

Wireless Thermocouple and RTD Industrial Probe Assemblies



- ✓ Available As Thermocouple or RTD Models
- ✓ Free Software Converts Your PC Into a Multi-Channel Chart Recorder or Data Logger
- ✓ Complete Industrial Assembly Includes: Probe, NB9 Head with Built-In Wireless Transmitter Board and Long Life Battery
- ✓ Works with Every Omega UWTC Series Receiver, WiSeries Meter/Controller/Scanner and DIN Rail Receiver

Omega's new Wireless Industrial Thermocouple and RTD Probe Assemblies feature a complete, ready to install, pre-wired sensor and wireless transmitter package. Each battery powered wireless unit will transmit measurement back to a host receiver up to 120 m away. Each unit comes pre-programmed to operate as a Type J, K, T, E, *R, *S, *B, *C or N thermocouple or RTD. When activated the unit will transmit readings continuously at pre-set time intervals that has been programmed by the user during the initial setup and installation. Each unit measures and transmits: process temperature, ambient temperature, wireless link signal strength and battery condition to the host and is displayed on the PC screen in real time using the provided free software.

Specifications

Thermocouple (TC) Models

Available Types: J, K, T, E, *R, *S, *B, *C or N

Thermocouple Measurement Range:

J: -100 to 760°C
K: -100 to 1260°C
T: -200 to 400°C
E: -200 to 1000°C
R: 260 to 1760°C
S: 260 to 1760°C
B: 870 to 1820°C
C: 0 to 2315°C
N: -100 to 1260°C

TC Measurement Accuracy:

Type J, K: $\pm 0.5\%$ of reading or $\pm 1.0^\circ\text{C}$, whichever is greater.

Type T, E, N: $\pm 0.5\%$ of reading or $\pm 2.0^\circ\text{C}$ of reading, whichever is greater.

Type R, S, B, C: $\pm 0.5\%$ of full scale.

TC Measurement Resolution:

1°C for all thermocouple types.

Cold Junction Compensation (Automatic):

-10 to 70°C

RTD Models Available Types:

PT100 Ω (standard), PT500 Ω , PT1000 Ω (special order, contact factory)

RTD Measurement Range:

0.00385: -200 to 600°C

0.00392: -100 to 457°C

RTD Measurement Accuracy:

$\pm 1^\circ\text{C}$ from 0 to 400°C , $\pm 2.5^\circ\text{C}$ below 0°C or above 400°C

RTD Measurement Resolution:

$1^\circ\text{C}/1^\circ\text{F}$

Operating Environment:

-10 to 70°C

Computer Interface:

USB

Transmit Sample Rate:

Programmable from 1 sample/minute to 1 sample/second

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: 2dBm (10 mW)

Range of RF Link: Up to 120 m outdoor line of sight [up to 40 m indoor/urban]

RF Data Packet Standard: IEEE

802.15.4, open communication architecture

Software (Included Free): Requires Windows 98, ME, 2000, XP or Vista operating system

Connector Internal Battery: One 3.6 V lithium, 8.5 Ah capacity (C) one included

Battery Life (Typical): 3.5 year/1 minute reading rate @ 25°C

Data Transmitted to Host: Process temperature, ambient temperature, wireless link signal strength and battery condition

**Please consult engineering for R, S, B and C thermocouples.*



UWTC-NB9-CASS-M30U-300, £131, shown smaller than actual size.

*Approximately 12 mm of tapered thread is included in the sheath length. For parallel threads the sheath length is measured from the base of the hex.

UWTC-NB9 and UWRTD-NB9 wireless probe assemblies are available for fast delivery in standard 152 mm, 305 mm, 457 mm and 610 mm lengths with probe diameters of 1.59 mm, 3.18 mm, 4.78 mm and 6.35 mm. Probes are available in Inconel®, stainless steel or Super OMEGACLAD®. See "To Order" chart and Ordering Examples on page 427.

Sheath Length*

Wireless DIN rail receiver, wiDR33-U, £265, shown smaller than actual size. See page 441



wiSeries

AVAILABLE NOW

A wireless panel meter/controller/scanner and wireless DIN rail receivers that work with all UWTC, UWRTD Series wireless connectors and wireless industrial probe assemblies are available now.



