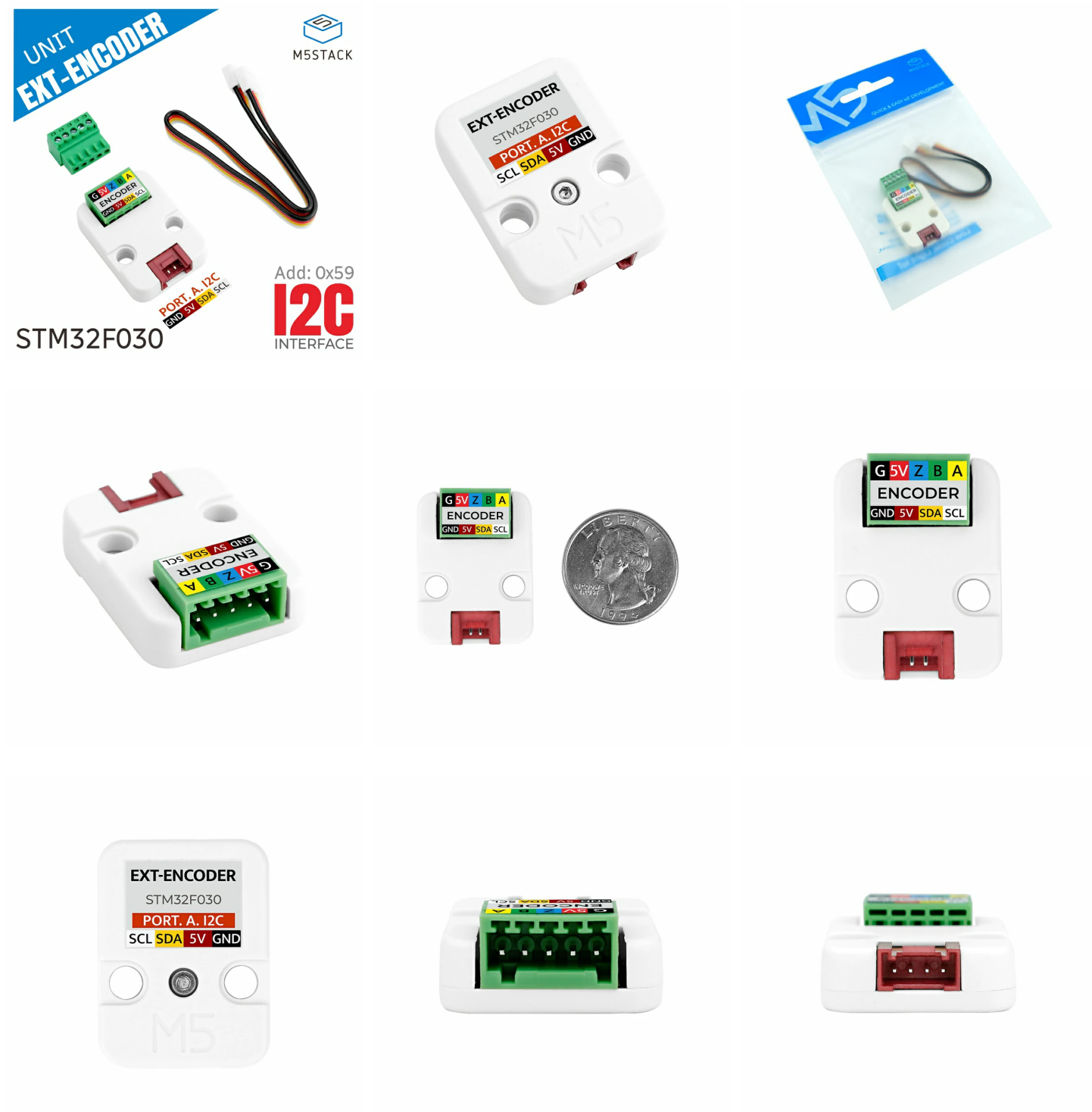


Unit ExtEncoder

SKU:U161



Description

Unit ExtEncoder is a collection unit for external rotary encoders, supporting AB/ABZ signal input. It uses an STM32F030 main controller to integrate encoder signal acquisition and decoding firmware. Users can directly obtain encoder values through I2C read operations, making it suitable for applications such as robotic arm position control, automated cutting in industrial automation, and measuring wheels.

Features

- Supports signal acquisition from external rotary encoders
- Supports AB/ABZ signal input
- Built-in STM32F030 main controller, integrating encoder signal acquisition and decoding firmware
- Directly obtain encoder values through I2C read operations

Includes

- 1 x Unit ExtEncoder
- 1 x HY2.0-4P Grove connection cable (20cm)
- 1 × VH2.54-5P

