



# THERMOCOUPLE-TO-WIRELESS CONNECTOR/CONVERTER SYSTEM

The Smart Connector™

## UWTC Series



For Available  
Receivers,  
See Pages  
W-22 to W-32

FCC/Industry  
Canada  
Approved

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

Thermocouple input.

Bumper  
Band®

Wireless  
connector.

**PATENTED**  
Covered by U.S. and  
International patents and  
pending applications

Starts at  
**\$125**



Engineers'  
Choice Award  
Winner!\*

- ✓ Transmit Temperature Data Wirelessly to Your Computer or the Internet
- ✓ Use with Type J, K, T, E, R, S, B, N, C Thermocouples-User Configurable
- ✓ Transmit up to 60 m (200') Standard Distance (UWTC-1) or up to 120 m (400') Extended Distance (UWTC-2)
- ✓ Built-In Cold Junction Compensation and Linearization
- ✓ Patented Design Accepts Both Miniature and Standard Size Probes and Connectors
- ✓ Each Wireless Connector Transmits Thermocouple Temperature, Ambient Temperature, Signal Strength and Battery Status in Real Time
- ✓ Low Power Operation, Sleep Mode for Long Battery Life
- ✓ Compatible with UWTC-REC Wireless Receivers>Create 32- or 48-Channel Wireless Systems
- ✓ Included Software Converts a PC into a Multi-Channel Chart Recorder or Data Logger

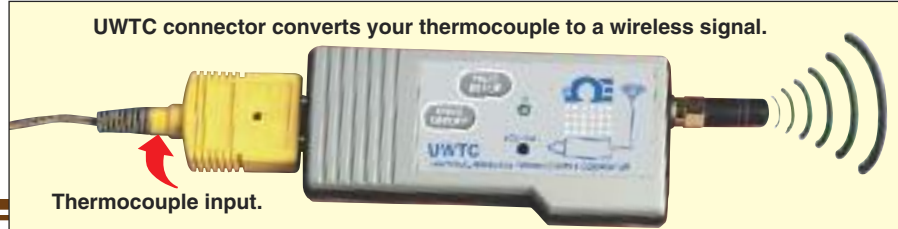
The new OMEGA thermocouple-to-wireless connector/converter system features stand-alone, compact, battery-powered thermocouple connectors that transmit their readings back to a host receiver up to 120 m (400') away. Both units can be programmed in the field to accept one of 9 thermocouple calibrations, automatically providing cold junction compensation and linearization, so they can wirelessly transmit the measured temperature, along with the connector ambient temperature, RF signal strength and battery condition to a remote host, such as the UWTC-REC Series. Both units feature the patented universal thermocouple connector, which is compatible with both standard and miniature thermocouple connectors and probes. You can program the UWTC to transmit your data at rates from once every two seconds (30/min) to once a minute (1/min).

Data received by the UWTC-REC can be received and displayed on your computer, using the TC Central software included with each unit. TC Central software can turn your PC into a strip chart recorder or data logger so readings can be saved and later printed or exported to a spreadsheet file.

\* Control Engineering 2007

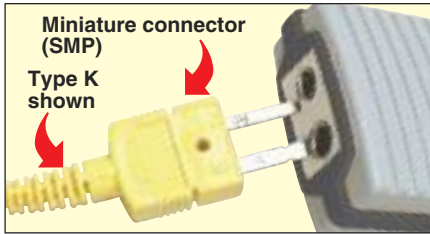
## PATENTED

Universal connector design accepts both standard and miniature thermocouple connectors.



UWTC connector converts your thermocouple to a wireless signal.

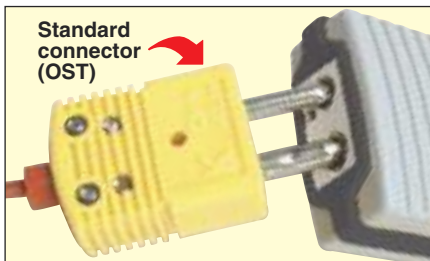
Thermocouple input.



