

SMART WIRELESS SOLUTIONS FROM EMERSON



IT'S ALL WITHIN YOUR REACH

SMART WIRELESS APPLICATIONS



Start anywhere, go everywhere.

To operate your sites safely, efficiently, and cost effectively, you need a reliable stream of timely data — without sending personnel into the field more often than necessary. With Emerson's Smart Wireless technology, you can easily capture this data across your operation, reducing maintenance costs and the number of safety, health, and environmental incidents.



Smart Wireless is quick and easy to install, requires minimal infrastructure costs and delivers a steady stream of data — keeping you informed and on top of your operation.

- Find a solution for every application need with our extensive wireless product portfolio
- Simplify network deployments through our robust networking capabilities and unparalleled ease of use
- Ensure all of your instrumentation works together with IEC 62591 WirelessHART
- Secure wireless networks with integration into every host system

Plant-wide sensing with Smart Wireless increases your monitoring reach and provides a holistic view of your operation.



REDUCING VARIABILITY AND INCREASING THROUGHPUT

Inaccurate measurements take a toll on your operation, throughput and profits. Emerson Smart Wireless, with its proven capability to work in even difficult applications, can give you a deeper, more holistic view of your process and increase your monitoring power. With Emerson Smart Wireless, you can identify trouble spots, minimize downtime and cost effectively optimize your operation.

- **Lower your installation costs** — up to 50% savings in installation cost per measurement point
- **Easy, fast and intuitive** — get a Smart Wireless network up and running in minutes
- **Eliminate site surveys** — Emerson's wireless field network devices are self-organizing, so there's no need for a site survey — no matter how dense or obstructed the area may be

ASSET MONITORING

Unexpected equipment failures cost you time and money and jeopardize your teams' safety. Adding critical automation technologies to detect trouble is often limited by physical, technical or economic barriers — until now.

Adding Smart Wireless monitoring points easily and cost effectively helps extend the life of your assets and reduces equipment failure. With Smart Wireless, you can go into areas you couldn't monitor before and track more assets, all at a lower cost.

HEALTH, SAFETY, SECURITY AND ENVIRONMENT

Enhance safety, improve security, and protect the environment with accurate, real-time monitoring and detection including location tracking solutions.

CONTROL

Reliable, affordable, automated process control – regardless of how harsh the environment or how inaccessible it is. Emerson Smart Wireless solutions enable you to:

- Execute tasks more reliably
- Increase Resource Availability

ENERGY MANAGEMENT

Wireless monitoring provides constant visibility and accurate measurement of your operations energy performance. Smart Wireless efficient energy solutions can help you make informed decisions to improve your energy usage.

Learn more at www.rosemount.com/energy.



SMART WIRELESS ARCHITECTURE

START ANYWHERE

Smart Wireless is either a top-down or bottom-up model. You can begin anywhere based on what your highest priority needs are. Whether you start from the Field Network to monitor plant and process information, or from the Plant Network to improve workforce productivity or business and plant management, you can seamlessly and easily expand without requiring special wireless or communication know-how.

COMPREHENSIVE ASSET MANAGEMENT SOLUTION FOR YOUR WIRELESS DEVICES AND NETWORK

AMS Suite predictive maintenance software enables you to easily plan a secure, reliable wireless network using online tools, while also validating the network against factory-recommended best practices.

