



E-CODER®

SOLID STATE ABSOLUTE ENCODER



INSIDE SET VERSION



PIT SET VERSION

The E-Coder® (ARB® VII) is Neptune's next generation high-resolution solid-state 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™ (ARB VI) featuring programmability up to a 10-digit ID number, 3 user characters, and 3-6 digit meter reading. In addition to the meter reading, the E-Coder provides a visual readout on rate of flow every six seconds when the LCD display is activated. When connected to Neptune's R900® or R450™ 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 reverse flow detection. 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 detection 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.

The E-Coder is available in two different configurations – inside set meters and pit meters. For inside set applications, the E-Coder is housed in our field-proven plastic encoder register housing. For pit set applications, the E-Coder is housed in a glass lens and copper can enclosure.

WARRANTY

Neptune provides a 10-year limited warranty with respect to its E-Coder Solid State Absolute Encoder register for performance, materials, and workmanship.

KEY FEATURES

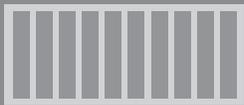
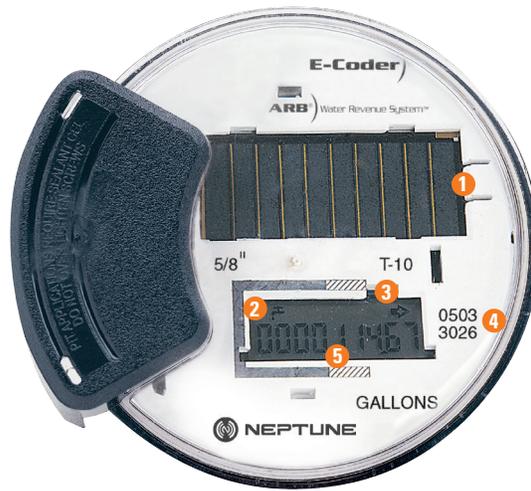
- "Absolute" 9-digit meter reading on display
- Up to 8-digit remote meter reading*
- Battery-less functionality
- Pit set version: Roll-sealed copper shell and glass lens
- Inside set version: Plastic enclosure
- True point-of-use leak detection*
- Tamper detection*
- Reverse flow detection*
- LCD leak 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 and prioritization of potential tamper situations

* When connected to second generation R900.

- Solar Cell 1
- Leak Icon 2
- Flow Indicators 3
- Date of Manufacture 4
- LCD Display 5



SOLAR CELL

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



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

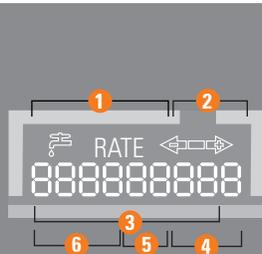
Displays a possible leak:

- 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 six 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

- Materials
 - Inside Set Housing: Polycarbonate
 - Pit Set Housing: Copper shell and glass lens
 - Connecting wire: 3-lead #22 AWG
 - Remote receptacles: ABS, nylon and polycarbonate
- Distance
 - A single register may be located with up to 500 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.

- Register
 - Warranty: 10 years
- Sizes
 - Available for all sizes and makes of current Neptune meters
- Electronic Accessory Equipment
 - R900® Wall and Pit RF MIUs
 - R450™ Wall and Pit RF MIUs
- Data Collection Systems
 - Pocket ProReader
 - Advantage
 - CE5320
 - TRX920™
 - MTX920™
 - R900® GPRS and WiFi Gateways
- Units of Measure
 - U.S. Gallons, Cubic Feet, Imperial Gallons, Cubic Metres
- Environmental Conditions
 - Operating temperature: 32°F to 158°F (0°C to 70°C)
 - Storage temperature: -40°F to 158°F (-40°C to 70°C)
 - Operating humidity: 0 to 100%
- 9-digit local registration
- 8-digit remote registration
- 4-8 digits can be communicated for billing

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