![Inovonics Wireless Corporation logo]

EN1550 MetraMeter™
Installation and Operation Manual - 04672A

1 Overview

The EN1550 combines the quality of a Neptune® T-10 water meter with the latest Inovonics Wireless EchoStream RF technology to provide an integrated meter transmitter for use in the TapWatch submetering system.

1.1 Inovonics Wireless Contact Information

If you have any questions about this product, contact Inovonics Wireless technical services:

- E-mail: support@inovonics.com
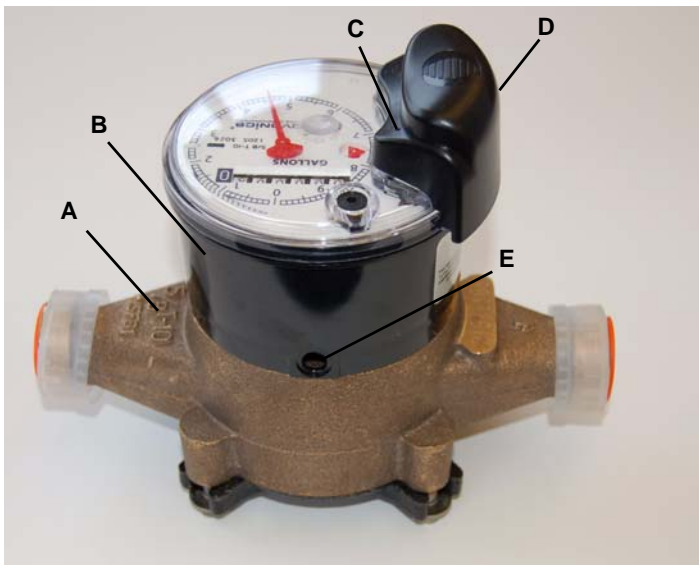- Phone: (800) 782-2709; (303) 939-9336

1.2 EN1550 Components

Figure 1 EN1550 Components

A. Main case   **B.** Register   **C.** Operation button

D. Power pack   **E.** Security pin

2 Installation and Startup

2.1 Install the Power Pack

You must install the power pack for the EN1550 to function. To install the battery pack:

1. Carefully align the three power pack pins to the three holes in the top of the register and press down evenly, keeping the pins perpendicular to the holes.

Caution: Install the power pack carefully. If the pins are not kept perpendicular with the register during installation, they may break. Never install the power pack at an angle.

Figure 2 Install the Battery Pack

2. Snap the battery pack enclosure into place over the battery pack.

Figure 3 Install the Battery Pack Enclosure

2.2 Install the Meter

To install the meter:

1. Flush the service line to remove debris prior to installing the meter.

2. Install suitable inlet and outlet meter valves and couplings/setters if they are not already present.
- Inovonics Wireless recommends installing a shut-off valve before the meter.
- Ensure appropriate space is allowed in the line for the meter and two couple gaskets. The gap from gasket to gasket should be 7 1/2 inches.
- Ensure the pipe ends are aligned so that the coupling and meter threads engage without binding or cross-threading.
- Make sure to adhere to local plumbing codes and regulations.

3. Remove the meters thread protectors and spud caps.
- Ensure no debris enters the meter during installation.

4. Place the coupling gaskets inside the coupling nuts and set the meter in the line.
- For best results, install the meter in the horizontal position, with the register di l facing upward.
- The direction of the flow marked on the meter must agree with the direction of water flow.

5. Start the coupling nuts by hand, then use a wrench to tighten.
- Be careful not to cross-thread the connection.

6. Make sure to support the meter if plumbing it to PVC.

7. Slowly open the valve and run enough water to dissipate entrained air and flush the line.
8. Check to make sure the meter is indicating flow.
9. Check the meter for leaks.

2.3 Complete Installation

After the meter has been installed:

1. Reset the transmitter. See "Send Reset Message" on page 2 for instructions.
2. Write down the odometer's initial meter count for entry into the TapWatch 2 software.
3. Put the meter in rapid transmit mode. "Set Modes" on page 2 for instructions.