SEAMLESS INTEGRATION TO EXISTING HOSTS

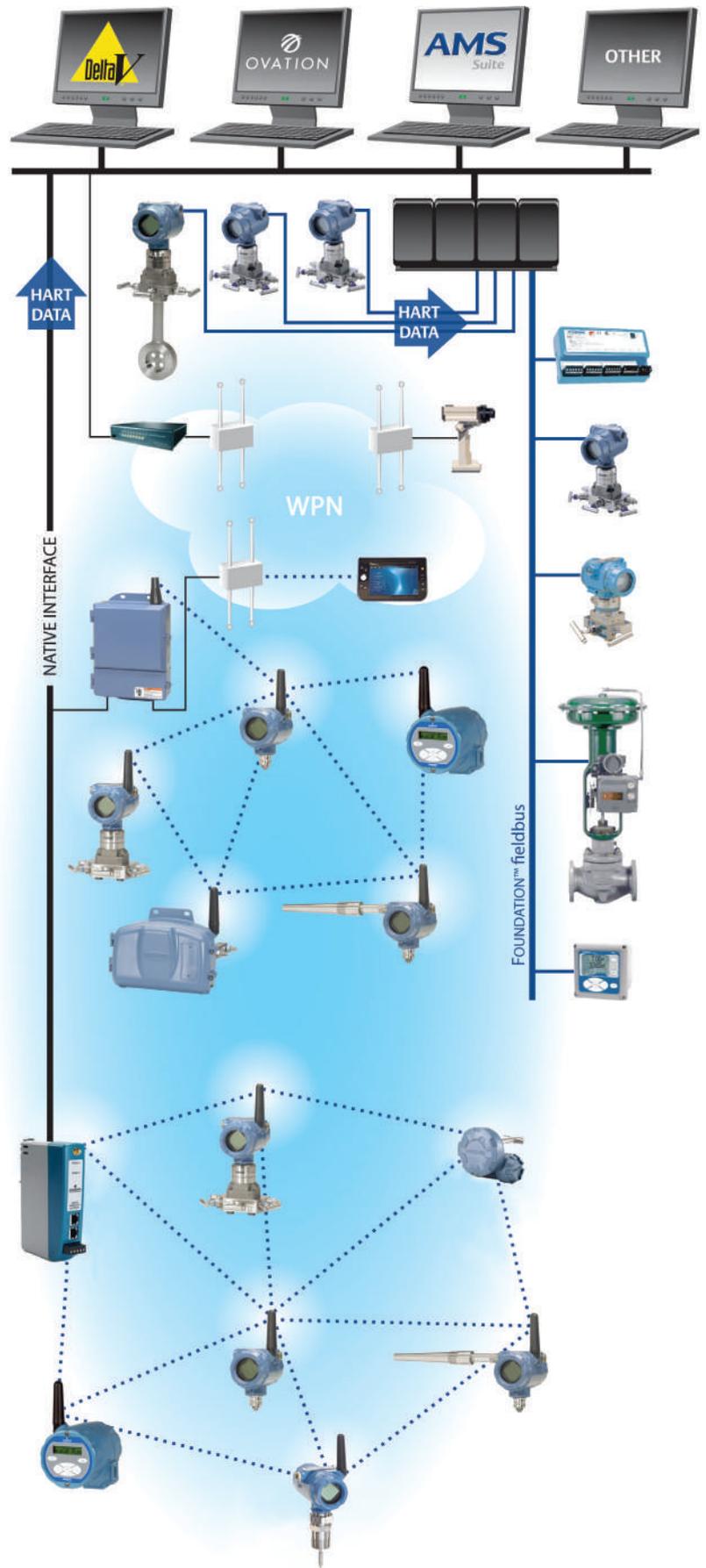
- Proven integration with all major systems
- Transparent and seamless integration
- Gateways connect using industry standard protocols

SCALABLE WIRELESS NETWORK THAT SEAMLESSLY INTEGRATES WITH YOUR WIRED NETWORK

Using Modbus Serial, Modbus TCP, Ethernet IP or OPC, Smart Wireless integrates directly into your existing automation architecture, without the need for up-front engineering, site surveys or special commissioning. And to your operators and maintenance staff, each Smart Wireless device looks and behaves like a wired one, no matter how many you install.

SIMPLE INTEGRATION FOR NEW INSIGHT THAT ONLY WIRELESS CAN OFFER

With the Smart Wireless THUM Adapter, you can upgrade existing wired HART devices already installed in your plant to WirelessHART, gaining wireless access to valuable diagnostic and process data that was previously inaccessible. The system can also auto-sense the Smart Wireless Gateway and the wireless devices for quick and easy startup and commissioning.



WirelessHART™ ...THE INDUSTRY STANDARD



WirelessHART®

WirelessHART encompasses evolutionary enhancements that build on the solid foundation of HART technology used in more than 24 million installed devices worldwide. WirelessHART is a backward compatible, cost-effective, common sense approach to wireless communication that supports industry requirements for a **Simple, Reliable** and **Secure** wireless communication technology. WirelessHART complements, but does not replace, wired HART technology, providing an additional capability that can benefit both existing wired applications and new monitoring and control applications.

