Universal Analog Controller
DBS-XX-MA01-24010-X 系列
User Manual

Thank you for choosing our company's product. Please read this user manual carefully before use.

Revised in May 2025, Version 1.3

Precautions：

⚠Warnings	
	This product requires an external power supply for power. Ensure the power switch of the controller is in the OFF position when plugging in or unplugging the power supply to prevent electric shock.
	Before using this product, please read this manual in detail; when using this product, follow the operations specified in this manual.
	In case of abnormal conditions, please contact our company. Do not disassemble or assemble the product by yourself.
	Ensure the product is properly grounded to prevent electric shock.
	When using the matching light source, do not look directly at the light emitted by the light source to avoid eye damage.

Document Version Description:

Version No.	Revision Date	Revision Description
V1.1	2024.Jun	New version release
V1.2	2024.Nov	1. Added precautions and document version description 2. Fixed known issues
V1.3	2025.Mar	Updated content and version format

Standard Shipping List

Product Name	Model	Type	Quantity
Light Source Controller	DBS-XX-MA01-24010-X		1
Terminal Block	3.81-8P		1
Power Cable	1.5M National Standard IEC 320 C13 Plug		1

Note: If you have other requirements for the shipping configuration, please contact the salesperson or distributor in a timely manner.

Contents

1. Product Introduction

1.1 Product Features

- Supports external trigger mode
- Low trigger response time
- Knob for stepless linear brightness adjustment
- Switchable between Constant On and Constant Off modes
- 5~24V bidirectional trigger, adaptable to high and low level trigger modes
- Easy installation: screw mounting or C45 DIN rail mounting

1.2 Product Selection

Model	Built-in Power Supply Power	Maximum Current per Channel	Number of Channels
DBS-65-MA01-24010-2	65W	1A	2
DBS-65-MA01-24010-4	65W	1A	4
DBS-120-MA01-24010-4	120W	1A	4

1.3 Main Parameters

Item	Parameter	Description
Input Voltage	220VAC	For built-in switching power supply
Output Voltage	24V	Maximum output is 24V
Output Current	1A	Maximum current per channel is 1A; actual output current is adjusted via knob
Working Modes	2 Types	Constant On and Constant Off modes, switchable via button
Lighting Mode	Constant On	Output current is constant
Trigger Mode	Level Trigger	5~24V trigger
Constant On Brightness Level	Stepless	Stepless linear adjustment via knob
Built-in Power Supply	65/120W	Built-in 24V switching power supply
Number of Channels	4	-
Connected Light Source Type	24V Light Source	-
Operating Ambient Temperature	-5~50℃	-
Dimension	See Appendix for details	

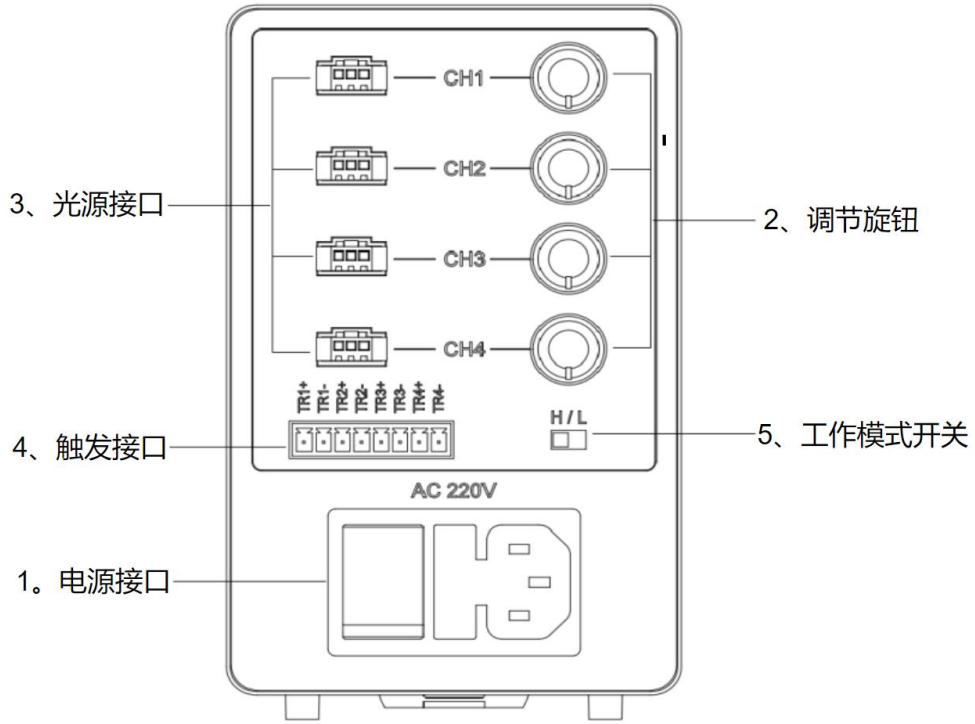
1.4 Function Modes

Take Channel 1 as an example:

