

Unit Encoder

SKU:U135



SK6812*2: Pa0
BTN: PA5 ; A: PA6 ; B: PA7
STM32F030F4P6

I2C
INTERFACE

Description

Unit Encoder is an I2C communication interface **rotary encoder** expansion unit. It integrates a 30-position pulse encoding knob (with button input) + 2x SK6812 programmable RGB LEDs. The built-in STM32F030 main control integrates encoder pulse signal acquisition firmware, allowing users to directly obtain the encoding value through I2C read operations, simplifying the process. It is suitable for scenarios such as scale value control/volume adjustment.

Features

- 30-position pulse encoding knob (produces 30 pulses per full rotation)
- 2 x SK6812 programmable RGB LEDs
- 1 x Button input

Includes

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

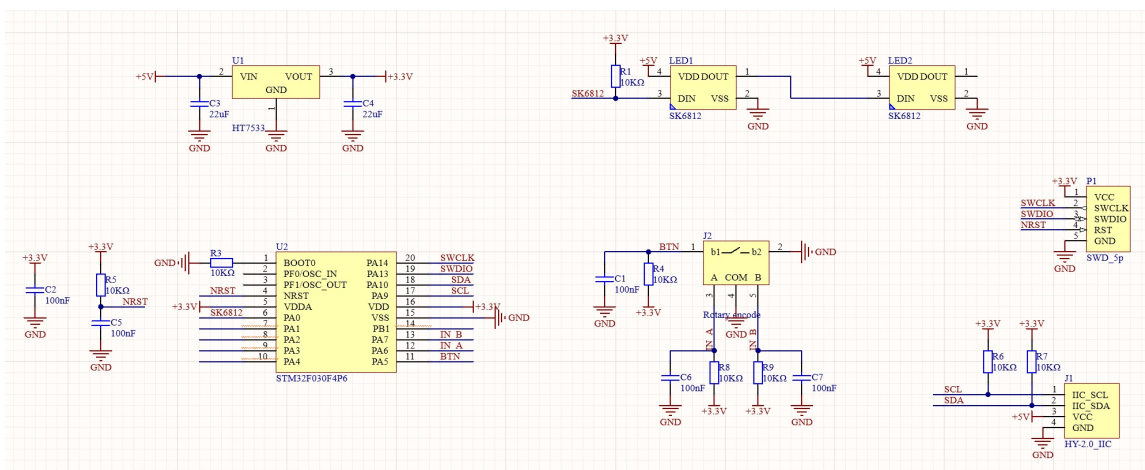
Applications

- Human-computer interaction
- Volume knob

Specifications

Specification	Parameter
MCU	STM32F030F4P6
Communication Interface	I2C @0x40
Pulse Encoder Knob	30-position pulse encoder knob (with button input)
Programmable RGB LED	2x SK6812
Operating Current	Encoder operation (DC 5V@17mA)
Product Size	32.0 x 24.0 x 25.4mm
Product Weight	7.4g
Package Size	138.0 x 93.0 x 25.0mm
Gross Weight	12.3g

Schematics

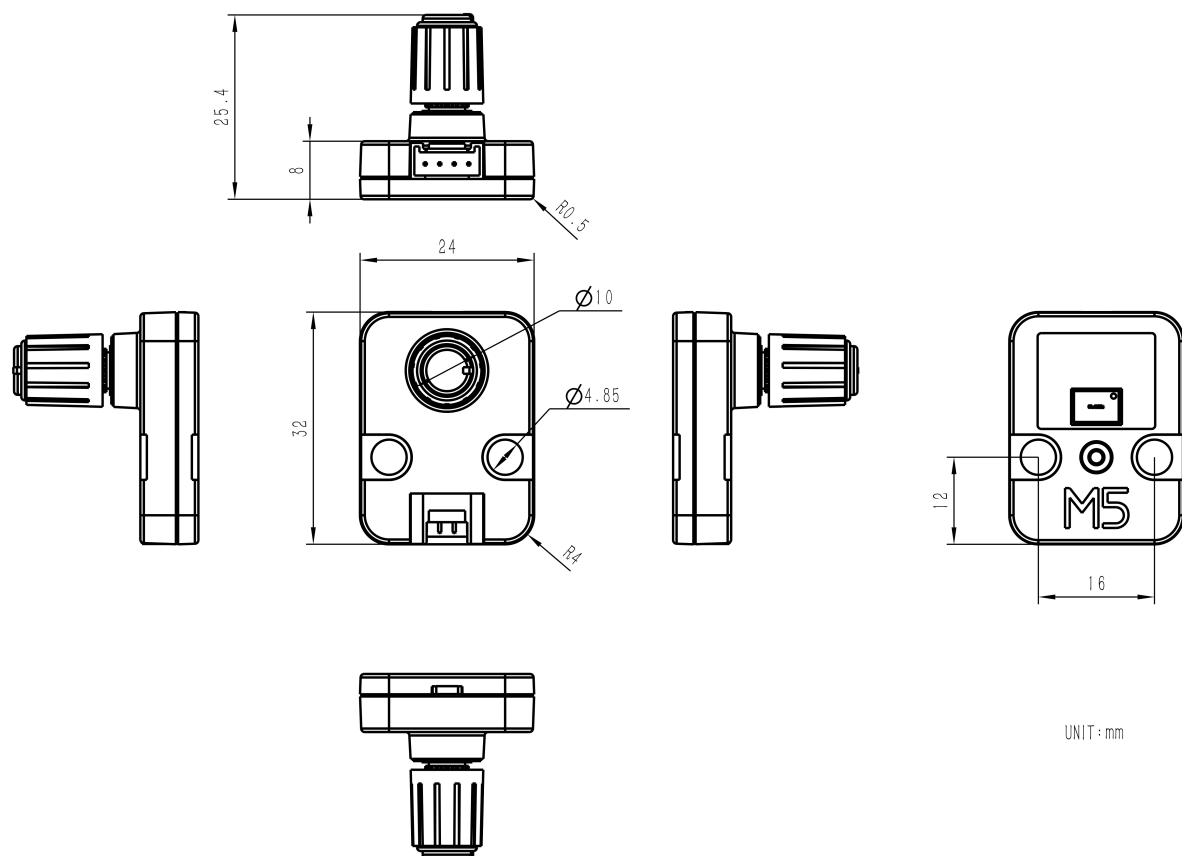


PinMap

Unit Encoder

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

Model Size



Structure

- [Unit Encoder Structure Files](#)

Softwares

Arduino

- [Unit Encoder Arduino Library](#)
- [Unit Encoder Test Example with M5Core](#)

UiFlow1

- [Unit Encoder UiFlow1 Docs](#)

UiFlow2

- [Unit Encoder UiFlow2 Docs](#)

Internal Firmware

- [Unit Encoder Internal Firmware](#)

Protocol

- [Unit Encoder I2C Communication Protocol](#)

M5Stack Unit Encoder I2C Protocol																V1 (FW Version)		
																2022/5/13		
REG MAP (Addr: 0x40)	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note	
Mode	Mode															Mode: 0: Pulse 1: AB default: 0		
Encoder Value	Value L	Value H																
Button	Button Status															Button Status: 0: Released 1: Pressed default: 0		
RGB LED	LED Index	RGB_R	RGB_G	RGB_B												LED Index: X means LEDX value: 0 ~ 2, 0-ALL RGB_R/G/B: RGB value value: 0~255 default: 0		

Video

- Reading encoder values

[UNIT_ENCODER_VIDEO.mp4](#)