

REAL-TIME METER HEALTH MONITORING AND INTELLIGENCE FOR DATA DRIVEN DECISIONS

*Realize the Full Potential of Your AMI
with Diagnostic Data*



Electric utilities worldwide are investing in advanced metering infrastructure (AMI) to collect and analyze electricity consumption data to help reduce the cost of meter readings, offer custom billing options, and deliver new services.

However, when it comes to managing meter assets over their deployed lifetime, utilities still rely on checking meters in the field on a case-by-case basis, using statistical methods to verify accuracy, replacing good meters based on age rather than need, and investigating false tamper alerts.

The Opportunity for Utilities—Meter Health in Real Time

With millions of meters in service and billions of dollars lost in electricity theft worldwide, there is a large opportunity for utilities to reduce cost, reduce theft, and improve operations by monitoring individual meter health directly and in real time.

Optimize Operations



Eliminate In-Field
Sample Testing



Efficiently Dispatch
Meter Crews



Prioritize Equipment
Replacement

Protect Revenue



Detect Intermittent
Tamper 24/7



Confirm More
Tamper Cases
with Confidence



Estimate the
Amount of
Tamper Per Meter

*m*Sure In-Meter Diagnostics—Get Visibility into Your Entire Meter Population

*m*Sure® is a noninvasive diagnostics technology built into the energy measurement IC that monitors in real time and reports data on individual meter health, including the accuracy of the current and voltage sensors.

*m*Sure Enabled Smart Meters

Smart electricity meters equipped with *m*Sure produce the meter health data needed for actionable insights to utilities, such as identifying out-of-specification meters, meters with drifting accuracy, and malfunctioning meters, and detecting more tamper cases with confidence.

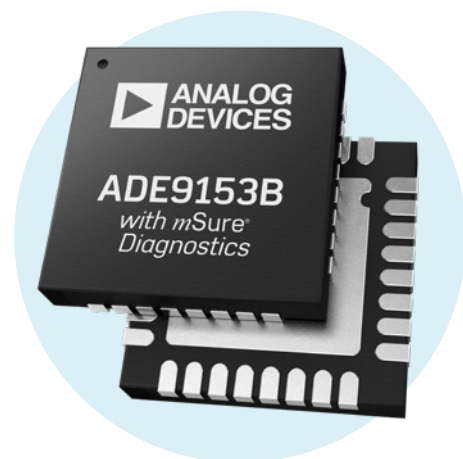
*m*Sure Enabled Cloud Analytics Service

Data generated using an *m*Sure enabled meter gets passed on to an analytics service that processes the data, and allows utilities to run reports on their entire meter population at desired intervals and make informed decisions or take appropriate actions.

*m*Sure Technology Benefits for Your Next AMI Deployment

Your next AMI deployment involves many moving parts, so you need to make sure you are providing the best technical features with the optimal return on investment.

- ▶ **Completely scalable**—*m*Sure diagnostic capabilities embedded in the meter's energy measurement IC combined with cloud-based analytics allow you to manage both small and large deployments
- ▶ **Flexible integration**—analytics modules are accessed through APIs for integration with your existing meter data management system
- ▶ **Easily customizable**—each part of the solution can be customized to meet different requirements for a particular utility—for example, regularity and size of reports based on existing communication bandwidth and throughput availability



Energy Measurement IC

*m*Sure Advantages



Direct Measurement

High confidence results and fewer false positives



Meter Specific

Locate meters with drift, tamper, or malfunction



Noninvasive

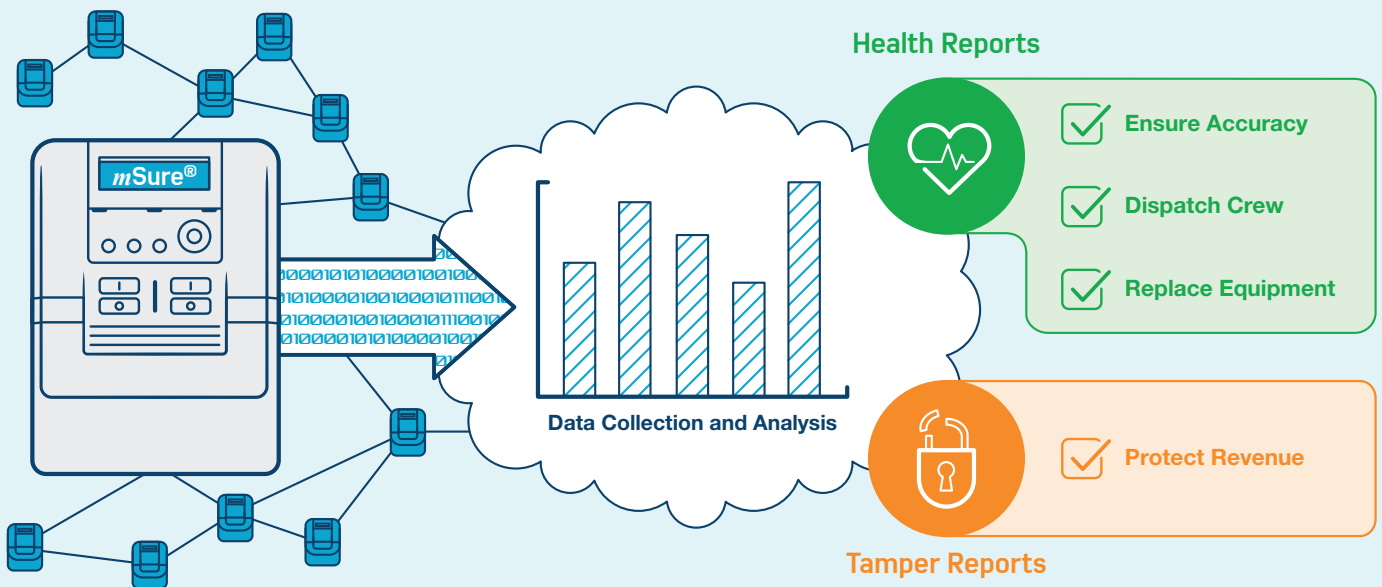
No service interruption or extra equipment needed



Always On

Detect problems quickly or discover intermittent tamper

Analog Devices' Edge-to-Cloud Meter Analytics Solution— Take Control of Your Smart Meters

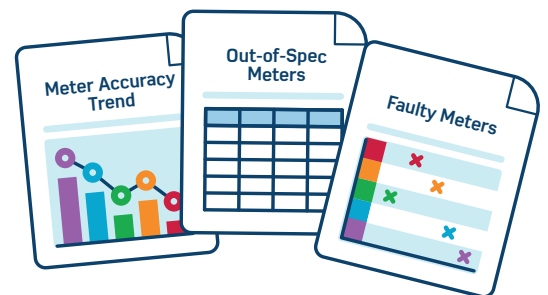


Meter Health Module—Meter Accuracy Over Lifetime and Meter Malfunction

Make decisions quickly and with confidence to replace faulty or aging equipment, dispatch maintenance crews, and verify overall accuracy for customer billing purposes.

Obtain reports based on:

- ▶ **Meter accuracy score**—prioritize repairs by measuring the amount of drift and rate of change for predictive maintenance
- ▶ **Meter accuracy history**—know when drift started and profile its progression
- ▶ **Meter sensor failure**—know which meters have failed to operate

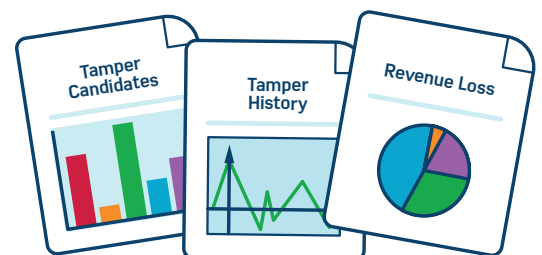


Revenue Protection Module—New Advanced Tamper Detection

Protect more revenue by discovering more tamper types fast and with confidence. Unlike other methods for tamper detection, *mSure* relies on an always on, direct measurement of the sensor function.

Obtain reports based on:

- ▶ **Meter tamper score**—rank tamper candidates and prioritize investigations
- ▶ **Meter tamper history**—know when tamper has started and/or stopped and estimate the amount of energy stolen
- ▶ **Revenue loss**—know how your business is affected by tamper



mSure Business Benefits

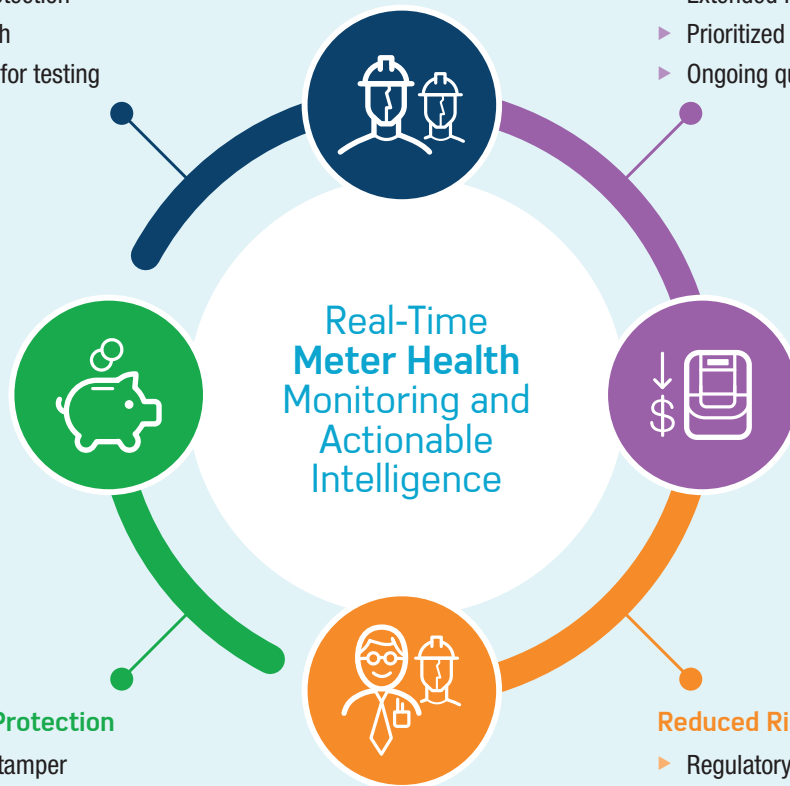
Investing in Analog Devices' edge-to-cloud meter analytics solution helps electrical utilities decrease operational expenses and capital spending, reduce risk, protect revenue, and enhance trust in your brand.

Optimized Field Resources

- ▶ Faster faulty meter detection
- ▶ Efficient crew dispatch
- ▶ No service disruption for testing

Reduced Equipment Cost

- ▶ Extended meter lifetime
- ▶ Prioritized replacement
- ▶ Ongoing quality assurance



Advanced Revenue Protection

- ▶ Estimated amount of tamper
- ▶ More tamper types identified
- ▶ Reduced tamper investigation time

Reduced Risk

- ▶ Regulatory compliance
- ▶ Identify and prevent system failures
- ▶ Customer satisfaction—no overbilling

Next Steps

OEMs and Utilities

Analog Devices is partnering with leading utilities and meter manufacturers interested in enabling next-generation electricity meters and integrating cloud analytics services. For next steps, visit analog.com/msure.

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