Function		Description
Brightness Setting	Knob-controlled brightness	Rotate clockwise to increase brightness; rotate counterclockwise to decrease brightness
Working Mode	Press TS for Constant On Mode	Light source turns off when trigger signal is valid
	Reset TS for Constant Off Mode	Light source turns on when trigger signal is valid

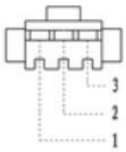
2. User Instructions

2.1Panel Description



No.	Name	Description
1	Power Interface	AC 220V input interface
2	Adjustment Knob	Adjusts the output current of the corresponding channel; rotate clockwise to increase current
3	Light Source Interface	Connects to 5V point light source
4	Trigger Interface	Connects to external trigger signal for switch operation
5	Working Mode Switch	Switches working modes

2.2 Light Source Interface Definition



Position	Definition	Description
1	Light+	Positive pole of light source output
2	Empty	No function
3	Light-	Negative pole of light source output

2.3 Trigger Description

2.3.1 Trigger Interface

The external trigger input interface is shown in Figure 2:

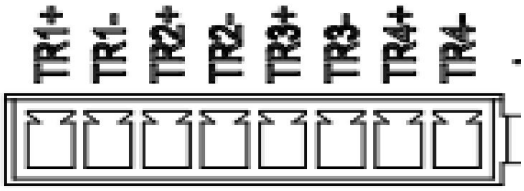


Figure 2 External Trigger Input Interface

There are 4 channels for the external trigger input interface. Each channel has two input terminals: "+" and "-" (where "x" represents the channel number). A bidirectional optocoupler is built inside, and its electrical diagram is shown in Figure 3:

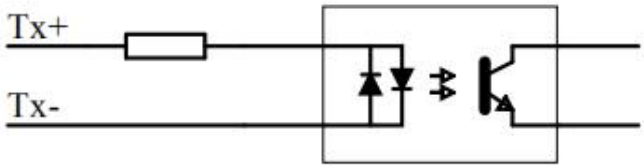


Figure 3 Internal Electrical Diagram of External Trigger

2.3.2 Trigger Interface Wiring Examples

When the valid trigger signal is a rising edge or high level, the wiring is shown in Figure 4:

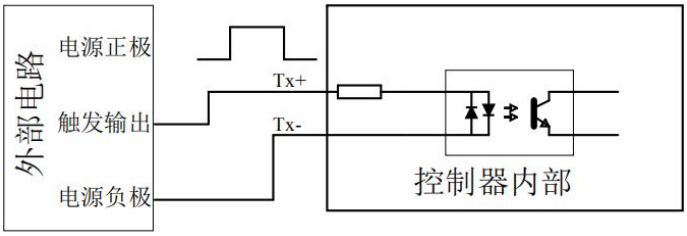


Figure 4 Wiring Example for Rising Edge or High Level Validity

Connect the trigger output of the external control circuit to Tx+, and the negative pole of the power supply to Tx-. When a rising edge or high level is present at the trigger output terminal, the controller controls the output.

When the valid trigger signal is a falling edge or low level, the wiring is shown in Figure 5:

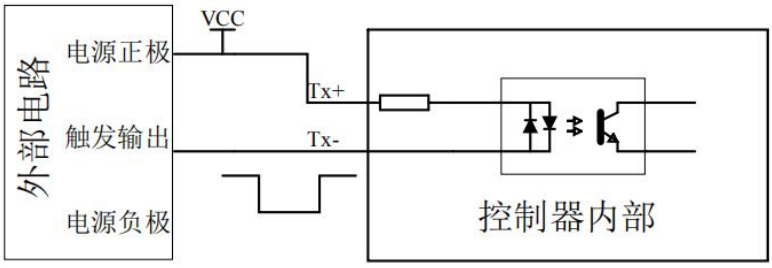


Figure 5 Wiring Example for Falling Edge or Low Level Validity

Connect the trigger output of the external control circuit to Tx-, and the positive pole of the power supply to Tx+. When a falling edge or low level is present at the trigger output terminal, the controller controls the output.