NEW

A wireless panel meter/controller/scanner, wi833-U, £265, shown smaller than actual size. See page 438

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
UWTC-1	£84.00	Wireless thermocouple connector (standard distance)*
UWTC-2	90.00	Wireless thermocouple connector (extended distance)*
UWTC-2-NEMA	111.00	Wireless thermocouple connector (extended distance, IP66 enclosure)
UWRTD-1	90.00	Wireless RTD connector (standard distance)
UWRTD-2	97.00	Wireless RTD connector (extended distance)
UWRTD-2-NEMA	117.00	Wireless RTD connector (extended distance, IP66 enclosure)
UWTC-NB9-(*)-(**)U-150	131.00	Wireless thermocouple probe assembly (150 mm ungrounded probe)
UWTC-NB9-(*)-(**)U-300	131.00	Wireless thermocouple probe assembly (300 mm ungrounded probe)
UWTC-NB9-(*)-(**)U-450	137.00	Wireless thermocouple probe assembly (450 mm ungrounded probe)
UWTC-NB9-(*)-(**)U-600	137.00	Wireless thermocouple probe assembly (600 mm ungrounded probe)
UWRTD-NB9-(†)-(††)-300	131.00	Wireless RTD probe assembly (300 mm probe)
UWRTD-NB9-(†)-(††)-600	137.00	Wireless RTD probe assembly (600 mm probe)
UWTC-REC1	151.00	12-channel receiver (USB powered)
UWRH-2	111.00	Wireless RH/temperature transmitter
UWTC-REC1-NEMA	218.00	12-channel wireless receiver (USB powered) IP66 enclosure
UWTC-REC2-(‡)	157.00	12-channel wireless receiver with 1 channel analogue output
UWTC-REC2-D-(‡)	178.00	12-channel wireless receiver with 1 channel analogue output and LCD display
UWTC-REC2-(‡)-NEMA	224.00	12-channel wireless receiver with 1 channel analogue output, IP66 enclosure
UWTC-REC2-D-(‡)-NEMA	245.00	12-channel wireless receiver with 1 channel analogue output and LCD display, IP66 enclosure
UWTC-REC3	157.00	36-channel receiver/host with ethernet
UWTC-ANT-LR	6.70	Optional high performance antenna
UWTC-BATT	8.00	Replacement battery for UWTC-1, UWRTD-1
UWTC-BATT-HP	13.50	Replacement battery for UWTC-2, UWRTD-2, UWRH-2
UWTC-BATT-NB	13.50	Replacement battery for UWTC-NB9, UWRTD-NB9, UWTC-2-NEMA, UWRTD-2-NEMA
UWTC-CABLE	3.40	Spare programming cable (one included with receivers)

*For UWTC-REC2 Models: ‡ Insert "V1" for 0 to 5 Vdc, "V2" for 0 to 10 Vdc, "TC" for Type K thermocouple, or "MA" for 4 to 20 mA. Comes with one 3.6V lithium battery, programming software, measurement and logging software, mounting bracket, Type K beaded wire thermocouple, and user manual.

For UWTC-NB9 Models: * Insert "ICIN" for Type J with a inconel® sheath, or "ICSS" for Type J with a 304 SS sheath. Insert "CAIN" for Type K with a inconel® sheath, or "CASS" for Type K with a 304 SS sheath. Call for Type K with OmegacladXL® sheath. Insert "CXIN" for Type E with a inconel® sheath, or "CXSS" for Type E with a 304 SS sheath. Insert "CPIN" for Type T with a inconel® sheath, or "CPSS" for Type T with a 304 SS sheath. Insert "NNIN" for Type N with a inconel® sheath, (not available in SS). Contact engineering for price, availability and ordering information for R, S, B, and C thermocouples.

** For sheath diameter insert "M15" for 1.5 mm, "M30" for 3 mm, "M45" for 4.5 mm, "M60" for 6 mm.

For UWRTD-NB9 Models: † Insert "1PT304" for 100 , 0.00385 curve with a 304 SS sheath, or "1PT316" for 100 , 0.00385 curve with a 316 SS sheath. Insert "2PT304" for 100 , 0.00392 curve with a 304 SS sheath, or "2PT316" for 100 , 0.00392 curve with a 316 SS sheath.

†† For sheath diameter insert "M15" for 1.5 mm, "M30" for 3 mm, "M45" for 4.5 mm, "M60" for 6 mm.

For NB9 Style Probes: Standard process connection thread is 1/2" BSPT (R1/2); for 3/4" parallel thread add suffix "-G2" to model number; for 3/4" add suffix "-G4", no additional charge.

