

Rosemount Temperature



Your Partner for Temperature Measurement

ROSEMOUNT


EMERSON
Process Management

Temperature measurement impacts your plant's competitive advantage by maximizing quality, safety and process throughput. Success hinges on the optimal blending of innovative technologies and reliable products, backed with comprehensive support. Only Emerson can deliver on the promise of a complete and global business partner for temperature measurement.

ROSEMOUNT TEMPERATURE



Reliable Products Complete Point Solutions

For over 50 years, Rosemount temperature products have been recognized for leadership in the process industry. As your trusted temperature partner, Emerson delivers factory-tested, ready-to-install temperature assemblies. With our industry leading portfolio of transmitters, sensors and thermowells, we provide reliable solutions for your temperature applications.



Innovative Technology

At Emerson, we pioneer new technologies that solve our customers' critical temperature problems. Our industry-first innovations include Smart Wireless solutions, high density temperature measurement and advanced diagnostics.

Rosemount temperature devices power Emerson's PlantWeb® architecture to help customers deliver real results in their plant.



Real Results

- A wireless temperature transmitter measures mid-zone temperature on rotating kiln to increase throughput by 5%
- The Hot Backup® functionality reduces the risk of losing important temperature points by 80% for critical chemical reactor
- Patented Sapphire sensor improves process availability by 300% for gasification reactor
- Rosemount 848T High Density Transmitter cuts wiring costs by 70% for critical bearing measurements in refinery

Learn more about how customers see real results at:
Rosemount.com/Temperatureapplications



Global Operations Comprehensive Support

Our temperature products are manufactured in locations around the globe, providing the best delivery and support wherever you need it. We also have an extensive network of service and support capabilities at key locations, including local repairs and on-site service.

Products alone are just part of the story. Emerson has process industry knowledge and experienced people to help with selection, installation best practices and training. Our Instrument Consultants will keep you informed about the newest practices and technologies.



The Rosemount Temperature portfolio provides solutions for multiple temperature applications in your plant. An integrated approach to the design and manufacturing of sensors, thermowells and transmitters ensures the most reliable and durable temperature measurement in every installation.

ROSEMOUNT TEMPERATURE SOLUTIONS



Single Point Measurement

Rosemount single point transmitters deliver exceptional results by utilizing innovative designs and advanced diagnostics. A comprehensive and versatile portfolio provides solutions for single point measurement needs.



High Density Measurement

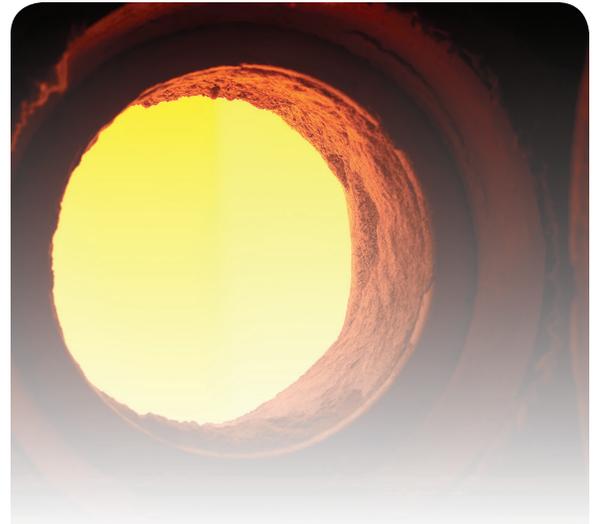
Multiple temperature measurements within close proximity require an innovative solution with proven technology. Rosemount high density products provide a reliable and cost-effective way to solve your temperature-intensive applications.





General Use Sensors and Thermowells

The Rosemount offering of general use sensors and thermowells can provide a complete solution for your temperature measurement needs. Our sensors and thermowells deliver superior durability to complement Rosemount transmitters.