SELF-ORGANIZING, ADAPTIVE MESH ROUTING

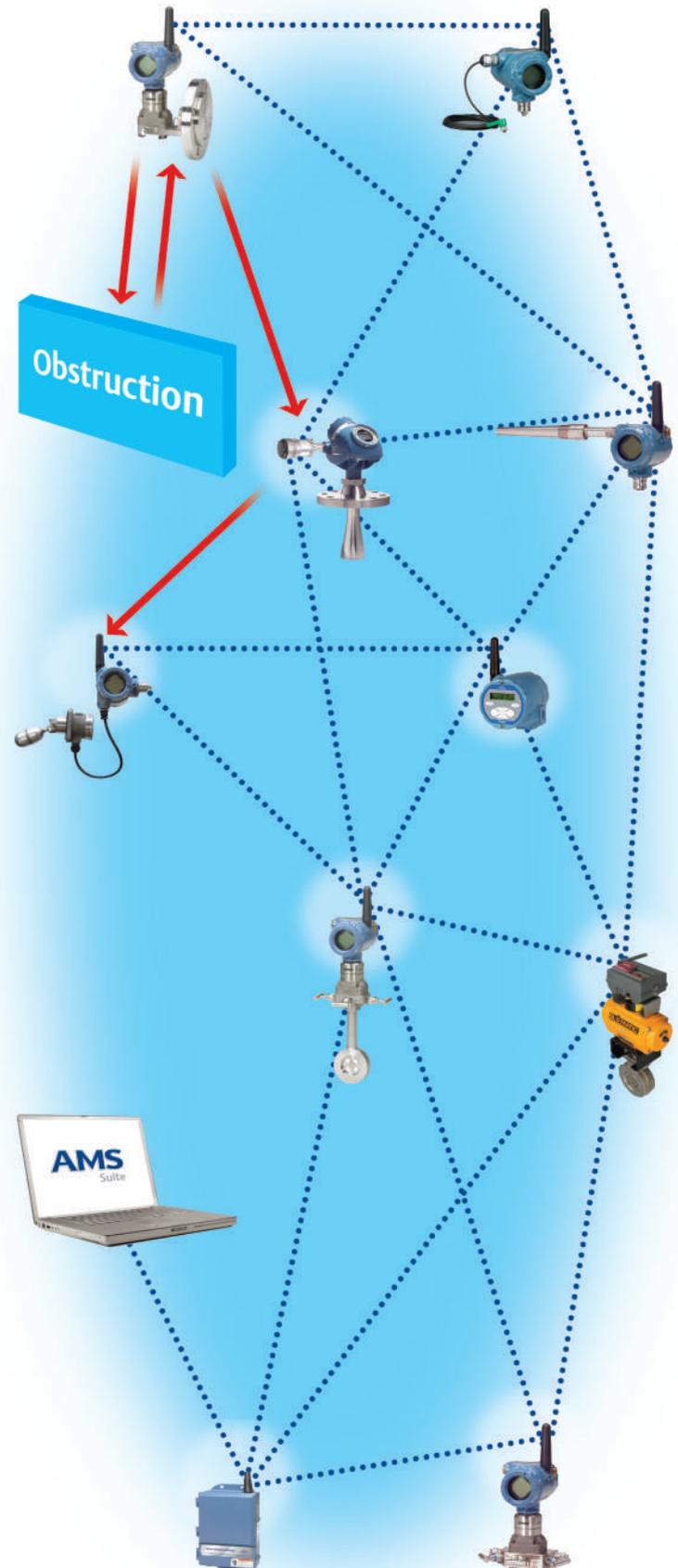
- No wireless expertise required, devices automatically find the best communication paths
- Network continuously monitors paths for degradation and repairs itself
- Adaptive behavior provides reliable, hands-off operation and simplifies network deployment, expansion and reconfiguration
- Supports both star and mesh topologies

INDUSTRY STANDARD RADIO CHANNEL HOPPING

- Standard IEEE 802.15.4 radios
- 2.4 GHz ISM band sliced into 16 radio-channels
- Continually “hop” across channels to avoid interference and increase reliability

SELF-HEALING NETWORK

If an obstruction is introduced into the mesh network, devices will automatically find an alternate communication path. This alternate path will be created and the information will continue to flow.



