

# Complete Wireless Thermocouple Connector System

*The Smart Connector™*

**Additional Receivers Available**

**FCC/Industry Canada, SRRC Approved**

**Plug Your Probe Into a Smart Connector to Make a Smart Sensor!**



Wireless connector.

Thermocouple input.

Bumper Band®

## UWTC Series



- ✓ User Configurable for Type J, K, T, E, R, S, B, N, C Thermocouple Input
- ✓ Free Software Converts Your PC Into a Multi-Channel Chart Recorder or Data Logger
- ✓ FCC Compliant (All Models)
- ✓ Built-In Cold Junction Compensation and Linearization
- ✓ Unique Design Accepts Both Miniature and Standard Size Probes and Connectors
- ✓ One Receiver Works with Multiple Wireless Remote Connectors
- ✓ Low Power Operation and Sleep Mode for Long Battery Life
- ✓ Each Wireless Connector Transmits Thermocouple Temperature, Ambient Temperature, Signal Strength and Battery Status in Real Time
- ✓ Interfaces with Model UWTC-REC1 for Multi-Channel PC Chart Recording and Data Logging or Model UWTC-REC2 (Single Channel Industrial Transceiver with Analog Output and Alarm)

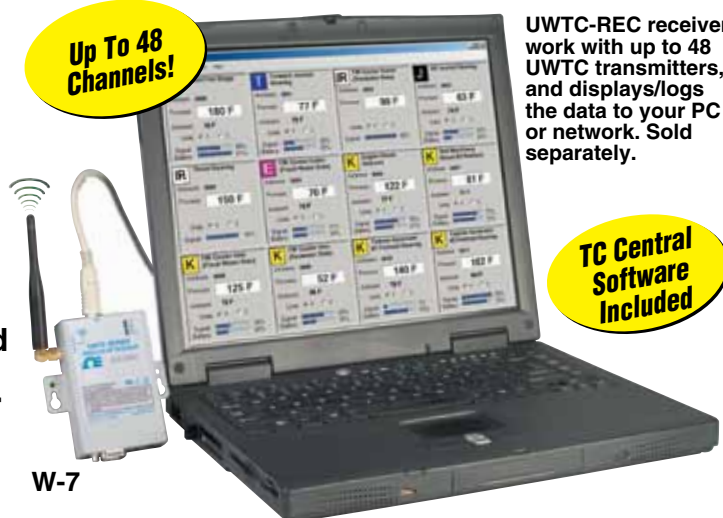
OMEGA's wireless thermocouple connector Series features stand-alone, compact, battery powered thermocouple connectors that transmit their readings back to a host receiver up to 120 m (400') away.

Each unit can be programmed in the field to work as a Type J, K, T, E, R, S, B, N or C calibration connector. When activated the connector will transmit readings continuously at pre-set time interval that was programmed by the user during the initial setup. Each unit measures and transmits: Thermocouple Input Reading, Connector Ambient Temperature, RF Signal Strength and Battery Condition to the host and is displayed on the PC screen in real time using the provided software. When used with host receiver UWTC-REC1 data from up to 48 wireless thermocouple connectors can be received and displayed. Each unit includes free software that converts your PC into a strip chart recorder or data logger so readings can be saved and later printed or exported to a spread sheet file. When used with host transceiver UWTC-REC2 wireless data from one connector can be re-transmitted out of the receiver by a wired connection as an analog voltage, current or thermocouple signal to interface with a controller, PLC or data acquisition board.

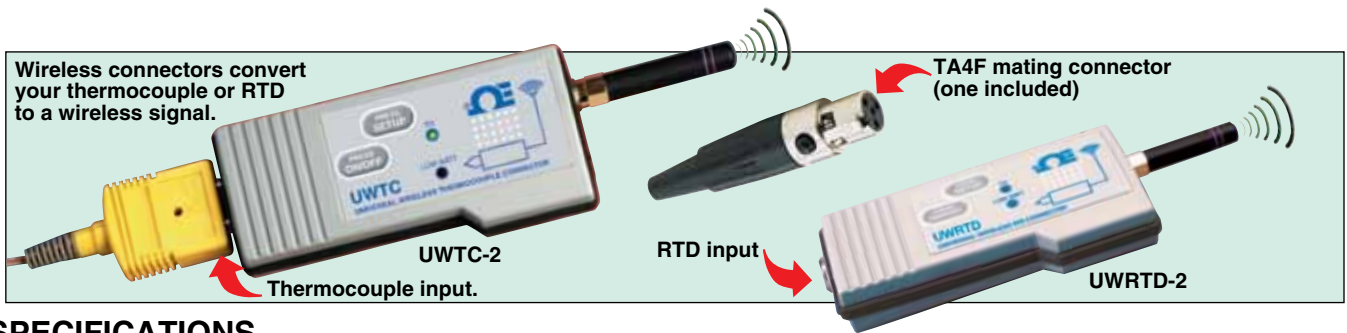
**Up To 48 Channels!**

UWTC-REC receivers work with up to 48 UWTC transmitters, and displays/logs the data to your PC or network. Sold separately.

