# OLED 4 PIN 128x64 Display Module 0.96" Yellow Blue Color
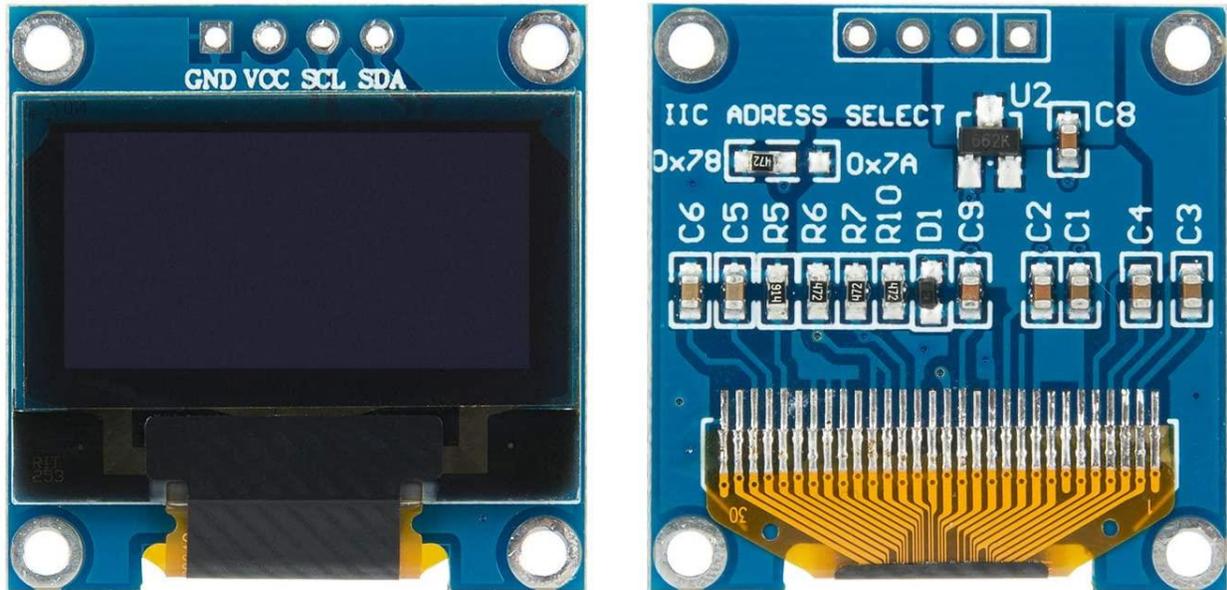
In contrast to LCD technology, Organic Light-Emitting Diode (OLED) displays do not require a backlight and are regarded as the ultimate technology for the next generation of flat-panel displays.

OLED displays are composed of a thin, multi-layered organic film placed between an anode and cathode, which are made up of electric conductive transparent Indium Tin Oxide.

The multi-layered organic film includes a Hole Transporting Layer, Emission Layer and Electron Transporting Layer.

By applying an appropriate electrical voltage, the holes and electrons are injected into the Emission Layer from the anode and cathode respectively and combine to form excitons, after which electroluminescence occurs.

This 0.96" 128*64 Yellow Blue OLED Module offers individual yellow and blue OLED pixel resolution. Each on is the turn on and off by the controller chip. They are featuring much less thickness than LCD Displays with good brightness and produce better and true colors.

This OLED Display Module is very compact and will add a great ever user interface experience to your Arduino project. The connection of this display with Arduino is made through the I2C (also called as IIC) serial interface.

Setting up SPI/I2C Connection with GMS096A OLED Module

Being a new entry to the market, only limited resources are available on this small piece of miracle (GMS096A). I2C/SPI configuration always demands helpful resources as in any case. For the SPI setup, the module comes in 4 wire SPI configurations by default and to make it work with the Arduino's you can use these libraries from Adafruit.

For the I2C setup it demands a little bit of work on the module. It was one of our customers who shared these simple configuration steps with us, start with re-soldering the resistor from position R3 to R1 and then short the R8 resistor with some solder tin (0 Ohm resistor). The R6 and R7 pullup resistors are already soldered, nothing to do there. Once done, the module is ready for I2C

communication! The CS Pin is not necessarily needed, so just connect it to GND. The DC Pin selects the address. For standard address wire it to GND. The RES-pin needs a low pulse at startup and high voltage during operation (as in SPI mode), a 100nF capacitor to GND and a 10k res to VCC would be ideal!

