



**Delivering confidence and
continuity with digital metering
solutions**

**Performance Monitoring for
Roxar 2600 Multiphase Flow Meters**

Supporting effective operation and improving performance and reliability



Access expertise when you need it.

The right expertise is critical to your operations, but it's costly to develop experts and tough to retain them. Even when you have experts, their time is often stretched thin, keeping them from focusing on value-added tasks. Emerson Connected Services pair your team with Emerson experts who utilize advanced analytics to remotely assess and interpret data from your equipment and processes and provide actionable insights to improve reliability, safety, performance and profitability.

Digital shift comes with new challenges for operators, with many spending 60% of their time to manage huge amounts of data with reduced headcount.



Operators seek service support that provides detailed recommendations to help maintain their assets, not equipment demanding more work.



Managing well production will benefit significant from real-time insight. Many operators today suffer from that gap leading to less informed and profitable decisions being made.





Remote Monitoring Services supplement workforces with a variety of scalable services that leverage IIoT technologies, advanced analytics and Emerson expertise to optimize Roxar 2600 MPFM performance.

Leverage real-time data to help you tackle challenges and transform your business.



Regular ongoing data sharing and evaluation of the Roxar 2600 Multiphase Flow Meter performance allows for capturing the full value of the meter and establishing an effective maintenance strategy.

ROXAR™





Enable digital shift and business transformation by elevating the multiphase flow data to the highest strategic level.

Automating work processes.

Through the Secure First Mile™ architecture the Performance Monitoring solution collects diagnostic data from the meter and transfer them to Microsoft Azure cloud in real time, eliminating manual and timely processes for collecting data in the field.

Actionable insight.

Emerson experts will provide actionable insights from the Roxar 2600 Multiphase Flow Meters, enabling proactive maintenance and avoiding expensive downtime.

Leverage multiphase metering expertise.

Through advanced analytical tools and visualization in the web application, Emerson multiphase experts conduct in-depth analysis of diagnostic metering data, reducing the need for in-house expertise and allocation of resources for meter follow-up.

Reduce costly consequences associated with uncertainty in well data.

Not having optimal quality in well performance data can lead to wrong decisions potentially incurring expensive downtime costs. With continuous remote monitoring, operators have the operational assurance they need to make informed decisions.



Don't let manual work and uncertainty hold back your productivity.

Know the efficiency of your key assets so you can adjust your operating parameters or your maintenance schedule to deliver optimal benefits. Proper data analysis presents various opportunities for optimization. Unplanned downtime and inefficiencies are two of the main drivers for costly expenditure. Leveraging of our cost effective expert analysis is a first step to ensure your assets are performing effectively.

What's your challenge?



With increasing levels of automation many operators may struggle with verifying output data and make informed decisions due to insufficient expertise and data insight.

What's your opportunity?

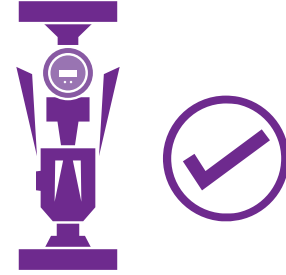


Appropriate analysis of instrument and well data presents various opportunities for optimization. Leverage Emerson's experts to ensure your Roxar 2600 Multiphase Flow Meters are functioning at their peak performance.

Capturing the full value through unique performance optimization



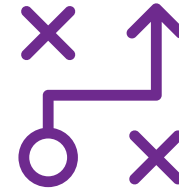
Base Line Verification: Automated, or recommended, calibration settings of key sensors.



Meter Input Verification: Verification of, or recommended, actions on meter input data.



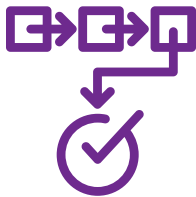
Life-of-Field Suitability: Maps flow rates within the meter operating envelope enabling planned venturi replacement for late life performance.



