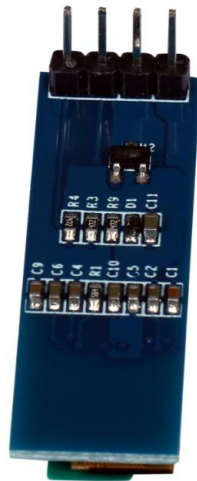


## OLED 128x32 Display Module 0.91" Blue Color



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 0.91" 128\*32 Blue OLED Module offers 128\*32-pixel resolution. 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 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.

The 0.91" 128\*32 Blue OLED Display Module produces blue text on black background with very good contrast when supplied with 3.3V-5V Supply. The OLED Display Modules also offers a very wide viewing angle.

### **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 Arduinos you can use these libraries from Adafruit.

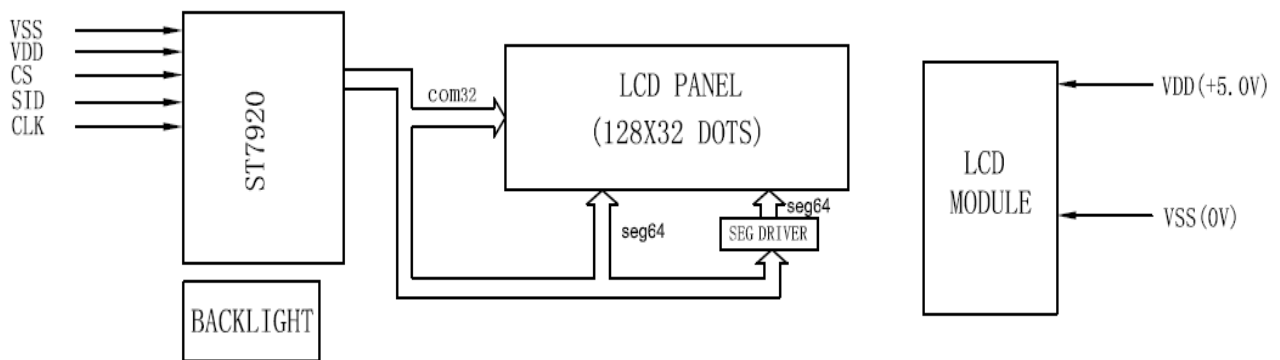
For the I2C setup it demands a little bit of work on the module. It was one of our customers who shared these simple configuration steps with us, start with reordering the resistor from position

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.

**SPECIFICATION:**

- Supply voltage: 3.3V-5V
- Pixel: 128\*32
- Display size- 0.91 inch
- Operating temperature range: -40°C - +80°C
- Defaulting I2C address: 0x3C
- Color : Blue
- Super high contrast and brightness(adjustable)
- Low power consumption

**BLOCK DIAGRAM AND POWER SUPPLY:**



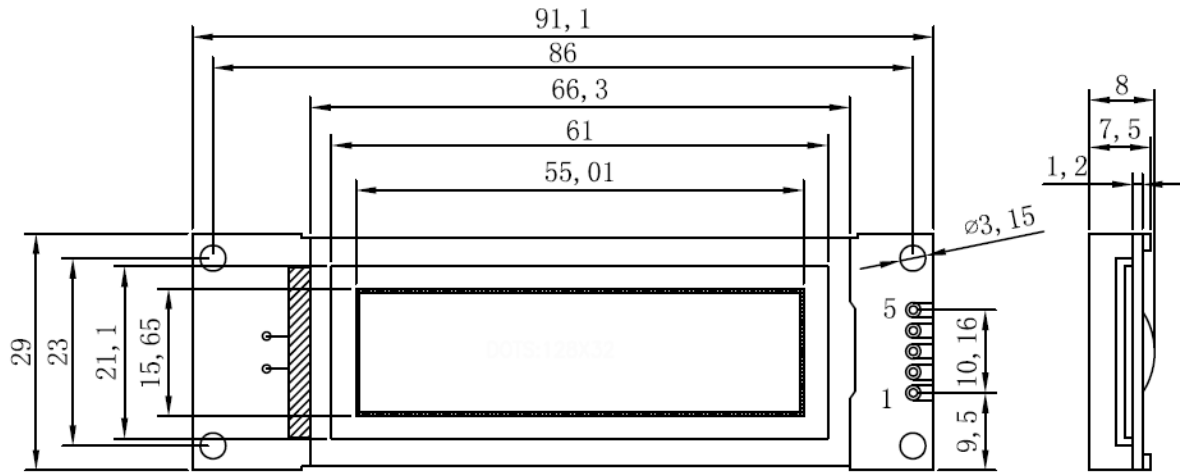
**ELECTRICAL CHARACTERISTICS:**

ITEM	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating voltage	VDD	Ta=25 <sup>0</sup> C	-----	5.0	-----	V
Operating voltage for LCD	VLCD	Ta=25 <sup>0</sup> C	-----	5.0	-----	V
Supply current	IDD	Ta=25 <sup>0</sup> C, VDD=5.0V	-----	2.0	3.0	MA
Supply current for Back light	IF	Ta=25 <sup>0</sup> C, VF=5V	-----	20	-----	MA

**MECHANICAL SPECIFICATIONS:**

ITEM	NORMAL DIMENSION
Module size(W*H*T)	91.1*29.0*8.0
View area(W*H)	61.0*21.1
Dots*Dots(W*H)	128*32
Dot Pitch(W*H)	0.43*0.49
Dot size(W*H)	0.4*0.46

**OUTER DIMENSION:**



**APPLICATIONS:**

Due to its capability in displaying, it is often used in various application for instances, smart watch, MP3, function cellphone, portable health device and many others.