Miniature connector (SMP)  
Type K shown



Universal connector, shown larger than actual size.



Standard connector (OST)

## SPECIFICATIONS

**UWTC Models Input:** J, K, T, E, R, S, B, C or N; software selectable

**UWRTD Models 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:

1°C/1°F

**Operating Environment:** -10 to 70°C (14 to 158°F); automatic thermocouple cold junction compensation

### Sensor Connection:

**Thermocouple:** Patented universal female accepts both standard male (type OST) or miniature male (type SMP) connector

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

**NEMA Units:** Internal connection block

**Transmit Sample Rate:** Programmable from 1 per min to 30 per min (1 per 2 sec)

### Radio Frequency (RF) Transceiver

**Carrier:** ISM 2.4 GHz, direct sequence spread spectrum

### RF Output Power:

- UWTC-1, UWRTD-1:** 0 dBm (1 mW)
- UWTC-2, UWTC-NB9, UWRTD-2, UWRTD-NB9:** 10 dBm (10 mW)

### RF Link Range:

- UWTC-1, UWRTD-1:** Up to 60 m (200') outdoor line of sight; up to 20 m (65') indoor/urban
- UWTC-2, UWTC-NB9, UWRTD-2, UWRTD-NB9:** Up to 120 m (400') outdoor line of sight; up to 40 m (130') indoor/urban

### RF Data Packet Standard:

IEEE 802.15.4, open communication architecture

**Computer Interface:** USB, for initial transmitter/sensor setup and configuration

**Software (Included):** Requires Windows OS

### Battery:

- UWTC, UWRTD:** One 3.6V lithium (AA), 2.4 Ah capacity (included); 1.5 yrs life at 1 sample/minute reading rate @ 25°C (77°F)

UWTC-REC receivers work with up to 48 UWTC or UWRTD transmitters, and displays/logs the data to your PC or network, starts at \$225. Sold separately, see pages W-22 to W-27.



**NB9, NEMA Units:** One 3.6V lithium (C), 8.5Ah capacity (included); 3 yrs life at 1 sample/minute reading rate @ 25°C (77°F)

**Data Transmitted to Host:** Measured temperature, connector ambient temperature, RF signal strength and battery condition

### Dimensions:

- UWTC/UWRTD:** 100 L x 50 W x 25 mm H (4 x 2 x 1") without antenna
- NEMA Units:** 80 L x 82 W x 50 mm H (3.15 x 3.22 x 1.97") without antenna
- NB9 Units:** 87 x 82 mm (3.4 x 3.2") head

### Weight:

- UWTC/UWRTD:** 70 g (2.5 oz)
- NEMA Units:** 272 g (9.6 oz)
- NB9 Units:** 393 g (12.8 oz)

### Case:

- UWTC/UWRTD:** ABS plastic
- NEMA Units:** NEMA 4X polycarbonate
- NB9 Units:** Glass reinforced Nylon head

### CE Compliance:

**Note:** Because of transmission frequency regulations, these products may only be used in the United States, Canada and Europe (please note CE compliance of the specific model for use in Europe).

**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

MODEL NO.	PRICE	DESCRIPTION
UWTC-1	\$125	Thermocouple-to-wireless connector/converter, standard distance [60 m (200')]
UWTC-2	135	Thermocouple-to-wireless connector/converter, extended distance [120 m (400')]
UWTC-ANT-LR	10	Optional directional antenna
UWTC-BATT	15	Replacement battery for UWTC-1, UWTC-2 units, 3.6V, "AA" lithium
UWTC-CABLE	5	Spare programming cable (included with UWTC-REC units)

Comes complete with a 3.6V "AA" battery, programming software, measurement/data logging software, mounting bracket, Type K beaded wire thermocouple and operator's manual.

