Enhance your oil & gas field automation applications

ROC800-Series Remote Operations Controller

Get the unmatched flexibility, precision, and reliability to measure and control your oil and gas operations.

EMERSON™
Process Management

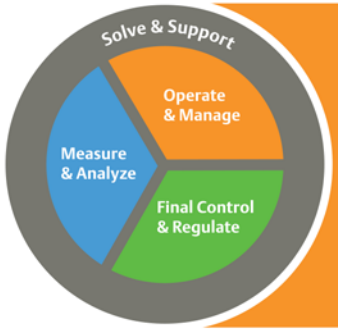
Are you expected to do more with less, while dealing with increasing challenges?

Challenges such as integrating wellhead automation; taking extra trips to the oil and gas field; and the insufficient ability to control, measure, and optimize production can eat at your bottom line. With an aging workforce taking its industry experience with it, less experienced personnel must tackle new challenges and ever-changing regulations. To stay competitive, you have to address these fluctuating situations.

"One estimate is that 30% of the existing workforce will retire in the next 5 years, and take a large slice of the operating and commissioning experience into retirement."
– Kolmetz.com (November 2014)

ROC800-Series delivers precise oil and natural gas measurement.

The ROC800-Series enables you to measure, control, and optimize your operations using a single flow computer/RTU platform. This powerful flow computer enhances your operation in four critical areas – efficiency, flexibility, reliability, and accuracy. A modular hardware and software architecture permits simultaneous measurement of gas and liquids, while also optimizing and controlling operations with optional software applications or custom logic within the flow computer. Integrated wireless technologies can accelerate commissioning and reduce total cost of ownership – allowing you to deliver superior operating performance at reduced cost and without long engineering design cycles. The modular design and wireless technologies in the ROC800-Series provide the flexibility required to accommodate expanding automation and instrumentation requirements at the site.



To perform at your best, you need to continuously monitor and optimize in real-time, with potential upsets addressed before they result in lengthy outages. You need intelligent agents located close to the process making the right control decisions. The ROC800-Series embeds best practice operational logic leading to improved efficiency, flexibility, reliability and accuracy.

Production ■ Gas ■ Oil ■ NGL ■ Storage Management ■ LACT
Transmission ■ Measurement ■ Control
Distribution ■ Batching ■ Custody Transfer

What's your challenge?

Re-writing a PLC program on a new hardware platform is costly and the project timeline expansion can become a major concern, resulting in downtime.

What's your opportunity?

An oil & gas customer's project timeline was compressed and the cost of PLC programming was eliminated. Implementing the ROC800 reduced their total cost of installation by nearly $10K compared to what was expected to be spent on a PLC.

The ROC800-Series has solutions to optimize every operation in your process stream.

Production management

- Well monitoring
- Free flow choke control
- Gas well deliquification (intermitter, plunger lift, gas lift)
- Oil well optimization
- EOR & injection control
- Facility equipment control

Separation treatment

- Separator control
- Heater treater control/optimization
- Cyclic well test management

Produced fluids management

- Tank management
- Truck haul tracking
- Vapor recovery
- Disposal
- LACT operation

Gas treatment & gathering

- Gathering & custody transfer
- Facility control
- Gas meter station control
- AGA 3, AGA 7 / ISO9951, AGA 8 / ISO 12213-2
- API Chapter 21.1

Achieve versatile measurement and control from one device

Our ROC800 delivers the best features and functions of RTUs, flow computers, and PLCs in one device. Additionally it allows you to measure both liquid hydrocarbons and natural gas simultaneously.

Ensure reliability and integrity of measurement

The ROC800 makes measurements in compliance with AGA and API standards and can produce and export "CFX" industry-standard files for either gas or liquid meter runs. These files support accurate and traceable accounting of the oil and gas measurement data.

Lower your total cost of ownership

A suite of pre-engineered software programs virtually eliminates the need for field programming – saving commissioning time and cost. The rugged and modular I/O provides isolation and protection from surges – improving the reliability and reducing the outages.

Protect your people by reducing unnecessary time in the field

The wireless capabilities of the ROC800 dramatically reduce field and installation time, while seamlessly integrating with OpenEnterprise™ and other SCADA allowing you to view your data remotely. The ROC800's rugged I/O reduces repair and troubleshooting trips to the site.

"Factory-style operators and standard wellpad layouts improve safety and reduce drilling and completion costs 30-40%."
– Alvarez & Marsal

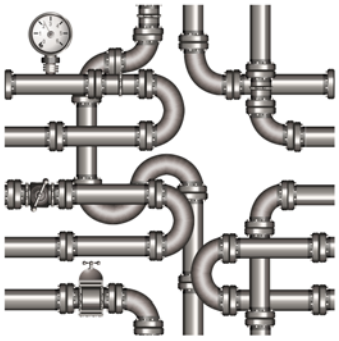
RTU, PLC, and flow computer in one device

RTU - The ROC800 has the ruggedness and low power consumption of an RTU.

