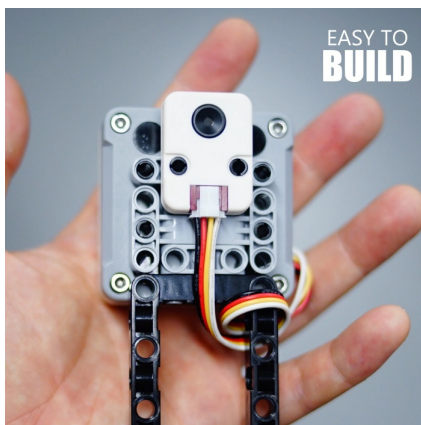
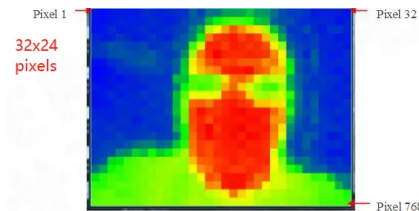


Unit Thermal

SKU:U016



Description

Unit Thermal is a human body infrared imaging unit. It is equipped with the **MLX90640** thermopile sensor, which can measure the surface temperature of objects and generate thermal imaging pictures (with a resolution of **32 x 24**) based on the temperature gradient formed by the surface temperature.

The **MLX90640** infrared (IR) sensor array features high resolution and the ability to operate reliably in harsh environments. Compared to expensive high-end thermal cameras, this unit is a cost-effective alternative. Unlike typical microbolometers, this sensor does not require frequent recalibration, ensuring continuous detection and reducing system maintenance costs. It offers a wide field of view (110°×75°), with an I2C address of **0x33**.

Features

- Operating current: 23mA
- Field of view: 110°×75°
- Temperature measurement range: -40 ~ 300°C
- Accuracy: ±1.5°C
- Refresh rate: 0.5Hz-64Hz
- Operating temperature: -40 ~ 85°C
- 2 x LEGO-compatible holes

Includes

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

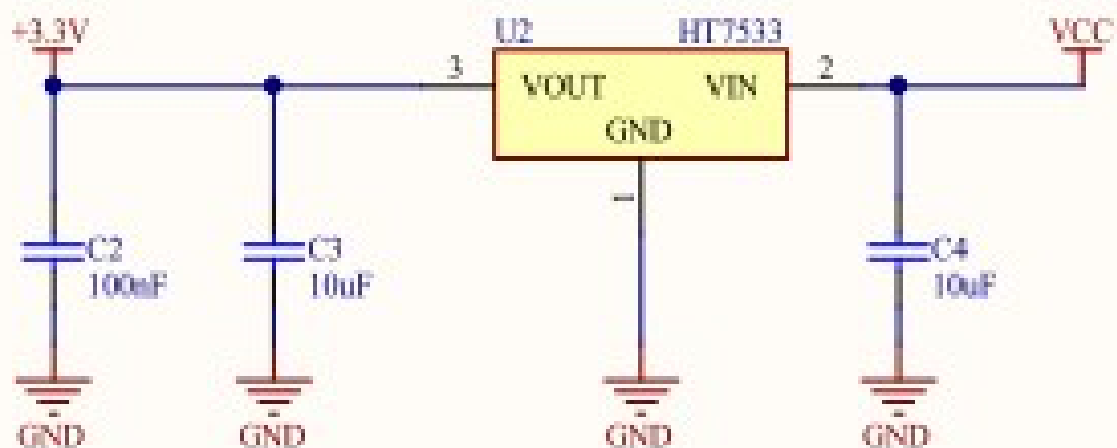
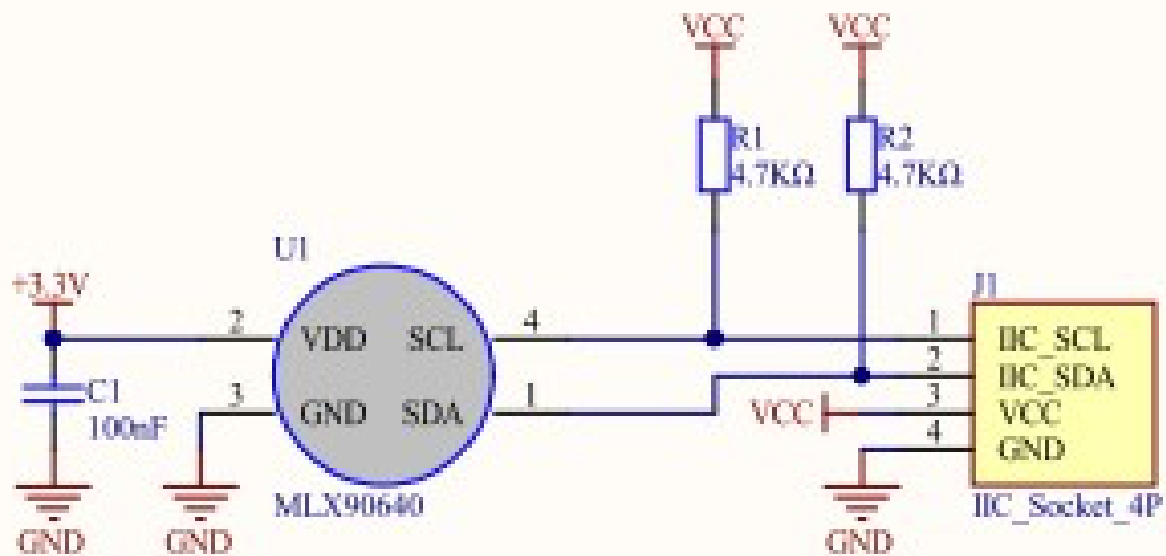
Applications