WIRELESS PLANT APPLICATIONS

SEE YOUR PLANT IN A WHOLE NEW WAY

Emerson Smart Wireless solutions for field instrumentation help you cost-effectively touch more of your plant with predictive intelligence than ever before...with an installed cost savings over wired technologies. You can eliminate “blind spots” in your plant where it was previously too difficult or expensive to install wired instruments. Emerson Smart Wireless solutions for field instrumentation deliver:

- Lower installation costs over wired
- Unparalleled ease-of-use
- Greater than 99% data reliability
- Seamless integration
- Control-ready wireless networks

The Smart Wireless approach gives you the freedom to have as much or as little wireless as you want. You can begin with process monitoring or control applications, and start achieving the same improved operations that so many others are experiencing today.

IMPROVE PRODUCTIVITY AND SAFETY – FOR YOUR PEOPLE AND YOUR PLANTS

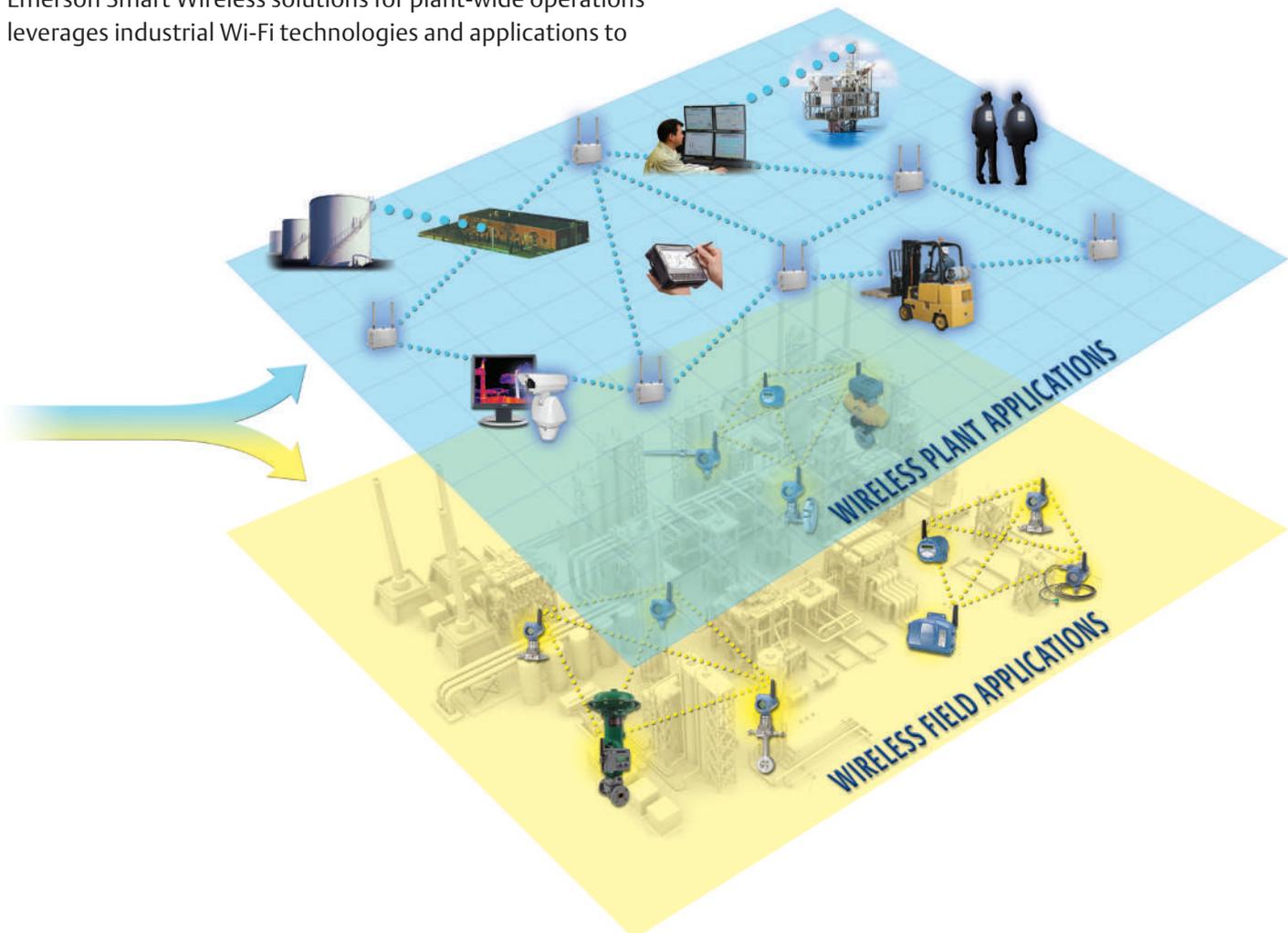
Emerson Smart Wireless solutions for plant-wide operations leverages industrial Wi-Fi technologies and applications to

enable greater workforce productivity and safety, as well as improved business and plant management. Wireless technologies can provide benefits that were previously not available because it was too expensive or simply not possible to implement. With Emerson Smart Wireless solutions, the possibilities are truly limitless.