3 Operation/Maintenance

3.1 Remove the Power Pack

If it is necessary to remove the power pack:

1. Lift the outside edge of the battery pack enclosure away and up from the register to remove it.
2. Use a flat blade screwdriver to evenly lift the battery pack away from the register at the points marked LIFT HERE.

Caution: Remove the power pack carefully. If the pins are not kept perpendicular with the register during removal, they may break. Never remove the power pack by rocking it away from the register.

Figure 4 Remove the Battery Pack

3.2 Rotate the Register

If the odometer is difficult to read, the register can be rotated.

Caution: The register should only be rotated if absolutely necessary. To rotate the register, you will need to purchase a new security pin from Inovonics Wireless. The security pin used in EN1550 is meant for one use only.

1. Use a punch to drive the security pin into the register (Fig. 1).
2. Turn the register 45 degress and lift it off of the meter.
3. Remove the broken security pin from the bottom of the register.
4. Replace the register in the desired position.

5. Use your thumb to insert a new security pin.

Note: If you will need to rotate the register again, ensure there's appropriate clearance to remove the security pin in the new position.
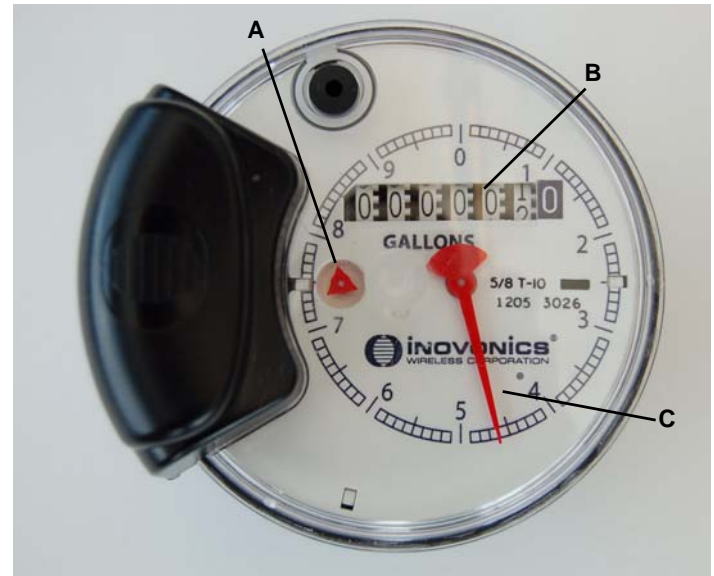
3.3 How to Read the Meter

Figure 5 EN1550 Components

A. Flow indicator **B.** Odometer **C.** Sweep hand

Flow indicator The flow indicator spins when water is flowing through the meter.

Odometer The odometer displays the number of gallons used, to the nearest 10 gallons.

Sweep hand The sweep hand indicates the single digit number of gallons that has passed through the meter. Each full revolution indicates 10 gallons of consumption, and will advance the first column on the odometer.

The meter in Figure 5 shows a consumption of 14.6 gallons. The odomoter indicates that 10 gallons have been used, and the sweep hand adds 4.6 gallons to that number.

3.4 Send Reset Message

When the EN1550 is reset, the count is zeroed and an RF reset message is sent. The RF reset message is used for registration into TapWatch software. To reset the EN1550:

1. Push an unfolded paper clip through the guide hole to press and hold the **Operation** button for five seconds (Figure 2).
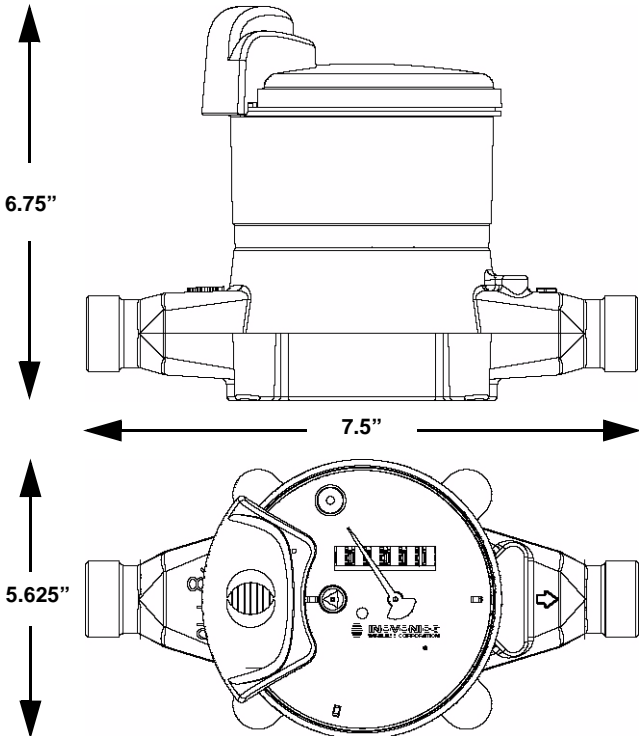
3.5 Set Modes

In normal mode, the EN1550 transmits the flow count approximately once per hour, or upon every 100 gallons of water, whichever occurs first. When in rapid transmit mode, the EN1550 transmits the flow count approximately once per minute. Rapid transmit mode is used during installation, to help ensure all your programmed end-devices are functioning correctly.

Once in rapid transmit mode, the EN1550 transmits for approximately 36 hours, and then returns to normal mode.

The EN1550 can also be returned to normal mode by resetting it. This will also reset the count to zero.

To set rapid transmit mode:

1. Push an unfolded paper clip through the guide hole to press the **Operation** button three times within 10 seconds (Fig. 1).
2.

4 Specifications

Meter size: 7.5" x 5.625" x 6.75" (190.5 mm x 142.875 mm x 171.45 mm)

Meter weight: 3.9 lbs (1.769 kg)

Battery type: Panasonic® BR-AG Lithium Cylindrical battery

Battery life: Guaranteed by Inovonics Wireless for 10 years

Operating environment: 32°- 140°F (0°- 60°C)

Water temperature/pressure: For use with potable cold water up to 80°F (26.67°C)

Transmitter count: One count for every one US gallon.

Operating frequency: 902-928 MHz.

Thread size: 1″ NPSM.

5 FCC Compliance Statement

5.1 FCC ID: HCQ3B6ETIMT

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, and (2)

this device must accept any interference received, including interference that may cause undesired operation.

6 Warranty/Disclaimer

Caution: Changes or modifications to this unit not expressly approved by Inovonics Wireless Corporation may void the installer's authority to operate the equipment as well as the product warranty.

Inovonics Wireless Corporation ("Inovonics") warrants its products ("Product" or "Products") to conform to its own specifications and to be free of defects in materials and workmanship under normal use for a period of twenty-four (24) months from the date of manufacture. Within the warranty period, Inovonics will repair or replace, at its option, all or any part of the warranted Product. Inovonics will not be responsible for dismantling and/or reinstallation charges. To exercise the warranty, the User ("User", "Installer" or "Consumer") must work directly through their authorized distributor who will be given a Return Material Authorization ("RMA") number by Inovonics. Details of shipment will be arranged directly through the authorized distributor.

This warranty is void in cases of improper installation, misuse, failure to follow installation and operating instructions, alteration, accident or tampering, and repair by anyone other than Inovonics.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express, or implied. There is no warranty by Inovonics that Inovonics product will be merchantable or fit for any particular purpose, nor is there any other warranty, expressed or implied, except as such is expressly set forth herein. In no event shall Inovonics be liable for an incidental, consequential, indirect, special, or exemplary damages, including but not limited to loss of profit, revenue, or contract, loss of use, cost of down time, or interruption of business, nor any claim made by distributor's customers or any other person or entity.

This warranty will not be modified or extended. Inovonics does not authorize any person to act on its behalf to modify or extend this warranty.

This warranty will apply only to Inovonics Products. Inovonics will not be liable for any direct, incidental, or consequential damage or loss whatsoever, caused by the malfunction of Product due to products, accessories, or attachments of other manufacturers, including batteries, used in conjunction with Inovonics Products.