The E-Coder is Neptune’s next generation high-resolution electronic absolute encoder register. The E-Coder features a custom integrated circuit design that digitally encodes the rotation of the measuring chamber providing “absolute” registration with no internal battery requirement. The E-Coder functions in two modes: E-Coder BASIC and E-Coder PLUS. The E-Coder BASIC mode functionality is the same as ProRead featuring programmability up to a 10-digit ID number, 3 user characters, and 3-6 digit meter reading. In addition to the meter reading, E-Coder provides a visual readout on rate of flow every 6 seconds when the LCD display is activated. When connected to Neptune’s R900® radio MIU, the E-Coder automatically operates in E-Coder PLUS mode, providing a high resolution, 8-digit remote meter reading, and value-added features including leak detection, tamper detection, and backflow indication.

True point-of-use leak detection is provided by monitoring a 24-hour period in fifteen-minute intervals. Tamper detection is provided by reverse flow indication and the number of days of zero flow over the previous 35 days.

The E-Coder PLUS features are communicated through the E-Coder protocol allowing host software platforms to interpret the data and pass the information directly to billing packages, CIS screens, and operation and maintenance reports. The E-Coder PLUS features enhance customer service and improve operational efficiencies for water utilities.

**Warranty**

Neptune provides a 10-year limited warranty with respect to its E-Coder electronic absolute encoder register for performance, materials, and workmanship.

**Key Features**
- “Absolute” 9-digit meter reading on display
- Up to 8-digit remote meter reading*
- Batteryless functionality
- True point-of-use leak detection*
- Tamper detection*
- Backflow detection*
- LCD leak indicators
- Directional flow indicator
- Rate of flow on LCD display

**Key Benefits**
- Enhanced “customer care”
  - Leak history/diagnostics
  - Proactive leak notification
- Increased operational efficiencies
  - Work order reduction for high water bill inquiries
  - Prioritization of meter maintenance
- Drought management
  - Reduction of water loss through proactive notification of water leaks
- Tamper management
  - Identification & prioritization of potential tamper situations

* When connected to second generation R900.
E-Coder Register Face

Specifications
- Materials
  - E-Coder register housing: Polycarbonate
  - Connecting wire: 3-lead #22 AWG
- Distance
  - A single register may be located with 229 to 300 feet (152m) of wire from receptacle or MIU.
  - Two networked registers can be located with up to 300 feet (91m) of wire from receptacle or MIU.

Options
- Sizes
  - Available for all sizes and makes of current Neptune meters.
- Electronic Accessory Equipment
  - R900 Wall & Pit Radio MIUs
- Data Collection Systems
  - DAP Handhelds - Walk-by RF
  - EZDrivePLUS - Mobile RF
  - EZNet - Fixed-network RF for targeted C&I applications
- Units of Measure: U.S. Gallons, Cubic Feet, Imperial Gallons, Cubic Metres

Registration and Register Capacity
- 9-digit local registration
- 8-digit remote registration
- 4-8 digits can be communicated for billing.

E-Coder Icons and Displays

Solar Cell, located at the top of the E-Coder, supplies the power for the LCD panel (light activated).

Flow indicators show 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 Intermitent leak indicates that water has been used for at least 50 of the 96 15-minute intervals during a 24-hour period.
- Continuous Continuous leak indicates water use for all 96 15-minute intervals during a 24-hour period.

Rate of Flow Average flow rate is displayed every 6 seconds on LCD display.

E-Coder BASIC Reading / Customary 6-digit remote reading
Customary sweep hand digits

Nine-digit LCD displays the meter reading in billing units of measure: U.S. gallons, cubic feet, imperial gallons, or cubic metres.

E-Coder PLUS Reading (8-digit remote reading)
Testing units used for diagnostics.
Extended reading units.
Customary billing units.

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