

Smart Bridge Information, Inc.

# Temperature Monitor

## TM001 Specification

### RF IoT Sensor Serial

*Rev. 1.0*

Date: 2016/12/29



## 1.0 Introduction

TM001 is the product for SmartHome HomeCare serial product. It monitors one's temperature constantly 24/7 with high-accuracy.

There is no contact, no energy emitted. It only measures the thermal energy from a person. It send out temperature to our SmartLink Gateway. Then, we could use our smart phones to access the data. Alternatively, use a dedicated receiver device to show the temperature data. It makes our lives easier and more convenient.

## 2.0 Product Features

### 2.1 Features:

2.1.1 Using 8\*8 Thermopile to capture the temperature of human body.

2.1.2 Using 32Bit Cortex M0+ 48Mhz for main processor.

### 2.2 Thermopile Specification:

2.2.1 FOV:35 degree.

2.2.2 Distance : 50cm (The error will be relative to distance.)

2.2.3 Temperature range of human being: 32 ~ 41 degree in 0.2~0.5 degree accuracy.

### 2.3 MCU Specification:

2.3.1 NXP KL03 Serial MCU

2.3.2 Cortex M0+ 32Bit/48Mhz.

2.3.3 Support IO Interface : I2C, UART, SPI, GPIO

2.3.4 Support 12 bit ADC

2.3.5 Build-in RTC / PWM.

### 2.4 Temperature Monitor Specification:

2.4.1 Distance: 30cm, 37~38°C in  $\pm 0.2^{\circ}\text{C}$ .

2.4.2 Monitor the temperature of forehead.

2.4.3 Auto-search the temperature of forehead.

### 2.5 Thermal Accuracy:

2.5.1 Temperature of Human body vs Environment temperature

2.5.1.1 Temperature of environment= 20°C ~30°C

Temperature of human body	~ 35.9°C	36°C~38°C	38°C~
Accuracy	$\geq \pm 0.3^{\circ}\text{C}$	$\pm 0.2^{\circ}\text{C}$	$\geq \pm 0.3^{\circ}\text{C}$

Temperature of environment= <20°C or >30°C

Temperature of human body	~ 35.9°C	36°C~38°C	38°C~
Accuracy	$\geq 1^{\circ}\text{C}$	$\geq 1^{\circ}\text{C}$	$\geq 1^{\circ}\text{C}$

### **3.0 Physical & Environment**

#### **3.1 Power**

- External AC-to-DC 5V/1A switching power adapter

#### **3.2 Operation Temperature**

10 to 30 °C

#### **3.3 Storage Temperature**

- -20 to 70 °C

#### **3.4 Power consumption:**

**3.4.1 Max : 40mA@5V**

**3.4.2 Normal : 15mA@5V**

#### **3.5 Humidity**

- 20-80% RH non-condensing

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### **4.0 ID Specification**

#### **4.1 六面圖:**

#### **4.2 材質:**

### **5.0 Emission (EMI), Safety & Other Certifications: CE/FCC**

### **6.0 Product Information: TM001**