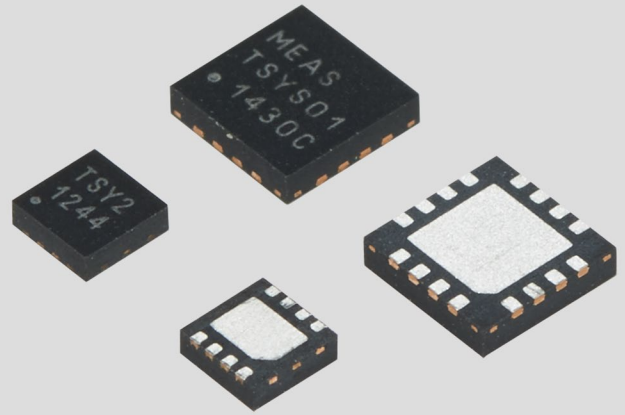


# INTRODUCING DIGITAL TEMPERATURE SENSORS TSYS01/TSYS02

- Provide industry leading 0.1°C accuracy
- Deliver the low power consumption, quick thermal response and fast conversion times



TE Connectivity's (TE) digital temperature sensors provide industry leading 0.1°C accuracy. They are available in miniature packages designed specifically for tight spaces, and respond quickly to changes in process temperature. The tiny chip size and optimized microcircuit design allows fast conversion times along with very low power consumption (less than 12.5µA). With easy integration in a microcontroller environment and the production process, the TSYS series offers the best value for market leading accuracy.

## KEY BENEFITS

- Provide unmatched precision with accuracy of 0.1°C
- Cover an extended operating range from -40°C to +125°C
- Deliver low power consumption, quick thermal response and fast conversion times with optimal product design
- Improve performance with factory compensation and calibration
- Adapt to any SMD production process with tape and reel packaging

## APPLICATIONS

- Temperature logger for medical transport
- Oil / gas level measurement
- Water quality measurement
- Gas temperature sensor
- Wireless bovine temperature monitor
- Pump monitor
- Blood pack
- Food probe
- Wearables – fitness trackers and smart watches
- Thermostats

## TARGET MARKETS

- Medical
- Consumer
- Industrial
- Appliance

## MARKET INFORMATION

- Texas Instruments—TMP116
- Maxim integrated—MAX30205
- Analog Devices—ADT7420
- Sensirion—STS21/STS31
- Silicon Labs—SI7051

## QUICK PERFORMANCE OVERVIEW

### TSYS01/TSYS01-1

- IC Package Size: QFN16, 4mm x 4mm
- Power Supply: 2.2V...3.6V
- Accuracy Temp. Range: ±0.1°C (-5°C...+50°C, TSYS01), (-20°C...+70°C, TSYS01-1)
- Accuracy Total Temp. Range: ±0.5°C
- Interface: I<sup>2</sup>C & SPI (Switchable via input pin)

### TSYS02/TSYS02-04/TSYS02-08/TSYS02-12

- IC Package Size: TDFN8, 2.5mm x 2.5mm
- Power Supply: 1.5V...3.6V
- Accuracy Temp. Range: ±0.2°C (TSYS02D), ±0.4°C (TSYS02-04), ±0.8°C (TSYS02-08), ±1.2°C (TSYS02-12), All models: -5°C...+50°C
- Accuracy Total Temp. Range: ±1.0°C (TSYS02), ±1.5°C (TSYS02-04), ±2.0°C (TSYS02-08), ±2.5°C (TSYS02-12)
- Interface: I<sup>2</sup>C (Future output configurations OxD: I<sup>2</sup>C (standard), OxD PWM (Pulse width module), OxD SDM (Pulse sequence representing analogue voltage))

## LEARN MORE

[Digital Temperature Sensors TSYS Landing Page](#)

[Digital Temperature Sensors TSYS Video](#)

[Digital Temperature Sensors Sell Sheet](#)

[TE Learning Connection: TSYS02 TELC Course](#)