

Unit NCIR2

SKU:U150



描述

Unit NCIR2 是一款搭载数据处理 MCU 的 MLX90614 非接触式红外单点测温单元，测温范围 -70°C ~ 380°C，MCU 采用 STM32，通过数据处理能实现高、低温告警功能。板上集成了蜂鸣器、RGB 指示灯、一个功能按键和一个复位按键，采用 I2C 与上位机通信。该产品可与上位机一并使用，也能单独使用，适合用于温度测量及异常告警等场合。

产品特性

- STM32F030F4P6
- MLX90614 红外 (IR) 传感器
- GROVE I2C/HY2.0-4P 接口
- 编程平台：Arduino、UiFlow
- 两个乐高兼容孔

包装内容

- 1 x Unit NCIR2
- 1 x HY2.0-4P Grove 连接线 (20cm)

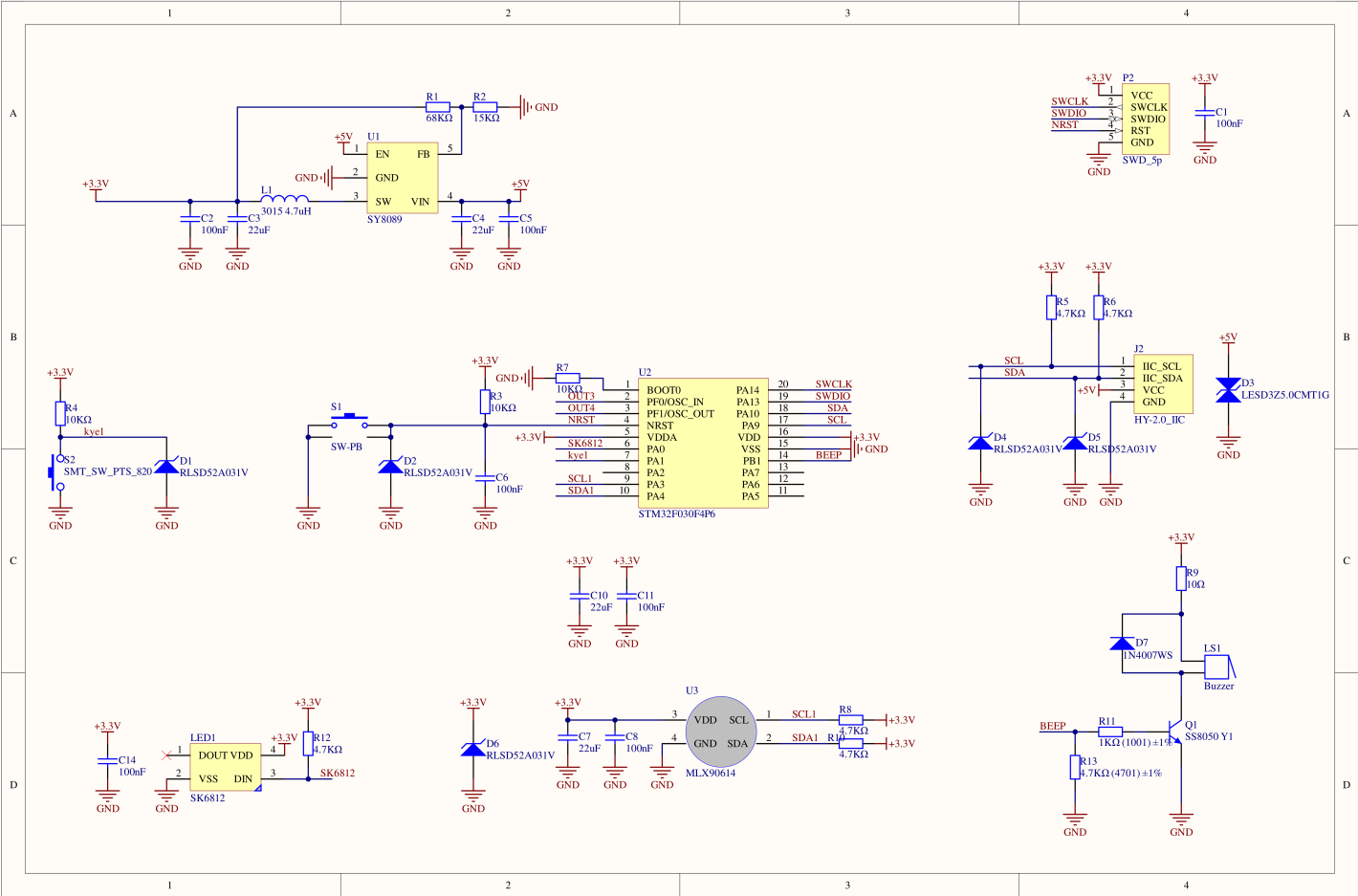
应用场景

- 高精度非接触式温度测量
- 移动检测
- 智能家居

规格参数

规格	参数
MCU	STM32F030F4P6
传感器	MLX90614ESF-BAA
通信接口	I2C 通信 @ 0x5A
被测量对象温度范围	-70°C ~ 380°C