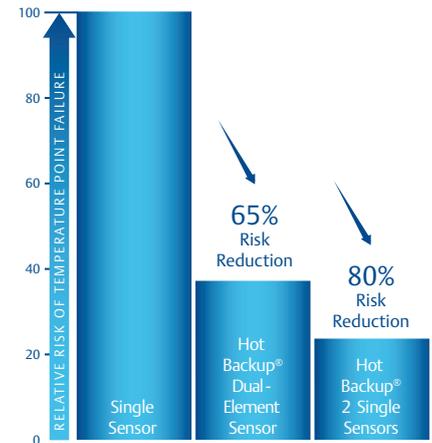
Application and Industry Solution Sensors

The world's most difficult temperature applications require advanced sensor designs. Rosemount application and industry solution sensors offer the best performance for challenging process environments and unique installations.



Temperature transmitters are essential for reliable and accurate insight into your process. Rosemount single point temperature transmitters have defined the standard for innovation and dependability for the process industry. Emerson provides transmitter solutions to meet a variety of application needs across your plant.

SINGLE POINT MEASUREMENT



Single Point Single Provider

Every one of the 200,000+ temperature transmitters Emerson delivers each year possesses the quality and reliability that you expect from Rosemount instrumentation.

- Simplify installation with complete assemblies that are configured and calibrated to your specifications
- Maximize process efficiency with industry-leading accuracy and stability
- Optimize your limited resources with preventative maintenance diagnostics
- Simplify safety compliance with SIS certified transmitters and prior-use safety documentation

Increase Uptime with Hot Backup® functionality

The risk of process shutdown can be reduced up to 80% by using advanced dual-sensor transmitters. Hot Backup functionality automatically detects sensor failure and switches to a secondary sensor for measurement, allowing for planned maintenance.



Rosemount 3144P Temperature Transmitter

- Highest performing temperature transmitter
- Hot Backup, dual-compartment housing, thermocouple degradation diagnostic, minimum/maximum tracking, and sensor drift alert
- Single and dual sensor input capabilities
- 5-year stability and safety-certified



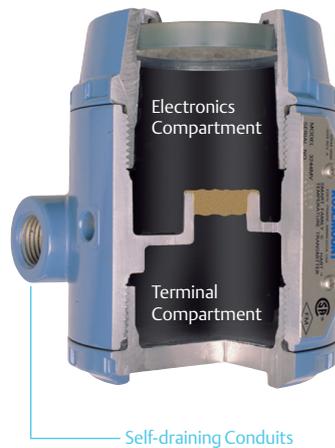
Rosemount 648 Wireless Temperature Transmitter

- Advanced wireless temperature transmitter
- WirelessHART™ communication
- Intrinsically safe power module



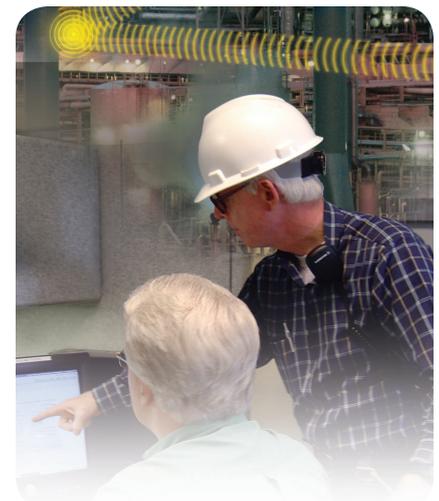
Maximize Availability with Thermocouple Diagnostics

Thermocouple degradation diagnostics continuously check for the causes of thermocouple failure, including: wire thinning, corrosion, poor terminations and sensor contamination. It monitors thermocouple loop resistance for early indication of failure, allowing you to take action before the process is impacted.



Reduce Maintenance Costs with Advanced Transmitter Design

Dual-compartment housings provide protection against electromagnetic noise, humidity and corrosive atmospheres. This advanced enclosure design protects the transmitter against water intrusion and shields it from harmful electromagnetic surges.



Expand Your Insight to Plant Operations with Smart Wireless

The Rosemount single point wireless portfolio is easy to install with existing HART® configuration tools and practices. Get your projects online faster than ever before by minimizing wiring and reducing engineering design resources.



Rosemount 644 Temperature Transmitter

- DIN A Head and rail mount transmitter styles
- Single or Dual Sensor Input capabilities
- SIS SIL 2 Safety Certified to IEC 61508
- LCD Display and Local Operator Interface
- Expansive Diagnostic offering
- Enhanced Accuracy Option (0.1 °C)
- Integral Transient Protection



Rosemount 248 Temperature Transmitter

- Reliable WirelessHART™ communications
- DIN B head and rail mount configurations

Many important processes have temperature points within close proximity. Emerson delivers a proven and innovative transmitter family that provides a cost-effective, reliable way to access these measurements.

