Thermo 3 click

MIKROE-1885

Weight: 28 g

Thermo 3 click carries TMP102, a digital temperature sensor IC with a tiny footprint of only 1.6mm x 1.6mm. The click is designed to run on a 3.3V power supply only. It communicates with the target MCU through mikroBUS™ I2 C pins (SCL, SDA), and an additional Alert pint (INT on the default mikroBUS™ configuration).

TMP102 digital temperature sensor

Without requiring calibration, TMP102 is accurate within 0.5°C. Measurement range is between **-25°C to 85°C**. An integrated 12-bit ADC allows for measurement resolutions down to 0.0625°C.

Alert pin

You can set up an overtemperature alert using the ALERT pin (which sends an interrupt to the target board MCU). The sensor creates a highly linear output and therefore simple to use.

The ADD SEL jumper

Thermo 3 click™ has an ADD onboard jumper (zero ohm resistor) for specifying the I2C address.

Application

Because of its accuracy, Thermo 3 click is ideal for thermal-management and thermal protection applications, especially for extended measurements (in thermostats, office machines, industrial instrumentation applications).

Key features

- TMP102 digital temperature sensor
- Temperature range: -25°C to 85°C
- Resolution: 12 Bits
- Low Quiescent Current:
  - 10-µA Active (max)
  - 1-µA Shutdown (max)
- Interface: I2C
- 3.3V power supply

Specifications

Type	Temperature,Humidity
Applications	Thermal-management and thermal protection applications, especially for extended measurements (in thermostats, office machines, industrial instrumentation applications)
On-board modules	TMP102, a digital temperature sensor
Key Features	-25°C to 85°C temperature range. Accurate within 0.5°C. Measurement resolution down to0.0625°C
Key Benefits	Small footpring: 1.6mm x 1.6mm
Interface	I2C,GPIO
Input Voltage	3.3V
Compatibility	mikroBUS
Click board size	S (28.6 x 25.4 mm)

Pinout diagram

This table shows how the pinout on **Thermo 3 click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS™			Pin	Notes
Not connected	NC	1	AN	PWM	16	NC	Not connected
Not connected	NC	2	RST	INT	15	**ALERT**	Overtemperature alert
Not connected	NC	3	CS	TX	14	NC	Not connected
Not connected	NC	4	SCK	RX	13	NC	Not connected
Not connected	NC	5	MISO	SCL	12	**SCL**	Serial Clock
Not connected	NC	6	MOSI	SDA	11	**SDA**	Serial Data
Power supply	**+3.3V**	7	3.3V	5V	10	NC	Not connected
Ground	**GND**	8	GND	GND	9	**GND**	Ground