

# Temperature sensing cold chain asset tracking



Accurate temperature monitoring is critical to ensure safety and longevity of perishable goods such as food, pharmaceuticals and other perishables during transportation and storage.

TI's family of NIST-traceable temperature sensors are 100% tested against ISO/IEC 17025 standards to provide highly accurate temperature measurements that meet good distribution practices (GDP) and hazard analysis, and critical control point (HACCP) requirements across all stages of the cold chain.

To meet the most stringent GDP requirements for pharmaceuticals, the [TMP116](#) provides an accuracy of  $\pm 0.2^{\circ}\text{C}$ . Non-volatile memory is also provided on chip for storage of information such as product IDs or serial numbers.

The [TMP112](#) blends accuracy, power and small size for a cost-effective solution for compact battery-powered data loggers.

Requiring only two wires, [LMT01](#) is an innovative digital temperature sensor designed to be easily immersed into a glycol bottle or integrated into a probe to measure the pulp temperature of commodities.

Designed to greatly simplify wiring in refrigerators and reefers, the [TMP107](#) enables multiple temperature sensors to be strung together in a daisy-chain topology, reducing copper, weight, and assembly costs. The TMP107 can operate across 300 meters with up to 32 sensors embedded in the cable.

To accelerate your design, be sure to check out our [Ultralow Power Multi-sensor Data Logger with NFC Interface Reference Design](#) enabling greater than five year battery life off of a CR-2032 coin cell battery.

Part number	Interface	Accuracy (max)	Supply range	Quiescent current	Package type	Package footprint
<a href="#">TMP116/TMP116N</a>	I <sup>2</sup> C	0.2°C / 0.3°C	2.3 V to 5.5 V	4.5 $\mu\text{A}$	WS0N	2.00 x 2.00 mm
<a href="#">TMP112</a>	I <sup>2</sup> C	0.5°C	1.4 V to 3.6 V	10 $\mu\text{A}$	SOT563	1.60 x 1.20 mm
<a href="#">TMP107</a>	UART	0.4°C	1.7 V to 5.5 V	35 $\mu\text{A}$	SOIC	4.90 x 3.90 mm
<a href="#">LMT01</a>	Pulse count	0.5°C	2.0 V to 5.5 V	40-143 $\mu\text{A}$	TO-92 WS0N	4.00 x 3.15 mm 1.70 x 2.50 mm

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