



## DIGITAL TEMPERATURE SENSORS FOR PRECISE ENGINEERING

### QUESTIONS?

- What object or medium is meant to be measured with this sensor?
- What kind of application can this sensor be used with? HVAC, vehicle, thermostat, etc.?
- How should the object of interest be brought in thermal contact with the sensor?
- Should the top of the sensor be in contact with the object to be measured?
- Should the pads of the sensor be isolated from the object to be measured?
- Are there requirements concerning protection against humidity, dust, dirt, etc.?
- Are other interface or outputs available?
- Is a custom version with improved accuracy available??

Today, industrial, consumer or even medical sectors are adopting digitalization to collect sensor data. TE Connectivity (TE) has developed digital temperature sensor series to meet these needs. Each sensor is individually calibrated and provides accurate temperature measurements through I<sup>2</sup>C configurable addresses. TSYS temperature sensors offer enlarged supply voltage range, high resolution and low power consumption for battery operated and automotive applications.

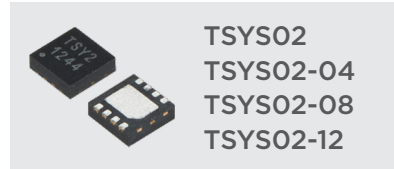
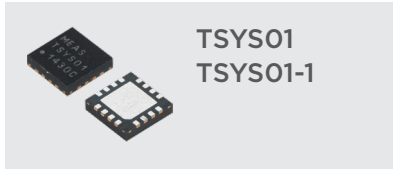
With easy integration in a microcontroller environment and the production process, the TSYS series provide exceptional value with reliable and accurate performance from a brand you can trust.

- MEDICAL
- AUTOMOTIVE
- HVAC
- INDUSTRIAL
- CONSUMER

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# TSYS DIGITAL TEMPERATURE SENSORS

## CHOOSE THE RIGHT SENSOR FOR YOUR APPLICATION



TE Model	IC Package Size	Power Supply	Operating Temp. Range	Accuracy (Temp. Range)	Accuracy (Total Temp. Range)	Interface
<a href="#">TSYS01</a>	QFN16 4mm x 4mm	2.2V to 3.6V	-40°C to +125°C	±0.1°C (-5°C to +50°C)	±0.5°C	I <sup>2</sup> C & SPI <sup>1)</sup>
<a href="#">TSYS01-1</a>				±0.1°C (-20°C to +70°C)	±0.5°C	I <sup>2</sup> C & SPI <sup>1)</sup>
<a href="#">TSYS02</a>	TDFN8 2.5mm x 2.5mm	1.5V to 3.6V		±0.2°C (-5°C to +50°C)	±1.0°C	I <sup>2</sup> C <sup>2)</sup>
<a href="#">TSYS02-04</a>				±0.4°C (-5°C to +50°C)	±1.5°C	I <sup>2</sup> C <sup>2)</sup>
<a href="#">TSYS02-08</a>				±0.8°C (-5°C to +50°C)	±2.0°C	I <sup>2</sup> C <sup>2)</sup>
<a href="#">TSYS02-12</a>				±1.2°C (-5°C to +50°C)	±2.5°C	I <sup>2</sup> C <sup>2)</sup>
<a href="#">TSYS03</a>	TDFN8 2.5mm x 2.5mm	2.4V to 5.5V		±0.5°C (0°C to +60°C)	±1.5°C	Configurable I <sup>2</sup> C
<a href="#">TSYS03-1</a>	XDFN6 1.5mm x 1.5mm					

### UNMATCHED PRECISION

- TE's TSYS series cover an extended operating range from -40°C to +125°C
- Accuracy of 0.1°C, for a specific operating temperature range from typical -5°C to +50°C
- Factory compensated and calibrated to improve performance

### OPTIMAL ENGINEERING

- Digital (configurable I<sup>2</sup>C / SPI / SDM)
- Low current consumption options for maximum battery life
- Ultra-small package size with low thermal mass and fast response time

### EASE OF APPLICATION

- Packaged in tape and reel
- Adaptable to any SMD production processes

<sup>1</sup> Switchable via Input Pin

<sup>2</sup> Further Output Configurations 0xD: I<sup>2</sup>C (standard), 0xS SDM (Pulse sequence representing analogue voltage)