Collaborative Platform: Platform for sharing analysis, performance data and visualizations to agree on actions for optimizing performance.

Our experts will provide your team with a documented analysis that will help identify any beneath-the-surface issues.

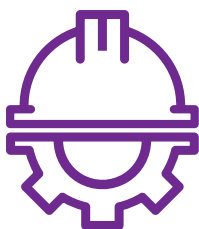
Ease of use through actionable insight



System Performance: Notifications and alarms indicate when there is a need for sensors or components check-up, allowing potential upsets to be detected at an early stage.



Process Conditions: Monitoring of process related effects on measurement performance such as scale, wax or hydrates, and advise on action e.g. enabling layer compensation feature in the meter.



Preventive Maintenance: Analysis and trending of diagnostics data to plan for preventive maintenance.



Full Field Overview: Overview of key meter performance parameters from all meter in the field, summarized in one location.



The Roxar 2600 MPFM Performance Monitoring solution – from multiphase flow measurement to actionable insight



Cost efficient meters that cover different applications needs

- Advanced multiphase meters with an field proven measurement principles
- Compact and light-weight solution
- Easy to install with low power consumption

Access to high quality data to maximize field revenue

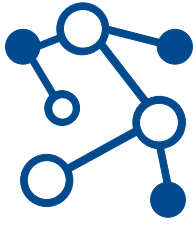
- A reliable, field proven measurement principle providing consistent measurement quality
- Immediate alerts to changes in flow rates, composition, behavior and GVF, enabling quick response times to optimize production

A metering solution that evolves and provides flexibility

- Modular, flexible and compact meter for real-time well testing and reservoir monitoring in all conditions
- Components and functionality can be flexibly separated and recombined to meet the specific requirements of the field / well

Roxar 2600 MPFM principle of operation

Zector™ technology



The Roxar 2600 MPFM measures the flow properties several thousands times per second capturing rapid fluctuations across all flow regimes.

Venturi measurement



By utilizing the differential pressure across the venturi for total mass flow, the total volume flow is calculated.

Electrical impedance



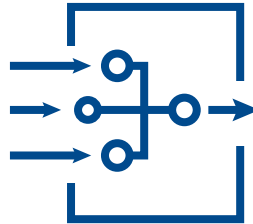
Electrical impedance is used to map the characteristics of the flow and determine phase fractions.

Density measurement



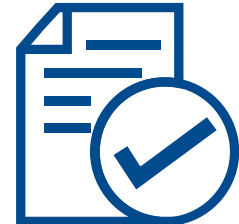
The compact gamma system is used to measure the mixture density. Optionally a non-gamma mode can be used.

Embedded software



Advanced algorithms and models interpret and combine all measurements together to provide a comprehensive mapping of the flow.

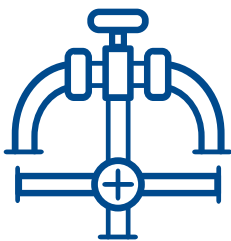
Putting it all together



The result is a meter that accurately characterizes the flow and provides a cost effective and flexible solutions for a range of applications.

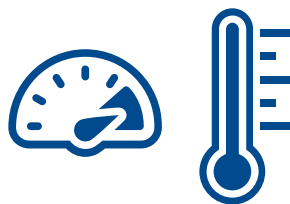
Conversion of results

Actual conditions



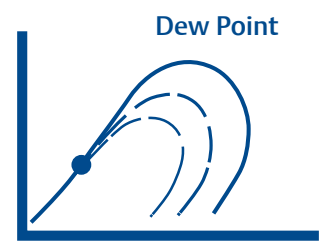
The raw data measurements are taken at the actual flow conditions seen at the installation point of the Roxar 2600 Multiphase Flow Meter.

Pressure and temperature measurement



The pressure and temperature at line conductions are measured and used for calculating phase fractions and flow rates.

PVT and EOS



Combined with PVT data and an embedded EOS engine, the measurements are converted into standard conditions, or any other customer selected pressure and temperature state required.



