1 YEAR WARRANTY

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User's Guide

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Table of Contents

Table of Figures

Section 1 – General Description

Omega's **new** wireless transceiver module converts a standard hard wired instrument into a wireless receiver. This allows the host instrument to receive wireless sensor readings.

Model MWTC-REC6 can receive wireless data from Omega's MWTC Series of wireless thermocouple connectors.

Model UWTC-REC6 can receive wireless data from Omega's UW Series of wireless thermocouple connectors, RTD connectors, Nema Transmitters and industrial probe assemblies.

This manual outlines how to setup and operate the Wireless Transceiver Module

Section 2 – FCC Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1.) This device may not cause harmful interference.

2.) This device must accept any interference received, including interference that may cause undesired operation.

It is the policy of OMEGA® to comply with all worldwide safety and EMI/EMC regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the mark to every appropriate device upon certification.

Section 3 – Software Installation

A configuration software program is included with Setup/Programming Cable Model: REC6-PC. This cable and software allows you to program, setup and scale the output of your transceiver before installation. This accessory is not included with your transceiver and must be purchased separately.

Your PC should meet the following minimum requirements:

- Pentium Class processor
- Hard Drive Space: 210 meg
- Ram: 256 meg or higher
- 1 Available USB Port
- 1 CD-ROM Drive
- Windows 2000, XB, Vista (32bit) or Windows 7 operating system

1. Install configuration software in one of two ways:

a. Download Configuration Software by going to the "FTP Site" section at the www.omega.com website.

b. Insert your software CD into your computer's CD-ROM drive. Follow the on screen instructions to begin the installation wizard.

2. Click "Next" to continue with the installation.
3. If you accept the terms of the License Agreement, select "I accept the terms in the license agreement" and click "Next."
4. Click "Install" to begin installing the software.
5. Once the program has been installed, Click "Finish" to close the installation wizard screen.

Section 4 – Receiver Setup & Output Scaling

NOTE:

You must complete the software installation procedure in Section 3 before connecting and attempting to setup or operate your transceiver

4.1 Power/Analog Output Connection

Your wireless transceiver is supplied with an integral 4-conductor cable. DC power must be applied during the setup and scaling process.

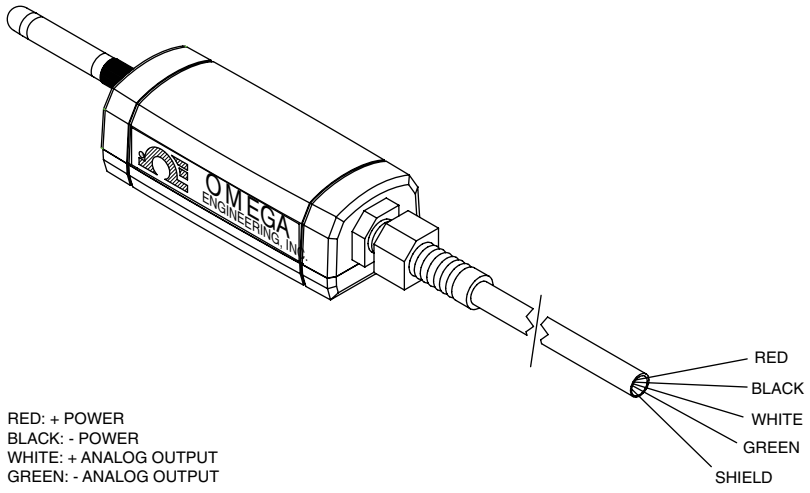


Fig 4-1. Power/Analog Output Connection

4.2 Setup/Programming Cable Connection

Your transceiver requires you to perform setup and scaling prior to placing into operation. Setup/Programming Cable and Software Model REC6-PC (sold separately) are required to complete this process.