Applications

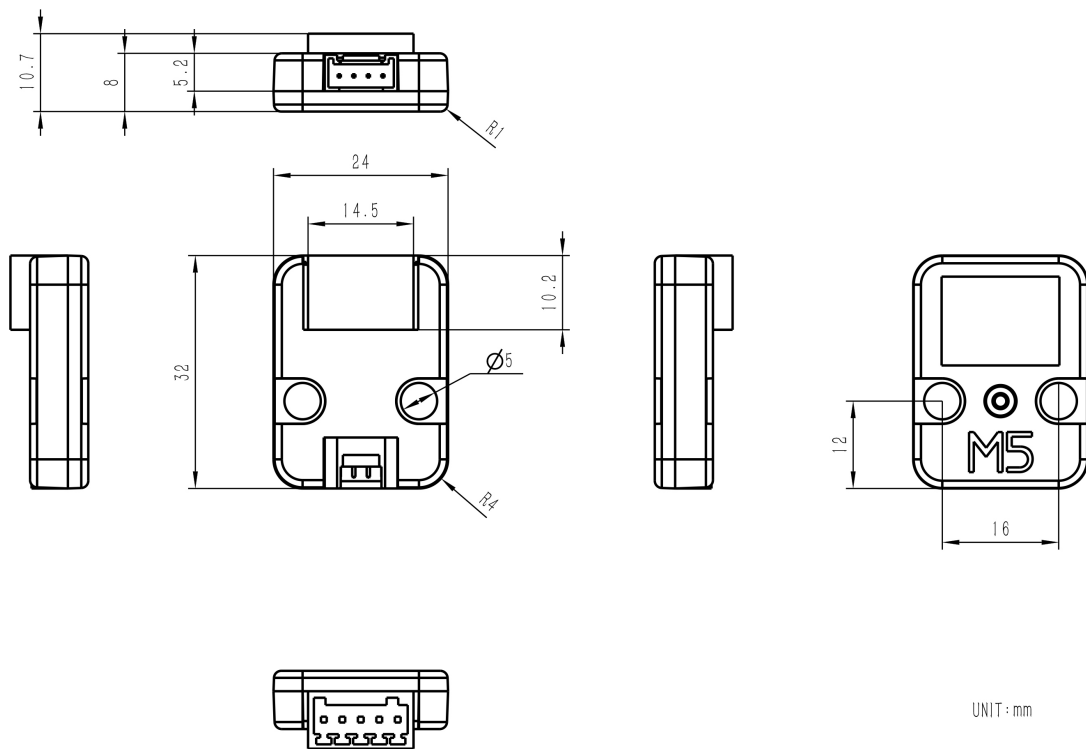
- Measuring applications
- Encoders
- Automated cutting

Specifications

Specification	Parameter
MCU	STM32F030F4P6
Sampling Accuracy	12-bit
Signal Input Type	AB/ABZ
I2C Communication Address	0x59
Product Size	32.0 x 24.0 x 10.7mm
Product Weight	5.0g
Package Size	138.0 x 93.0 x 11.7mm
Gross Weight	12.2g

Schematics

- [Unit ExtEncoder Schematics PDF](#)



Structure

- [Unit ExtEncoder Structure Files](#)

Datasheets

- [STM32F030F4P6 Datasheet](#)

Softwares

Arduino

- [Unit ExtEncoder Arduino Library](#)

UiFlow1

- [Unit ExtEncoder UiFlow1 Docs](#)

UiFlow2

- [Unit ExtEncoder UiFlow2 Docs](#)

Internal Firmware

- [Unit ExtEncoder Internal Firmware](#)

M5Stack Unit ExtEncoder I2C Protocol																		V2 (FW Version)		
																		2023/5/10		
REG MAP (Addr:0x59)			0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note	
Setting	Perimeter (mm)	0x40 R/W	Perimeter-Byte0	Perimeter-Byte1	Perimeter-Byte2	Perimeter-Byte3													Perimeter: Perimeter = (Perimeter-byte0 + Perimeter-byte1 * 256 + Perimeter-byte2 * 65536 + Perimeter-byte3 * 16777216)	
	Pulse per round	0x50 R/W	Pulse-Byte0	Pulse-Byte1	Pulse-Byte2	Pulse-Byte3													Pulse per round: Pulse per round = (Pulse-byte0 + Pulse-byte1 * 256 + Pulse-byte2 * 65536 + Pulse-byte3 * 16777216)	
	Z Trigger Mode	0x70 W/R	Z Trigger Mode													0; Endless; 1; Z Rising edge, encoder = 0; 2; Z Falling edge, encoder = 0;				
	Reset	0x30 W	Reset													Write 1 to reset encoder and meter value				
Reading	Encoder Value	0x00 R	Encoder Value-Byte0	Encoder Value-Byte1	Encoder Value-Byte2	Encoder Value-Byte3													Encoder Value: Encoder Value = (Encoder Value-byte0 + Encoder Value-byte1 * 256 + Encoder Value-byte2 * 65536 + Encoder Value-byte3 * 16777216)	
	Meter Value (mm)	0x10 R	Encoder Value-Byte0	Encoder Value-Byte1	Encoder Value-Byte2	Encoder Value-Byte3													Meter Value: Meter Value = (Meter Value-byte0 + Meter Value-byte1 * 256 + Meter Value-byte2 * 65536 + Meter Value-byte3 * 16777216)	
	Meter Value String (m)	0x20 R	sign	thousand's digit	hundred's digit	ten's digit	unit's digit	*	.	tenths	hundredths	thousandths								
	Turns (Z Counter)	0x60 R/W	Turns-Byte0	Turns-Byte1	Turns-Byte2	Turns-Byte3													Turns(Z Counter): Turns = (Turns-byte0 + Turns-byte1 * 256 + Turns-byte2 * 65536 + Turns-byte3 * 16777216)	
System	Firmware Version	0xF0 R															Version		Version: firmware version number	
	I2C Address	0xF0 R/W															Address		Address: I2C Address	