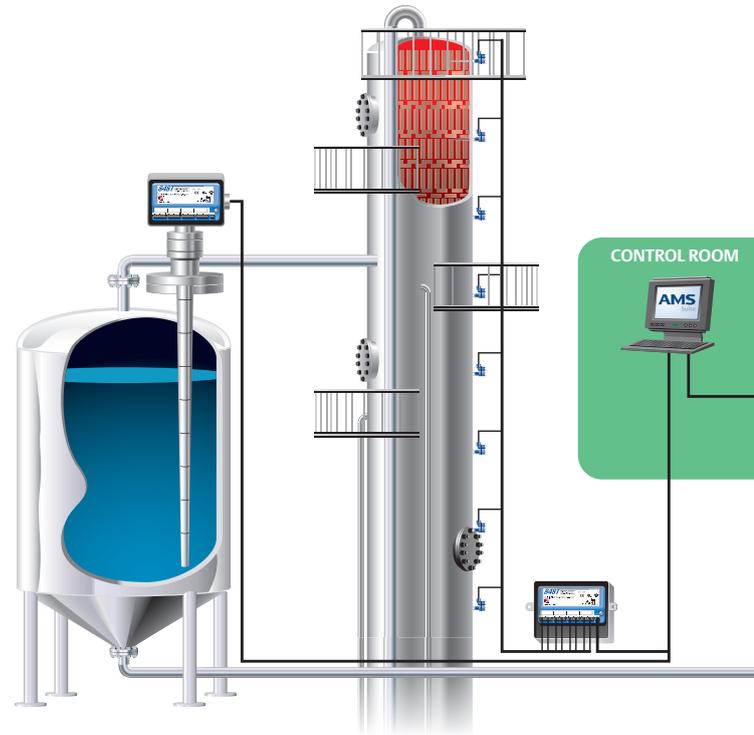
HIGH DENSITY MEASUREMENT



See Results with High Density Solutions

The family of Rosemount 848T High Density Temperature Measurement products is the first with the Measurement Validation diagnostic. They are also designed specifically to FOUNDATION™ fieldbus and WirelessHART™ industry standards. High density solutions provide a variety of benefits including:

- Reduce wiring and conduit costs by measuring multiple points with a single transmitter
- Minimize start-up time with fewer devices to install and commission
- Identify degraded measurement conditions so thermocouples and RTDs can be proactively replaced before failure