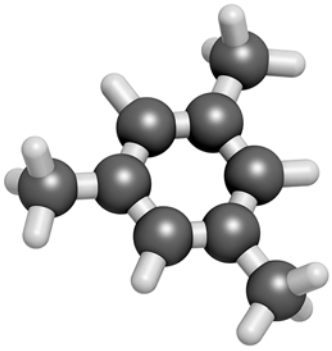
PLC - The ROC800 has the scalability, speed and control capability of a PLC.

Flow Computer - The ROC800 has the audit trails and historical data of a flow computer.

Simplified oil & gas measurement



Measure Oil & Gas Simultaneously - The ROC800 allows up to 12 meter runs per device – with up to 6 of these being liquid measurement.



Measure and Control Liquid Hydrocarbons - Measure a full range of liquid hydrocarbons, including crude oil, NGLs, refined products, special application products, lubricating oils, and light hydrocarbons.

Measure and Control Natural Gas - Pre-programmed standard set of approved AGA and ISO calculations for measuring gas production, fiscal metering, compressor stations, gas processing, and more.

Customized and flexible control

DS800 Development Suite - Allows custom programming using the IEC61131 suite of languages to support any process, including redundancy, sample skid control, compressor control, and pump control.

ROCLINK™ Configuration Software - This Windows-based software package allows you to perform configuration and data retrieval on-site and remotely. A tremendous cost saver that reduces the need for on-site travel.

Pre-Engineered Application Programs - Our SmartProcess Oil and Gas Applications Suite monitors and controls many hydrocarbon production and transportation applications without the need for custom programming.

Find us in social media:
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Remote Automation Solutions Community
Emerson_RAS
Remote Automation Solutions

For an interactive experience, visit *www.EmersonProcess.com/Remote*

A ROC800-Series RTU can be appropriately sized for almost any application. The ROC809 and ROC809L provide nine slots for I/O and communications modules. The ROC827 and ROC827L models offer 3, 9, 15, 21, or 27 slots using optional expansion module racks.

The ROC809 and ROC827 are gas flow computers/RTUs, while the ROC809L and ROC827L are flow computers/RTUs that can handle both gas and liquid applications.

The ROC800-Series meets the following measurement requirements:

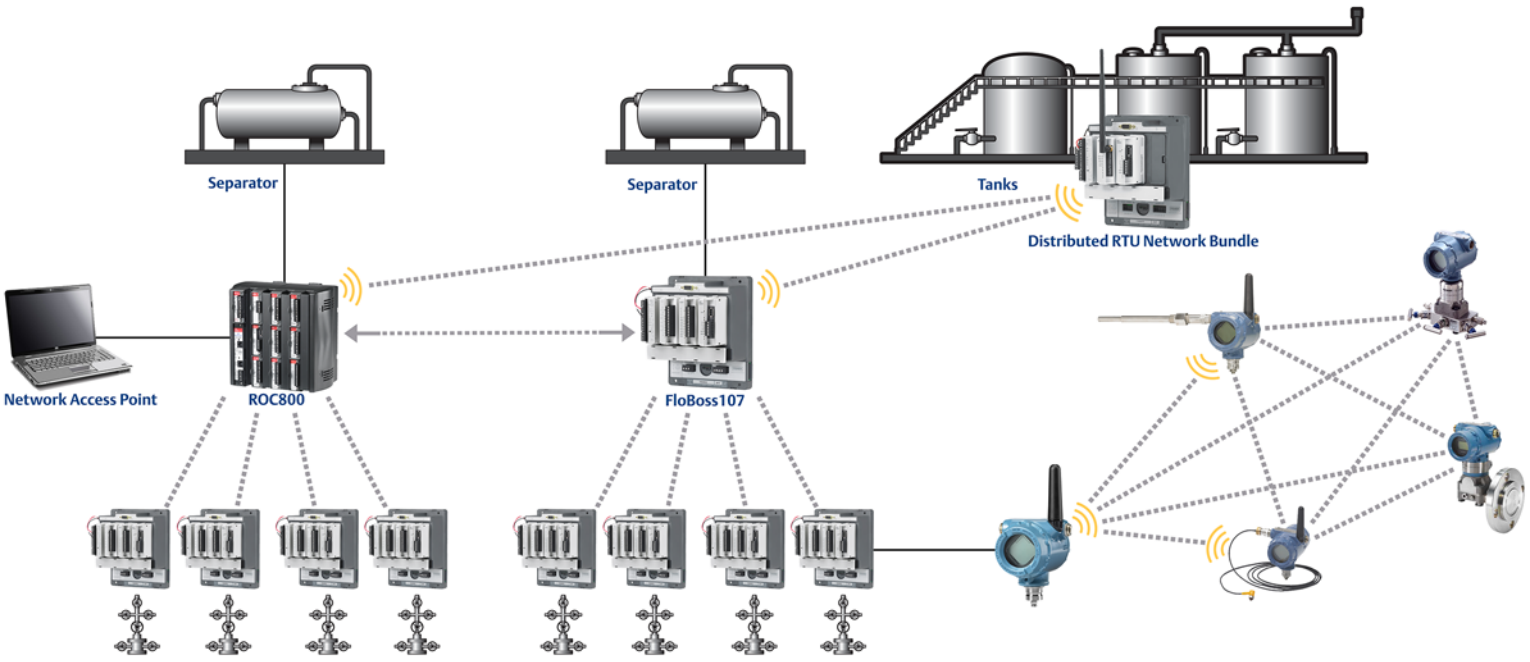
Gas Measurement	Liquid Measurement
AGA3 (orifice)	API MPMS Chapter 11
AGA7 (turbine)	API MPMS Chapter 12
AGA8 (compressibility)	API MPMS Chapter 21
AGA9 (ultrasonic)	GPA TP27
AGA11 (Coriolis)	Ethanol — ABNT NBR5992 and OIML R22
ISO 5167	Water — API MPMS Chapter 11.4

