Agatige TM1637 6-Digit 7-Segment LED Display Module

Agatige TM1637 6-Digit 7-Segment 0.56-inch LED Display Module User Manual

Model: TM1637 6-Digit 7-Segment LED Display Module

1. Introduction

This manual provides detailed instructions for the Agatige TM1637 6-Digit 7-Segment 0.56-inch LED Display Module. This module is designed for displaying numerical and limited character information in various electronic projects. It features a 6-digit, 7-segment display driven by the TM1637 IC, offering a compact and easy-to-integrate solution for digital readouts.

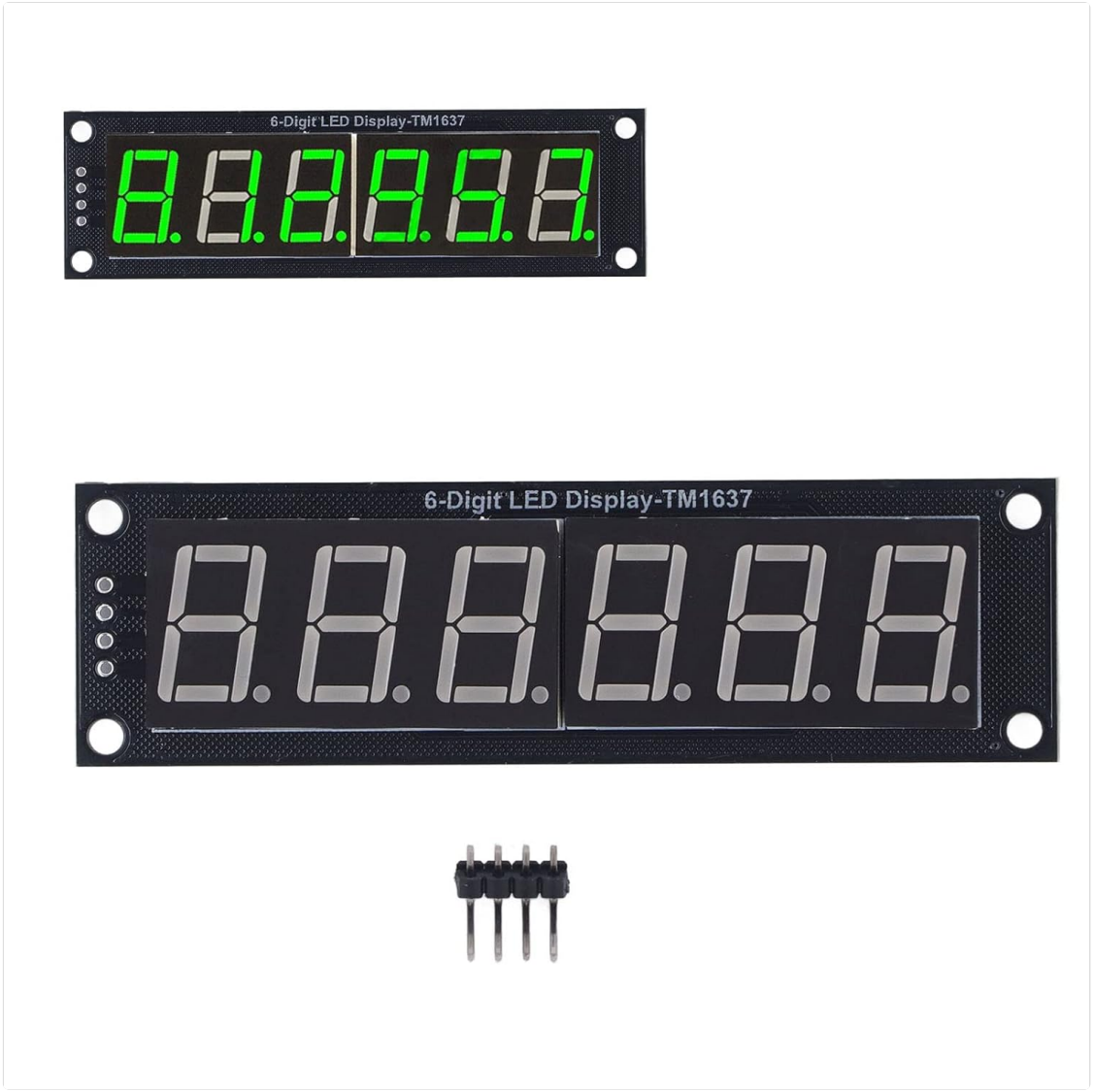


Figure 1: Agatige TM1637 6-Digit 7-Segment LED Display Module, showing green digits.

