

Unit Joystick2

SKU:U024-V2



描述

Unit Joystick2 是一款高精度霍尔电磁摇杆控制单元，内置 STM32G030F6P6 主控芯片，集成了摇杆控制信号采集固件。该单元通过 I2C 通信接口实现数据传输，支持三轴控制信号输入，其中包括 X/Y 轴的模拟量输入和 Z 轴的按键数字量输入。Unit Joystick2 采用了霍尔电磁摇杆，通过检测磁场变化实现高精度控制，具有无接触、耐磨损、精度高、抗干扰能力强等优点，确保了产品的稳定性和长寿命。此外，设备内置 WS2812 RGB 灯珠，用于状态指示和交互显示，并预留了 STM32 固件升级接口，方便进行固件更新。该产品适用于游戏控制、机器人操控等多种应用场景。

产品特性

- 霍尔电磁摇杆
- 三轴输入：
 - X/Y 轴偏移模拟量输入
 - Z 轴按键数字量输入
- 内置 stm32
- I2C 通讯
- RGB LED
- 2 x LEGO 兼容孔
- 开发平台: Arduino, UiFlow

包装内容

- 1 x Unit Joystick2
- 1 x HY2.0-4P GroFve 连接线 (20cm)

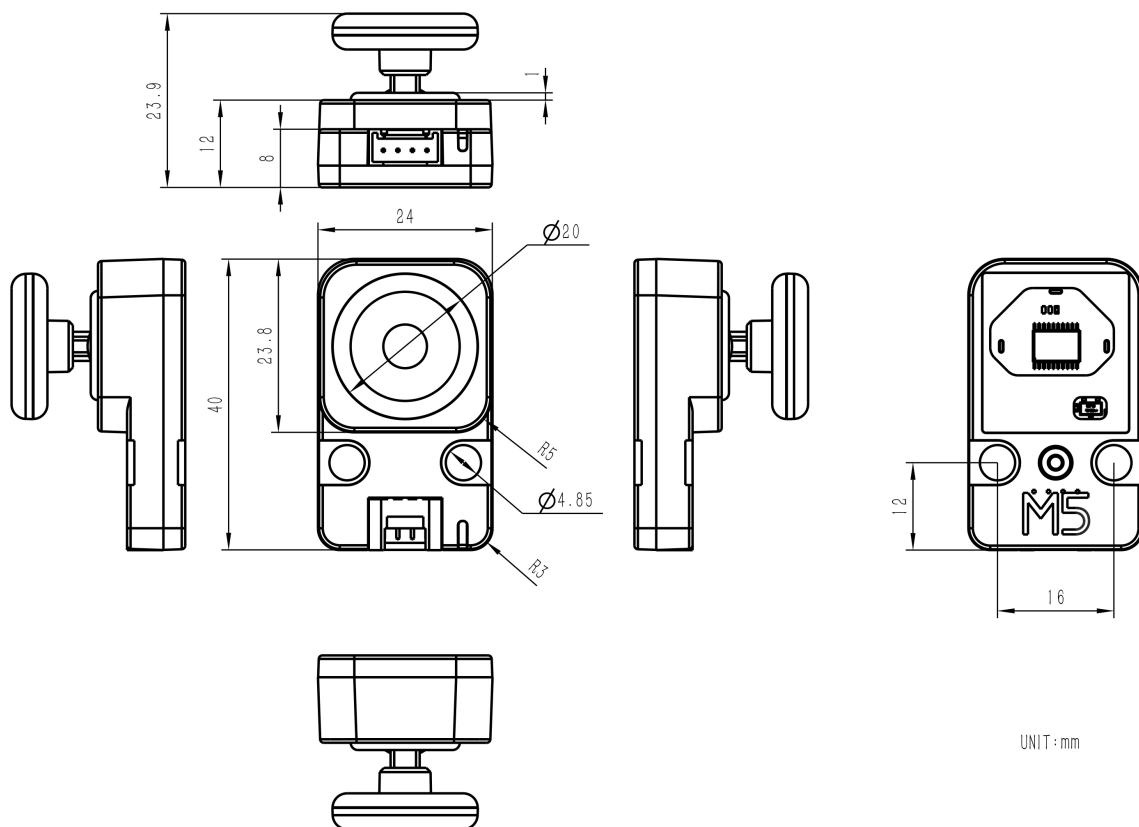
应用场景

- 游戏控制器
- 机器人远程控制

规格参数

规格	参数
MCU	STM32G030F6P6@Cortex-M0+, 主频 64MHz
Flash	32KB
SRAM	8KB
通信接口	I2C 通信 @ 0x63
X、Y 轴偏移输出值	16 位 ADC 数值输出 (0-65535)
Z 轴按键输出值	0/1
RGB 灯珠	1x WS2812C
产品尺寸	40.0 x 24.0 x 23.9mm
产品重量	10.0g
包装尺寸	138.0 x 93.0 x 24.9mm
毛重	15.7g