CHOOSE A SOLUTION THAT DELIVERS SECURE, CONSISTENT AND RELIABLE WIRELESS COMMUNICATIONS.

Smart Wireless solutions for plant operation applications include key components that all work together to deliver a secure, consistent and reliable wireless infrastructure.

- Open Standards - The industrial mesh access points are designed for industrial Wi-Fi deployments.
- Reliable Communications - The Wi-Fi network uses mesh technologies which is not only self-organizing, but also self-healing. The intelligent mesh protocol dynamically optimizes the best route to the wired network within the mesh, mitigates interference and ensures high network capacity.





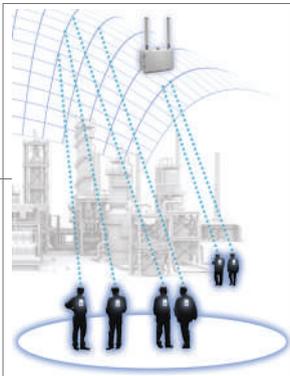
Wireless Mobile Worker

- + Increase worker productivity and accuracy with rich, real-time information from control and asset-management systems
- + Empower your field personnel by giving them access to live process data while they are in the process area
- + Shorten the time it takes to perform turnarounds in the process area by equipping your field personnel with all the tools and support they require to lockout process equipment, perform maintenance, and bring the equipment back online



Wireless Remote Video Monitoring

- + Increase plant safety with 24x7 surveillance of the plant and its operations
- + Comply with regulations by capturing visual data on flare, smoke stack or other emissions, providing evidence of regulation compliance to local authorities



Wireless Safety Mustering

- + Providing full visibility to your workforce's locations in hazardous areas is extremely critical to an efficient evacuation in the case of an emergency
- + Plant safety is increased by providing accurate real-time mustering reporting, enabling emergency responders to immediately prioritize their next actions depending on the nature of the emergency and the status of your personnel



Wireless Personnel & Asset Tracking

- + Always knowing where your workforce or high value assets are currently located within the plant improves productivity and saves time
- + Providing full visibility to your workforce locations whenever they are working inside hazardous areas of your plant improves safety and enables automatic enforcement of best practices for workforce safety



Wireless Mobile Voice & Video

- + Instant access to experts assures that no matter where in the world the expert is your field technician can have a "video conference" from the location of the problem
- + Reduce response time and minimize downtime by instantly showing the expert the problem and talking through a resolution, getting your process up and running more quickly
- + Reduce travel costs and improve the bottom-line

SMART WIRELESS SOLUTIONS



Wireless Pressure, Flow and Level Transmitters

- + Reduce deployment time and ensure a problem-free installation with Rosemount Wireless Pressure, DP Flow and DP Level solutions
- + Leverage the scalable Rosemount Wireless Pressure portfolio across your entire operation
- + Enhance process insight, minimize variability and reduce maintenance and downtime



Wireless Temperature Transmitters

- + Increase visibility into your process and run a smarter operation through efficient temperature measurements
- + Choose from a complete portfolio of wireless temperature solutions for any use, including non-intrusive and high-density applications



Wireless Discrete Transmitter

- + Wirelessly monitor any single or double throw, unpowered dry contact switch
- + Cost-effectively gain access to discrete points that are not connected to the control system due to wiring costs and lack of I/O
- + Dual channels are configurable for discrete input or discrete output
- + Applications: Safety showers, plunger arrival, flow/no flow, rupture discs, safety guards/rails



Wireless Acoustic Transmitter

- + Improve energy efficiency and environmental compliance with acoustic monitoring of steam traps and pressure relief valves
- + Gain instant visibility to all of your critical steam traps and PRVs through a non-intrusive, *WirelessHART* monitoring system
- + Know immediately when steam traps fail
- + Improve product quality and protect high-value assets