2.3.3 Trigger Timing Diagrams

Constant Off Mode: When the trigger input signal of the controller is valid, the light source turns on. Taking high level validity as an example to explain the timing relationship, see Figure 6:

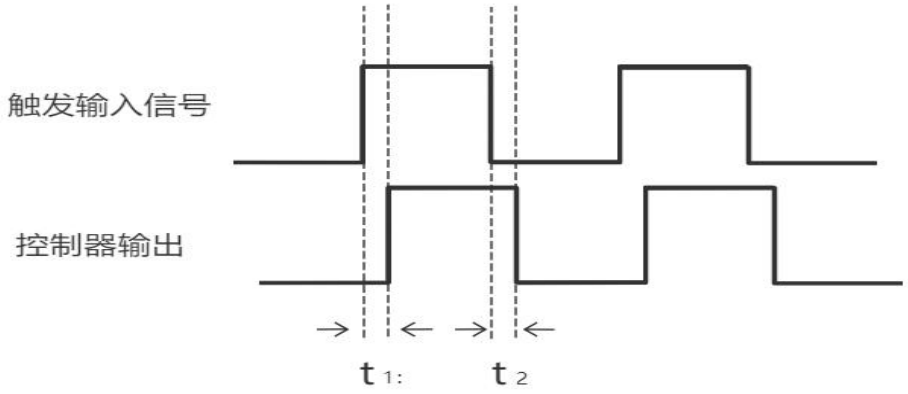


Figure 6 Timing Diagram of Constant Off Mode

Parameter	Time
t_1	≤1ms
t_2	≤3ms

Constant On Mode: When the trigger input signal of the controller is valid, the light source turns off. Taking high level validity as an example to explain the timing relationship, see Figure 7:

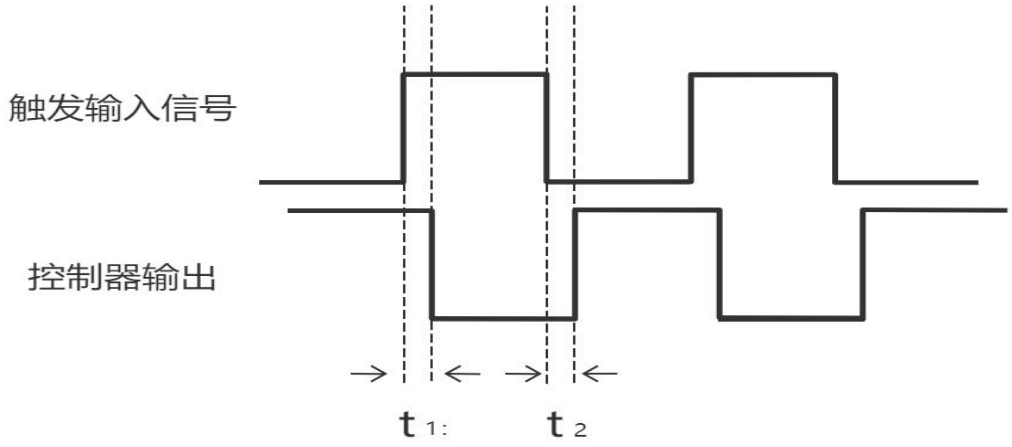


Figure 7 Timing Diagram of Constant On Mode

Parameter	Time
t_1	≦1ms
t_2	≦3ms

2.4 Manual Settings

2.4.1 Brightness Setting

After turning on the controller, adjust the brightness directly using the knob. Its flow chart is shown in Figure 8:

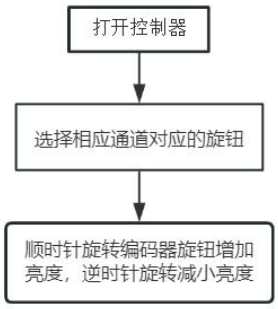


Figure 8 Brightness Setting Flow Chart

2.5.2 Operating Mode Setting

This model of controller has two working modes, which can be set manually via buttons or through communication. For details on the two modes, refer to Table 2.