REACTOR VESSELS

Prevent damage to catalysts and optimize conversion efficiency

DISTILLATION COLUMNS

Optimize your process and ensure steady-state operations



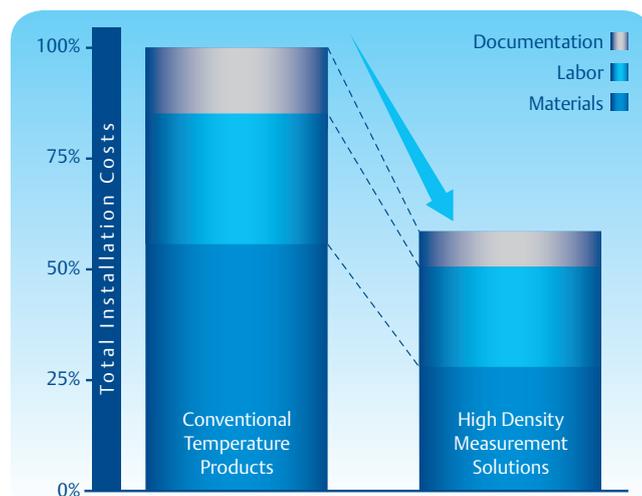
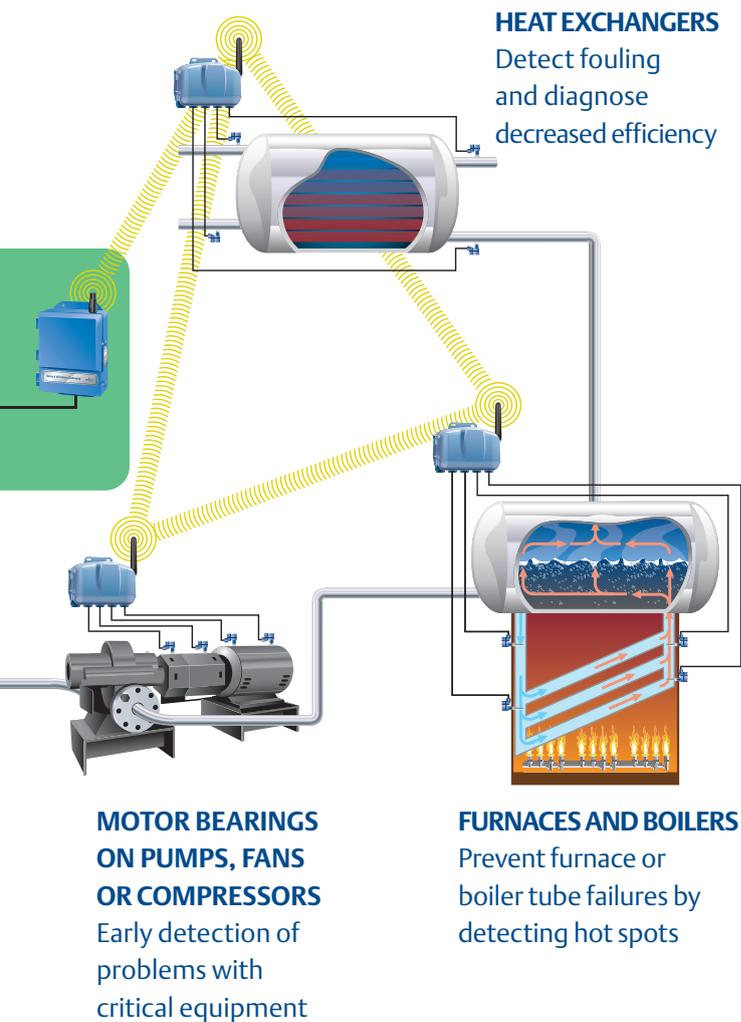
FOUNDATION™ fieldbus

A worldwide standard that offers better operations and maintenance through expanded access to diagnostics and other digital device information. Other benefits include lower engineering and installation costs and device-based control.



Rosemount 848T Temperature Transmitter

- Eight independently configurable inputs
- Use with thermocouple, RTD, ohm, mV, and 4-20 mA inputs
- Up to 416 measurements on a single Fieldbus Interface Module
- Output calculations of minimum, maximum and averaging
- Uses FOUNDATION fieldbus communication technology



Enhanced Reliability Low Installation Costs

- Mount field-hardened enclosures next to the process to reduce sensor wiring costs
- Obtain accurate and stable measurements in harsh plant environments
- Integrate transmitters into your plant with open, industry-proven communication standards



WirelessHART

Rosemount 848T Wireless Temperature Transmitter

- Four independently configurable inputs
- Use with thermocouple, RTD, ohm, mV, 0-10V, and 4-20 mA inputs
- Up to 400 measurements on a single Smart Wireless Gateway
- Intrinsically safe power module for easy replacement in hazardous areas
- Uses WirelessHART™ communication technology

WirelessHART

Using industry standard HART protocol, self-organizing wireless networks allow projects to be implemented quickly and efficiently without the constraints of signal wiring. This reduces installation costs and allows for measurement in areas that were previously difficult to wire or not economically justified.