**TC Central Software Included**



W-7



## SPECIFICATIONS

(Complete specifications available online)

### UWTC Input:

J, K, T, E, R, S, B, C or N;  
software selectable

### UWRTD Input:

100 Ω  
Pt RTD; 0.00385 or 0.00392 curve;  
software selectable

### Measurement Range:

**J:** -100 to 760°C (-148 to 1400°F)  
**K:** -100 to 1260°C (-148 to 2300°F)  
**T:** -200 to 400°C (-328 to 752°F)  
**E:** -200 to 1000°C (-328 to 1832°F)  
**R:** 260 to 1760°C (500 to 3200°F)  
**S:** 260 to 1760°C (500 to 3200°F)  
**B:** 870 to 1820°C (1598 to 3308°F)  
**C:** 0 to 2315°C (32 to 4200°F)  
**N:** -100 to 1260°C (-148 to 2300°F)  
**Pt100, 0.00385:** -200 to 850°C  
(-328 to 1562°F)  
**Pt100, 0.00392:** -100 to 457°C  
(-148 to 854°F)

### Accuracy:

**Types J and K:** ±0.5% rdg or  
±1.0°C (1.8°F), whichever is greater  
**Types T, E, and N:** ±0.5% rdg or  
±2.0°C (3.6°F), whichever is greater  
**Types R, S, B and C:** ±0.5% FS  
**Pt100:** ±0.5°C (1.0°F)

### Resolution:

### Cold Junction Compensation

(Automatic): -10 to 70°C (14 to 158°F)

**Thermocouple Connection:** Universal  
female accepts both standard male  
(OSTW Series) or miniature male  
(SMPW Series) mating connector

**RTD:** Series "T" receptacle, type TA4M;  
TA4F mating connector included

**Operating Environment:** -10 to 70°C  
(14 to 158°F)

**Computer Interface:** USB (one  
interface cable included with receiver)

**Transmit Sample Rate:** Programmable  
from 1 sample/minute to 1 sample/  
every 5 seconds Radio Frequency (RF)  
Transceiver

**Carrier:** ISM 2.4 GHz, direct sequence  
spread spectrum, license free worldwide  
(2.450 to 2.490 GHz -12 channels)

### RF Output Power

**UWTC-1, UWRTD-1:** 0dBm (1 mW)

**UWTC-2, UWRTD-2:** 10dBm (10 mW)

### Range of RF Link

**UWTC-1, UWRTD-1:** Up to 60 m  
(200') outdoor line of sight; Up to 20 m  
(65") indoor/urban

**UWTC-2, UWRTD-2:** Up to 120 m  
(400') outdoor line of sight; Up to 45 m  
(130') indoor/urban

**RF Data Packet Standard:** IEEE  
802.15.4, open communication  
architecture

**Software (Included Free):** Compatible  
with Windows (2000, XP, Vista, and 7)  
operating system

**Connector Internal Battery:** One 3.6 V  
lithium, 2.4 Ah capacity (AA) (included)

**Battery Life (Typical- 1 sample/  
minute reading rate @ 25°C (77°F):**  
1 year

### Data Transmitted to Host:

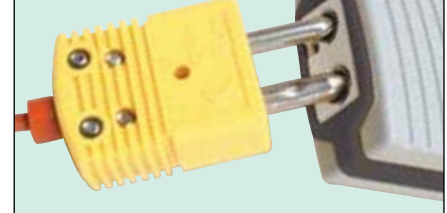
Thermocouple Reading, Connector  
Ambient Reading, RF Transmit Strength  
and Battery Condition

**Dimensions:** 100 L x 50 W x 25 mm H  
(without antenna) (4 x 2 x 1")

**Weight:** 70 grams

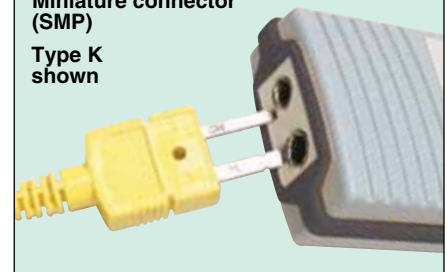
**Case:** ABS plastic

Standard  
connector  
(OST)



Miniature connector  
(SMP)

Type K  
shown



### Free Thermocouple Included!

UWTC models include a free 1 m (40") Type  
K insulated beaded wire thermocouple with  
subminiature connector and wire spool caddy  
(1 per channel). **Order a Spare!**  
**Model No. SC-GG-K-30-36.**

**Note:** Because of transmission frequency  
regulations, the UWTC-1 and UWRTD-1  
products may only be used in the United States,  
Canada, Europe, and Korea. The UWTC-2 and  
UWRTD-2 products are approved for use in the  
United States, Canada, Europe, Mexico, Brazil,  
China, Korea, Singapore, and Japan.

## To Order

Model No.	Description
UWTC-1	Thermocouple-to-wireless connector/converter, standard distance 60 m (200')
UWTC-2	Thermocouple-to-wireless connector/converter, extended distance 120 m (400')
UWRTD-1	RTD-to-wireless connector/converter, standard distance 60 m (200')
UWRTD-2	RTD-to-wireless connector/converter, extended distance 120 m (400')
SC-GG-K-30-36	Spare Type K beaded wire thermocouple sensor for model UWTC
UWTC-REC1	48-channel receiver/host (USB powered)
UWTC-ANT-LR	Optional high-performance antenna (standard antenna included)
UWTC-BATT	Replacement battery, 3.6V "AA" lithium (one included)
TA4F	Spare RTD mating connector for UWRTD (one included)

**Note:** USB programming cable and FREE measurement and data logging software are both included with compatible UW Series wireless receivers and transceivers.

UWTC models come complete with 3.6V "AA" lithium battery, mounting bracket, Type K beaded wire thermocouple and operator's manual. UWRTD models come complete with 3.6V "AA" lithium battery, mounting bracket, TA4F mating connector and operator's manual.

**Ordering Example:** UWTC-2, wireless thermocouple connector/transmitter with 120 m (400') range, plus UWTC-REC1 48-channel receiver/host.