Ordering Examples: UWTC-1, wireless thermocouple connector/transmitter, UWTC-REC2-MA, 12-channel transceiver/host with 1-channel 4 to 20 mA analogue output and alarm, and UWTC-BATT, spare battery, £84 + 157 + 8 = £249. Two UWTC-1, wireless thermocouple connector/transmitters, UWTC-REC1, 12-channel receiver/host, and two UWTC-BATT spare batteries, £84 + 84 + 151 + 8 + 8 = £335.

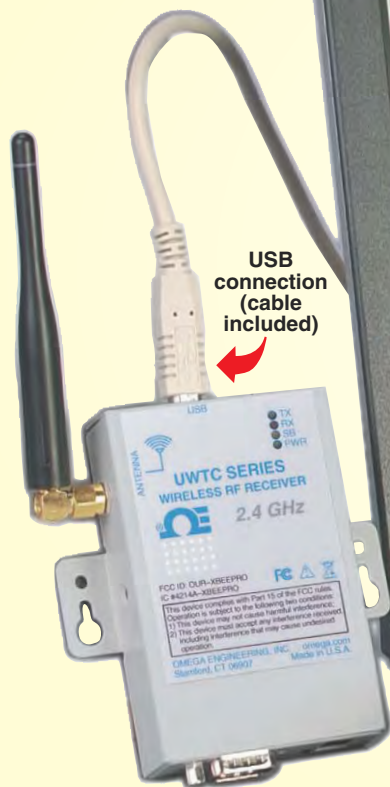
UWTC-NB9-CAIN-M45U-300, wireless thermocouple probe assembly, Type K, inconel® sheath, 4.5 mm sheath diameter, ungrounded junction, 1/2" BSPT process fitting, 300 mm long £131. UWRTD-NB9-1PT316-M30-600, wireless RTD probe assembly, 100 , 0.00385 curve, 316 SS sheath, 3 mm sheath diameter, 1/2" BSPT process fitting, 600 mm long, £137.



Combine One of these Wireless Receivers with Multiple Wireless Connectors or Wireless Probe Assemblies to Form a Complete Wireless Measurement System!

Wireless USB Receivers

Monitor Up to 12 Different Wireless Thermocouple Connectors with One Receiver!

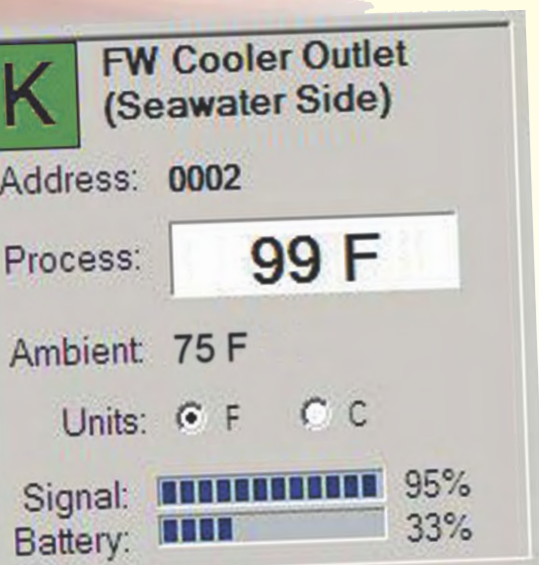


USB connection (cable included)

Available with 4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc and Type K thermocouple output. Mating connector and cable included.



**Free Strip Chart
and Data Logging
PC Software!**



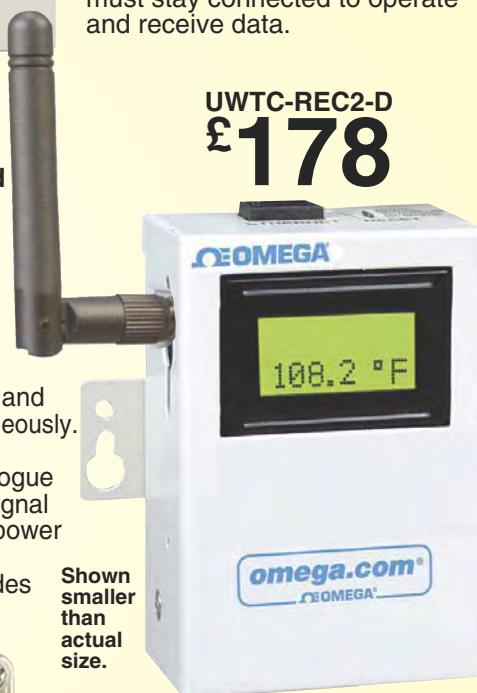
UWTC-REC1
£151

**UWTC-REC1 Standard
12-Channel Receiver, £151
(USB Powered Only)**

With the model UWTC-REC1 data from up to 12 wireless connectors or wireless probe assemblies can be received and displayed on your PC simultaneously. This receiver connects to an unused USB port on your computer and must stay connected to operate and receive data.

