



M5STACK

KMeterISO Unit

SKU: U133-V11



Description

KMeterISO unit is an integrated K-type thermocouple sensor unit that integrates the functions of "acquisition + isolation + communication", using **STM32F030+MAX31855KASA** 14bit thermocouple digital conversion chip scheme to achieve high-precision temperature acquisition and conversion, MCU using STM32F030 to realize data acquisition and I2C communication interface, using **CA-IS3641HW** as a signal isolator. The unit supports access to thermocouple probes with a measurement range of **-200°C to 1350°C**, and adopts a universal standard K-type flat interface, which is convenient for subsequent replacement of different measuring probes to match different needs. This module is widely used in **application scenarios such as temperature collection, control, and monitoring in industrial automation, instrumentation, power and electrical, heat treatment and other fields.**

Features

- STM32F030, high-performance ARM Cortex-M0 core, supports I2C firmware updates
- MAX31855KASA+T: (14Bit ADC, 0.25°C Resolution, ±2% Accuracy)
- Supported probe types: Type K - Supports access probe measuring range from -200°C to 1350°C
- I2C communication interface addr: 0x66
- Signal Isolate The CA-IS3641HW isolates input and output signals to improve stability, safety, and reliability.
- Supported programming platforms: Arduino, UIFlow

Includes

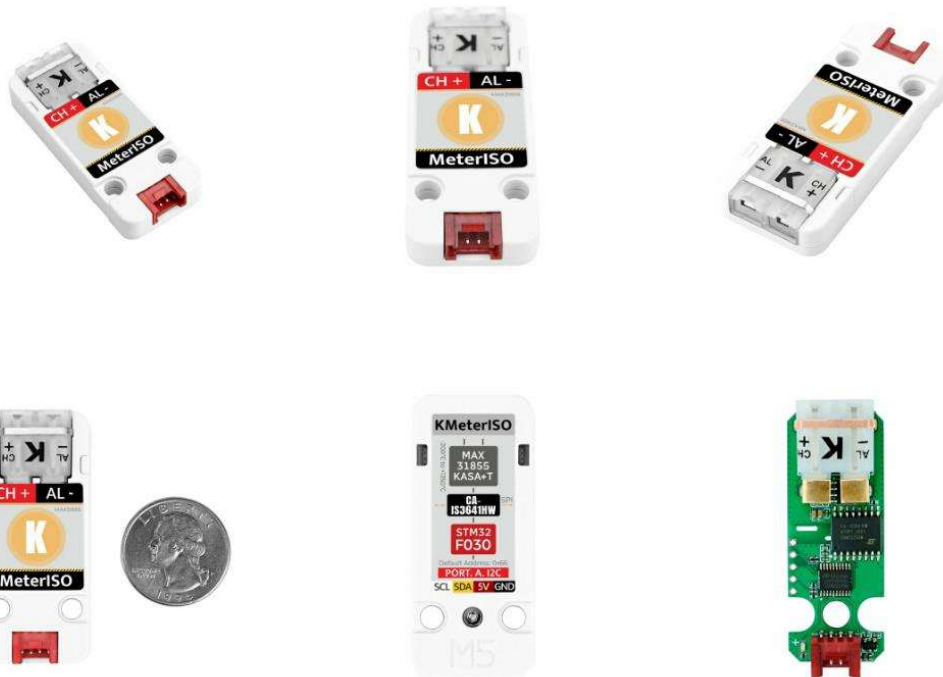
- 1x KmeterISO Unit
- 1x K-type thermocouple probe (measuring range -50°C to 250°C, wire length 1m)
- 1x HY2.0-4P cable (20cm)

Applications

- Industrial automation
- Instrumentation
- Power appliances
- heat treatment

Specification

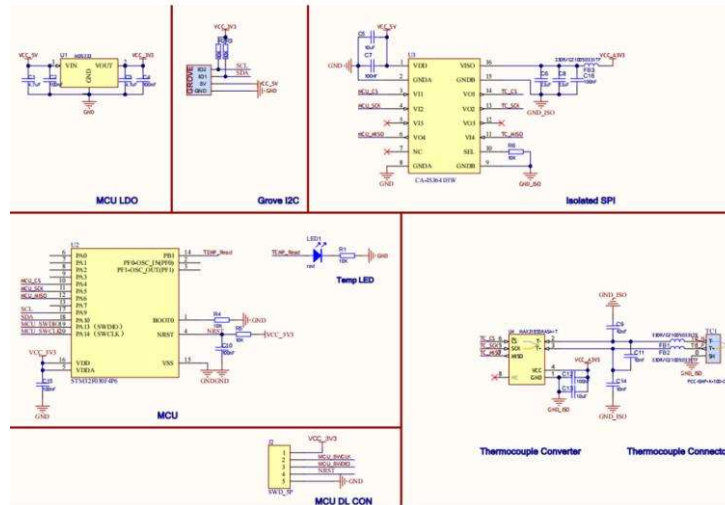
| Resources | Parameters |
|--|---|
| MCU | STM32F030, ARM Cortex-M0, 最高48MHz, 64K flash, 4K SRAM |
| Temperature sensor chip | MAX31855KASA+T |
| Signal isolation chip | CA-IS3641HW |
| resolution | 14 bit |
| Thermocouple Operating temperature range | -200-1350°C |
| Thermocouple type | K |
| Maximum sample rate | 10 Hz |
| SPI interface clock frequency range | Up to 5 MHz |
| Internal temperature sensor accuracy | ±2°C |
| measurement accuracy | ±2°C |
| Anomaly detection | Open, short, and thermocouple low voltages |
| STM32F030 | ARM Cortex-M0, 48MHz, 64K flash, 8K SRAM |
| i2c address | 0x66 |
| Product Size | 56 * 24 * 9.6 mm |
| Package Size | 136mm × 92mm × 13mm |
| Product Weight | 10.1g |
| Package Weight | 22 g |



Related Link

- [STM32F030F4P6 Datasheet](#)
- [MAX31855KASA+](#)
- [CA-IS3641HW](#)
- [tutorial video](#)

Schematic



Module Size