传感器工作温度	-40°C ~ 125°C
Unit 工作温度	0°C ~ 40°C
测量精度	±0.5°C
编程平台	Arduino, UiFlow
产品尺寸	48.0 x 24.0 x 8.0mm
产品重量	7.3g
包装尺寸	138.0 x 93.0 x 9.0mm
毛重	12.8g

原理图

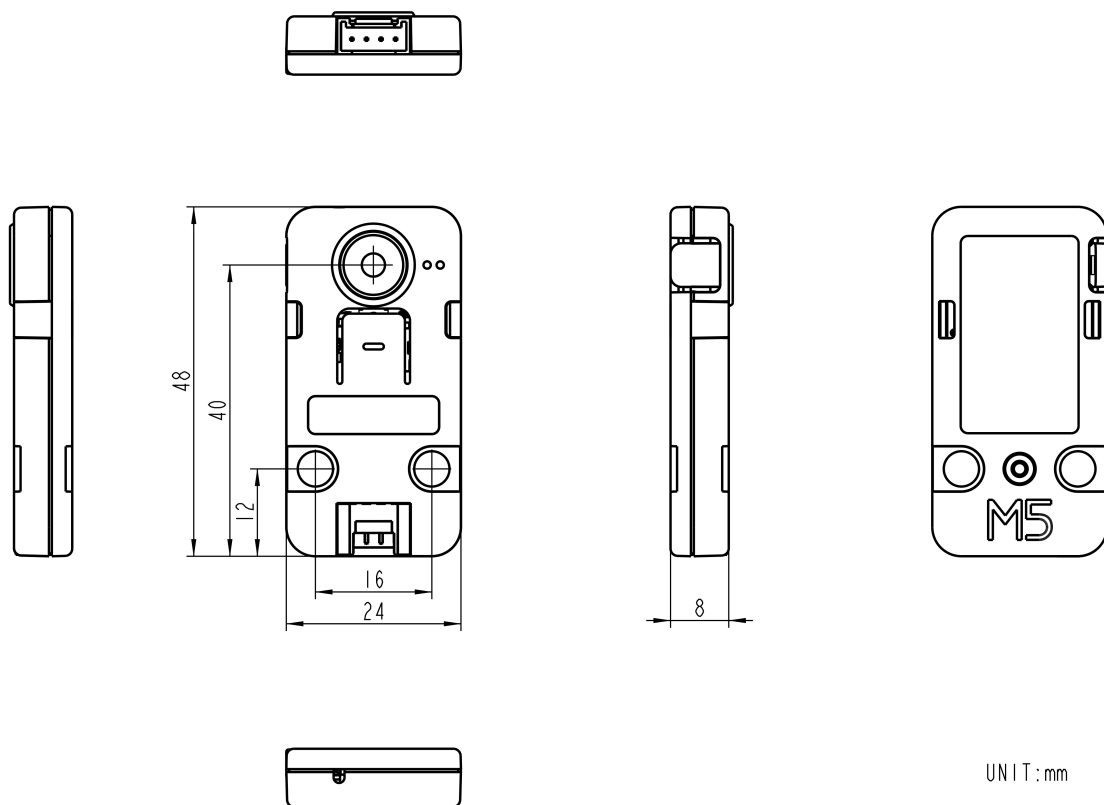


管脚映射

Unit NCIR2

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

尺寸图



结构文件

- [Unit NCIR2 结构文件](#)

数据手册

- [STM32F030F4P6 Datasheet](#)
- [MLX90614 Datasheet](#)

软件开发

Arduino

- [Unit NCIR2 Arduino 驱动库](#)



UiFlow1

- [Unit NCIR2 UiFlow1 文档](#)

UiFlow2

- [Unit NCIR2 UiFlow2 文档](#)

内置固件

- [Unit NCIR2 内置固件](#)

通信协议

- [Unit NCIR2 I2C 通信协议](#)

