A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

# E-CODER®)R900*i*™

## Protect And Expand Your Technology Investments

Neptune® designed the R900® System to make it easy for your utility – installation, everyday use, and expansion for the future without stranded assets. The E-CODER®)R900*i*™ combination absolute encoder register/ radio frequency meter interface unit (RF MIU) is a perfect example of all of the above. Not only does it work with past generations of meters and meter reading systems, but seamless integration is built into this single-unit end-point itself, providing two-way communications of advanced metering data. The E-CODER)R900*i*'s interleaved mobile and high-power fixed network messages allow for simple migration from mobile to fixed network reading without site visits or reprogramming.

## Streamline Operations And Manage Resources

In addition to eliminating the need for programming, the E-CODER)R900*i* has no external wires, making installation easier, faster, and less costly; plus it reduces potential vandalism or tamper. As with the rest of the R900 System, the design of the unit is intuitive and user-friendly so that minimal training is required for operation. It's designed to help manage time, labor, and other resources. The radio frequency transmission of the E-CODER)R900*i* can save your utility significant amounts of time in terms of both meter reading and billing, and provide flexibility to reallocate personnel to different tasks or departments depending on your changing workforce needs.

## Do More With Detailed, Actionable Data

The types of data your utility can generate through the E-CODER)R900*i* can take you far beyond a simple meter reading for a monthly bill. Hourly consumption profile information over an account's last 96 days, along with alerts for leak or backflow, help to proactively identify and resolve customer issues – heading off high bill complaints, reducing delinquent payments, and eliminating write-offs. Using Neptune® 360™ host software, your utility can leverage detailed data from the E-CODER)R900*i* to balance water produced versus water consumed, group accounts for District Metered Area analysis, and track and manage Non-Revenue Water. From increasing efficiencies to pinpointing possible tamper or water theft to aiding customer service, the data supplied by the E-CODER)R900*i* can help your utility make better, more confident decisions.

## KEY BENEFITS

### Facilitates Migration to AMI

- 1 Watt fixed network message reduces infrastructure costs
- Interleaved mobile and fixed network messages facilitate migration without changing the "modes" in the MIU

### Reduces Non-Revenue Water

- Provides leak history/diagnostics
- Enables proactive leak notification
- Provides hourly consumption data
- Improves meter reading accuracy
- Eliminates estimated reads

### Identifies Potential Theft

- Tamper detection
- Reverse flow detection
- Identifies significant periods of zero consumption

### Simplifies Installation Process

- Easy to install/no programming required
- No external wires
- Reduces labor cost
- Reduces potential wire vandalism and damage

# Technical Specifications

## Electrical Specifications

- MIU power: Lithium battery with capacitor

## Transmitter Specifications

- Two-way MIU

- Transmit period (interleaved mobile and fixed network messages):
  - Standard mobile message every 14 seconds at 100 mW
  - Standard fixed network message every 7½ minutes at 1 Watt

- FCC verification: Part 15.247:
  - Transmitter channels: 50; frequency-hopping, spread-spectrum
  - Channel frequency: 910 to 920 MHz

- Encoder register reading interval:
  - Every 15 minutes

- Data logging interval:
  - 96 days of hourly data

## Environmental Conditions

- Operating temperature:
  -22ºF to +149ºF (-30ºC to +65ºC)

- Storage temperature:
  -40ºF to +158ºF (-40ºC to +70ºC)

- Operating humidity:
  - Inside set - 0 to 95%, condensing
  - Pit set - 100% submersible

## Materials

- Register housing:
  - Inside set: plastic polycarbonate
  - Pit set: roll-sealed copper shell

- Lens:
  - Inside set: plastic
  - Pit set: glass

## Antennas

- Standard internal antenna

- Optional through-the-lid antenna:
  - 18" Coax
  - 6' Coax
  - 20' Coax
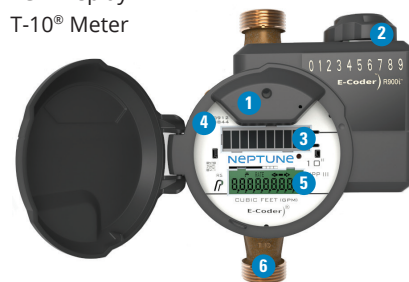
# Options

## Compatibility

- Available for all sizes and makes of current Neptune meters

- Handhelds with R900® Belt Clip Transceiver - mobile RF

- MRX920™ - mobile RF

- R900® Gateways - fixed network RF

Units of Measure: U.S. Gallons, Cubic Feet, Imperial Gallons, Cubic Metres

# Warranty

20 years (10/10); refer to specific Warranty Statement

| | |
|---|---|
| | **FLOW INDICATOR** Shows the direction of flow through the meter: ON — Water in use. OFF — Water not in use. Flashing — Water is running slowly. (-) — Reverse flow. (+) — Forward flow. |
| | **LEAK INDICATOR** Displays a possible leak: OFF — No leak indicated. Flashing — Intermittent leak indicates that water has been used for at least 50 of the 96 15-minute intervals during a 24-hour period. On Continuously — Indicates water use for all 96 15-minute intervals during a 24-hour period. |
| RATE | **RATE OF FLOW** Average flow rate is displayed every twelve seconds on LCD display. |
| | **LCD DISPLAY** Nine-digit LCD displays the meter reading in billing units of measure: U.S. gallons, cubic feet, Imperial gallons, or cubic metres. 1. E-CODER basic reading/customary 6-digit remote reading 2. Customary sweep hand digits 3. E-CoderPLUS reading (8-digit remote reading) 4. Testing units used for diagnostics 5. Extended reading units 6. Customary billing units |

1. Internal Antenna
2. Optional Antenna Port
3. Solar Panel
4. Date of Manufacture
5. LCD Display
6. T-10® Meter