

JDY-28M

JDY-28M Bluetooth Module User Manual

Brand: Generic | Model: JDY-28M

1. INTRODUCTION

The JDY-28M Bluetooth module is a versatile wireless communication solution featuring Bluetooth 5.2 protocol. It supports various operational modes, including BLE master/slave transparent transmission, MESH networking, and specialized modes for car keys and switch panels. Designed for robust performance, it offers high data rates and efficient communication for a wide range of applications.

This manual provides essential information for setting up, operating, and maintaining your JDY-28M module, ensuring optimal performance and integration into your projects.

2. KEY FEATURES

- Bluetooth 5.2 Protocol:** Utilizes the latest Bluetooth standard for enhanced connectivity and efficiency.
- Multiple Operating Modes:** Supports BLE master/slave transparent transmission, MESH transmission, MESH command mode, car key mode, switch panel mode, and MESH low-power remote control.
- High BLE Transmission Rate:** Achieves up to 20K Bytes per second in BLE transparent transmission mode.
- MESH Networking Support:** Enables robust MESH communication with networking status LED indicators and a 1K Byte transmission rate between devices.
- Transparent MESH Communication:** Facilitates data transfer without requiring data headers or tails, offering a seamless replacement for 485 communication.
- Fast MESH Relay:** Features a MESH relay time within 5ms, with a minimum packet sending interval of 20ms for 20-Byte data.
- Car Key Mode:** Allows binding of up to 5 mobile phones, configurable automatic unlocking and departure locking distances, and management via commands.
- Switch Panel Mode:** Supports synchronous control of multiple switches, one-click full open/close functions, and includes a relay function to extend transmission distance.
- Enhanced Stability:** MESH mode improves stability and anti-interference capabilities by consolidating BLE broadcasts.

3. SETUP

To set up the JDY-28M Bluetooth module, ensure proper power supply and data connections. The module typically requires a stable DC power source within its specified voltage range. Connect the module's data pins (e.g., TX, RX) to your microcontroller or host system's corresponding communication interfaces.

Refer to the module's pinout diagram (if available in separate documentation) for precise connection details. Always double-check wiring before applying power to prevent damage to the module or connected components.

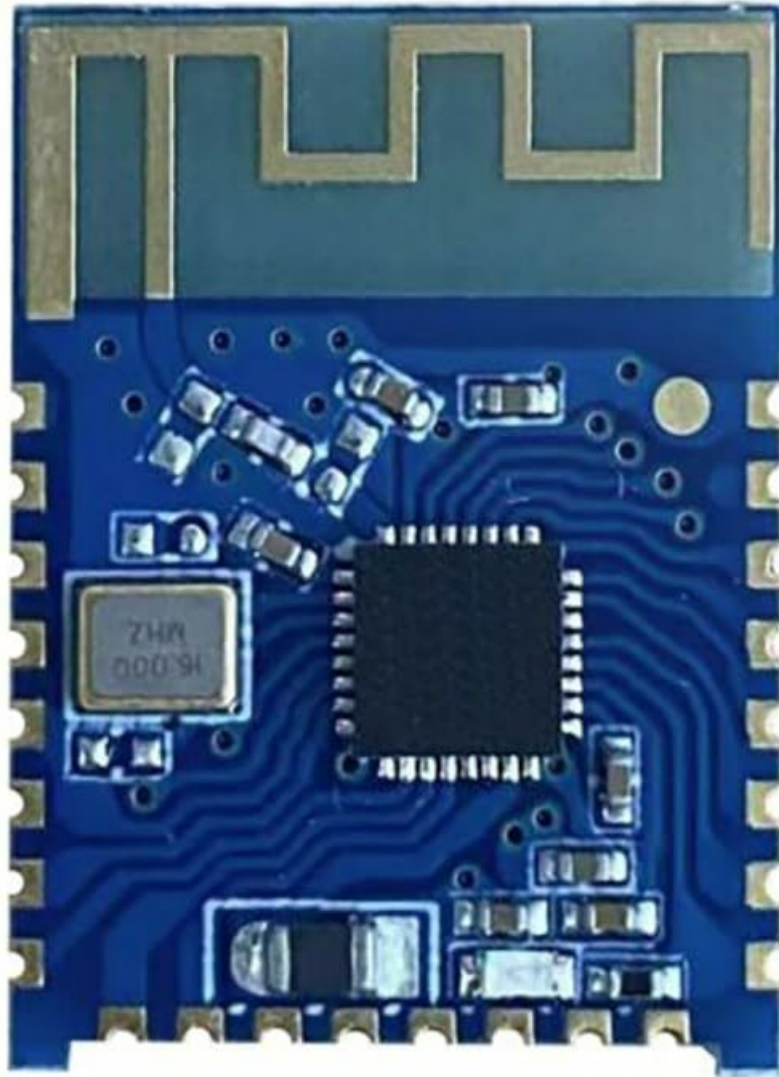


Figure 1: An image showing the JDY-28M Bluetooth module, highlighting its compact design and pin headers for integration into electronic projects.