- High-precision non-contact temperature measurement
- Biological motion detection
- Visualized infrared imaging

Specifications

Specification	Parameter
Communication Protocol	I2C:0x33
Product Size	32.0 x 24.0 x 8.6mm
Product Weight	5.1g
Package Size	138.0 x 93.0 x 9.6mm
Gross Weight	10.1g

Schematics

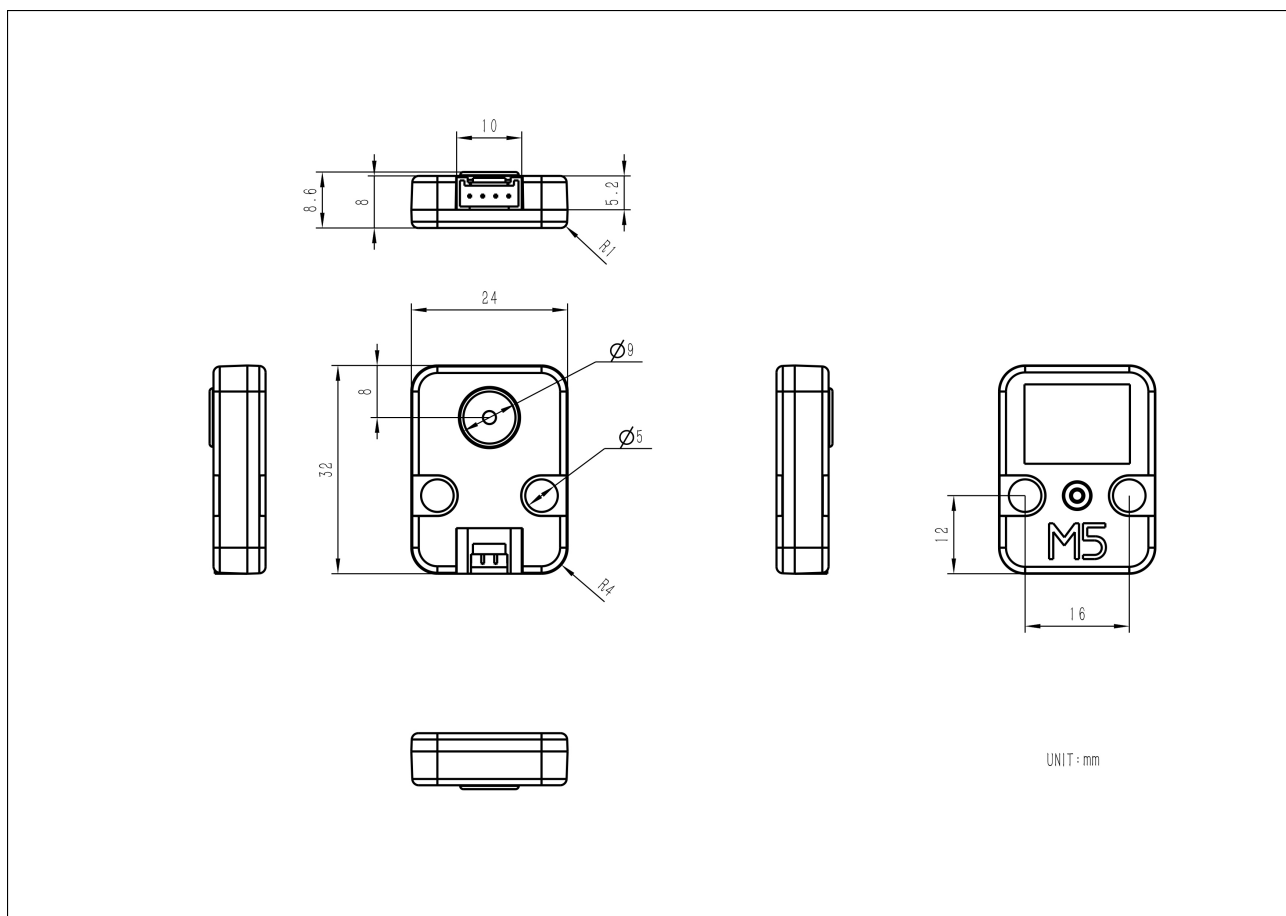


PinMap

Unit Thermal

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

Model Size



Datasheets

- [MLX90640 Datasheet](#)

Softwares

Arduino

- [Unit Thermal Test Example with M5Core](#)
- [Unit Thermal Test Example with M5Core2](#)

UiFlow2

- [Unit Thermal UiFlow2 Docs](#)

EasyLoader

Easyloader	Download Link	Remarks
Unit Thermal Test Easyloader	download	/

| Video

- Demonstration of Unit Thermal

[Infrared Thermal Imaging.mp4](#)

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[M5Stack:](#)

[U016](#)