2. Features

- **6-Digit 7-Segment Display:** Features a 0.56-inch display with 6 digits and 7 segments, capable of showing decimal points.
- **Integrated TM1637 Driver:** Utilizes the TM1637 driver IC for stable performance and simplified control.
- **Simple 2-Pin IO Interface:** Connects to digital IO via only two pins, reducing wiring complexity.
- **5V Operating Voltage:** Designed for standard 5V power supplies.
- **Compact Design:** Small and lightweight PCB board, suitable for various DIY electronic projects.
- **Clear PCB Layout:** Features accurate wiring and a clear board path for easy identification and connection.

3. Specifications

Parameter	Value

Parameter	Value
Item Type	LED 6-Digit Module
Material	PCB Board
Application	LED Digital Display
Number of Digits	6 Digits, 7 Segments
Connection Module	2-Pin Digital IO
Driver IC	TM1637
Operating Voltage	5V
Display Color	Green

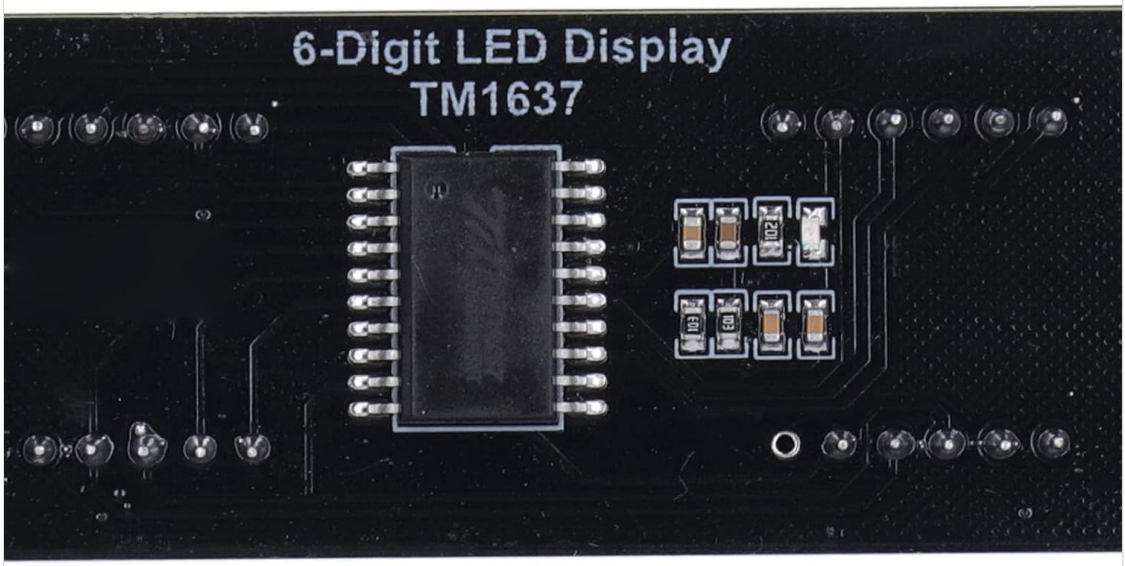


Figure 2: Close-up view of the TM1637 driver IC on the module's PCB.

4. Setup

To set up your Agatige TM1637 LED Display Module, follow these steps:

1. **Identify Pins:** The module typically has four pins: VCC (Power), GND (Ground), DIO (Data Input/Output), and CLK (Clock). Refer to the module's silkscreen for exact pin labels.
2. **Connect Power:** Connect the VCC pin to a 5V power source and the GND pin to the ground of your microcontroller or power supply.
3. **Connect Data and Clock:** Connect the DIO pin to a digital input/output pin on your microcontroller (e.g., Arduino) and the CLK pin to another digital input/output pin.
4. **Install Library:** For microcontrollers like Arduino, you will need to install a TM1637 library (e.g., TM1637.h). This library simplifies communication with the display.

