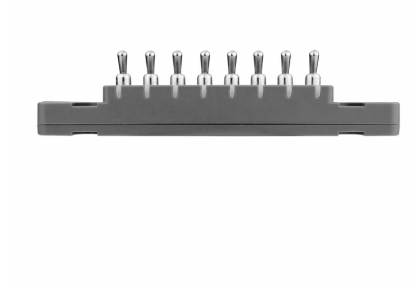
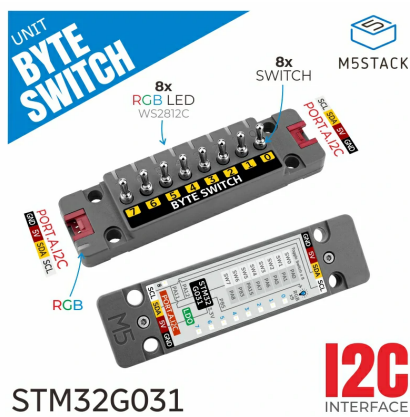
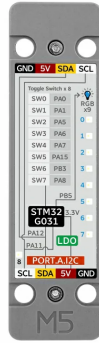
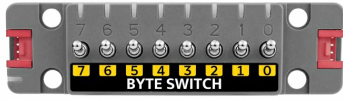


Unit ByteSwitch

SKU:U191





Description

Unit ByteSwitch is an 8-way toggle switch input unit equipped with 8 toggle switches and 9 WS2812C RGB LEDs. It uses STM32 as the main controller, supports I2C communication, and features two **Port A** I2C interfaces, allowing multiple Unit ByteSwitch units to be **cascaded** to meet the needs of complex systems. It enables toggle switch input detection and dynamic light status feedback, making it suitable for smart home control, gaming and entertainment devices, educational development platforms, industrial status displays, and interactive exhibitions.

Features

- 8-way toggle switch input
- 9 WS2812C RGB LEDs
- STM32 main controller
- I2C communication interface
- Development platforms:
 - UiFlow1
 - UiFlow2
 - Arduino IDE

Includes

- 1 x Unit ByteSwitch
- 1 x HY2.0-4P Grove cable (20cm)
- 1 x DIY sticker

Applications

- Smart home control panels
- Gaming or entertainment device controllers
- Educational and laboratory development platforms
- Status control and feedback devices
- Portable device debugging tools

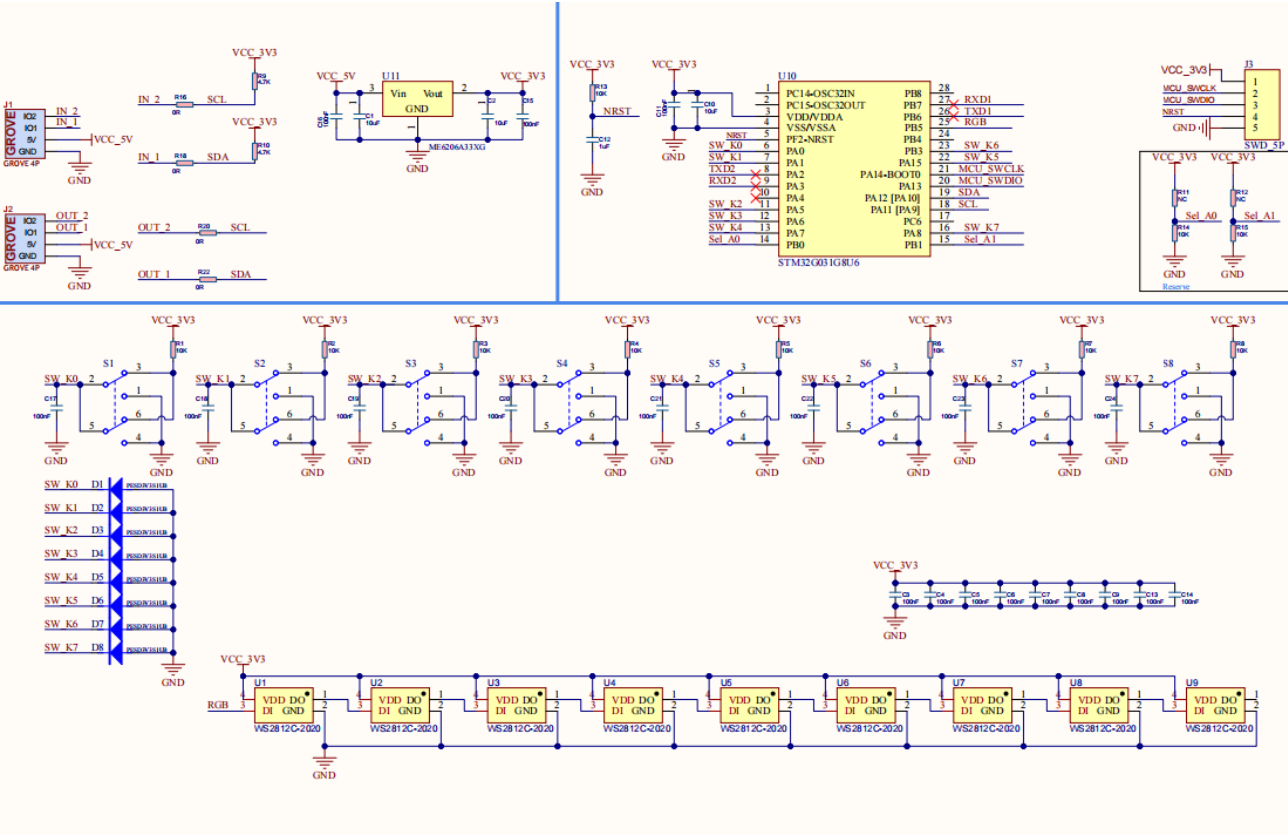
- Interactive exhibitions or scene control
- User interfaces for small instruments

Specifications

Specification	Parameter
MCU	STM32G031G8U6, 32-bit ARM Cortex-M0+ core, 64 MHz clock
Toggle Switches	8 independent toggle switches (double-pole double-throw)
RGB LEDs	WS2812C-2020 (9 units)
Communication Interface	I2C communication @0x46
Grove Interface	2 (I2C bus cascade expansion)
Standby Power Consumption	DC 5V@9.03mA
Operating Temperature	0 ~ 40°C
Product Size	88.0 x 24.0 x 19.6mm
Product Weight	22.6g
Package Size	170.0 x 120.0 x 20.6mm
Gross Weight	29.3g

Schematics

- [Unit ByteSwitch Schematic PDF](#)



PinMap

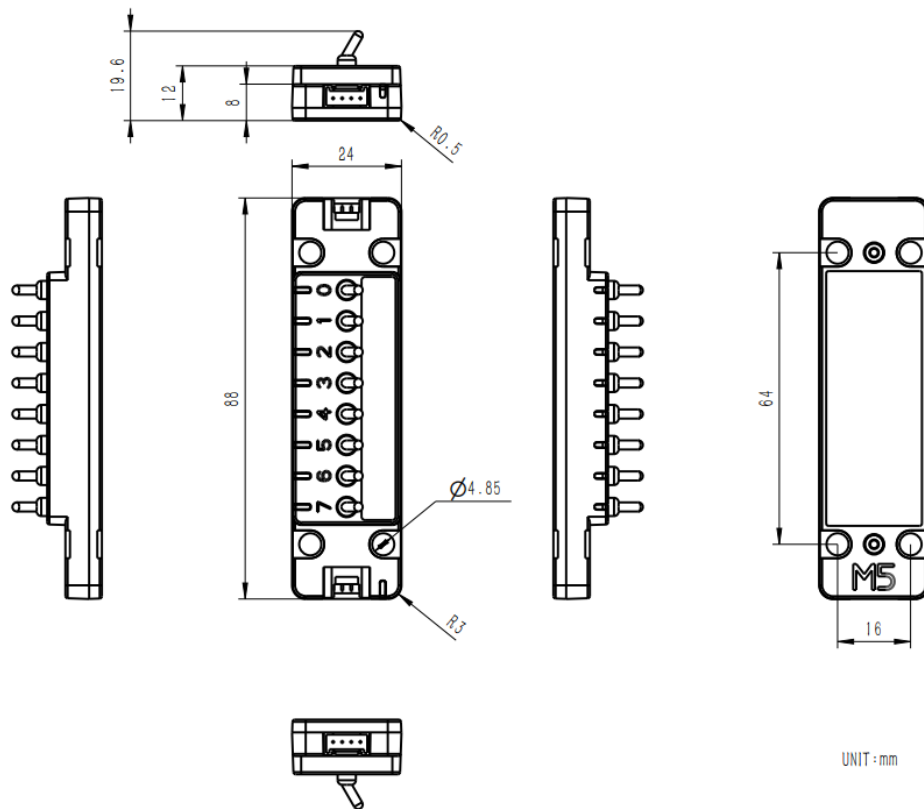
Unit ByteSwitch

HY2.0-4P	Black	Red	Yellow	White
PORT.A	GND	5V	SDA	SCL

STM32

STM32	PA0	PA1	PA5	PA6	PA7	PA15	PB3	PA8
KEY	SW_K0	SW_K1	SW_K2	SW_K3	SW_K4	SW_K5	SW_K6	SW_K7

Model Size



Softwares

Arduino

- [Unit ByteSwitch Test Example](#)

UiFlow1

- Coming soon...

UiFlow2

- [Unit ByteSwitch UiFlow2 Docs](#)

Internal Firmware

- [Unit ByteSwitch Internal Firmware](#)

Protocol

- [Unit ByteSwitch I2C Protocol](#)

M5Stack Unit Byte Switch I2C Protocol																	V1 (FW Version)		
REG MAP (Addr:0X46)		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note	
Read	Byte of Switch Value (Each switch value is combined into one byte)	0x00 R															Byte of Switch Value: bit0: switch 0; bit1: switch 1; bit2: switch 2; bit3: switch 3; bit4: switch 4; bit5: switch 5; bit6: switch 6; bit7: switch 7;		
	Switch Value (Each switch value is a separate byte)	0x00 R	Switch0	Switch1	Switch2	Switch3	Switch4	Switch5	Switch6	Switch7								Switch0: 0-1	
LED	LED Brightness & LED Show Mode	0x10 W/R	LED0 Brightness	LED1 Brightness	LED2 Brightness	LED3 Brightness	LED4 Brightness	LED5 Brightness	LED6 Brightness	LED7 Brightness	LED8 Brightness	LED Show Mode (Can be save to flash)						LED Brightness: 0-255 LED Show Mode: 0: Self define 1: Sys define	
LED Self define	RGB888 (Self define)	0x20 W/R	LED0 _{RGB-B}	LED0 _{RGB-G}	LED0 _{RGB-R}			LED1 _{RGB-B}	LED1 _{RGB-G}	LED1 _{RGB-R}			LED2 _{RGB-B}	LED2 _{RGB-G}	LED2 _{RGB-R}				
		0x30 W/R	LED4 _{RGB-B}	LED4 _{RGB-G}	LED4 _{RGB-R}			LED5 _{RGB-B}	LED5 _{RGB-G}	LED5 _{RGB-R}			LED6 _{RGB-B}	LED6 _{RGB-G}	LED6 _{RGB-R}				
		0x40 W/R	LED8 _{RGB-B}	LED8 _{RGB-G}	LED8 _{RGB-R}														
	RGB233 TM (Self define)	0x50 W/R	LED0	LED1	LED2	LED3	LED4	LED5	LED6	LED7	LED8							RGB233: bit6-bit7:R bit3-bit5:G bit0-bit2:B	
LED Sys define	RGB888 Switch=0 define (Can be save to flash)	0x70 W/R	LED0 _{RGB-B}	LED0 _{RGB-G}	LED0 _{RGB-R}			LED1 _{RGB-B}	LED1 _{RGB-G}	LED1 _{RGB-R}			LED2 _{RGB-B}	LED2 _{RGB-G}	LED2 _{RGB-R}				
		0x80 W/R	LED4 _{RGB-B}	LED4 _{RGB-G}	LED4 _{RGB-R}			LED5 _{RGB-B}	LED5 _{RGB-G}	LED5 _{RGB-R}			LED6 _{RGB-B}	LED6 _{RGB-G}	LED6 _{RGB-R}				
	RGB888 Switch=1 define (Can be save to flash)	0x90 W/R	LED0 _{RGB-B}	LED0 _{RGB-G}	LED0 _{RGB-R}			LED1 _{RGB-B}	LED1 _{RGB-G}	LED1 _{RGB-R}			LED2 _{RGB-B}	LED2 _{RGB-G}	LED2 _{RGB-R}				
		0xA0 W/R	LED4 _{RGB-B}	LED4 _{RGB-G}	LED4 _{RGB-R}			LED5 _{RGB-B}	LED5 _{RGB-G}	LED5 _{RGB-R}			LED6 _{RGB-B}	LED6 _{RGB-G}	LED6 _{RGB-R}				
System	Flash write back	0xF0 W	Flash write back															write 1 save to flash	
	IRQ Setup TM (Can be save to flash)	0xF0 R/W	IRQ Setup															0: Disable; 1: Enable need to restart	
	Firmware Version	0xF0 R														Version		Version: firmware version number	
	I2C Address (Can be save to flash)	0xF0 R/W														Address		Address: 1-127	

Video

- Unit ByteSwitch Product Introduction and Case Demonstration

U191 BYTESWITCH UNIT Video.mp4

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