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› IEMALORIET 1.3 Inch OLED Display Module (SH1107, 64x128) User Manual

IEMALORIET SH1107 64x128 OLED Display Module

IEMALORIET 1.3 Inch OLED Display Module (SH1107, 64x128) User Manual

Model: SH1107 64x128 OLED Display Module

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1. INTRODUCTION

This manual provides detailed instructions for the IEMALORIET 1.3 Inch OLED Display Module, featuring a 64x128 resolution and SH1107 driver. This compact, high-contrast display is designed for integration into various electronic projects, including those based on Arduino platforms. Please read this manual thoroughly before installation and operation to ensure proper use and optimal performance.



Figure 1: Front and back view of the IEMALORIET 1.3 Inch OLED Display Module. The front shows the 1.3 OLED 64x128 IIC SH1107 display, while the back reveals the circuit board with components and pin labels (GND, VCC, SCL, SDA).

2. KEY FEATURES

- **Display Type:** 1.3 Inch OLED (Organic Light Emitting Diode)
- **Resolution:** 64x128 pixels
- **Driver IC:** SH1107
- **Interface:** I2C (IIC) communication protocol
- **Vertical Screen Orientation:** Optimized for specific display layouts
- **High Contrast:** Provides clear and sharp visuals
- **Low Power Consumption:** Efficient operation for battery-powered devices
- **Wide Compatibility:** Suitable for various microcontrollers, including Arduino

3. TECHNICAL SPECIFICATIONS

Parameter	Value
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Parameter	Value
Display Size	1.3 inches
Resolution	64 x 128 pixels
Driver IC	SH1107
Interface	I2C (IIC)
Operating Voltage	3.3V - 5V (Typical)
Pin Configuration	GND, VCC, SCL, SDA
Manufacturer	IEMALORIET
ASIN	B0F4RG4M87

4. SETUP AND CONNECTION

This section outlines the steps for connecting your OLED display module to a microcontroller, such as an Arduino board. Ensure all connections are secure before powering on your circuit.

4.1 Pinout Description

- **GND:** Ground connection. Connect to the ground pin of your microcontroller.
- **VCC:** Power supply. Connect to 3.3V or 5V output of your microcontroller, depending on its operating voltage.
- **SCL:** Serial Clock Line. Connect to the I2C SCL pin of your microcontroller.
- **SDA:** Serial Data Line. Connect to the I2C SDA pin of your microcontroller.

4.2 Connection Steps (Example with Arduino Uno)

1. Connect the **GND** pin of the OLED module to the **GND** pin on your Arduino.
2. Connect the **VCC** pin of the OLED module to the **5V** or **3.3V** pin on your Arduino (check your specific Arduino model for appropriate voltage).
3. Connect the **SCL** pin of the OLED module to the **A5** (SCL) pin on your Arduino Uno.
4. Connect the **SDA** pin of the OLED module to the **A4** (SDA) pin on your Arduino Uno.



Figure 2: An assortment of electronic components, illustrating the typical environment and parts used in projects with this OLED module. This image represents the broader context of electronic components often used alongside the display.

5. OPERATION AND PROGRAMMING

To operate the OLED display, you will need to use a compatible library for your chosen microcontroller. For Arduino, popular libraries like Adafruit GFX and Adafruit SH110X are recommended.

5.1 Software Installation (Arduino IDE)

1. Open your Arduino IDE.
2. Go to **Sketch > Include Library > Manage Libraries...**
3. Search for "Adafruit GFX Library" and install it.
4. Search for "Adafruit SH110X Library" and install it.

5.2 Basic Code Example (Arduino)

The following is a basic example to display "Hello, World!" on the OLED screen. This code assumes you have correctly wired the module as described in the Setup section.

```
#include <Wire.h>
#include <Adafruit_GFX.h>
#include <Adafruit_SH110X.h>

#define OLED_RESET -1 // Reset pin # (or -1 if sharing Arduino reset pin)
Adafruit_SH1107 display(128, 64, &Wire, OLED_RESET);

void setup() {
  Serial.begin(115200);
  display.begin(0x3C, true); // Address 0x3C for 128x64
  display.display();
  delay(2000);
  display.clearDisplay();
  display.setTextSize(1);
  display.setTextColor(SH110X_WHITE);
  display.setCursor(0,0);
  display.println("Hello, World!");
  display.display();
}

void loop() {
  // Nothing to do here for this simple example
}
```

Upload this code to your Arduino board. You should see "Hello, World!" displayed on the OLED screen.

6. MAINTENANCE AND CARE

Proper care ensures the longevity and optimal performance of your OLED display module.

- **Cleaning:** Gently wipe the display surface with a soft, dry, lint-free cloth. Avoid using abrasive materials or chemical cleaners, which can damage the screen.
- **Handling:** Always handle the module by its edges to avoid touching the display surface or the delicate electronic components on the PCB.
- **Storage:** Store the module in an anti-static bag in a cool, dry environment when not in use.
- **Power Supply:** Ensure the power supply voltage is within the specified range (3.3V-5V) to prevent damage.
- **Static Electricity:** Take precautions against electrostatic discharge (ESD) when handling the module, as it can damage sensitive electronic components.



Figure 3: An isometric illustration depicting a variety of semiconductor electronic components. This image serves as a visual reminder of the intricate nature of electronic devices and the importance of careful handling and maintenance for all components, including the OLED module.