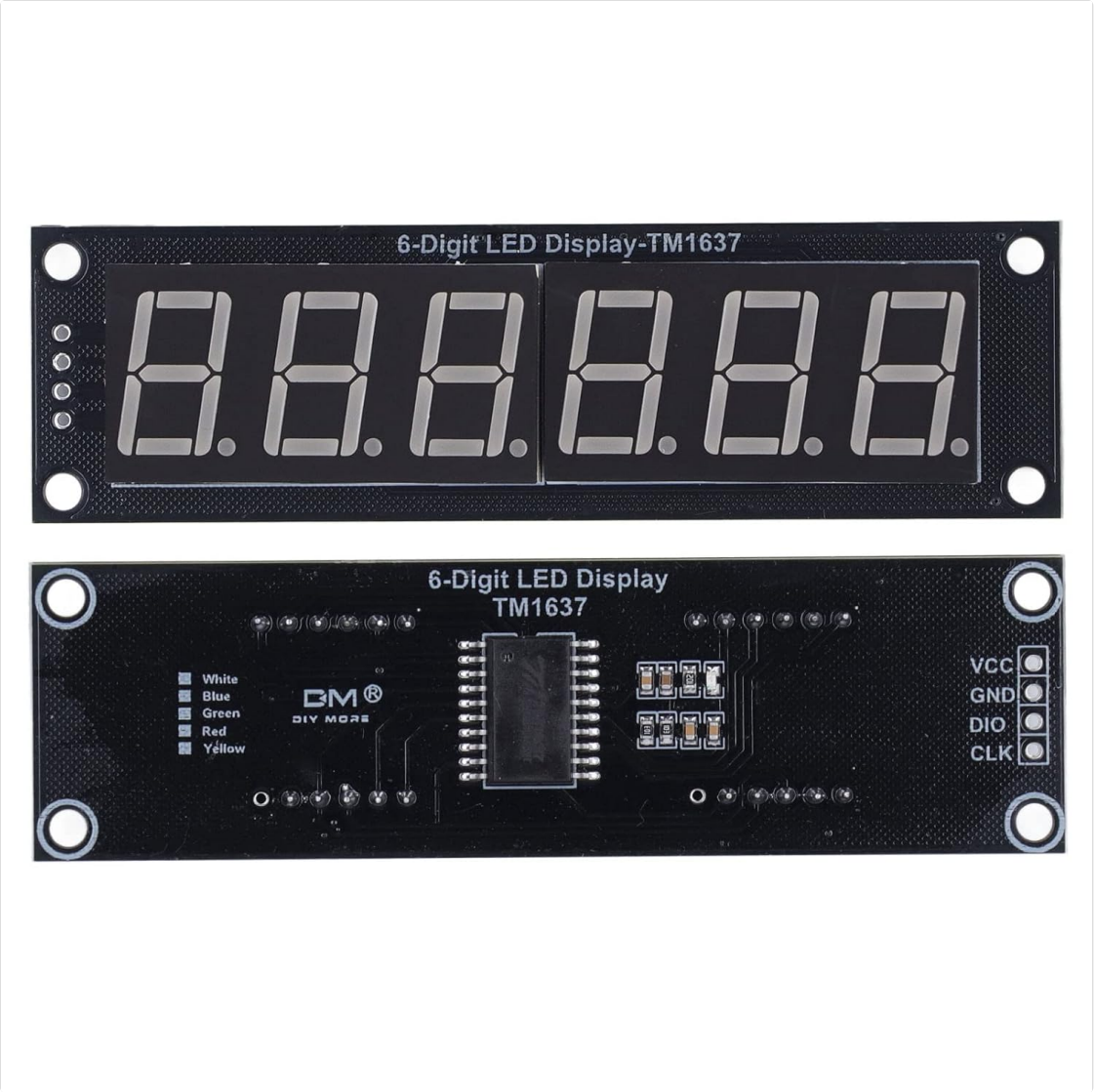


Figure 3: Front and back view of the module, illustrating pin header connection.

5. Operating Instructions

Once the module is wired and the necessary library is installed, you can begin programming your microcontroller to display information.

5.1 Basic Display Functionality

The TM1637 library provides functions to easily control the display. Common operations include:

- **Initialization:** Setting up the display object with the correct CLK and DIO pins.
- **Brightness Control:** Adjusting the display intensity.
- **Displaying Numbers:** Sending integer values to be shown on the 6 digits.

- **Displaying Raw Segments:** For custom characters or patterns, you can directly control individual segments.
- **Setting Decimal Points:** Enabling or disabling decimal points for specific digits.

