A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

E-CODER®)R900i™

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®)R900i™ 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)R900i'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)R900i 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)R900i 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)R900i 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)R900i 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)R900i 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: -22°F to +149°F (-30°C to +65°C)

- Storage temperature: -40°F to +158°F (-40°C to +70°C)

- 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
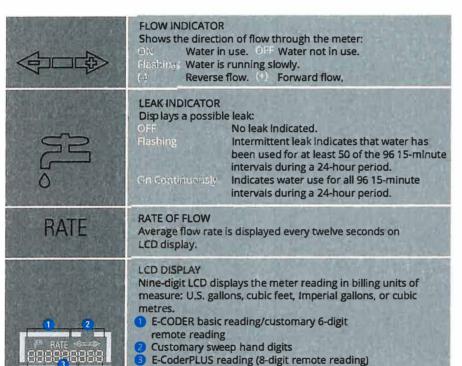
Options

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); Neptune provides a limited warranty for performance, materials, and workmanship. See warranty statement for details.

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

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 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