2.5.3 Constant On Mode Setting

The flow chart for setting the controller to Constant On Mode is shown in Figure 9:

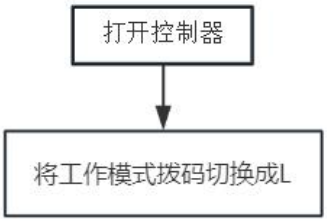


Figure 9 Flow Chart for Setting Constant On Mode

2.5.4 Constant Off Mode Setting

The flow chart for setting the controller to Constant Off Mode is shown in Figure 10:

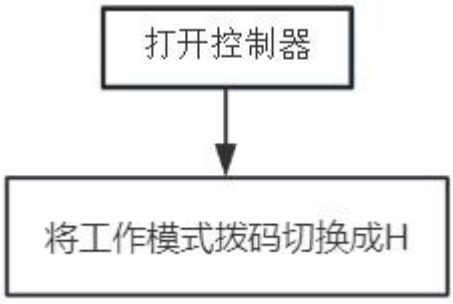
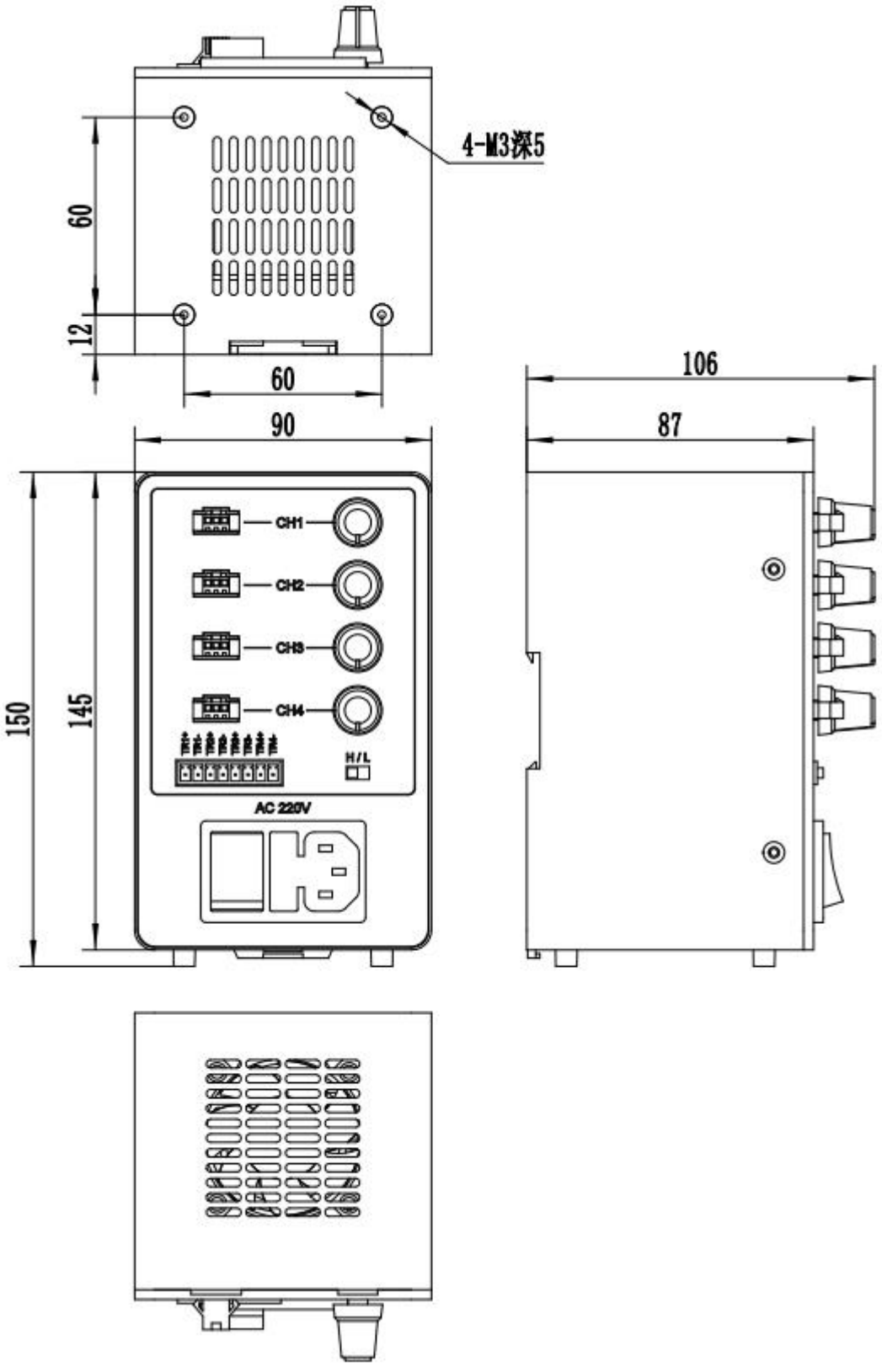


Figure 10 Constant Off Mode Setting Flow Chart

3. Accessories

4-Channel (Accessory)



2-Channel (Accessory)