
- Peak current: 0.5A
- Average current: 60mA
- No-load bandwidth: 10kHz
- Output short-circuit protection
- Thermal protection
- SGS sensor-based closed-loop servo control

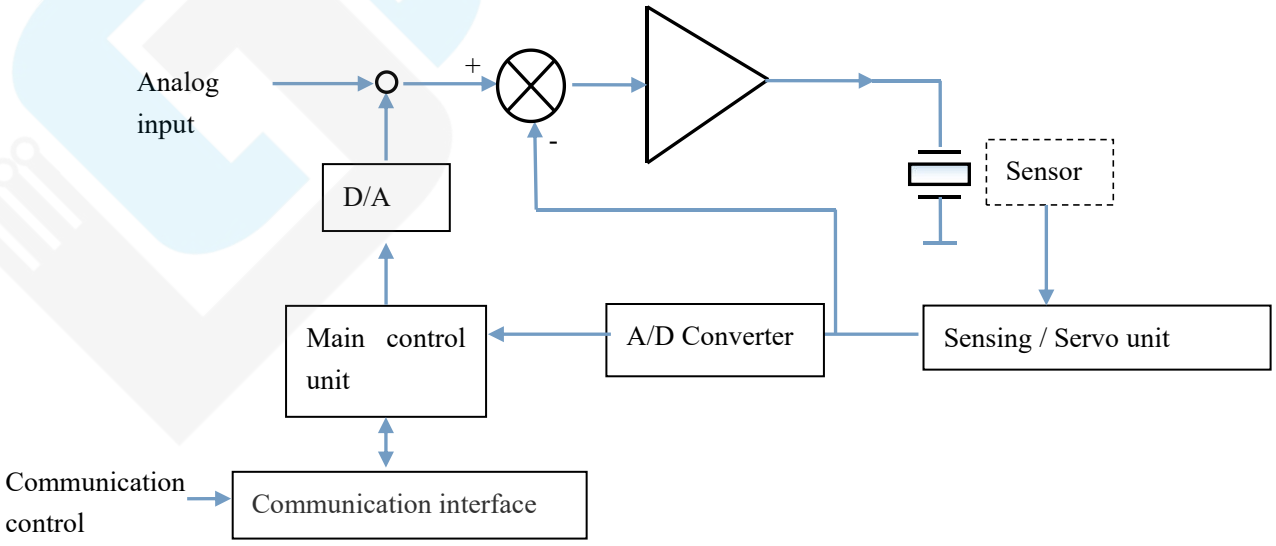
1.2 Typical applications

- Piezoelectric ceramic driving
- Piezoelectric objective lens driving
- Customizable configurations:

① 12x gain / 0–120V output (default)

② 15x gain / 0–150V output

2. Function block diagram



Product specification

3. Technical parameters

Piezoelectric controller parameters		DC-C60.MS3
Power Supply	Input Voltage	24VDC/1A(20V ~ 30V)
	Standby Power	<8W
Main Control	Processor	32-bit @ 168MHz
	D/A Converter	16bit
	A/D Converter	16bit
	Communication	USB,RS422,RS232
Sensor/Servo	Sensor Type	SGS
	Servo Characteristics	Analog P-I + Bandstop + Low-pass
Drive	Analog Input Range	0 ~ 10V
	Output Voltage Range	0~120V (Optional 0~150V)
	Peak Current	0.5A
	Average Current	60mA
	Amplifier Bandwidth	10KHz
	Ripple	10 mVpp (loaded with 2.2 uF)
	Output Rating	9W
Protection	Operating Temperature	0°C–50°C
	Short-circuit Current	Approx. 60mA
Connectors	Control Input	SMB Connector
	Sensor Output	3.81 Terminal
	PZT & Sensor	HDB15
	Communication	DB9,MicroUSB
Physical	Dimensions	118×103×41mm³ (excluding mounting ears)
	Weight	0.3kg

Product specification

4. Interface

No.	Function	Description
1	Analog Input	Analog voltage input interface
2	Zero Adjustment	Adjusts the sensor's zero point
3	PZT Drive & Sensor	Voltage output interface for driving piezoelectric ceramics
4	Sensor Output	Output of the position signal returned by the sensor
5	Overflow	Lights up when the controlled displacement deviates from the target value
6	MicroUSB Communication Connector	USB communication connector
7	DB9 Communication Connector	RS232 and RS485 communication connector
8	Fan	Intake fan
9	Signal Source Selection	Control signal selection: A (Analog Input), D (Digital Control)
10	Servo	Open/Closed-loop switching
11	Power Supply	Power input jack

5. Precautions & Recommendations

- Do not drive inductive loads with this product, as it may cause damage.
- Heat Management: During use, the top cover may become hot. Do not block the upper ventilation holes and be cautious to avoid burns.