ARB® UTILITY MANAGEMENT SYSTEMS™

NEPTUNE TECHNOLOGY GROUP

E-CODER®)R900*i*™

Why did Neptune combine these products into a single housing?

- Customers requested ways to reduce both installation costs and the potential for tampering. The E-Coder®)R900*i*™ meets both of these needs.

Where is the R900® MIU?

- The R900 radio board has been combined with the E-Coder® board inside the register housing. (The "i" stands for integrated.)

How does the radio performance compare to a standard R900 wall MIU?

- The performance is similar to the performance of an R900 wall MIU installed in a basement, below grade application. An R900 wall MIU installed 4' above grade on the exterior of a home will exceed the performance of below grade inside set MIUs.

Does the E-Coder)R900*i* feature the same E-CoderPLUS functions and R900 protocol?

- Yes. The E-Coder)R900*i* is able to provide the same customer service value-added data, such as leak, tamper, and reverse flow detection.

My E-Coder)R900*i* pit version unit is equipped with a small whip antenna. Can I upgrade to a through-the-lid antenna to further increase my range?

- Yes. The pit version of the E-Coder)R900*i* comes standard with the whip antenna to provide the utility with an easy installation. It also provides the flexibility to upgrade from the whip antenna to the existing R900 through-the-lid pit antenna if additional range is desired.

Is the antenna of the E-Coder)R900*i* inside version removable?

- No. The antenna is permanently molded to the lens register cover.

Can the E-Coder)R900*i* inside version be installed in pits?

- No. An inside version installed in a pit will be VOID of warranty.

Is the battery replaceable on the E-Coder)R900*i*?

- Yes. For the inside version you must destroy the tamper nail located on the top of the battery pack. By destroying the tamper nail, the battery pack can be removed by sliding it up the antenna shaft. For the pit version the register seal pin must be destroyed, and the battery pack can be removed by hinging the battery pack up. A new battery pack can be installed by reversing the procedure.

Does the E-Coder)R900*i* have a battery inside to power the register?

- No. The E-Coder)R900*i* registers water consumption using no external power supply and no internal battery. The E-Coder)R900*i* features an advanced Application Specific Integrated Circuit (ASIC) design using nonvolatile memory technology for a self-powered digital odometer. The light sensor (recessed under the small hole near the center of the faceplate) activates the LCD read-out for local direct reading. The E-CoderPLUS features and LCD are powered by the R900 MIU.

Will the E-Coder)R900*i* reduce the battery life of the MIU?

- No. The power requirement is so minimal there will be no noticeable effect on the battery life of the MIU due to extremely low power electronics.

Where is the solar panel that is featured on the standard E-Coder?

- The solar panel has been replaced by a photo sensor that detects light and activates the LCD.

Is it possible to read the E-Coder)R900*i* if the LCD read-out is not activated or failed?

- Yes. During initial installation, the light sensor recessed under the small hole near the center of the faceplate will activate the LCD for several minutes when the unit is exposed to light and triggers the unit to begin transmitting. The unit will continue to transmit even when the LCD turns off due to low light. The absolute odometer reading is stored in nonvolatile memory in the ASIC and is not dependent on the LCD.

Is the E-Coder)R900*i* networkable for compound meters?

- No. Due to the wireless design, a separate E-Coder)R900*i* must be installed on each side of a compound meter assembly. Note that one ID number is printed on each label.

Is the E-Coder)R900*i* field programmable like the ProRead™ or standard E-Coder? If so, can you use the standard field programmer and the same programming functions that are used for ProRead?

- No. The E-Coder)R900*i* does not require any programming. Once the light sensor is exposed to a light source, the unit begins transmitting the 8-digit meter reading, MIU ID, and the E-CoderPLUS data.

Since the E-Coder)R900*i* does not have a mechanical odometer wheel bank, how are the digits encoded and what makes the E-Coder)R900*i* absolute?

- The E-Coder)R900*i* features an advanced ASIC design using nonvolatile memory technology for a self-powered digital odometer. The digital registration odometer in the ASIC and the LCD read-out are guaranteed to be absolutely the same. The visual registration and the remote reading are provided by the same source, making the E-Coder)R900*i* an absolute encoder.

Why are there nine (9) digits on the LCD read-out, but I receive only eight (8) digits on my reading device?

- The E-Coder)R900*i* features nine digits for a visual read only for high-resolution meter testing and leak indication. Eight (8) digits are passed through the route management software for operational and billing purposes.

I only bill in 100s/1000s. What happens to the additional digits?

- The meter reading software will truncate the unnecessary digits for billing if desired.