**UWTC-REC2 Standard
12-Channel Receiver with
1-Channel Analogue Output and
Optional Local Display, £178
(USB or External DC
Adaptor Powered)**

When powered by a USB port on your computer model UWTC-REC2 data from up to 12 wireless connectors or wireless probe assemblies can be received and displayed on your computer simultaneously. Data from one channel can also be re-transmitted as a hard wired analogue current, voltage or thermocouple signal output. When powered by the DC power adaptor the unit functions as a one channel transmitter only and provides a hard wired signal output.



UWTC-REC2-D
£178

Starts at
£218

**Wireless Receivers with
IP66 Rated Enclosures**

UWTC-REC1-NEMA, £218,
basic 12-channel receiver.

UWTC-REC2-NEMA, £224,
12-channel receiver with 1-channel
analogue output.

UWTC-REC2-D-NEMA, £245,
12-channel receiver with 1-channel
analogue output and LCD display.





WIRELESS TRANSMITTERS AND RECEIVERS

Wireless Receiver for Web-Based Monitoring of Temperature

UWTC-REC3
Starts at
£157



Visit
omega.co.uk/wireless
for the latest features and
specifications!

- ✓ Receiver Connects Directly to an Ethernet or the Internet
- ✓ Does Not Require a Host Computer
- ✓ Serves Active Web Pages to Display Real Time Temperature Readings and Charts
- ✓ Works with any UWTC or UWRTD Series Wireless Connectors or Probe Assemblies
- ✓ Alarm Notification can be Sent to E-mail, Including Text Messages to Internet Enabled Mobile Phones and PDAs

The OMEGA® UWTC-REC3 receiver lets you monitor and record temperature over an Ethernet network or the Internet without any special software—just your web browser. The receiver is an independent node on the network sending and receiving data in standard TCP/IP packets. It is easily configured from a web browser and can be password protected. The UWTC-REC3 can trigger an alarm if variables go above or below a set-point that you can determine. Your alarm can be sent by e-mail to a single user or to a group distribution list, including text messages to Internet enable mobile phones and PDA's. The OMEGA "Mail Notifier" software is a free and easy-to-use program for this application.

The UWTC-REC3 receiver serves active web pages to display real time temperature readings and charts. You can also log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic. OMEGA offers a free, user-friendly program for logging data to Excel.

OMEGA offers an OPC Server software (£198) that makes it easy to integrate the UWTC-REC3 wireless receiver with many popular data acquisition and Automation programs.



UWTC-REC3 £157, shown smaller than actual size. Includes DC power adaptor, ethernet cable and operator's manual.

CE Compliant Models:

UWTC-1, UWTC-2,
UWTC-REC1,
UWTC-REC2-V1,
UWTC-REC2-V2,
UWTC-REC2-MA,
UWTC-REC2-D-V1,
UWTC-REC2-D-V2,
UWTC-REC2-D-MA

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).

Specifications

Ethernet: 10Base-T (RJ45)

Supported Protocols: TCP/IP, ARP, ICMP, DHCP, DNS, HTTP, and Telnet

LED Indicators: Network Activity, Network Link, Diagnostics, Receive and Power

Management: Device configuration and monitoring through embedded WEB server

Embedded WEB Server: Serves WEB pages (JAVA™ Applets) containing real-time data and live updated charts within definable time intervals

Power

Power Input: 9 to 12 Vdc

Consumption: 2.5 W maxc

Safety Qualified ac Power

Adaptor (Included) Nominal Output: 9 Vdc @ 0.5 A

Input: 100 to 240 Vac, 50/60 Hz

Wireless Communication

Protocol: IEEE 802.15.4

Frequency: 2.4 GHz, channel #12

Network Topology: Star topology

Range: Up to 91 m (300') without obstructions or interference environment

Operating Temperature: -18 to 55°C

(-0.4 to 131°F), 90% RH non-condensing

Storage Temperature: -40 to 125°C
(-40 to 257°F)

General

Agency Approval: FCC, EN300328

Software: Field firmware upgradeable; including an excel program for automatic data logging within definable time intervals, compatible with all Windows® operating systems



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• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

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• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters