Intelis Gas Meters:

A Lifecycle Approach to Safety, Accuracy and Sustainable Utility Operations

EXECUTIVE SUMMARY

Itron is committed to sustainability, and strong Environmental, Social and Governance (ESG) practice is central to our mission of creating a more resourceful world. As utilities modernize their distribution systems, the transition from mechanical diaphragm meters to solid-state ultrasonic metering platforms represents a major opportunity to advance safety, reduce environmental impact, and enhance long-term operational efficiency. Itron's Intelis 250 and 425 Gas Meters are engineered as fully integrated measurement and safety systems designed to operate for a complete 20-year lifecycle—covering the ultrasonic measurement unit, the communications module, the autonomous safety shutoff valve, and embedded long-life batteries. This whitepaper outlines how these meters support utility sustainability, improve safety outcomes, and optimize asset management across their operational lifespan.

1. Introduction: Sustainability as a Lifecycle Metric

Sustainability in gas metering cannot be assessed solely by meter longevity. While diaphragm meters have historically exceeded 20 years of service life, they provide limited value beyond basic measurement and can require mid-life maintenance and calibration, increasing costs and service complexity. Intelis meters are designed with a lifecycle approach—prioritizing safety, handling efficiency, measurement accuracy, and methane-reduction benefits, to deliver measurable environmental and operational advantages.

2. Integrated Safety Architecture

A defining innovation of the Intelis platform is the built-in autonomous safety shutoff valve. Unlike diaphragm meters equipped with external AMR/AMI modules, the Intelis valve responds to abnormal operating conditions without the need for utility intervention.

2.1 High-Flow Shutoff

In scenarios such as an open downstream fuel line—for example, during appliance replacement—the valve closes within 15 seconds to prevent uncontrolled gas flow into the residence. This feature also prevents utility installers from venting gas to atmosphere during meter installation, reducing carbon emissions.

2.2 High-Temperature Shutoff

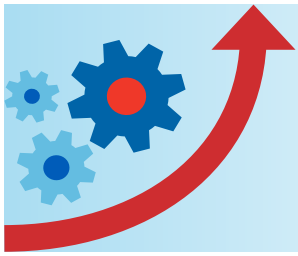
If exposed to fire conditions, the meter automatically shuts off within 5 minutes, reducing the risk of additional hazards.

2.3 High-Pressure Shutoff

The Intelis 425 Gas Meter includes pressure sensing as a standard feature (optional in the Intelis 250 Gas Meter). The meter closes autonomously within 10 seconds in response to over-pressurization or upstream gas regulator issues.

2.4 Remote Disconnect Capabilities

The integrated shutoff valve also enables over-the-air disconnect for emergency "I smell gas" calls, as well as targeted system control options in the event of exceptional low-pressure conditions. For utilities who have yet to install a network, the disconnect can be done with a local RF command at a safer distance away from the meter, providing greater employee safety when responding to gas leaks. Remote disconnect can be temporarily used for non-payment, eliminating the need for a truck roll which reduces carbon emissions, and increases employee safety by preventing potential homeowner confrontation. Remote disconnect can also be used for storm hardening, such as disconnecting service to a population of meters in advance of a hurricane to avoid damage from breaks in gas lines downstream of the meter.



70% size reduction—Intelis 250

50% size reduction—Intelis 425

» Reduced shipping costs

» Reduced warehouse space

» Fewer workforce injuries.

3. Resource Efficiency and Material Optimization

The Intelis 250 achieves a 70% size reduction relative to diaphragm meters, and the Intelis 425 delivers a 50% reduction—dramatically lowering aluminum and material resources, which offer many benefits including reduced shipping costs, reduced warehouse space, more meters per service truck and fewer workforce injuries.

4. Enhanced Measurement Accuracy and Long-Term Performance

With no mechanical components to wear over time, the solid-state ultrasonic design offers superior initial and long-term accuracy. Intelis achieves a +/-0.5% accuracy at room temperature and a +/-1% accuracy over its operating temperature. Intelis also delivers a much tighter standard deviation than diaphragm meters with moving parts, delivering the benefit of long-term accuracy for billing integrity and long-term meter sampling reliability.

5. Streamlined Asset Management Across the Full Lifecycle

Utilities frequently encounter asset misalignment when retrofitting diaphragm meters with AMR/AMI modules—creating multiple components with mismatched lifespans. Intelis eliminates this complexity by integrating a full-life communications module, ultrasonic meter and shutoff valve into a single 20-year asset.

6. End-of-Life Disposal and Circularity

Itron maintains a zero-landfill policy for meter disposal. At end-of-life, Intelis meters are processed to maximize material recovery, including recycling aluminum housings, reclaiming plastics, recovering precious metals, and recovering energy from lithium batteries.

7. Advancing a More Resourceful Future

Intelis meters represent Itron's broader commitment to a lifecycle approach to safety, accuracy and sustainable utility operations. Our annual Resourcefulness Report highlights our mission. Read the latest report at https://www.itron.com/resourcefulness.

Intelis 250 is the most compact and lightweight 250 Class meter available, weighing only 4.35 pounds.

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