



Bluetooth Remote control

ATB110X

Unilumin Group Co., Ltd

**Address: 1-3rd Floor, Building B, 18 Haoye Rd., Fuhai Subdistrict, Bao'an District,
Shenzhen China**

Phone: 0755-29918999

Website: <http://www.unilumin.cn>

catalogue

I. Product Overview

II. Product Features

III. Description of Button Functions

IV. Bluetooth Pairing Guide

V. Detailed Functional Description

VI. Technical Specifications and Parameters

I. Product Overview

The ATB110X Bluetooth remote control is a wireless control device specifically designed by Shenzhen Zhoming Technology Co., Ltd. for smart display terminals, integrating communication and control functions. In addition to supporting conventional button operations, it offers various bidirectional interactive capabilities, enabling convenient wireless control of all-in-one devices, LED displays, and other equipment.

This remote control employs the Bluetooth 5.0 low-power protocol, featuring stable connectivity, low power consumption, strong interference resistance, and extended operating range, making it widely suitable for various smart display devices.

II. Product Features

- Supports one-touch sleep/wake functionality for all-in-one devices (controls screen power)
- Supports switching between dark and light screens
- Supports switching between HDMI 1 and HDMI 2 signal sources
- Supports screen brightness adjustment
- Supports switching between multiple display modes (Standard/Video/HDR)
- Supports color temperature adjustment
- Supports operating systems starting from Android 4.3

III. Description of Button Functions

This remote control has the following function buttons:



Button Name	functional description
Power Key (Red)	Control the all-in-one device's sleep/wake cycle and screen power-off
Power Key (Green)	Control screen blackening/brightening
OK/Confirm Key	Confirm selection and confirm menu operation
Direction Keys (Up/Down/Left/Right)	Menu Navigation, Parameter Adjustment Selection
menu key	Open/Close Display Settings Menu
Signal Source Key	Switch HDMI 1/HDMI 2 signal source
return key	Return to the parent menu and exit the current operation
Volume Up Key	Increase volume and adjust brightness parameters
Volume Key	Reduce volume and adjust brightness/parameters

IV. Bluetooth Pairing Guide

4.1 Initial Pairing

1. Press and hold the combination key "Display Mode Menu Key + Exit Menu Key" for 3 seconds; the indicator light will remain lit, and the remote control will enter Bluetooth pairing mode.
2. After releasing the button, the indicator light continues to flash; at this point, the device can detect Bluetooth devices.
3. The Bluetooth device name is: BLE_YT_RMC;
4. The indicator light automatically turns off after successful pairing; pairing is complete.

4.2 Secondary Pairing/Auto-Reconnection

After the initial successful pairing, for subsequent use:

1. After powering off the Bluetooth module, power it on again and press and hold the combination key "Display Mode Menu Key + Exit Menu Key" to pair it.
2. You can also press any button directly; the remote control will automatically connect to the paired device.
3. The pairing timeout is 30 seconds; pairing must be restarted after this period.

4.3 Cancel Pairing

1. Power off the entire device (including the Bluetooth module);
2. Press and hold the combination key "Display Mode Menu Key + Exit Menu Key" for 3 seconds; the indicator light will remain lit.
3. After releasing the button, the indicator light flashes for 30 seconds, then pairing is successfully canceled.

4.4 Pairing Instructions

- A Bluetooth module can only pair with one remote control at a time.
- After successful pairing, press any key to activate the remote control and establish a connection quickly.

- Supports adaptive frequency hopping during use, automatically avoiding interference bands such as WiFi.

V. Detailed Functional Description

5.1 Low Battery Alert Function

When the remote control battery voltage drops below $2.0\text{ V} \pm 0.2\text{ V}$, each button indicator will flash for 3 seconds, indicating low battery level; replace the battery promptly.

5.2 Sleep and Wakefulness

- When paired: does not enter deep sleep mode and maintains fast connection capability;
- Unpaired state: Release the button to enter deep sleep mode; press any key to wake it up.
- Disconnected state (no pairing information): enters deep sleep after 30 seconds;
- Upon waking, it automatically uses the BLE low-power protocol to quickly connect with paired devices and send key values.

5.3 Anti-interference Frequency Hopping

Compliant with the Bluetooth BLE protocol specifications, it utilizes 3 dedicated pairing channels and 37 data channels. During communication, it automatically selects frequency bands with strong anti-interference capabilities; when encountering wireless interference such as WiFi signals nearby, it switches frequencies to avoid affected channels, ensuring stable connectivity.

5.4 Key Communication Protocol

It employs the Bluetooth 5.0 standard's low-power HID protocol: pressing a button sends a key value every 100 ms, while releasing the button triggers a release command, ensuring rapid and accurate response.

VI. Technical Specifications and Parameters

Parameter Category	Specification Parameters
working voltage	2.2V ~ 3.6V
rated operational voltage	DC 3.0 V
Dormant current	$\leq 12.0 \mu\text{A}$
Bluetooth Operating Current	$\leq 7.0 \text{ mA}$
transport protocol	Bluetooth 5.0 BLE
Working Frequency Range	2.400GHz ~ 2.4835GHz
Frequency Deviation	$\pm 20 \text{ kHz}$ (25°C)
Maximum Transmission Rate	1Mbps
Transmission Power	Max : -1.616dBm
receiving sensitivity	Max : -93 dB
Effective Control Distance	>5.0 m
operating temperature range	-10°C ~ +70°C
Working Humidity	20% ~ 90%
Storage Temperature	-25°C ~ +85°C
atmospheric pressure	86KPa ~ 106KPa
Antenna Type	Built-in PCB omnidirectional antenna
pilot lamp	1 red LED indicator light
product size	154.0 mm (length) × 39.0 mm (width) × 13.6 mm (thickness)
FCC ID	2AWQ8-ATB110X

FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RF Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment can be used in portable exposure conditions.