ExtEncoder Unit

SKU:U161

Description

`ExtEncoder unit` is an acquisition unit for `external rotary encoder`, supporting `AB/ABZ signal input`, using `STM32F030` main control integrated encoder signal acquisition and decoding firmware, users can directly obtain the encoded value through the `I2C` reading operation, suitable for example, `robot arm position control, automatic cutting in the field of industrial automation, meter wheel`, etc.

Features

- Supports signal acquisition with external rotary encoders
- Support AB/ABZ signal input
- Built-in STM32F030 main control, integrated encoder signal acquisition and decoding firmware
- The encoded value can be obtained directly through the I2C read operation

Includes

- 1x ExtEncoder Unit
- 1x Grove Cable(20cm)
- 1 × VH2.54-5P

Applications

- Meter counting applications
- encoder
- Automated cutting

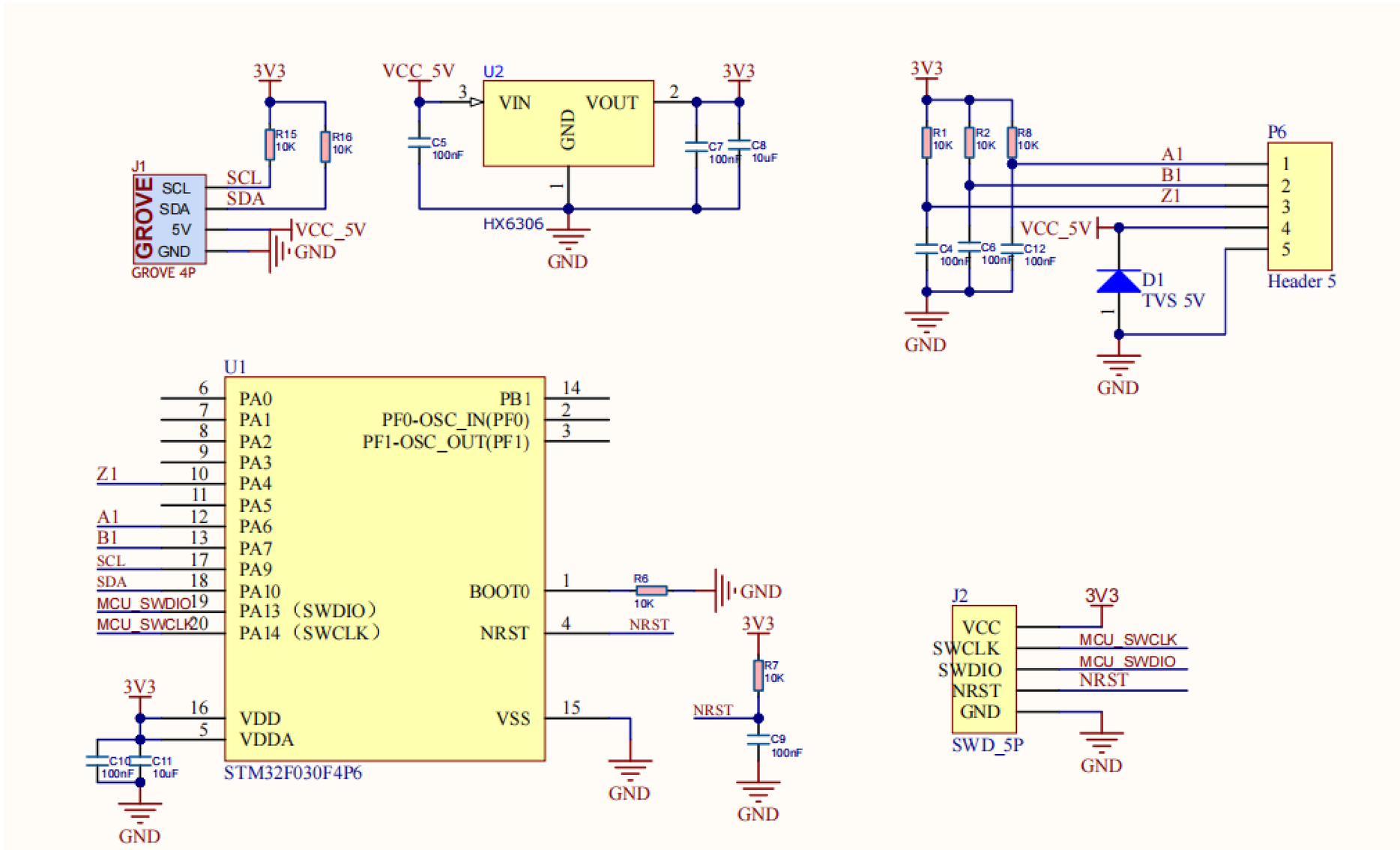
Specification

Resources	Parameters
Sampling accuracy	12 bit
Signal input type	AB/ABZ
I2C Address	0x59
Product Size	40*24*14mm
Package Size	67*53*12mm
Product Weight	8g
Package Weight	21g

Related Link

- STM32F030F4P6 Datasheet

Schematic



Examples

Arduino

- ExtEncoder Arduino Example
- ExtEncoder Arduino 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	Pulser-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																Address	Address: I2C Address