Wireless Vibration Transmitter

- + Receive vibration, temperature, and bearing wear measurement Information over a highly-reliable wireless network
- + Measure vibration on any plant asset — even in hard-to-reach and cost-prohibitive locations
- + Get continuous online monitoring for machinery prediction and protection





Wireless Guided Wave Radar

- + Use the world's first fully integrated wireless guided wave radar to easily automate level monitoring in locations previously inaccessible or too costly to measure
- + Take advantage of its reliability, ruggedness, accuracy and low maintenance
- + Get data you can leverage to heighten performance — in virtually any process condition



Wireless Vibrating Fork Liquid Level Switch

- + Avoid overfills and spills that could harm workers, cause steep fines or even shutdowns
- + Communicate output data, instrument health details and alerts — all with wireless ease and speed
- + Install alarm points in previously inaccessible remote tanks



Wireless Position Monitors

- + Improve process efficiency and reduce process upsets with Emerson's wireless valve automation technology
- + Reduce valve alignment mistakes by wirelessly automating valve alignment work practices
- + Know the status of your valve with predictive diagnostics on position, cycle counter, and stroke time



Wireless Transmitter for pH or ORP and Conductivity

- + Reach remote points at the plant perimeter to monitor pH measurements
- + Reduce installation and maintenance costs while improving process quality
- + Continuous monitoring at plant outfall points to maintain regulatory compliance



Wireless Corrosion Monitoring Transmitter

- + Avoid damage to pipes and process equipment due to sand erosion
- + Optimize production rates by maximizing "sand free" or "allowed sand" production
- + Prevent reservoir damage



SMART WIRELESS INTEGRATION & INTERFACE



Smart Wireless Gateways

- + Easily integrate network wireless data to your host system or architecture
- + Receive industry-leading security, scalability and data reliability
- + Get redundancy that guarantees system availability



Smart Wireless THUM™ Adapter

- + Add wireless capabilities to your wired HART devices*
- + Tap into the rich diagnostic and process data in your wired HART instrumentation
- + Overcome the limitations of outdated legacy control systems
- + Increase process visibility to prevent trouble and run a safer, more productive operation

*Devices compliant with HART 5 or later



AMS Wireless SNAP-ON™ Application

- + Easily plan, customize and manage your wireless networks with the application's drag-and-drop design simplicity
- + Leverage analytical tools for insights to help maximize process network performance
- + Free up your crew for higher-priority tasks



SmartPower™ Solutions Power Modules

- + Perform routine maintenance in hazardous areas with Intrinsically Safe Power Modules
- + Enjoy predictable power module life of up to 10 years
- + Use in harsh environments
- + Replace simply and easily with keyed connection



Smart Wireless Navigator

- + Effortlessly manage your expanding wireless infrastructure
- + Better manage your wireless networks across functional groups
- + Run all your wireless tools from a single location



ROSEMOUNT LIFECYCLE SERVICES

THE ROSEMOUNT SERVICE STRATEGY

- Rosemount Service protects your productivity
- We hire and train the industry's best technicians
- We have established a service network that places us close to our customers
- Everyday support, no matter what the day brings

WIRELESS PERVASIVE FIELD NETWORK (PFN) SOLUTIONS

The Rosemount PFN Wireless Solution package includes:

- Project management by a Rosemount Field Service Specialist
- Site walk-down conducted by a Rosemount wireless network expert
 - Identification of critical and non-critical areas for inclusion
- Plan drawings indicating gateways and access points
- Price quotation for hardware required for project build-out
- Startup services—installation, commissioning and FAT/SAT
- Post-installation support

STARTUP SERVICES - TWO WIRELESS SERVICE LEVELS

SmartStart™ Services

Verification and commissioning of wireless transmitters and setup of the self-organizing network

SmartPack™ Services

Includes SmartStart Services plus installation of the AMS Suite: Intelligent Device manager and the AMS Wireless SNAP-ON application

ROSEMOUNT SERVICE TRAINING AND EDUCATION

- Learn from the best in the industry
- Build skills with hands on experience
- Choose a convenient location and schedule
- Create a customized curriculum that caters to your process needs





Consider it Solved.

Emerson Process Management supports you with innovative technologies and expertise to address your toughest challenges.

For more information visit www.emersonprocess.com/smartwireless.

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