REG MAP (Addr:0x5A)		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note	
Temperature	0x00 R	Temperature-L	Temperature-H															Temperature: unit Celsius (actual temp value) * 100 ^[1]	
Emissivity	0x10 R/W	Emissivity-L	Emissivity-H															Emissivity: 65535 * rate (0.1 < rate < 1) ^[2]	
Alarm Temperature	0x20 R/W	Alarm Low Temp-L	Alarm Low Temp-H	Alarm High Temp-L	Alarm High Temp-H														Alarm Temp: unit Celsius (actual temp value) * 100 ^[3]
Alarm LED ^[4]	0x30 R/W	Alarm Low Temp-R	Alarm Low Temp-G	Alarm Low Temp-B	Alarm High Temp-R	Alarm High Temp-G	Alarm High Temp-B												Alarm LED R/G/B: 0-255
Alarm Buzz ^[11]	0x40 R/W	Alarm Low Temp Buzz Freq-L	Alarm Low Temp Buzz Freq-H	Alarm Low Temp Buzz Interval-L	Alarm Low Temp Buzz Interval-H	Alarm Low Temp Buzz Duty	Alarm High Temp Buzz Freq-L	Alarm High Temp Buzz Freq-H	Alarm High Temp Buzz Interval-L	Alarm High Temp Buzz Interval-H	Alarm High Temp Buzz Duty							Alarm Temp Buzz Freq ^[4] , Alarm Temp Buzz Interval ^[5] , Alarm Temp Buzz Duty ^[6]	
Buzz	0x50 R/W	Buzz-Freq-L	Buzz-Freq-H	Buzz Duty	Buzz Control														Buzz Freq ^[7] , Buzz Duty ^[8] Buzz Control: 0, disable; 1, enable
RGB LED	0x60 R/W	LED-R	LED-G	LED-B															LED R/G/B: 0-255
Button	0x70 R	Button Status																Button Status: 0 or 1	
Save Config	0x80 W	Save Config																Save Config: write 1 to save config	
Chip Temperature	0x90 R	Chip Temperature-L	Chip Temperature-H															Chip Temperature: unit Celsius (actual temp value) * 100 ^[9]	
Firmware Version	0xF0 R															Version		Version: firmware version number	
I2C Address	0xF0 R/W																Address	Address: 1-127	

[1] For example, the actual temperature is 27.55 degrees Celsius, and the obtained data is 27.55*100=2755. Temperature-L = 0xC3, Temperature-H = 0x0A

[2] For example, the emissivity needs to be set to 0.95, and the value to be set is 65535*0.95=62258, Emissivity-L = 0x32, Emissivity-H = 0xF3.(Note: Everytime you set the emissivity, must reconnect the NCIR2)

[3] For example, to set the high temperature alarm temperature to 37.00 degrees Celsius, the value to be set is 37.00*100=3700. Alarm Low Temp-L = 0x74, Alarm Low Temp-H= 0x0E

[4] Alarm Temp Buzz Freq: The unit is Hz. For example, when setting the high temperature alarm, the Buzz frequency is 4000Hz, Alarm Low Temp Buzz Freq-L = 0xA0, Alarm Low Temp Buzz Freq-H = 0x0F

[5] Alarm Temp Buzz Interval: The unit is ms. For example, set the Buzz interval to 100ms, Alarm Low Temp Buzz Freq-L = 0x64, Alarm Low Temp Buzz Freq-H = 0.(Note: The value is from 1ms to 5000ms)

[6] Alarm Temp Buzz duty. For example, set the Buzz duty to 50%, Alarm Low Temp Buzz Duty = 255 * 0.5 = 127

[7] Buzz Freq: The unit is Hz. For example, set the buzz frequency to 4000Hz, Buzz-Freq-L = 0xA0, Buzz-Freq-H = 0x0F

[8] Alarm Temp Buzz duty. For example, set Buzz duty to 50%. Buzz Duty = 255 * 0.5 = 127

[9] For example, the actual temperature is 27.55 degrees Celsius, and the obtained data is 27.55*100=2755. Chip Temperature-L = 0xC3, Chip Temperature-H = 0x0A

[10] If you want to disable alarm led, set Alarm Low Temp-R=0, set Alarm Low Temp-G=0, Alarm High Temp-B=0, Alarm High Temp-R=0, set Alarm High Temp-G=0, Alarm High Temp-B=0

[11] If you want to disable alarm buzz, set Alarm Low Temp Buzz Duty=0, set Alarm High Temp Buzz Duty=0

相关视频