What's your challenge?

Your existing flow computer is becoming obsolete and online measurement is not available, forcing you to rely on manual dip measurement to estimate the actual quantity.

What's your opportunity?

The ROC800 delivers accurate flow computation for loading of refined petroleum products from the refinery. This results in more accurate measurements and minimized downtime due to the ROC800's rugged I/O.



Get faster installation, easier maintenance, and increased insight to your operation with encrypted wireless capabilities in the ROC800.

Emerson's Distributed RTU™ Network allows ROC800-Series to share data with other Emerson RTUs at the site. This wireless technology allows multiple RTUs to be placed near the individual processing units while still permitting the RTUs to share data with each other and with host SCADA systems. Using these tools, superior control strategies can be implemented without the need for trenching and wiring across the site or between sites.

The *Wireless*HART® IEC 62591 RTU Interface Module allows *Wireless*HART instrument data to be directly integrated with the RTU's database and control logic. Configuration is seamless and occurs without the need to map data between the RTU and the wireless gateway.

Protect the safety of your people, your facility, and the environment.

Fields, pipelines, and facilities contain hazardous materials and have many dangerous areas. Keeping people safe, the environment clean and the plant running is mission-critical, but it's difficult to stay on top of everything that could go wrong. Operators conducting manual rounds and maintenance technicians in the field are exposed to potential risks. Emerson's ROC800-Series delivers advanced capabilities so you can anticipate problems and take corrective actions and reduce the need for manual intervention. With it, you can keep personnel out of harm's way and still be confident that you are operating in a safe and environmentally responsible manner.

"Traffic fatalities up as much as 1050% in high activity shale plays."
– Texas Department of Transportation (November 2014)

"42% of abnormal situations or upsets in processing facilities are caused by people or their work context."
– Abnormal Situation Management Consortium

Optimize your Oil & Gas production applications using the large library we offer.

- Plunger Lift
- Gas Lift
- Tank Manager
- Cause & Effect Manager
- Modbus Express Module
- Coriolis Interface Module for direct Modbus connection to the meter
- Surface Control Manager

SmartProcess Oil & Gas software modules provide pre-engineered solutions to a variety of hydrocarbon production and transportation applications. Just install the program, perform some basic configuration, and commission the facility.

For applications where custom logic is desired, the DS800 (IEC61131) programming features support industry-standard software development.

Smart Application hardware modules support Foundation Fieldbus, Coriolis Interface, Modbus device communications, chromatograph interface, and other interface needs. Learn more at www.EmersonProcess.com/Remote

The DS800 Development Suite provides a standard programming interface that lets you implement your strategies using any of six languages.

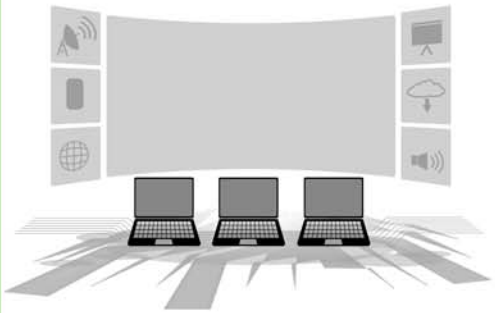
What's your challenge?

Your metering stations are receiving oil from three customers who transport various liquid hydrocarbons. If you don't get reliable or accurate measurement, you could have incomplete measurement data.

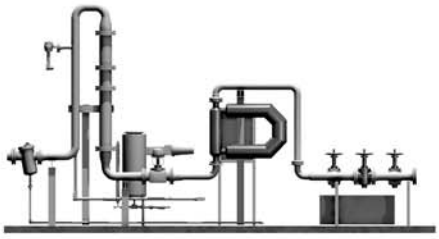
What's your opportunity?

An oil & gas customer is able to batch and queue different customer transactions. The ROC800 with DS800 software gives the customer the durability and flexibility to control measure and log historical mission critical data at each metering station.

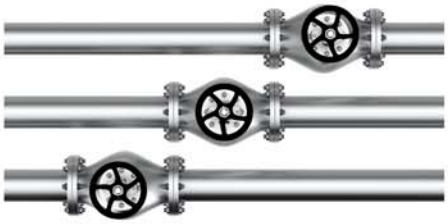
Get exceptional precision and faster flow calculations



Full Control Capacity - Execute a proving activity, sampling activity, along with alarms for leak detection and other ESD systems for safety and environmental protection



Custody Transfer - ROC800-Series provides custody transfer quality measurement for liquids and gas per the API and AGA standards.

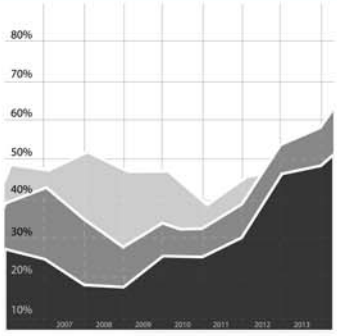


Operate & Manage - Control motors, pumps, and valves with multiple PID control loops, incorporating overrides that can be used with flow control.

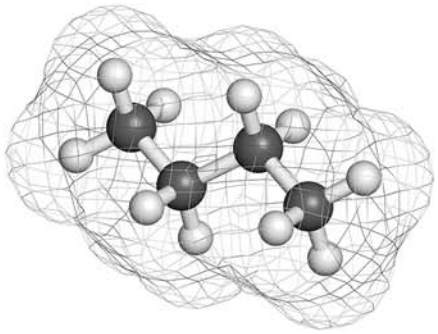
Monitor and control flow with enhanced accuracy

Calculations

- Density Input
- Temp and Pressure Compensation
- Double Precision Math
- Pulse Fidelity and Integrity

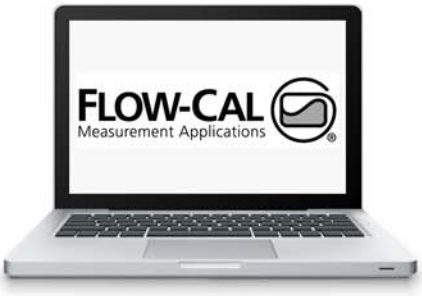


Reporting and Printing - ROC800 generates liquid production and gas measurement EFM (Electronic Flow Measurement) reports; allowing you better reporting consistency between gas and liquid reports and quicker report access.



Proving and Batching - You can manage your proving runs and keep track of meter correction factors. The ROC800L can store up to 24 product meter factors. Flexible configuration allows you to easily define batches that record user-specified information.

Improve productivity and reduce cost with Flow-Cal integration



Flow-Cal CFX File Format - A secure, binary format which retains data integrity by ensuring the measurement data cannot be changed or manipulated. Generating the file format within the Emerson flow computer offers an additional level of data security.

Liquid Data Importation - A measurement application that automates the complex process of batch and ticket processing. Data generated from the CFX file includes flow information, CTL and CPL, meter configuration, and analysis.

Get a copy of the ROC800-Series Product Data Sheet

Get a copy of the ROC800-Series Manual

Find us around the corner or around the world

For a complete list of locations please visit us at www.EmersonProcess.com/Remote

Global Headquarters
Emerson Process Management
Remote Automation Solutions
6005 Rogerdale Road
Houston, TX, USA 77072
T +1 281 879 2699
F +1 281 988 4445

www.EmersonProcess.com/Remote

Europe
Emerson Process Management
Remote Automation Solutions
Unit 8, Waterfront Business Park
Dudley Road, Brierley Hill
Dudley, UK DY5 1LX
T +44 1384 487200
F +44 1384 487258

North America and Latin America
Emerson Process Management
Remote Automation Solutions
6005 Rogerdale Road
Houston, TX, USA 77072
T +1 281 879 2699
F +1 281 988 4445

Middle East and Africa
Emerson Process Management
Remote Automation Solutions
Emerson FZE
PO Box 17033
Jebel Ali Free Zone - South 2
Dubai, UAE
T +971 4 8118100
F +1 281 988 4445

Asia Pacific
Emerson Process Management
Remote Automation Solutions
1 Pandan Crescent
Singapore 128461
T +65 6777 8211
F +65 6777 0947

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