**Ordering Example:** UWTC-1, thermocouple-to-wireless connector/converter with 60 m (200') range, \$125.



# RTD-TO-WIRELESS CONNECTOR/ CONVERTER SYSTEM

For Pt100 Sensors—The Smart Connector™

For Available  
Receivers,  
See Pages  
W-22 to W-32

TA4F mating connector, \$10.

**UWRTD  
Series**

Starts at  
**\$135**



**PATENTS PENDING**

UWRTD-2, \$145,  
shown actual size.



- ✓ **Transmit Temperature Data Wirelessly to Your Computer or the Internet**
- ✓ **Use with 3-Wire 100 Ω, 0.00385 or 0.00392 Curve Pt RTD Sensors**
- ✓ **Each Wireless Connector Transmits RTD Temperature, Ambient Temperature, Signal Strength and Battery Status in Real Time**
- ✓ **Low Power Operation, Sleep Mode for Long Battery Life**
- ✓ **Compatible with UWTC-REC Wireless Receivers—Create 32- or 48-Channel Wireless Systems**
- ✓ **Included Software Converts a PC into a Multi-Channel Chart Recorder or Data Logger**

condition to a remote host, such as the UWTC-REC Series (see pages W-22 to W-32). You can program the UWRTD to transmit your data at rates from once every two seconds (30/min) to once a minute (1/min).

Data received by the UWTC-REC can be received and displayed on your computer, using the TC Central software included with each unit. TC Central software can turn your PC into a strip chart recorder or data logger so readings can be saved and later printed or exported to a spreadsheet file.

See page W-6 for UWTC and UWRTD specifications.



Standard receptacle includes mating connector model TA4F. Order a spare, \$10 ea.

UWRTD-REC receivers, sold separately, work with up to 48 UWRTD transmitters, and displays/logs the data to your PC or network, start at \$225, see pages W-22 to W-27.



Laptop not included.

FCC/Industry  
Canada  
Approved

**AVAILABLE FOR FAST DELIVERY!**

### To Order (Specify Model Number)

MODEL NO.	PRICE	DESCRIPTION
UWRTD-1	\$135	RTD-to-wireless connector/converter, standard distance [60 m (200')]
UWRTD-2	145	RTD-to-wireless connector/converter, extended distance [120 m (400')]
UWTC-ANT-LR	10	Optional directional antenna
UWTC-BATT	15	Replacement battery for UWRTD-1, UWRTD-2, 3.6V, "AA" lithium
UWTC-CABLE	5	Spare programming cable
TA4F	10	Additional mating connector

The OMEGA RTD-to Wireless Connector/Converter System features stand-alone, compact, battery-powered RTD connectors that transmit their readings back to a host receiver up to 120 m (400') away. Both units can be programmed in the field to accept 0.00385 or 0.00392 curve 3-wire, 100 Ω, Pt RTDs, so they can wirelessly transmit the measured temperature, along with the connector ambient temperature, RF signal strength and battery

Comes complete with a 3.6V "AA" battery, programming software, measurement/data logging software, mounting bracket, TA4F mating connector and operator's manual.

**Ordering Example:** UWRTD-1, RTD-to-wireless connector/converter with 60 m (200') wireless range.



#### UNITED STATES

[www.omega.com](http://www.omega.com)  
1-800-TC-OMEGA  
Stamford, CT.

#### CANADA

[www.omega.ca](http://www.omega.ca)  
Laval(Quebec)  
1-800-TC-OMEGA

#### GERMANY

[www.omega.de](http://www.omega.de)  
Deckenpfronn, Germany  
0800-8266342

#### UNITED KINGDOM

[www.omega.co.uk](http://www.omega.co.uk)  
Manchester, England  
0800-488-488

#### FRANCE

[www.omega.fr](http://www.omega.fr)  
Guyancourt, France  
088-466-342

#### CZECH REPUBLIC

[www.omegaeng.cz](http://www.omegaeng.cz)  
Karviná, Czech Republic  
596-311-899

#### BENELUX

[www.omega.nl](http://www.omega.nl)  
Amstelveen, NL  
0800-099-33-44



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