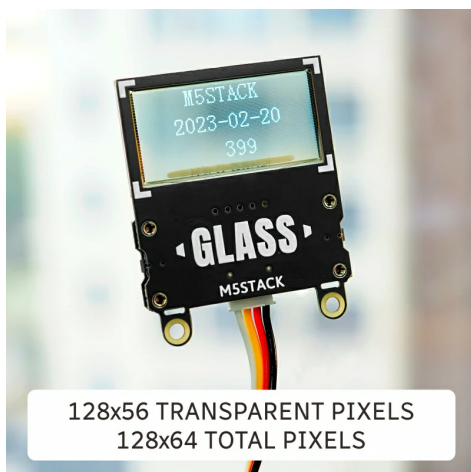


Unit Glass

SKU:U158



Description

Unit Glass is a **1.51-inch transparent OLED** display expansion unit. It adopts an **STM32 + SSD1309** driver solution with a **resolution of 128 x 64**, monochrome display, and a **transparent display area of 128 x 56**. The MCU is **STM32F030F4P6**, which integrates **two input buttons** and **one buzzer**, allowing users to interact conveniently with the screen. It supports control and firmware upgrades via the I2C (**0x3D**) communication interface. This transparent OLED display is suitable for embedding into various home appliances or control devices as a visual interface.

| Features

- 128×56 transparent pixels (128×64 total pixels)
- Display area: 35.05 × 18 mm
- Glass size: 42.04 × 27.22 mm
- 1-bit color depth
- I2C communication (address: 0x3D)
- Supported programming platforms: Arduino, UiFlow

| Includes

- 1 x Unit Glass
- 1 x HY2.0-4P Grove cable (20 cm)

| Applications

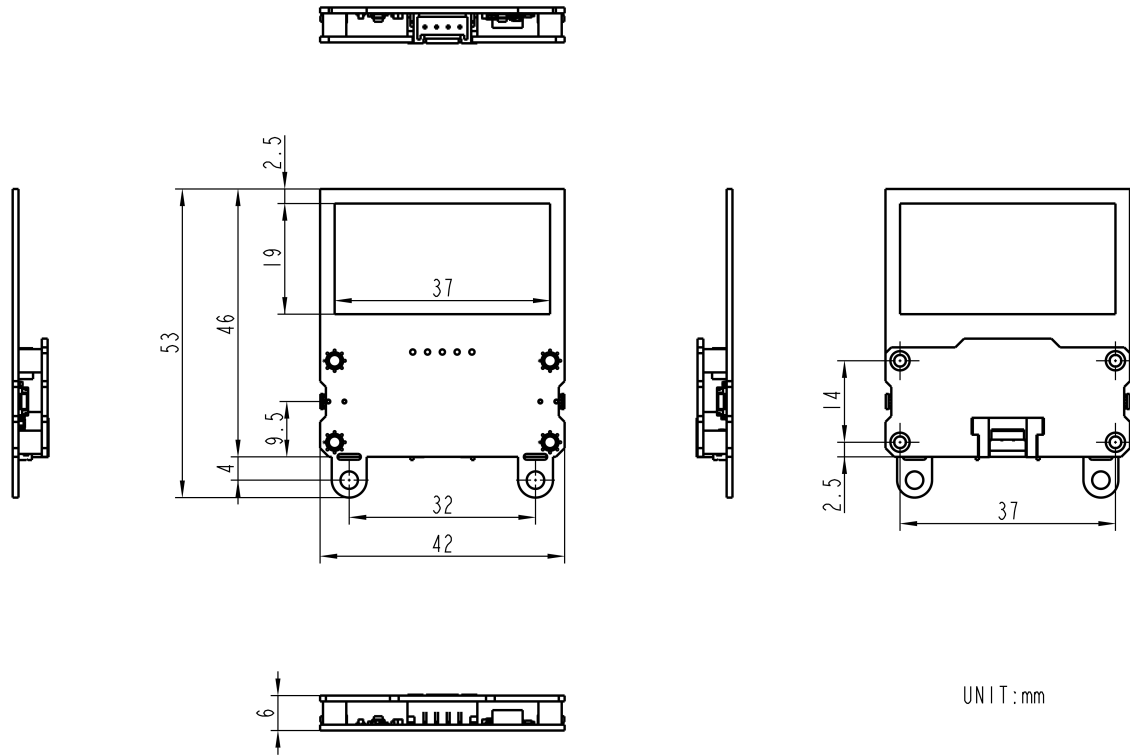
- Smart home products
- Control devices
- Display panels

