A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

E-CODER®)R900*i*™ v5

Eliminate Infrastructure Costs and Ongoing Network Maintenance

As part of the Neptune® Managed Services platform, the R900® was designed to eliminate the costs, frustrations, and maintenance of deploying your own AMI network infrastructure. Leveraging LoRa® Network-as-a-Service (NaaS) technology, your utility can now cover your service area with no operational burden, free to focus on water delivery and billing. Mobile and fixed network messages are interleaved and continuously transmitted, allowing your utility to maintain backup mobile reading capability of the same end-points.

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 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 monthly billing. 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 informed decisions.

KEY BENEFITS

Facilitates Migration to AMI

- Eliminate the maintenance and burdens of deploying AMI network infrastructure with Network-as-a-Service using LoRaWAN™ technology

- 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 Options (interleaved mobile and fixed network messages):
  - R900 mobile message
  - R900 fixed network message
  - LoRa fixed network message

- FCC verification: Part 15.247:
  - Transmitter channels: 50 (R900 mobile and fixed network messages) and 64 (LoRa fixed network message); frequency-hopping, spread-spectrum
  - Channel frequency: 902 to 928 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: Pit set - 100% submersible

Materials

- Register housing: Pit set: roll-sealed copper shell

- Lens: Pit set: glass

Antennas

- Through-the-lid antenna:
  - 18" Coax
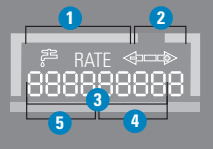 - 6' Coax
  - 20' Coax

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

- LoRa LPWA IoT Network

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

---

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

LoRa Alliance Certified™

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 and testing units used for diagnostics
3. E-CoderPLUS reading (8-digit remote reading)
4. Extended reading units
5. Customary billing units

NEPTUNE
TECHNOLOGY GROUP

#winyourday
neptunetg.com

Neptune Technology Group
1600 Alabama Highway 229
Tallassee, AL 36078
800-633-8754 f 334-283-7293