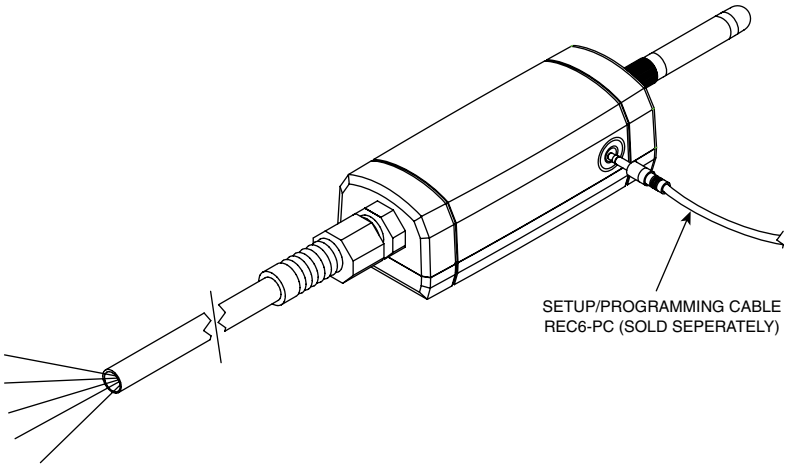


Fig 4-2. Setup/Programming Cable Connection

4.3 Configuration Software

The configuration software that is included with model REC6-PC Setup/ Programming Cable allows you to set the transceiver to receive wireless signals from one transmitting device.

This cable is only used during setup and scaling and should be removed before placing your transceiver into operation.

The transceiver configuration software is imbedded into Omega's universal wireless software known as TC-CENTRAL. To open and run the configuration program for your transceiver, follow the steps shown below.

NOTE:

All other functions and menu features included in the TC-CENTRAL software are not used with your model transceiver and will not function.

Fig 4-3. TC-CENTRAL Tools Menu Screen

From the "Tools" tab, select "Configure Receiver". This will open the Setup and Scaling window shown below. From here you must set the transceiver up to match the same parameters you used when you setup and programmed your wireless transmitter. Follow and set each required parameter.

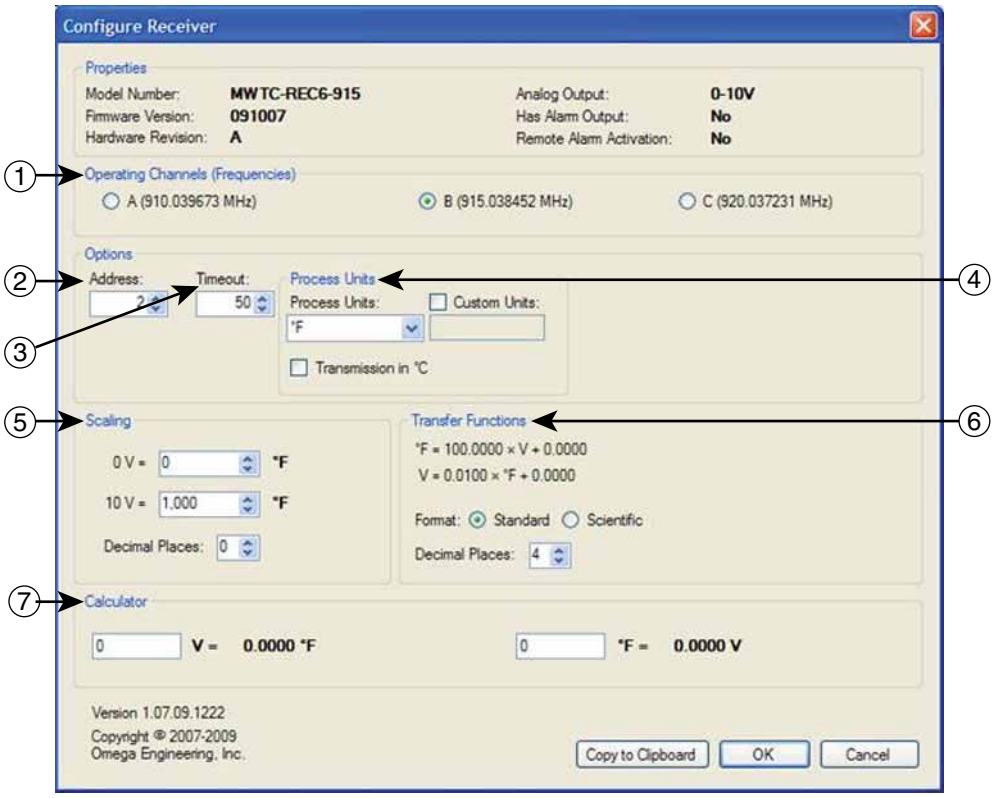


Fig 4-4. Setup and Scaling Screen

Before you can make wireless measurements, your transceiver must be configured properly. The following steps outline how to setup your transceiver.