Secure First Mile™ connectivity

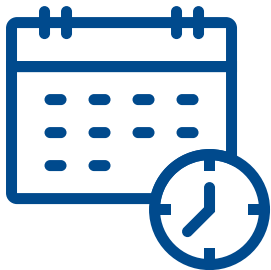


- This architecture is supplied to ensure that data is stored in the cloud with no risk to data security
- Emerson's hardware and network are separate from your control system, control network, or plant network



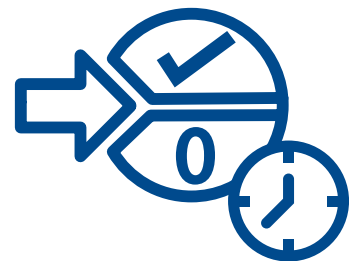
- Only authorized Emerson monitoring personnel have access to your data
- Your critical data is relayed to the right people at the right time, to support your engineers and technicians with insight they can trust

Continuous stream of data



With access to **Historical Data**, you will have the ability to:

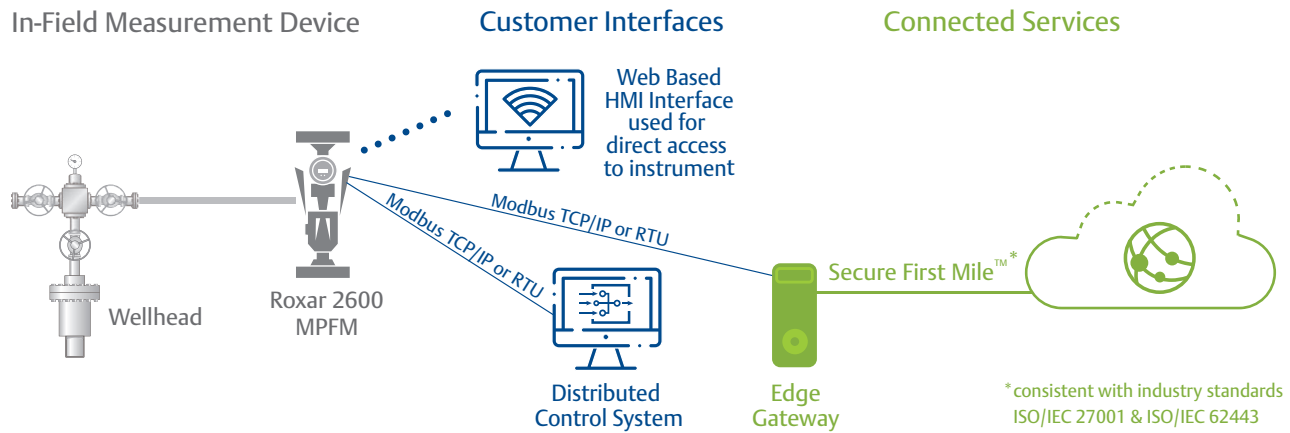
- Store and use replay data
- Create trend analyses
- Produce consistent reports and KPI's to be used for performance reviews



