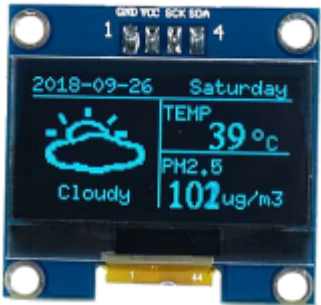


SSH1106/SSD1306 OLED Display with I²C communication

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

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**.

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() );
}
```

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• LamaPLC: APDS - Avago ALS and proximity detection sensors with I²C communication	2026/02/10 16:02	avago , apds-9900 , apds-9930 , apds-9960 , als , proximity , detection , gesture recognition , gesture , i2c , communication , sensor , arduino , code
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• LamaPLC: DHT Temperature /Humidity sensors with 1-wire / I²C communication	2026/02/08 21:45	dht11 , dht20 , dht22 , temperature , humidity , pressure , sensor , 1-wire , i2c , arduino , code
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• LamaPLC: GY-9250 MPU-9250/6500 9-axis Attitude Sensor Board	2026/02/03 20:22	ak8963 , gy-9250 , mpu-9250 , 9-axis , motion detection , magnetometer , communication , i c , i2c , spi
• LamaPLC: HDC Texas Instruments Temperature/humidity sensors with I²C communication	2026/02/08 21:45	hdc1080 , texas instruments , temperature , humidity , sensor , i2c , communication , arduino , code

• lamaPLC: HT16K33 display controller	2025/11/22 21:26	i2c , 7-segment display , display , ht16k33 , arduino
• LamaPLC: HTU TE Connectivity temperature/humidity sensors with I²C communication	2026/02/08 21:45	htu21 , te connectivity , temperature , humidity , i2c , communication , sensor , arduino , code
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• SSH1106/SSD1306 OLED Display with I²C communication	2026/02/06 16:40	i2c , oled , display , ssd1306 , sh1106 , ssh1106 , arduino , cmos

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