



Series: DR-SN24-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 1 Mile 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-SN24-TC Series Wireless Thermocouple Transmitters feature a factory programmed transmitter / receiver matched set. The transmitter sends Thermocouple measurements to a base receiver up to 1 mile away using license free 2.4 GHz 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: 2.4 GHz
Regulatory: FCC Part 15 (No license required)
Control Lines: 1
Antenna Connection: RP-SMA
Antennas: 5dbi, Omni-directional (Included)
Transmit/Receive Distance:
 with included antennas:
 Indoor/Urban 100ft, Line-of-site 600ft
 with optional antennas:
 Indoor/Urban 300ft, Line-of-site 1 Mile
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 1 Mile Distance Antenna Set

Transmitter Specifications

RF Power Output: 63mW
RF Output Impedance: 50 Ohm nominal
RF Data Rate: 250 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, 0-5V DC, 0-10V DC or 4-20mA
RF Signal Loss Result: Holds output at last reading.

Regulatory Approvals

FCC(USA) - OUR-XBEEPRO
 IC (Canada) - 4214A-XBEEPRO

| Model Number | Description | Measurement Range |
|----------------------|---|-------------------------------|
| DR-SN24-TCT-100F-5 | T-Type Transmitter/Receiver, 0-5V DC Output | -100 to 100 °F (-73 to 38 °C) |
| DR-SN24-TCT-100F-10 | T-Type Transmitter/Receiver, 0-10 DC Output | -100 to 100 °F (-73 to 38 °C) |
| DR-SN24-TCT-100F-420 | T-Type Transmitter/Receiver, 4-20mA Output | -100 to 100 °F (-73 to 38 °C) |
| DR-SN24-TCT-200F-5 | T-Type Transmitter/Receiver, 0-5V DC Output | 0 to 200 °F (-18 to 38 °C) |
| DR-SN24-TCT-200F-10 | T-Type Transmitter/Receiver, 0-10 DC Output | 0 to 200 °F (-18 to 38 °C) |
| DR-SN24-TCT-200F-420 | T-Type Transmitter/Receiver, 4-20mA Output | 0 to 200 °F (-18 to 38 °C) |
| DR-SN24-TCJ-500F-5 | J-Type Transmitter/Receiver, 0-5V DC Output | 0 to 500 °F (-18 to 260 °C) |
| DR-SN24-TCJ-500F-10 | J-Type Transmitter/Receiver, 0-10 DC Output | 0 to 500 °F (-18 to 260 °C) |
| DR-SN24-TCJ-500F-420 | J-Type Transmitter/Receiver, 4-20mA Output | 0 to 500 °F (-18 to 260 °C) |
| DR-SN24-TCJ-800F-5 | J-Type Transmitter/Receiver, 0-5V DC Output | 0 to 800 °F (-18 to 427 °C) |

| | | |
|-----------------------|---|-------------------------------|
| DR-SN24-TCJ-800F-10 | J-Type Transmitter/Receiver, 0-10 DC Output | 0 to 800 °F (-18 to 427 °C) |
| DR-SN24-TCJ-800F-420 | J-Type Transmitter/Receiver, 4-20mA Output | 0 to 800 °F (-18 to 427 °C) |
| DR-SN24-TCK-1000F-5 | K-Type Transmitter/Receiver, 0-5V DC Output | 0 to 1000 °F (-18 to 538 °C) |
| DR-SN24-TCK-1000F-10 | K-Type Transmitter/Receiver, 0-10 DC Output | 0 to 1000 °F (-18 to 538 °C) |
| DR-SN24-TCK-1000F-420 | K-Type Transmitter/Receiver, 4-20mA Output | 0 to 1000 °F (-18 to 538 °C) |
| DR-SN24-TCK-2000F-5 | K-Type Transmitter/Receiver, 0-5V DC Output | 0 to 2000 °F (-18 to 1093 °C) |
| DR-SN24-TCK-2000F-10 | K-Type Transmitter/Receiver, 0-10 DC Output | 0 to 2000 °F (-18 to 1093 °C) |
| DR-SN24-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-24-LRANT | Optional Long-Distance Yagi Directional Antenna Set (up to 1 Miles line-of-site) |

Note: Continued product improvements make specifications subject to change without notice.
Check www.imagineinstruments.com for the latest product information and updates

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