7. TROUBLESHOOTING

If you encounter issues with your OLED display module, refer to the following common problems and solutions:

- **Display is blank or shows garbled text:**
 - Check all wiring connections (GND, VCC, SCL, SDA) for proper seating and correct polarity.
 - Verify the power supply voltage is within the 3.3V-5V range.
 - Ensure the I2C address in your code matches the module's address (commonly 0x3C or 0x3D).
 - Confirm that the correct display library (e.g., Adafruit SH110X) is installed and initialized properly.
 - Check if the OLED_RESET pin is correctly defined or set to -1 if not used.
- **Display shows partial content or incorrect orientation:**
 - Ensure the display resolution (128, 64) in the library initialization matches your module.

- Check if any rotation or inversion commands are applied in your code that might be causing the issue.
- **Module is not detected by I2C scanner:**
 - Double-check SCL and SDA connections.
 - Ensure pull-up resistors are present on SCL and SDA lines if your microcontroller or board does not provide them internally.
 - Verify the module is receiving power (VCC and GND).

8. WARRANTY AND CUSTOMER SUPPORT

IEMALORIET products are manufactured to high standards of quality and reliability. While specific warranty details may vary by region and retailer, we are committed to providing excellent customer support.

For technical assistance, troubleshooting, or inquiries regarding your product, please refer to the retailer's support channels or visit the official IEMALORIET website for contact information. Please have your product model number (SH1107 64x128 OLED Display Module) and ASIN (B0F4RG4M87) ready when contacting support.

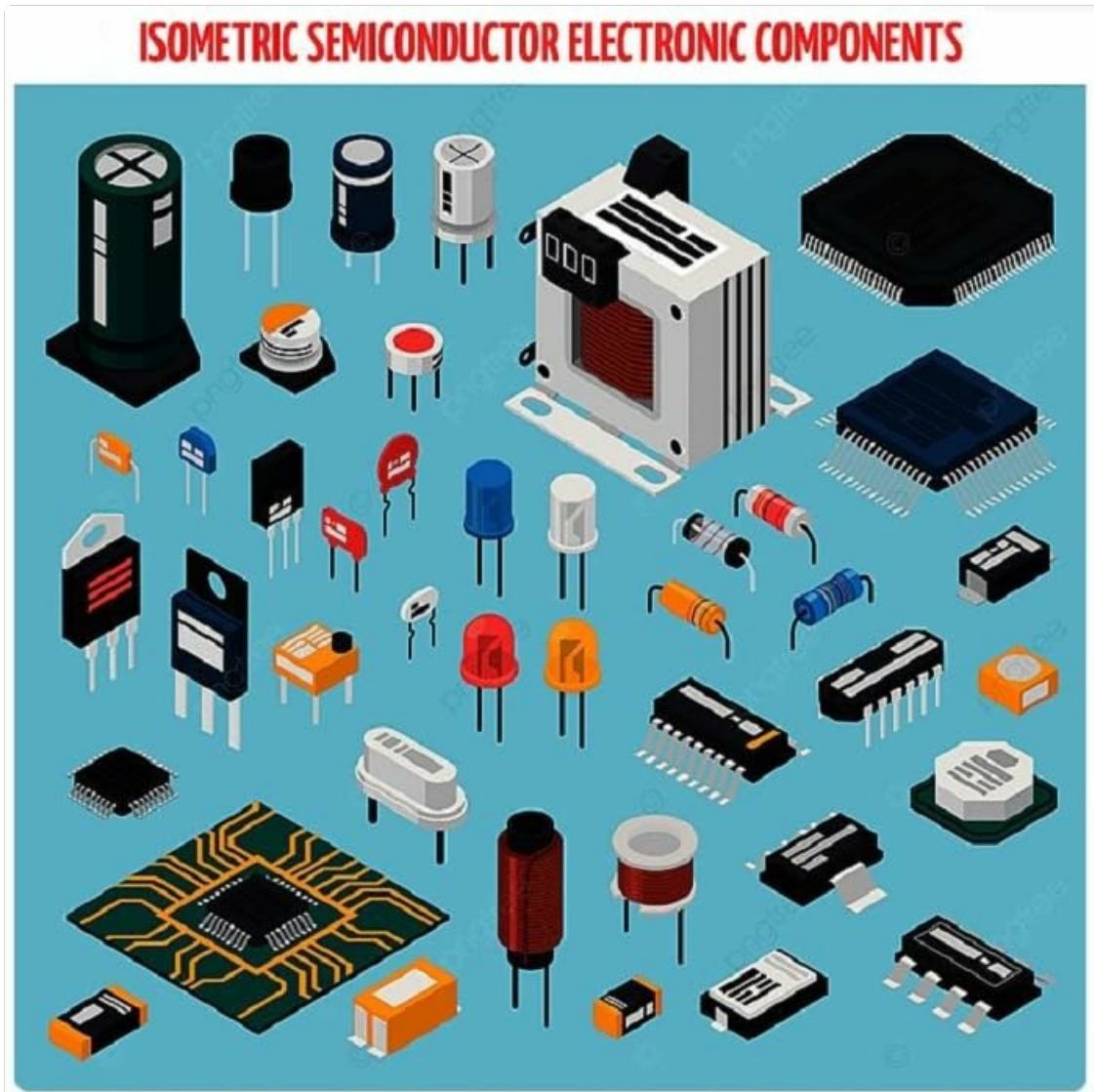


Figure 4: An image depicting a factory assembly line where workers are engaged in assembling electronic components. This illustrates the manufacturing process and the precision involved in producing electronic modules like the OLED display, reinforcing the product's quality and the brand's commitment to reliable components.

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