What are the solid and striped lines around the six most significant digits on the dial face of the E-Coder)R900*i*?

- These lines were added to assist meter readers in identifying the 4 or 6 most significant digits for visual meter reading based on 100 or 1000 billing units.

The installed E-Coder)R900*i* has a forward arrow with a plus sign (+) flashing very slowly in the LCD read-out, and it will not stop flashing. What is the problem?

- This indicates a very slight flow. Watch the 9th digit in the LCD read-out and you will see it increment over time.

The installed E-Coder)R900*i* has a reverse arrow with a negative (-) sign in the LCD read-out. What does this mean?

- This icon indicates reverse flow. You either have reverse flow occurring at the site or the water meter has been installed backwards.

What is the solid faucet icon on the LCD read-out?

- The solid faucet indicates a continuous leak occurrence over the last 24 hours. Check the 9th digit in your LCD readout to see if it is incrementing. If so, check your interior and exterior faucets, the valves in your toilets, and look around the exterior of your home for signs of surface water.

What is the flashing faucet icon on the LCD read-out?

- The flashing faucet indicates an intermittent leak occurrence over the last 24 hours. Check your interior and exterior faucets and the valves in your toilets to see if leakage is occurring.

Why are all of my E-Coder)R900*i* units showing days of no flow following installation?

- Since the E-Coder)R900*i* is an integrated unit, the PLUS features are activated and the 35-day window is in effect. As long as there is no consumption, the E-Coder will log days of no flow. The E-Coder will also show reverse flow due to factory testing for reverse flow functionality. Current leak data will clear after 24 hours following testing at factory, but days of no flow and reverse flow data will not clear for 35 days following activation in the water system.

Does the E-Coder)R900*i* provide rate of flow information?

- The E-Coder)R900*i* provides a localized read out of average flow rate every six seconds on the LCD display. Every six seconds the word "RATE" will flash and the flow rate will be displayed for two seconds on ⅝ - 2" meters. For 3" and larger meter sizes, the flow rate will be averaged over 30 seconds and displayed every 30 seconds.

Does the E-Coder)R900*i* unit provide data logging capabilities?

- Yes. As of August 2008, data logging is standard on the E-Coder)R900*i*.

How many days of data logging information is stored in the E-Coder)R900*i*?

- The E-Coder)R900*i* stores consumption in hourly intervals for a rolling total of 96 days. This is equal to 2,304 hourly intervals of consumption.

How can I easily identify E-Coder)R900*i* units in the field that have data logging capability?

- Data logging units are identified by two methods. First, each unit has the symbol "DL" laser printed directly beneath the "RW" or "RD" on the dial plate. Secondly, all data logging units have an MIU ID serial number starting with "183".

How is the E-Coder)R900*i* activated in order to retrieve the data logging information?

- The special data logging activation flashlight is required for this process. This flashlight is used to activate the E-Coder)R900*i* for data transmission for collection by the CE handheld. The flashlight shall be held within 2-3 inches from the photo sensor (recessed hole on dial plate) for 3-4 seconds or until the LCD changes to read "RF Log".

What products do I use to capture the data logging data?

- The data logging information is captured with a CE handheld that is running N_SIGHT™ R900® host software. Capture of the data is accomplished with the program entitled "data logger" on the handheld that stores the data for synchronization with N_SIGHT R900.

How long does it take to retrieve the data from the E-Coder)R900*i*?

- After activation and the data is being received by the CE handheld, it will take approximately five minutes to download all 96 days' worth of data logging information.

Does the data logging feature have an impact on my battery life of the E-Coder)R900*i* unit?

- No. The battery warranty for the E-Coder)R900*i* is still 20 years even though the unit is logging 96 days of consumption data. The E-Coder)R900*i* still carries the twenty (20) year warranty with the first ten (10) years offering full replacement and the remaining ten (10) years being at a prorated discount off the then-list price.

Will my current host software be compatible with data logging?

- N_SIGHT versions 3.0 and higher are compatible with the data logging feature.

What type of graphing functionality is available in N_SIGHT R900 host software?

- N_SIGHT R900 host software has the ability to graph by date range, hourly interval, and daily consumption in both bar and line graph functionality.

Will I be able to determine when a leak flag or reverse flow flag actually begins?

- Yes. Both the leak and reverse flow flags will be restored in the data logging data. The time and date of these flags will show on the usage analysis graphs. In addition, if a leak is present, the consumption bars will be color coded red for the number of days the leak remains present. If a backflow event occurs, the consumption bars will be color coded grey. Lastly, missed data and the first/last days of the graph will be colored yellow to signify missed data.

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