



Series: DR-SN900-TC

# Wireless Thermocouple Transmitter / Receiver Set

## FEATURES & BENEFITS

- Wireless Bridge Between TC Sensor and Instrument
- Models for Type-T, Type-J or Type-K Thermocouples
- Receiver Models 0-5, 0-10V DC or 4-20mA Output
- Up To 6 Miles Line-of-site Transmit/Receive Distance
- Powered by any 12V-24V DC Supply
- Standard 35mm Din-rail Enclosures
- Pre-configured, Ready-To-Operate
- Sold As Transmitter/Receiver Matched Set
- License Free Radio Operation



## APPLACATIONS

- Temperature Measurement Signals
- Remote Sensor Monitoring & Control

## Description

DR-SN900-TC Series Wireless Thermocouple Transmitters feature a factory programmed transmitter / receiver matched set. The transmitter sends Thermocouple measurements to a base receiver up to 6 miles away using license free 900 MHz RF technology. The receiver base provides analog voltage or current (4-20ma) output. Each Transmitter/Receiver set is factory coded as a matched set and requires no field programming. Models can be solar powered.

## Transmitter Operation

The wireless thermocouple transmitter reads analog voltage output from a type-K Thermocouple sensor and then sends the measured data over the air to a remote location. The measured thermocouple signals are converted to digital packets and then transmitted via a license free radio transmission to a waiting control receiver.

## Receiver Operation

The wireless thermocouple receiver decodes any incoming radio packets and converts them into linear voltage or current output signals for interfacing with PLCs, Controllers, Data Loggers or Process Measurement Instruments.

## General Specifications

**Radio Frequency:** 900 MHz  
**Regulatory:** FCC Part 15 (No license required)  
**Control Lines:** 1  
**Antenna Connection:** RP-SMA  
**Antennas:** 7dbi, Omni-directional (Included)  
**Transmit/Receive Distance:**  
 with included antennas:  
 Indoor/Urban 1000ft, Line-of-site 3 Miles  
 with optional antennas:  
 Indoor/Urban 1600ft, Line-of-site 6 Miles  
**Transmitter/Receiver Code Matching:** Factory set  
**Wire Connection:** Terminal Blocks  
**Operating Temperature:** -22 to 113 °F (-30 to 45 °C)  
**Enclosures:** Plastic, 35mm Din-rail Mounted

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Each Set Includes 5dbi Antennas and 9ft Antenna Extension Cables



Optional 6 Mile Distance Antenna Set

## Transmitter Specifications

**RF Power Output:** 100mW  
**RF Output Impedance:** 50 Ohm nominal  
**RF Data Rate:** 10 kbps  
**Operating Power:** 12-24V DC @ 3W max  
**Input Type:** Type-T, J or K Thermocouple (See model table)  
**Measurement Range:** See Model Table  
**Resolution:** 10 Bits  
**Measurement Accuracy:** +/- 4.5°F (2.5 °C)  
**Sensor Break Result:** Upscale Output

## Receiver Specifications

**Receive Sensitivity:** -100 dBm  
**Operating Power:** 12-24V DC @ 3W max  
**Output:** Analog, 4-20mA or 1-5V DC  
**RF Signal Loss Result:** Holds output at last reading.

## Regulatory Approvals

FCC(USA) - MCQ-XBEEESC  
 IC (Canada) - 1846A-XBEEESC

Model Number	Description	Measurement Range
DR-SN900-TCT-100F-5	T-Type Transmitter/Receiver, 0-5V DC Output	-100 to 100 °F (-73 to 38 °C)
DR-SN900-TCT-100F-10	T-Type Transmitter/Receiver, 0-10 DC Output	-100 to 100 °F (-73 to 38 °C)
DR-SN900-TCT-100F-420	T-Type Transmitter/Receiver, 4-20mA Output	-100 to 100 °F (-73 to 38 °C)
DR-SN900-TCT-200F-5	T-Type Transmitter/Receiver, 0-5V DC Output	0 to 200 °F (-18 to 38 °C)
DR-SN900-TCT-200F-10	T-Type Transmitter/Receiver, 0-10 DC Output	0 to 200 °F (-18 to 38 °C)
DR-SN900-TCT-200F-420	T-Type Transmitter/Receiver, 4-20mA Output	0 to 200 °F (-18 to 38 °C)
DR-SN900-TCJ-500F-5	J-Type Transmitter/Receiver, 0-5V DC Output	0 to 500 °F (-18 to 260 °C)
DR-SN900-TCJ-500F-10	J-Type Transmitter/Receiver, 0-10 DC Output	0 to 500 °F (-18 to 260 °C)
DR-SN900-TCJ-500F-420	J-Type Transmitter/Receiver, 4-20mA Output	0 to 500 °F (-18 to 260 °C)
DR-SN900-TCJ-800F-5	J-Type Transmitter/Receiver, 0-5V DC Output	0 to 800 °F (-18 to 427 °C)

DR-SN900-TCJ-800F-10	J-Type Transmitter/Receiver, 0-10 DC Output	0 to 800 °F (-18 to 427 °C)
DR-SN900-TCJ-800F-420	J-Type Transmitter/Receiver, 4-20mA Output	0 to 800 °F (-18 to 427 °C)
DR-SN900-TCK-1000F-5	K-Type Transmitter/Receiver, 0-5V DC Output	0 to 1000 °F (-18 to 538 °C)
DR-SN900-TCK-1000F-10	K-Type Transmitter/Receiver, 0-10 DC Output	0 to 1000 °F (-18 to 538 °C)
DR-SN900-TCK-1000F-420	K-Type Transmitter/Receiver, 4-20mA Output	0 to 1000 °F (-18 to 538 °C)
DR-SN900-TCK-2000F-5	K-Type Transmitter/Receiver, 0-5V DC Output	0 to 2000 °F (-18 to 1093 °C)
DR-SN900-TCK-2000F-10	K-Type Transmitter/Receiver, 0-10 DC Output	0 to 2000 °F (-18 to 1093 °C)
DR-SN900-TCK-2000F-420	K-Type Transmitter/Receiver, 4-20mA Output	0 to 2000 °F (-18 to 1093 °C)

Note: Thermocouple Sensor Not Included.

### Available Options

Model Number	Description
DRWC-900-LRANT	Optional Long-Distance Yagi Directional Antenna Set (up to 6 Miles line-of-site)

Note: Continued product improvements make specifications subject to change without notice.  
Check [www.imagineinstruments.com](http://www.imagineinstruments.com) for the latest product information and updates

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