

## Chapter 4: Activating and Reading the E-CODER®)R900i™

This chapter defines how to read the E-CODER®)R900i™ to identify water leaks.

### Activating the LCD Using the Solar Panel

The E-CODER has a solar panel to power the Liquid Crystal Display (LCD).

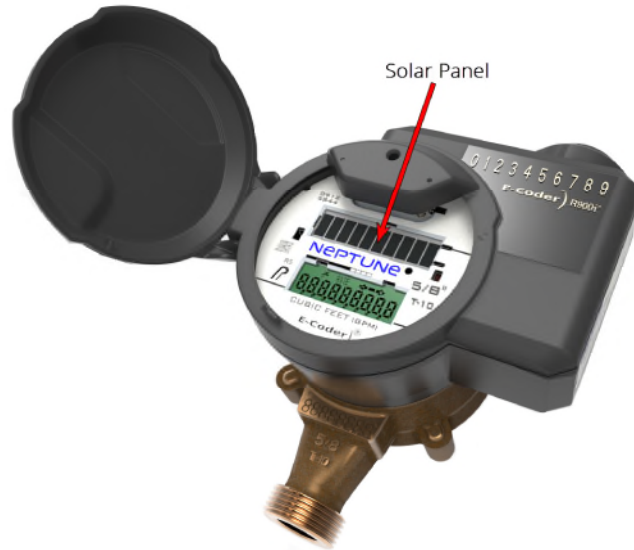


Figure 12 – Solar Panel for the E-CODER®)R900i™

The solar panel activates the LCD display when the unit is exposed to a light source. If the LCD does not reactivate as expected, shine a flashlight on the light sensor.

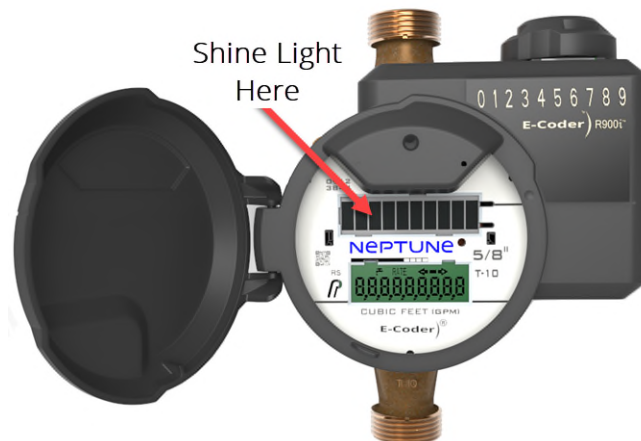


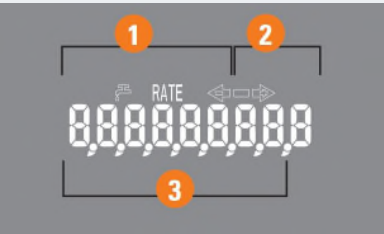


Figure 13 – Activating the E-CODER®)R900i™

## Read the Meter

The following table defines the information the meter presents.

Table 2 – Icons and Displays

Icon	Description
	Flow / Leak Indicator shows the direction of flow through the meter:
	ON Water in use.
	OFF Water not in use.
	Flashing Water is running slowly / low flow indicator.
	Leak indicator displays a possible leak:
	OFF No leak indicated.
	Flashing Intermittent leak indicated. Water used during at least 50 of the 96 days of 15-minute intervals, during the previous 24-hour period.
	Continuous ON Continuous leak indicated. Water used during all 96 days of 15-minute intervals, during the previous 24-hour period.
	<p>Nine-digit LCD displays the meter reading in billing units of measure. The number displays in odometer style, reading left to right:</p> <ul style="list-style-type: none"> <li>• First four digits – typical billing digits.</li> <li>• Last three digits – testing units used for meter testing.</li> <li>• Fifth and sixth reading digits – reading units.</li> </ul>

## Common Causes of Leaks

If the E-CODER)R900i leak indicator is flashing or continuously on, it indicates a possible leak. The following table defines common causes of leaks.


Table 3 – Causes of Leaks

Possible Cause of Leak	Intermittent Leak	Continuous Leak
Outside faucet, garden hose, or sprinkler system leaking	✓	✓
Toilet valve not sealed properly	✓	✓
Toilet running		✓
Faucet in kitchen or bathrooms leaking	✓	✓
Ice maker leaking		✓
Soaker hose in use		✓
Leak between the water meter and the house		✓
Washing machine leaking	✓	✓
Dishwasher leaking	✓	✓
Hot water heater leaking		✓
Yard watered for more than eight hours	✓	✓
Continuous pet water device in use		✓
Water-cooled air conditioner or heat pump	✓	✓
Swimming pool filled		✓
Other continuous use of water for 24 hours		✓

## How to Tell if Water is in Use

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To determine if water is in use, complete the following steps:

1. Check the flow indicator  by closely watching it for two minutes.
2. Determine the following conditions. If the arrow is:
  - Flashing, then water is running very slowly.
  - Continuously ON, water is running.
  - Not flashing, water is not running.

## What to Do if There is a Leak

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If the E-CODER)R900i detects a leak, check the following to identify the leak source:

- All faucets
- Toilets and valves
- Ice maker and water dispenser
- Yard sand surrounding grounds for a wet spot indicating a leaking pipe

## If a Continuous Leak is Repaired

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If a continuous leak is found and repaired, complete the following steps.

1. Do not use any water for at least 15 minutes.
2. Check the leak icon .

If the leak indicator changes from continuous ON to flashing, then a continuous leak is no longer indicated.

## If an Intermittent Leak is Repaired

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If an intermittent leak is found and repaired, check the leak icon  after at least 24 hours. If the leak has been correctly repaired, the leak icon changes from flashing to OFF.

## Description of Flags

The tables in this appendix describe the volume represented by the eighth digit by meter size, and the flags used the by the E-CODER®)R900i™.

**Table 6 – Eighth Digit Resolution by Meter Size**

Register Size	Eighth Digit Resolution – Least Significant Digit
Residential (5/8" - 1" T-10)	1/10 Gallon or 1/100 Cubic foot
Light Commercial and Industrial (1-1/2" and 2" T-10; 1-1/2" - 4" HPT)	1 Gallon or 1/10 Cubic foot
Large Commercial and Industrial (6" - 12" HPT, HPPII and TRU/FLO®)	10 Gallons or 1 Cubic foot
Large Commercial and Industrial (16" - 20" HPT)	100 Gallons or 10 Cubic feet

**Table 7 – E-CODER®)R900i™ Flags**

Backflow Flag (Resets After 35 Days)	
Based on reverse movement of the eighth digit. Eighth digit is variable based on the meter size.	
No backflow event	Eighth digit reversed less than one digit
Minor backflow event	Eighth digit reversed more than one digit, up to 100 times the eighth digit
Major backflow event	Eighth digit reversed greater than 100 times the eighth digit

Leak Status Flag (Resets After 35 Days)	
Based on total amount of 15-minute periods recorded in the previous 24-hour period.	
Leak icon off	Eighth digit incremented less than 50 of the 96 days of 15-minute intervals
Flashing leak icon	Eighth digit incremented in 50-95 of the 96 days of 15-minute intervals
Solid leak icon	Eighth digit incremented in all of the 96 days 15-minute intervals
Consecutive Days with Zero Consumption Flag (Resets After 35 Days)	
Number of days the "leak status" was at a minimum value	