(1) Operating Channels (Frequencies)

The default factory setting is channel "B". This matches the default setting that the MWTC Series Wireless Thermocouple connectors are also programmed to from the factory. You can change the channel selection if you are experiencing a disturbance at 915 Mhz. Keep in mind that the channel setting must match the same channel setting on the transmitting wireless connector. You must have both the connector and transceiver set to the same channel.

(2) Address

You must enter the same address number into this box that you set when programming your wireless connector, click on the "Up" and "Down" buttons to advance to a higher or lower address number.

(3) Timeout

The "Timeout" setting is used to set how long you want the unit to continue showing the last reading of data when communication between the connector and transceiver has been lost.

(4) Process Units

This setting allows you to change the current units of measurement. You can change between °C, °F or °K

(5) Scaling

Scaling sets and adjusts the analog voltage output to match a user defined temperature range.

(6) Transfer Functions

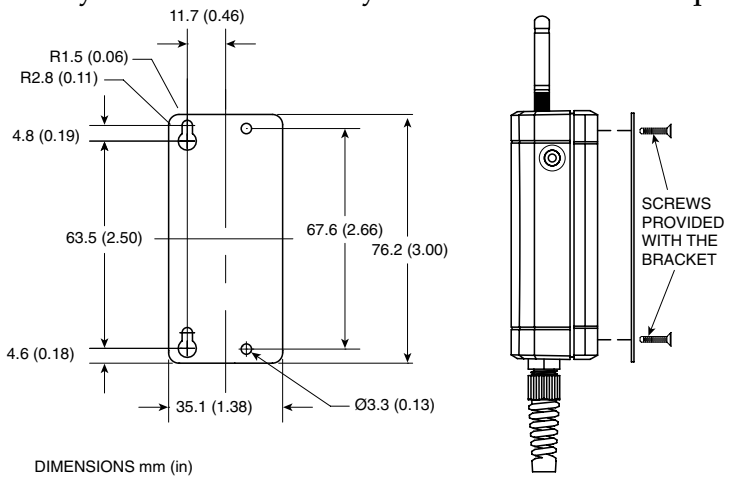
This feature has been provided to aid you in determining and understanding what effect changes to the "scaling" setting will have on the output of your transceiver.

(7) Calculator

This feature has been provided as a reference only

Section 5 – Installation

A mounting bracket was included with your transceiver. Dimensions are shown below. To optimize for the best wireless reception and increase the distance between your transceiver and your wireless thermocouple connector



your unit should be mounted in the same vertical or horizontal plane as each other.

Fig 5-1. Mounting Bracket

5.1 Horizontal Antenna Placement

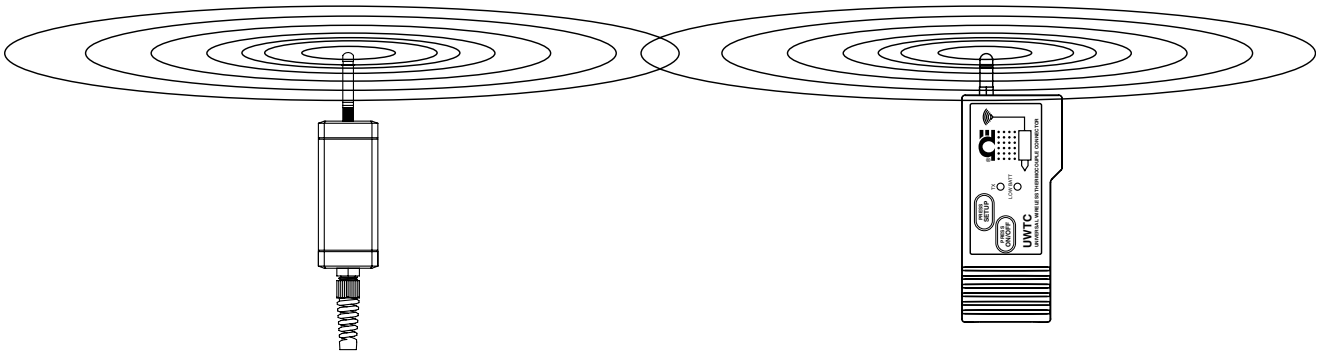


Figure 5-2. Proper Installation (Horizontal)

If your Connector/Transmitter is mounted in a horizontal position in your application you should mount your receiving so that the same polarization is achieved with the receiving antenna. As shown in the "Horizontal" example above.

5.2 Vertical Antenna Placement

If your Connector/Transmitter is mounted in a vertical position in your application you should mount your receiving so that the same polarization is achieved with the receiving antenna. As shown in the "Vertical" example
Fig 5-3.