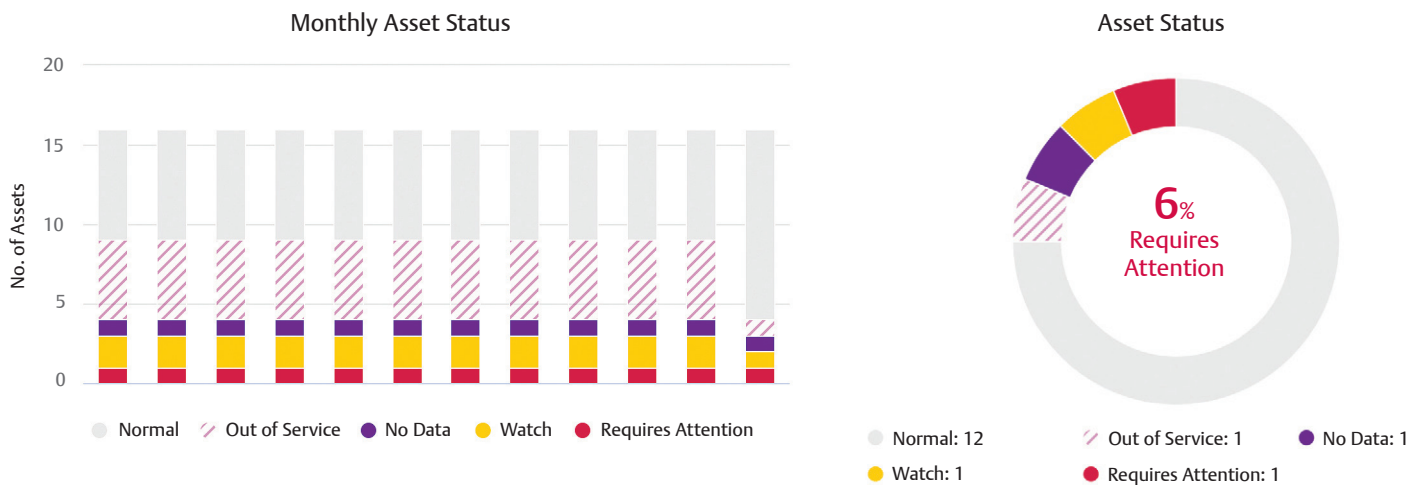
With access to **Continuous Real-time Data**, you can:

- Perform regular analysis of diagnostics information from your process equipment
- Leverage the data to look for patterns indicating failure modes related to multiphase flow meters and plan for preventative maintenance
- Get insights into the health of your multiphase flow meters and detect upsets at early stages, allowing you to engage in early response

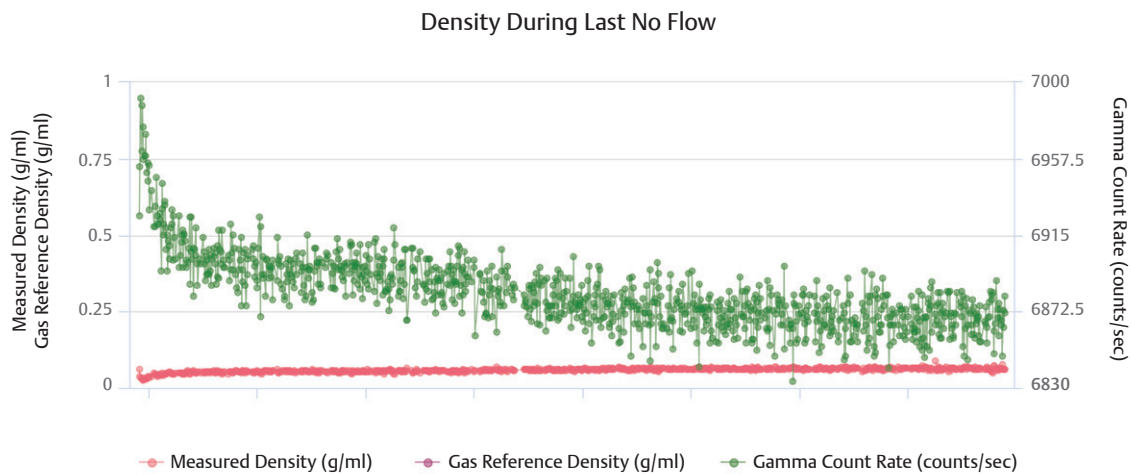
A secure, reliable and robust data connectivity solution



Overview of all your Roxar 2600 Multiphase Flow Meters in one location



Actionable insight



Roxar 2600 Multiphase Flow Meter with Performance Monitoring.



Contact your local Emerson sales office to learn more about the Roxar 2600 MPFM with Performance Monitoring.

ROXAR™

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