5.2 Example Usage (Conceptual)

After including the TM1637.h library, you would typically:

1. Create an instance of the TM1637 display object, specifying the CLK and DIO pins.
2. Call display.init() to initialize the display.
3. Use display.setBrightness(level) to set the desired brightness (e.g., 0-7).
4. Use display.displayNum(number) to show an integer.
5. For more advanced control, use display.setSegments(segments, pos) to control individual segments.

Refer to the specific TM1637 library documentation for detailed function calls and examples.

6. Maintenance

The Agatige TM1637 LED Display Module requires minimal maintenance to ensure longevity and optimal performance.

- **Cleaning:** If dust accumulates on the display or PCB, gently wipe it with a soft, dry, lint-free cloth. Avoid using liquid cleaners directly on the module.
- **Handling:** Always handle the module by its edges to avoid touching the display segments or sensitive electronic components. Static electricity can damage electronic parts, so use anti-static precautions if possible.
- **Storage:** Store the module in a dry, cool environment, away from direct sunlight and extreme temperatures.

7. Troubleshooting

If you encounter issues with your TM1637 LED Display Module, consider the following troubleshooting steps:

- **Display Not Lighting Up:**
  - Check power connections (VCC and GND) to ensure they are correctly wired and receiving 5V.
  - Verify that the brightness level is not set to zero in your code.
  - Ensure the module is correctly initialized in your software.
- **Incorrect Display Output:**
  - Double-check the DIO and CLK pin connections to your microcontroller.
  - Confirm that the correct pins are specified in your TM1637 library initialization.
  - Review your code for logical errors in sending data to the display.
- **Flickering Display:**
  - Ensure a stable 5V power supply. Fluctuations can cause flickering.

- Check for loose connections in the wiring.

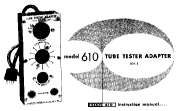
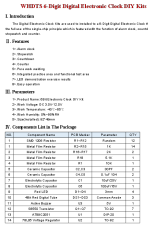
- **Library Issues:**
  - Make sure you have installed the correct and compatible TM1637 library for your development environment.
  - Consult the library's examples for proper usage.

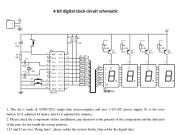
8. Warranty and Support

Agatige products are designed for reliability and performance. This product comes with a satisfaction guarantee. If you encounter any issues or have questions regarding your purchase, please contact the seller or manufacturer for assistance. They are committed to resolving any concerns you may have.

For returns or refunds, please refer to the specific return policy of your retailer, which typically includes a return window (e.g., 15 days from purchase) for eligible items.

Related Documents - TM1637 6-Digit 7-Segment LED Display Module

	6J1 Tube Preamplifier Board - Technical Overview and Instructions Detailed guide for the 6J1 tube preamplifier board, covering its working principle, technical parameters, installation instructions, component list, and functional description. Ideal for audio enthusiasts and DIY projects.
	EICO Model 610 Tube Tester Adapter Instruction Manual Instruction manual for the EICO Model 610 Tube Tester Adapter, detailing its features, operation, service, and warranty. Compatible with EICO Model 625 and 666 Tube Testers for various tube types.
	WHDTS 6-Digit Digital Electronic Clock DIY Kit: Assembly and Operation Guide A comprehensive guide to the WHDTS 6-Digit Digital Electronic Clock DIY Kit, covering its features, parameters, component list, principles of operation, specifications, and detailed step-by-step installation instructions for building the electronic clock.

	[Cloc 2.0: The Alarm Clock You've Always Wanted - A DIY Electronics Project] Build your own customizable alarm clock with the Cloc 2.0 project. This guide details the use of the ESP32 microcontroller, a web interface for configuration, multiple alarm settings, and IR remote control capabilities. Includes circuit diagrams, component lists, and software setup.
	[4-Bit Digital Clock Circuit Schematic and Assembly Guide - AT89C2051 DIY Kit] Detailed schematic and assembly instructions for a 4-bit digital clock kit using the AT89C2051 microcontroller. Includes component descriptions, wiring, and soldering tips for the electronic DIY kit.
	[BS CONNECTOR M12 Female/Male Back Mount Socket (Solder, Screw M16*1.5/PG9) Technical Specifications] Comprehensive technical details for BS CONNECTOR M12 Female and Male Back Mount Sockets, covering product parameters, electrical specifications, dimensional drawings, and wire color definitions for M16*1.5/PG9 connectors.