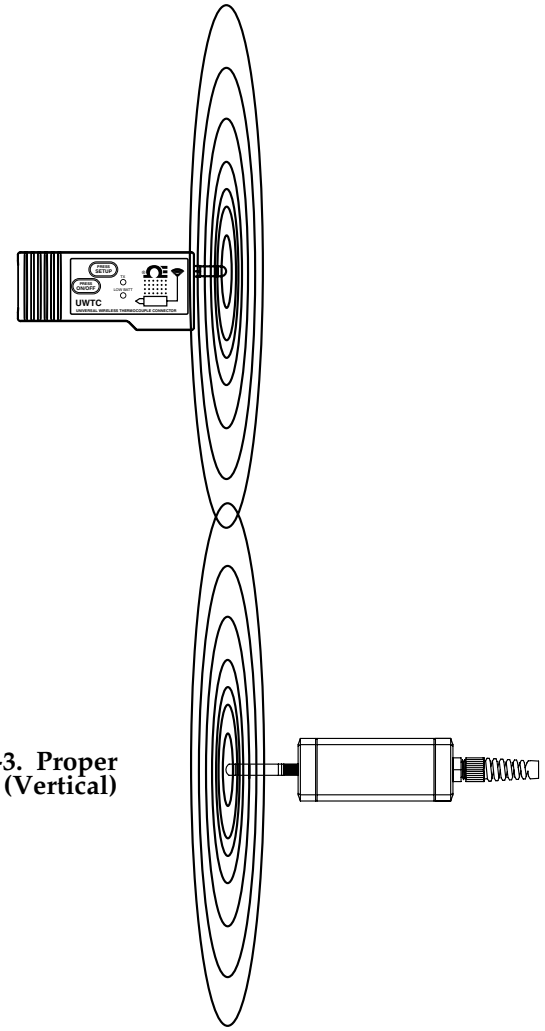


Figure 5-3. Proper Installation (Vertical)

Section 6 – System Operation

6.1 Transmit Time Vs. Battery Life

Your MWTC wireless thermocouple connector will operate on any of the three battery types listed below. Estimated battery life examples are given.

For 3.6 V (AA) Lithium

Transmit Time	Estimated Battery Life
1 Sample/2 Seconds	60 days
1 Sample/3 Seconds	84 days
1 Sample/5 Seconds	128 days
1 Sample/10 Seconds	215 days
1 Sample/15 Seconds	278 days
1 Sample/30 Seconds	393 days
1 Sample/45 Seconds	455 days
1 Sample/60 Seconds	500 days
1 Sample/120 Seconds	570 days

For 1.5 V (AA) Lithium

Transmit Time	Estimated Battery Life
1 Sample/2 Seconds	60 days
1 Sample/3 Seconds	84 days
1 Sample/5 Seconds	128 days
1 Sample/10 Seconds	215 days
1 Sample/15 Seconds	278 days
1 Sample/30 Seconds	360 days
1 Sample/45 Seconds	390 days
1 Sample/60 Seconds	400 days
1 Sample/60 Seconds	420 days

For 1.5 V (AA) Alkaline

Transmit Time	Estimated Battery Life
1 Sample/2 Seconds	30 days
1 Sample/3 Seconds	42 days
1 Sample/5 Seconds	60 days
1 Sample/10 Seconds	90 days
1 Sample/15 Seconds	110 days
1 Sample/30 Seconds	140 days
1 Sample/45 Seconds	150 days
1 Sample/60 Seconds	157 days
1 Sample/120 Seconds	162 days

Section 8 – Specifications

Power:	12 to 24 Vdc @ 50 mA max
USB Compatibility:	USB 1.1, USB 2.0
Radio Frequency (RF):	MWTC-REC6: 915 Mhz or 868 Mhz, UWTC-REC6: 2.4 GHz
Analog Output:	1, non-isolated, 0 to 5 Vdc or 0 to 10 Vdc
Programming Connector Type:	Stereo 3-Wire Female (requires model REC-6 cable)
Ambient Operating Conditions:	-10 to 70°C, 0-95% Relative Humidity (Non-condensing)
Power/Output Connection:	6′ integral cable, 4-conductor shielded
Dimensions:	76 L x 32 W x 26 mm H (without antenna)
Enclosure/Housing:	Plastic

NOTES:

NOTES:

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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