原理图



结构文件

- [Unit Joystick2 结构文件](#)

软件开发

Arduino

- [Unit Joystick2 Arduino 驱动库](#)

UiFlow1

- [Unit Joystick2 UiFlow1 文档](#)

UiFlow2

- [Unit Joystick2 UiFlow2 文档](#)

内置固件

- [Unit Joystick2 内置固件](#)

通信协议

M5Stack Unit JoyStick2 I2C Protocol																		V1 (FW Version)		
REG MAP (Addr:0x63)		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	2024/V10		
																		note		
Raw Value	Joy1 ADC Value (16bits)	0x00 R	Joy1 X ADC Value-L (0x00)	Joy1 X ADC Value-H (0x01)	Joy1 Y ADC Value-L (0x02)	Joy1 Y ADC Value-H (0x03)												ADC Value: ADC = (ADC Value-L + ADC Value-H * 256) 0~65535		
	Joy1 ADC Value (8bits)	0x10 R	Joy1 X ADC Value (0x10)	Joy1 Y ADC Value (0x11)														0~255		
	Button	0x20 R	Button (0x20)															Button: 1, no press; 0, press		
RGB	RGB	0x30 R/W	RGB-B (0x30)	RGB-G (0x31)	RGB-R (0x32)	NULL (0x33)												RGB value		
Mapped Value	Joy1 ADC Min&Max&Center Value (16bits)	0x40 R/W	Joy1 X ADC Negative Min Value-L (0x40)	Joy1 X ADC Negative Min Value-H (0x41)	Joy1 X ADC Negative Max Value-L (0x42)	Joy1 X ADC Negative Max Value-H (0x43)	Joy1 X ADC Positive Min Value-L (0x44)	Joy1 X ADC Positive Min Value-H (0x45)	Joy1 X ADC Positive Max Value-L (0x46)	Joy1 X ADC Positive Max Value-H (0x47)	Joy1 Y ADC Negative Min Value-L (0x48)	Joy1 Y ADC Negative Min Value-H (0x49)	Joy1 Y ADC Negative Max Value-L (0x4A)	Joy1 Y ADC Negative Max Value-H (0x4B)	Joy1 Y ADC Positive Min Value-L (0x4C)	Joy1 Y ADC Positive Min Value-H (0x4D)	Joy1 Y ADC Positive Max Value-L (0x4E)	Joy1 Y ADC Positive Max Value-H (0x4F)	Joy1 X ADC Negative Min Value: The minimum ADC value on the negative half-axis of X. Joy1 X ADC Negative Max Value: The maximum ADC value on the negative half-axis of X. Joy1 X ADC Positive Min Value: The minimum ADC value on the positive half-axis of X. Joy1 X ADC Positive Max Value: The maximum ADC value on the positive half-axis of X. Joy1 Y ADC Negative Min Value: The minimum ADC value on the negative half-axis of Y. Joy1 Y ADC Negative Max Value: The maximum ADC value on the negative half-axis of Y. Joy1 Y ADC Positive Min Value: The minimum ADC value on the positive half-axis of Y. Joy1 Y ADC Positive Max Value: The maximum ADC value on the positive half-axis of Y.	
	Int12 Value (with offset)	0x50 R	X-L (0x50)	X-H (0x51)	Y-L (0x52)	Y-H (0x53)												Int12 Value: -4095~4095		
	Int8 Value (with offset)	0x60 R	X-L (0x60)	Y-L (0x61)															Int8 Value: -127~127	
	Bootloader Version	0xF0 R												Version (0xFC)						Version: Bootloader version number
System	Firmware Version	0xF0 R															Version (0xFE)			Version: firmware version number
	I2C Address	0xF0 R/W															Address (0xFF)			Address: I2C Address

相关视频

◦ Unit JoyStick2 产品介绍以及案例展示

U024-V2 JoyStick2 Unit 视频.mp4

◦ UiFlow2 Unit JoyStick2

产品对比

Product Compare		
	Unit Joystick v1.1	Unit Joystick2
MCU	MEGA8A	STM32G030F6P6
RGB	/	WS2812C
X, Y axis offset output value	8 bits (0-255)	16 bits (0-65535)
Communication Mode	I2C (0x52)	I2C (0x63)
manufacturing technique	Carbon film joystick	Hall effect joystick