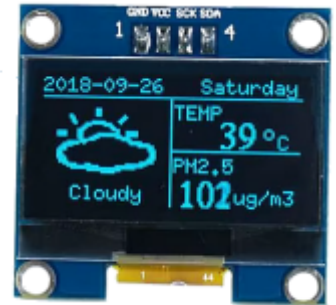


SSH1106/SSD1306 OLED Display with I²C communication

The SSD1306 and SH1106 (often misspelled as SSH1106 or SSH1306) are both popular single-chip CMOS OLED drivers used for small monochrome displays (0.91", 0.96", 1.3"). While they are very similar and often share the same I²C address (0x3C), they are not directly compatible because of differences in memory mapping and supported operating modes.







The key difference is that the SH1106 has more internal RAM (132×64) compared to the SSD1306 (128×64). As a result, a 128×64 display using an SH1106 chip may display garbage pixels or appear shifted by 2 pixels on each side when controlled with a standard SSD1306 library.

- **SSD1306:** Works with standard libraries like Adafruit_SSD1306
- **SH1106:** Requires specific libraries, such as Adafruit_SH110x or U8g2 (using U8G2_SH1106_128X64_NONAME...)

Feature	SSD1306	SH1106 (SSH1106)
Max Resolution	128 x 64	132 x 64
Internal RAM	128 x 64 bits	132 x 64 bits
Addressing	Page, Horizontal, Vertical	Mostly Page Mode only
Hardware Scroll	Yes	No
Typical Use	0.96" OLED	1.3" OLED
Driver Library	Adafruit_SSD1306	U8g2 / Adafruit_SH110x


Both are commonly used with Arduino, Raspberry Pi, and ESP8266/ESP32 via I²C (SDA/SCL) or SPI, typically requiring only 4 pins (VCC, GND, SDA, SCL). If an SH1106 display is initialized with an SSD1306 library, the screen will likely show "garbage" or shifted lines.

SSH1106 Chip 128 x 64 Pixel	SSD1306 Chip 64x48 Pixel	SSD1306 Chip 128 x 32 Pixel	SSD1306 Chip 128 x 64 Pixel
			
0.96 Inch	0.96 Inch	0.91 Inch	-

Pinout

Pin Label	Function	Description
GND	Ground	Ground (0V)
VCC	Power	3.3V or 5V (Most modules have a voltage regulator)
SCL	Clock	I ² C Clock (D0 pin)
SDA	Data	I ² C Data (D1 pin)

- Note on Ordering: On some cheap modules, VCC and GND are swapped. Verify your module label before powering it up to avoid damage.
- I²C Address: Usually **0x3C** or **0x3D**.





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Features of particular types

Name	ID	Characteristics
AZ-Delivery 1.30' IIC V21		1.3 inch OLED Display SH1106 128 x 64 pixel
AZ-Delivery 0.96 inch OLED SSD1306		0.96 inch OLED SSD1306 128 x 64 pixel

SSH1106 Arduino

1. Installing the **olikraus/u8g2** library (installation only works manually) from here: <https://github.com/olikraus/u8g2>
2. Example program:

```
#include <Arduino.h>
#include <U8g2lib.h>
#include <Wire.h>

// Constructor for SH1106 128x64 I2C (Hardware I2C)
// U8G2_R0: No rotation. U8X8_PIN_NONE: No hardware reset pin.
U8G2_SH1106_128X64_NONAME_1_HW_I2C u8g2(U8G2_R0, /* reset= */ U8X8_PIN_NONE);

void setup(void) {
```

```

u8g2.begin();
}

void loop(void) {
  u8g2.firstPage();
  do {
    // https://docs.rs/u8g2-fonts/latest/u8g2_fonts/fonts/index.html
    u8g2.setFont(u8g2_font_ncenB14_tr); // Set font
    u8g2.drawStr(0, 24, "Hello World!"); // Draw text
  } while ( u8g2.nextPage() );
}

```

I²C topics on lamaPLC

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• LamaPLC: AHT10 Modul	2026/03/22 03:14	communication, i2c, temperature, humidity, sensor, aht, aht 10, modul
• LamaPLC: AHT20 / BMP280 Modul	2026/04/23 21:52	bmp280, aht20, adafruit, temperature, humidity, pressure, sensor, arduino, code, i2c
• LamaPLC: APDS - Avago ALS and proximity detection sensors with I²C communication	2026/04/23 21:52	avago, apds-9900, apds-9930, apds-9960, als, proximity, detection, gesture recognition, gesture, i2c, communication, sensor, arduino, code
• lamaPLC: AS5600 Magnetic Induction Angle Measurement Sensor Module	2026/03/28 23:50	communication, i2c, as5600, as-5600, magnetic, induction, angle, sensor
• lamaPLC: Bi-Directional Logic Level Converter 3.3V ↔ 5V	2026/04/12 00:34	bi-directional, logic level converter, i2c, uart, spi
• LamaPLC: BMP/BME Bosch Temperature/Humidity/Pressure sensors with I²C communication	2026/04/23 21:52	bme280, bme680, bmp180, bmp280, hw-611, hw611, bosch, temperature, humidity, pressure, sensor, arduino, i2c, communication, cjmcu
• LamaPLC: CJMCU-219/INA-219 breakout board/IC with I²C communication	2026/04/23 21:52	cjmcu-219, ina-219, ina219, breakout board, i2c, communication, sensor, voltage, current, arduino, code, cjmcu
• LamaPLC: CJMCU-3216 / AP-3216 integrated digital ambient light and proximity sensor module/IC with I²C communication	2026/04/23 21:52	cjmcu-3216, cjmcu, ap-3216, ap3216, ambient light, proximity, sensor, arduino, code, i2c, communication
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• LamaPLC: MAX30100/MAX30102 Heart Rate Click Sensor Module	2026/04/23 21:52	max30102, max30100, heart rate click, sensor, communication, i2c, arduino, code
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• LamaPLC: Pixart PAJ7620U2 Gesture recognition sensors/module with I ² C communication	2026/04/23 21:52	paj7620u2, gy-paj7620, pixart, gesture recognition, i2c, communication, sensor, arduino, code
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