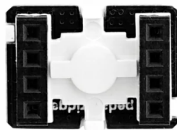
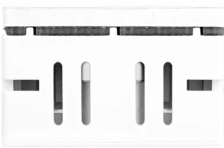


Unit Puzzle

SKU:U193





Description

Unit Puzzle is a colorful lighting control unit, composed of an 8x8 array with a total of 64 WS2812E RGB LEDs. Each LED is separated by a **grid structure** to prevent light interference from neighboring LEDs, ensuring clearer and purer visual effects. The product features two onboard Grove ports — one **input** signal port and one **output** port — and comes with a connector for linking multiple **Unit Puzzle** modules, expanding the light display area. The output Grove port also reserves an additional **IO** pin, supporting connections to other M5 devices like Unit Angle and other sensors with **Port B** interfaces for enhanced interactive control. **Unit Puzzle** is compact, easy to install, and has an M2 mounting hole at the bottom for fixing. The product measures just 24 x 24 x 15mm. This module is ideal for smart lighting, decorative displays, and interactive installations.

LED Brightness

Long-term high-brightness operation may cause damage. It is recommended to use 10% brightness to reduce heat generation and power consumption.

Features

- 8 x 8 WS2812 RGB LED matrix
- Grid isolation design
- Dual Grove ports (cascade expansion)
- 2 x LEGO compatible holes
- Development Platforms: Arduino, UiFlow, ESP-IDF, etc.

Includes

- 1 x Unit Puzzle
- 1 x HY2.0-4P Grove Cable (20cm)
- 1 x Connection Expander
- 1 x Brightness Parameter Sticker

Applications

- Smart lighting
- Decorative display

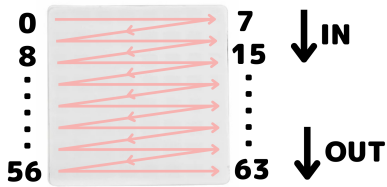
Specifications

Specification	Parameter
RGB LED Type	WS2812E-1313@8 x 8 matrix
LED Quantity	64 pcs (8x8 matrix)
Power per LED	Approx. 6mW (8% brightness, white)
Standby Current	DC 5V@14.27mA
Operating Current	DC 5V@93.99mA (8% brightness, white)
Supply Voltage	DC 5V
Interface Type	2 Grove ports (input and output)
Supported Colors	16.77 million
Control Method	Serial data control (single wire)
Operating Temp.	0 ~ 40°C
Product Size	24.0 x 24.0 x 15.0mm
Product Weight	6.4g
Package Size	138.0 x 93.0 x 16.0mm
Gross Weight	12.8g