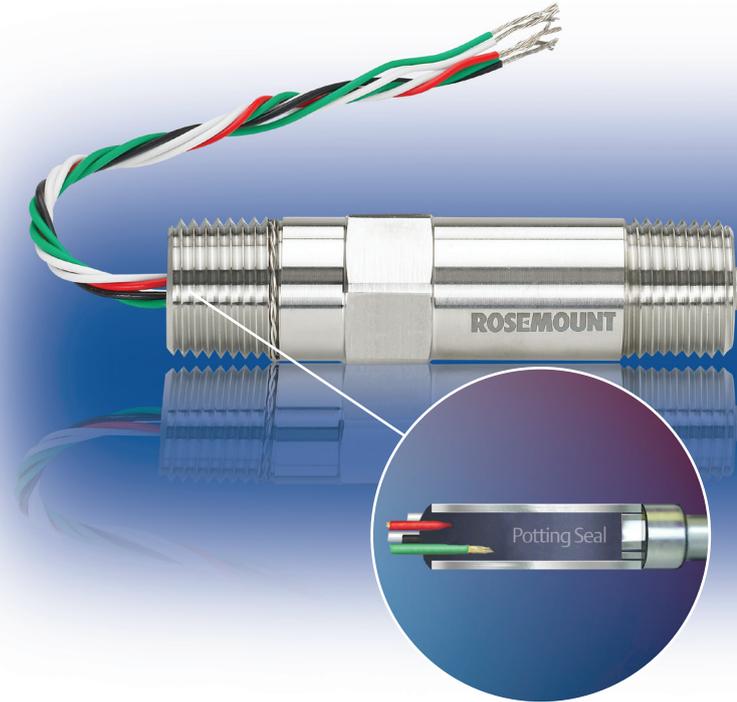
Thousands of temperature measurements are required to instrument a modern plant. Expect more from your sensor instrumentation with Rosemount quality and reliability built into each sensor.

GENERAL USE SENSORS AND THERMOWELLS



Rosemount Quality for Your Entire Measurement

Temperature sensors and thermowells provide the most fundamental link to a high quality temperature measurement. Our RTDs, thermocouples and thermowells bring Rosemount reliability to temperature sensing and perfectly complement our transmitter portfolio.



Sealed wiring connections for dependable operation in harsh environments



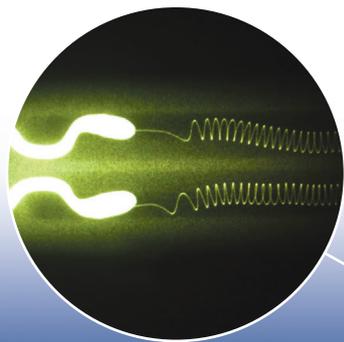
General Use Sensors

- English and metric style RTDs and thermocouples
- Flying leads, terminal blocks and DIN plate assemblies

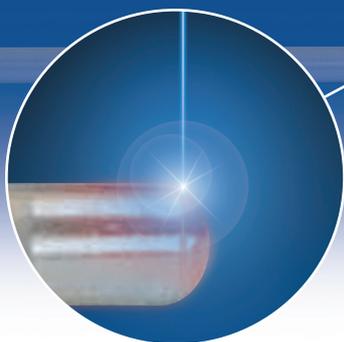


Thermowells

- Large selection of thermowell designs: stepped, straight, tapered, flanged, threaded, bar stock and tubular
- 30 different material options available



Integral stress-relief design for resistance to thermal expansion and mechanical stress



Unique four point laser-welding process for lasting performance



High performance sensor element technology for accurate, vibration-resistant operation



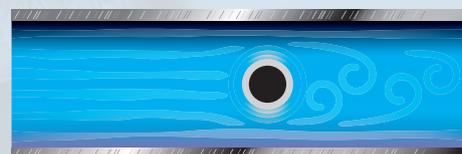
General Use Sensors for Your Application. Anywhere, Anytime

- Manufacturing capacity for your largest and most complex projects
- Global network of temperature specialists to help with instrument selection and sizing
- 100% sensor testing for consistent out-of-box performance
- Complete assemblies of sensors, thermowells and transmitters for easier procurement and faster installation
- Matching of calibrated sensors with Rosemount transmitters for unequalled accuracy



Connection Heads

- Rosemount Head
- Universal Head
- DIN Style: BUZ & BUZH
- LCD display option
- Plastic, stainless steel, and aluminum material options



Testing and Documentation Capabilities

- Sensor and thermowell testing including: X-ray, dye-penetration and material verification
- Accredited, global calibration facilities with traceability to international standards
- Wake frequency calculations

