Water Meter Replacement

The County of San Bernardino, Special Districts Department, Water and Sanitation Division has implemented a phased water meter replacement program for various County Service Areas, replacing mechanical water meters with new Badger E-Series Ultrasonic Meters at no additional cost to our customers to ensure reliable water infrastructure and service to our customers.
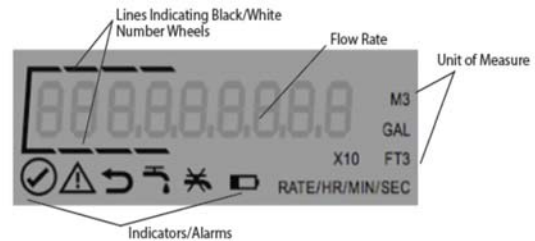

E-Series Ultrasonic Water Meter

About the E-Series Ultrasonic Meter

The Badger Meter E-Series Ultrasonic meter is an electronic meter using ultrasonic technology and solid-state electronics contained in a compact, totally encapsulated, weatherproof and UV-resistant housing for residential and commercial applications.

The ultrasonic measurement system has no moving parts, provides long-term accuracy and eliminates measurement errors due to sand, suspended particles, air pockets and pressure fluctuations.
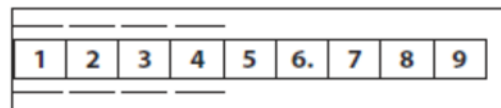

Meter Display

The Badger Meter E-Series Ultrasonic meters use a nine-digit Liquid Crystal Display (LCD) to show consumption, flow rate and alarm information.

The chart on page 2 outlines the indicators and alarms that appear in the display as symbols that illuminate when the condition is active and dim when the alarm condition is eliminated.

How to read your meter

Your new E-Series Ultrasonic Meter will display usage in Hundred Cubit Feet or HCF. The graphic below indicates which numbers on the display are used to determine how your meter is read and how it is billed.

Status Indicator	Icon	Alarm Description	High Resolution with ORION Cellular, Fixed Network (SE) or Migratable (ME)	Encoder Protocol with ORION Cellular, Fixed Network (SE) or Migratable (ME)	RTR with ORION Fixed Network (SE) or Migratable (ME)
Meter functioning correctly		Meter operating correctly.	Normal operation. Indicator not sent to endpoint.	Normal operation. Indicator not sent to endpoint.	Normal operation. Indicator not sent to endpoint.
Meter alarm		Several potential conditions may exist, including: • Empty pipe: "err" displays on LCD. Alarm clears when pipe is filled. • Low Temperature limits exceeded: meter continues to operate but outside specified accuracy range. Alarm clears after 35 days unless alarm condition continues. • Maximum flow rate is exceeded. No consumption is displayed until back within specified flow range. Both the meter functioning correctly and the meter alarm are active. • Other meter or sensor issue: meter continues to operate if possible. Alarm clears after 35 days unless alarm condition continues.	Consumption data is sent to the endpoint. Meter Alarm is also sent.	Meter Alarm is sent to the endpoint. **NOTE:** No consumption data is sent to endpoint when the alarm is active.	Consumption data is sent to the endpoint, except when Exceeding Max Flow Alarm is set.
Reverse flow		The meter detects reverse flow and triggers the reverse flow alarm icon on the E-Series display. The alarm remains active for 35 days. The alarm automatically clears after 35 days if the condition has not recurred.	Meter detects reverse flow and sends alarm message to the endpoint.	Meter does not send the alarm. The endpoint detects and reports the reverse flow and will report the read exactly how it is received.	No alarm condition reported by the endpoint will only record positive, forward flow.
Suspected leak		Meter detects 24 hours without one 15-minute interval of no flow. The alarm clears automatically when a 15-minute no-flow interval occurs.	Meter detects suspected leak and sends alarm message to the endpoint.	Meter does not send the alarm. The endpoint detects continuous consumption over 24-hour period and reports suspected leak.	
30 day no usage		No measured flow in past 30 days. The alarm automatically clears once flow occurs.	Meter detects 30 day no usage and sends alarm to the endpoint.	Meter does not send the alarm. The endpoint detects no change in consumption over 30-day period and reports 30 day no usage.	
End of life battery indicator		Indicated battery life based on pre-calculated consumption. Alarm is activated after 19 years and 6 months and does not clear.	Meter sends alarm to the endpoint.	Meter does not send the alarm.	