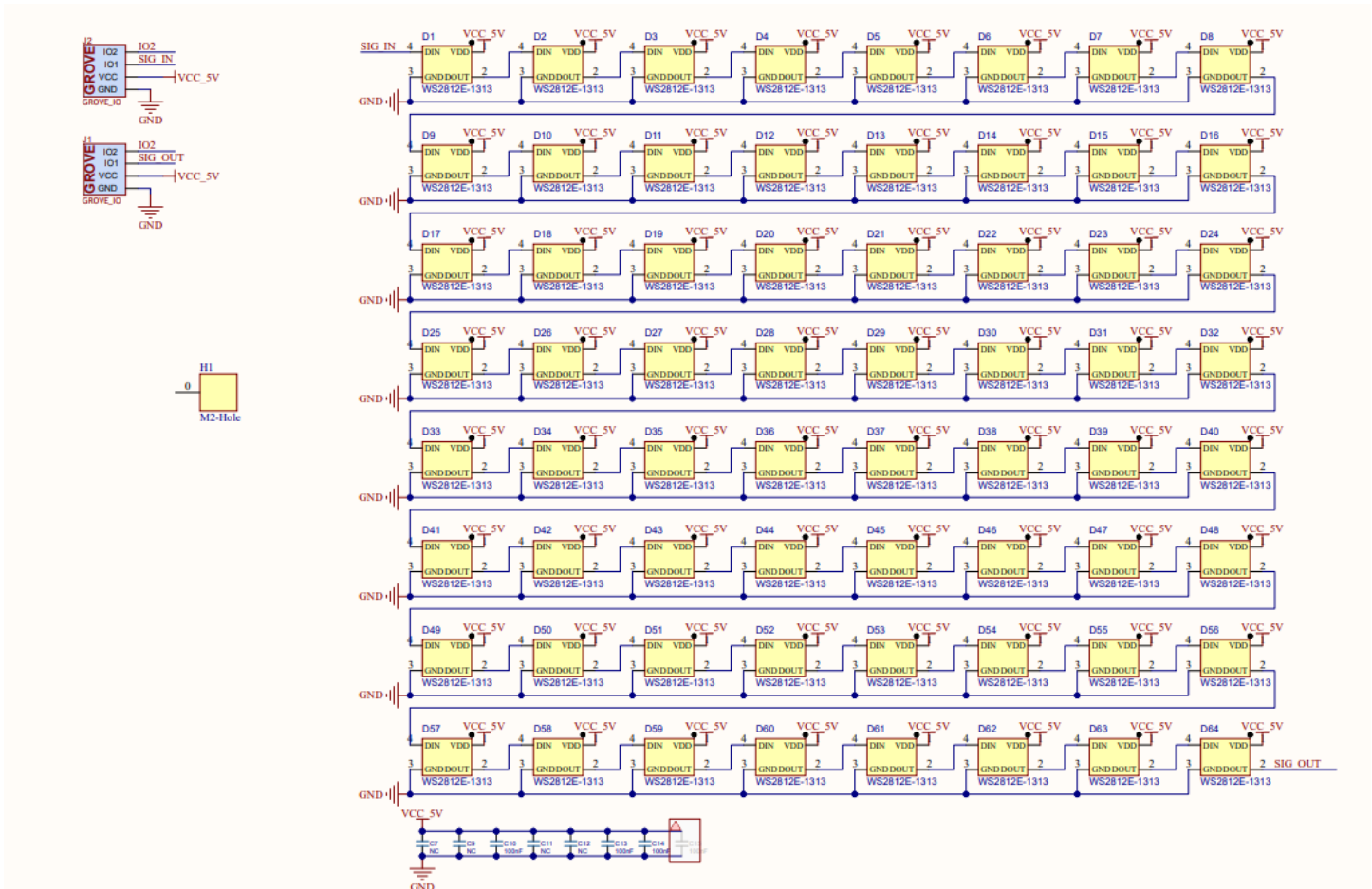
Learn

Relationship between Brightness and Current

LIGHTING	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
TOTAL CURRENT	132 mA	380 mA	591 mA	807 mA	996 mA	1188 mA	1366 mA	1550 mA	1708 mA	1850 mA	Puzzle



Schematics

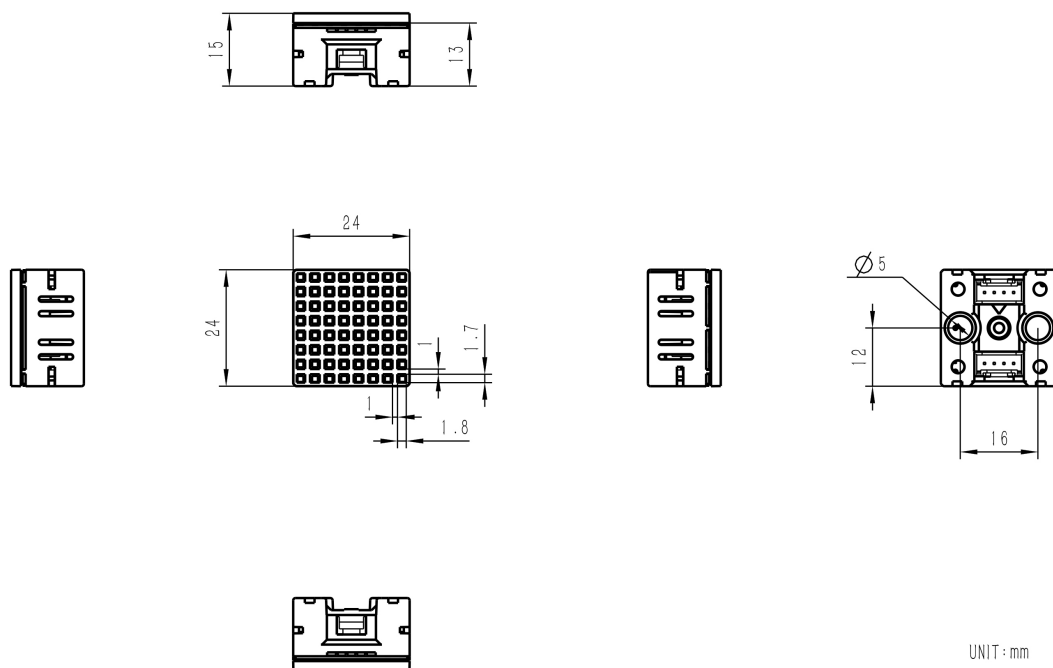


PinMap

Unit Puzzle

HY2.0-4P	Black	Red	Yellow	White
PORT.B	GND	5V	LED Signal	NC

Model Size



Datasheets

- [WS2812E](#)

Softwares

Arduino

- [Adafruit NeoPixel Arduino Library](#)
- [FastLED Arduino Library](#)

UiFlow1

- [Unit Puzzle UiFlow1 Docs](#)

UiFlow2

- [Unit Puzzle UiFlow2 Docs](#)

Video

- [Unit Puzzle functional demonstration and introduction](#)

