WHAT ARE PASSIVE TEMPERATURE SENSORS?

Passive temperature sensors use a specially designed microchip to identify temperature based off of circuit theory and the ability of temperature to change the voltage across a diode. These tags can be affixed or embedded into most materials and have an average read range of 15-22 feet. Impedance changes are wirelessly communicated to standard EPC Gen 2 readers and interpreted with a software application. The tags function in a range between 40°C to +85°C, covering operating conditions for most equipment and environments.

ADVANTAGES OF PASSIVE TEMPERATURE SENSORS

• Smaller, thinner, more flexible than other current temperature sensing tags
• More economical than current active and semi passive moisture sensing tags
• Transmit data with error correction codes helping ensure accurate data
• Sensor tethering and ability to operate in wider temperature extremes
• Data can be logged and alarms set when temperatures fall outside a specified range
• Viable cost-effective option for high-volume or disposable sensing applications

For more information about passive temperature sensors and how they could work for you, contact one of our Metalcraft ID specialists.

INDUSTRIES:
Industrial and Manufacturing: Temperature monitoring protects motors, bearings, and other parts embedded in industrial equipment or exposed to variable electrical systems.

Healthcare: A wearable, disposable sensor tag can travel with the patient, monitoring and recording temperature across a campus.

Warehousing and Data Centers: Passive RFID supports monitoring environmental and bulk material temperatures, as well as data center chiller and cooling monitoring.

Cold Chain Applications: RFID temperature tags can live in trucks, refrigerators or thermal bags, supporting long term monitoring of food and medicine.

Agriculture: Monitor temperature in greenhouses and other growing environments, and monitor livestock temperature to manage breeding stock and separate sick animals from the herd.