FEATURES:

- OLED Driver IC: SSD1306
- Resolution: 128 x 64
- Visual Angle: >160°
- Input Voltage: 3.3V ~ 6V
- Compatible I/O Level: 3.3V, 5V
- Only Need 2 I/O Port to Control
- Pixel Color: Yellow (128x16 pixels)
- Blue (128x48 pixels)
- Full Compatible with Arduino
- Working temperature: -30°C ~ 70°C
- Factory configured for SPI protocol (can be easily changed to IIC)

PIN CONFIGURATION:

Pin No.	Pin Name	Description
1.	Supply Voltage (Vcc, 5V)	Can be powered by either 3.3V or 5V
2.	Ground (GND)	Pin Ground
3.	Serial Clock(SCL)	Pin SCL of I2C interface
4.	Serial Data(SDA)	Pin SDA of I2C interface

MECHANICAL SPECIFICATIONS:

ITEM	NORMAL DIMENSION
Module Dimension	27.30*27.30*2.37
Active Area	21.74*10.86
Pixel Size	0.148*0.148
Pixel Pitch	0.17*0.17

ABSOLUTE MAXIMUM RATING:

PARAMETER	SYMBOL	MIN	MAX	UNIT
Supply voltage for logic	VCC	1.65	5.5	V
Operating temperature	TOP	-40	+80	°C
Storage temperature	TSTG	-40	+80	°C

ELECTRONICAL CHARACTERISTICS:

ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Supply voltage for logic	VCC	------	2.8	3.3	5.2	V
Input high voltage	VIH	------	0.8*VCC	-----	VCC	V
Input low voltage	VIL	------	0	-----	0.2*VCC	V
Output high voltage	VOH	------	0.9*VCC	-----	VCC	V
Output low voltage	VOL	------	0	-----	0.1*VCC	V
50%check board operating current	ICC	VCC=3.3	------	12.0	20.0	mA

## CONNECTION DIAGRAM OF ARDUINO UNO TO 4 PIN 0.96 INCH I2C OLED DISPLAY TO ARDUINO UNO:

Arduino Uno OLED Wiring
The image below shows how to connect the 0.96inch OLED I2C display to Arduino. Pin connections are as follows for wiring the OLED display to an Arduino Uno.

- OLED GND – Arduino GND
- OLED VCC – Arduino 5V
- OLED SCL – Arduino Uno A5
- OLED SDA – Arduino Uno A4
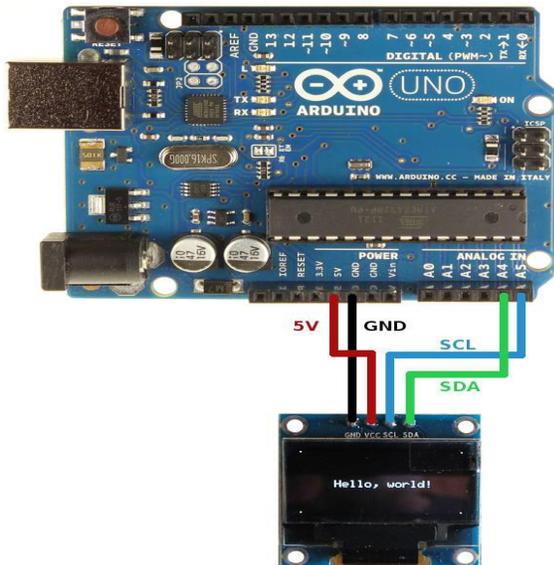
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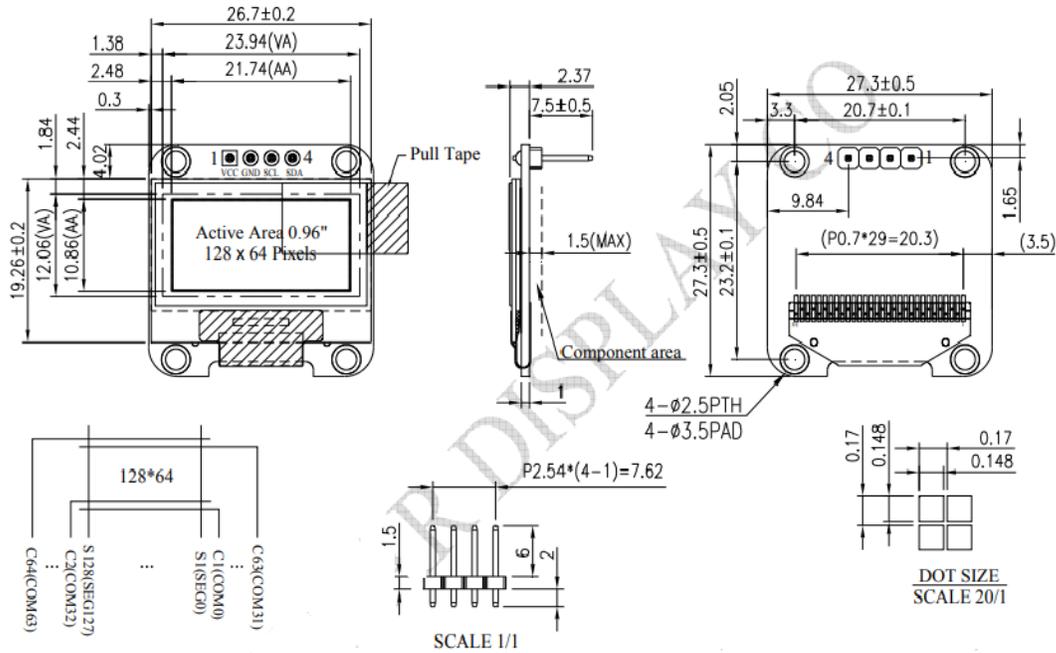
APPLICATIONS:

- Used in consumer electronics.

- Used for Smartwatch, mobile phone, and MP3 displays.

- Small level gaming displays.

- Wide range of viewing angle enable to be used in low light.