4. OPERATING MODES

The JDY-28M module supports several distinct operating modes, each tailored for specific applications. Configuration between these modes is typically done via AT commands sent to the module.

4.1. BLE Transparent Transmission Mode

In this mode, the module acts as a transparent data pipe, allowing seamless serial data transfer over Bluetooth Low Energy (BLE). It can operate as a master or slave, facilitating direct communication between two BLE-enabled devices. Data sent to the module's serial input is transmitted wirelessly, and data received wirelessly is output via the serial port.

4.2. MESH Networking Mode

The MESH networking mode enables multiple JDY-28M modules to form a network, allowing devices to communicate indirectly through other nodes (relays). This extends the communication range and enhances network robustness. The module supports transparent MESH communication, simplifying data exchange within the network without complex protocol handling. Networking status is indicated by onboard LEDs.

4.3. Car Key Mode

This specialized mode is designed for car key applications. It allows up to 5 mobile phones to be bound to the module. Users can configure automatic unlocking distances upon approach and locking distances upon departure via commands. The mobile application can send instructions to bind with the module after connecting.

4.4. Switch Panel Mode

The switch panel mode facilitates the synchronous control of multiple switches using a single key, or mutual control between multiple switches. It supports one-click full open and full close functions. The integrated relay function within the switch enhances the transmission distance between modules, making it suitable for distributed control systems.

4.5. MESH Command Mode

In MESH command mode, the module can be configured and controlled using specific AT commands. This allows for dynamic adjustment of network parameters, mode switching, and other advanced functionalities within the MESH network.

5. SPECIFICATIONS

Feature	Detail
Brand	Generic
Model	JDY-28M
Hardware Interface	Bluetooth
Data Link Protocol	Bluetooth
Bluetooth Protocol Version	5.2
BLE Transmission Rate	Up to 20K Byte/second
MESH Transmission Rate	1K Byte (device to device)
MESH Relay Time	Within 5ms
Manufacturer	Generic
Manufacturer Part Number	GG25281_10050058621040
Unit Count	1.00 Piece

6. MAINTENANCE

The JDY-28M Bluetooth module is designed for durability and requires minimal maintenance. To ensure its longevity and

reliable operation, follow these guidelines:

- **Keep Dry:** Protect the module from moisture and liquids, which can cause short circuits and damage.
- **Avoid Extreme Temperatures:** Operate and store the module within its specified temperature range. Extreme heat or cold can affect performance and component lifespan.
- **Clean Gently:** If cleaning is necessary, use a soft, dry cloth. Avoid using harsh chemicals or abrasive materials.
- **Handle with Care:** Avoid physical shocks or excessive force that could damage the module's components or solder joints.

7. TROUBLESHOOTING

If you encounter issues with your JDY-28M Bluetooth module, consider the following troubleshooting steps:

- **No Power/Indicator Light Off:** Check your power supply connections and ensure the voltage is within the module's operating range. Verify that the power source is active.
- **Unable to Connect/Pair:** Ensure both devices are in pairing mode and within range. Check for interference from other 2.4GHz devices. Verify that the module is configured for the correct master/slave role or MESH network settings.
- **Data Transmission Errors:** Confirm that the serial communication parameters (baud rate, parity, stop bits) match between the module and your host device. Check wiring for loose connections or shorts.
- **MESH Network Issues:** If MESH devices are not communicating, ensure all modules are properly configured for MESH mode and are within range of at least one other MESH node. Check for LED indicators for networking status.
- **Module Unresponsive to Commands:** Verify that you are sending commands in the correct format (e.g., AT commands) and that the module is in a command-interpreting mode.

For more detailed troubleshooting or specific command references, consult the official JDY-28M technical documentation or contact support.

8. WARRANTY AND SUPPORT

This product comes with a **12-month warranty**, covering full refund or replacement for any manufacturing defects. We are committed to providing top-quality electronic components and dedicated customer assistance.

If you encounter any issues with your JDY-28M module, such as damaged or incorrect items, please contact our support team. We are ready to assist you in selecting suitable components, provide technical information, and address any questions you may have. We aim to provide quick and efficient responses to ensure your projects proceed smoothly.

ASK A QUESTION ABOUT THIS MANUAL

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Question

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Details

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