

THERMOCOUPLE SMART SENSOR

TECO-1021

PRODUCT OVERVIEW

The TECO-1021 Thermocouple Temperature Smart Sensor is a wireless temperature measuring device that operates as a component of the SensiNet® Wireless Sensor Network. A wide variety of thermocouples can be interfaced to the Smart Sensor allowing its use in a broad range of applications. The device operates at 2.4GHz, and is FCC and CE approved. It reports highly accurate and repeatable real-time temperature measurements to a central management application. The TECO-1021 is packaged in a NEMA-4X certified housing, similar in form factor to traditional thermocouple head housings.

The TECO-1021 is intrinsically safe and designed for Class I Div 2 hazardous locations. Connection of the thermocouple to the TECO-1021 is done in a similar manner to traditional wired thermocouple transmitters.

The device permits the user to identify the desired transmission interval based upon their specific application. At two-minute intervals, the battery life is up to 2 years. The reporting interval for any specific node in the network can be adjusted remotely. The TECO-1021 Smart Sensor is supported by a completely wireless, self-configuring, self-healing, power-managed sensor network.



TECO-1021 – Thermocouple Smart Sensor

FEATURES

- Totally wireless – no data or power wiring is required
- Able to be used with a wide variety of thermocouple types:
 - K,T,R,S,E,J,B,C,N
- Battery operated
- Supported by the SensiNet Network and SensiNet Services Gateway
- Automatic network joining; no configuration required
- Data accessible via a wide variety of industrial interfaces including, OPC, ModBus, ODBC
- User-definable, remotely-settable transmission
- Advanced frequency hopping radio designs provide reliable connectivity in harsh RF environments
- High resolution (24 Bit) ADC provides for high precision readings
- Self-Calibrating
- NEMA-4X Enclosure
- Class I Div 2 hazardous location approved

SPECIFICATIONS

Sensor-Related Specifications	
Radio	IEEE 802.15.4 compliant, 2.4 GHz DFSS
Regulatory	FCC Part 15 and CE Approval
Antenna	Internal antenna
Range	<ul style="list-style-type: none"> • Up to 700 ft/212m range (outdoor, line of sight) • Up to 230 ft/70m range (typical indoor conditions)
Operating Temperature	-10°C to 50°C
Operating Humidity	Up to 100% non-condensing
Power Options	AA 3.6V lithium thionyl chloride battery.
Battery Life	<ul style="list-style-type: none"> • 2 years with two-minute reporting interval • On board battery life status via LED indicator
Duty Cycle	Remotely user-adjustable; default to 1 minute
LED	Diagnostic LED indicating power/connectivity
Dimensions	4.73" H x 4.56" W x 2.7" Diam. (exclusive of thermocouple)
Packaging	NEMA-4 rated in traditional thermocouple head form factor
Thermocouple Interface Threading	1/2" NPT
Hazardous Location Rating	Class I Div 2
Thermocouple-Related Specifications	
Supported Types	K,T,R,S,E,J,B,C,N
Typical Accuracy	<±.05%
Cold Junction Compensation	±.05° C
Terminal Connection	• #28 to 14 AWG wire gauge