| Specifications

Specification	Parameter
MCU	STM32F030F4P6
Display	1.51-inch Transparent OLED
Resolution	128 x 64
Display Color	Blue
Display Area	35.05 x 18 mm
Panel Size	42.04 x 27.22 x 1.25 mm
Viewing Angle	Full viewing angle
Operating Temp.	0 ~ 40°C
Logic Voltage	3.3V
I2C Address	0x3D
Communication Interface	I2C Communication @0x3D
Product Size	53.0 x 42.0 x 6.0 mm
Product Weight	10.1 g
Package Size	138.0 x 93.0 x 7.0 mm
Gross Weight	16.4 g

Schematics

- [Unit Glass Schematics PDF](#)



Datasheets

- [STM32F030F4P6](#)
- [SSD1309](#)
- [128*64 Transparent OLED](#)

Softwares

Arduino

- [Unit Glass Arduino Tutorial](#)

UiFlow1

- [Unit Glass UiFlow1 Docs](#)

UiFlow2

- [Unit Glass UiFlow2 Docs](#)

Internal Firmware

- [Unit Glass Internal Firmware](#)

Protocol

- Unit Glass I2C Protocol PDF

M5Stack Unit GLASS I2C Protocol																	V4 (FW Version) 2023/3/8	
REG MAP (Addr:0x3D)	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note	
Clear	0x00 W	Clear															Clear: Write 1 to clear OLED	
Show	0x10 W	Show															Show: Write 1 to show OLED	
Draw String	0x20 W	pos-x	pos-y	text size	mode ^[1]												text size: 8 and 16 (need 1 ms delay after draw string)	
Draw Point	0x30 W	pos-x	pos-y	mode														
Draw Line	0x40 W	pos-x1	pos-y1	pos-x2	pos-y2	mode ^[1]												
Draw Circle	0x50 W	pos-x	pos-y	radius	mode ^[1]													
Invert	0x60 W	Invert															Invert: 0, front display; 1, front display, flip 180 degrees; 2, reverse display; 3, reverse display, flip 180 degrees	
Display ON/OFF	0x70 W	ON/OFF															ON/OFF: 1:Display on; 0:Display off	
String Buffer Array ^[2]	0x80 W	Index-L	Index-H	data														
Picture Buffer Array ^[2]	0x90 W	Index-L	Index-H	data														
Color reverse	0xA0 W	color reverse															color turn: 0: Normal; 1: reverse color display	
Draw Picture	0xB0 W	pos-x	pos-y	size-x	size-y	mode ^[1]												
Buzz	0xC0 W	Buzz- Freq-L	Buzz- Freq-H	Buzz Duty	Buzz Control												Buzz Freq ^[4] , Buzz Duty ^[3] Buzz Control: 0, disable; 1, enable	
Key	0xD0 R	Key-A	Key-B														Key: 0 or 1	
Firmware Version	0xF0 R															Version	Version: firmware version number	
[1] mode: 1, filling; 0, clear																		
[2] String buffer: For example, to write "Hi" to buffer, we need to write two bytes. The first byte, index-L = 0, index-H = 0, data = 'H'. The second byte, index-L = 1, index-H = 0, data = 'I'. (The maximum length of character buffer is 64 bytes)																		
[3] Picture buffer: The usage method is the same as string buffer. (The maximum length of the picture buffer is 1024 bytes)																		
[4] Buzz Freq: The unit is Hz. For example, set the buzz frequency to 4000Hz, Buzz-Freq-L = 0xA0, Buzz-Freq-H = 0x0F																		
[4] Buzz duty: For example, set Buzz duty to 50%, Buzz Duty = 255 * 0.5 = 127																		

Video

- UiFlow2 Glass Unit