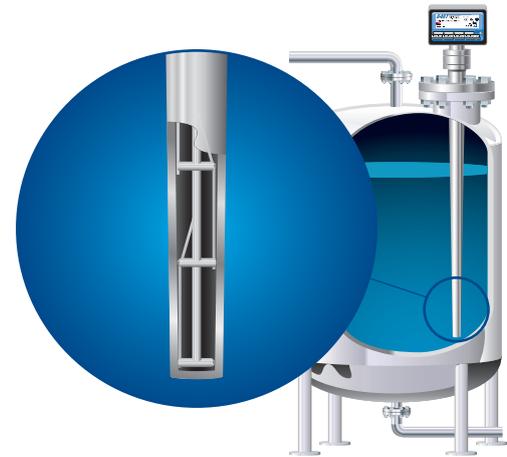
If your process requires a sensor with capabilities beyond a traditional RTD or thermocouple, a Rosemount Application & Industry Solution (AIS) Sensor is the answer.

APPLICATION & INDUSTRY SOLUTION SENSORS



Difficult Application? AIS Sensors.

The Emerson tradition of investment in next generation technologies continues with our AIS Sensor portfolio for your difficult measurements. From harsh process conditions to unique applications, our dedicated support experts will solve your measurement challenges, anywhere in the world.



Cost Efficient High Density Measurement

Expand your process insight with additional temperature measurements in high density applications including profiling of reactors, distillation columns and hydrocarbon cracking processes.

- Lower installed costs with up to 60 measurements in one multipoint sensor
- Cost efficient architecture when used with Rosemount 848T High Density Measurement transmitters



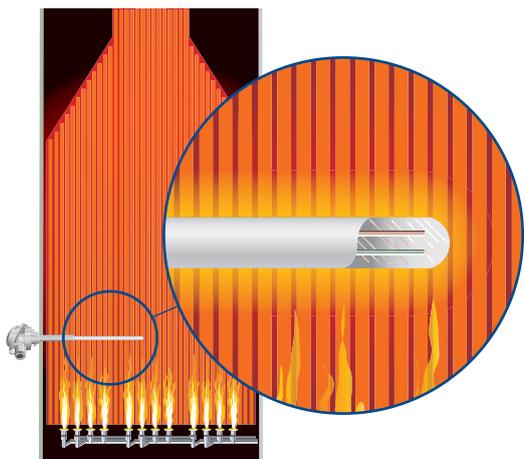
Broad Offering for Your Needs

- Investment in next generation sensors and technologies
- Globally available portfolio of AIS sensors
- AIS Sensor portfolio includes: bearings, hygienic, cable, pipe clamp, multipoint, high temperature and high vibration



Multipoint Sensors

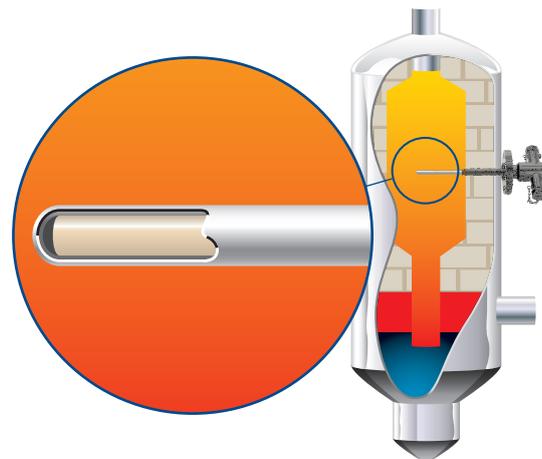
- Up to 60 independent RTD or thermocouple measurements
- Replaceable inserts for easy maintenance
- Laminated and radial spring designs for contacting fixtures



Proven High Temperature Performance

Obtain reliable measurements in high temperature applications, including heat treatment and furnaces.

- Certified by international standards laboratory for reliable measurement up to 1800 °C (3270 °F)
- Enable preventative maintenance with the Rosemount 3144P Thermocouple Degradation Diagnostics



Ultimate Reliability for High Pressure and Temperature Processes

The Rosemount Sapphire Sensor excels in gasification, sulfur recovery and other high pressure, high temperature processes that require the ability to survive in hydrogen, sulfur and other toxic environments. Our patented design extends sensor life by more than 300% over traditional sensors.

Proven reliability and life span in real customer applications. See [Rosemount.com/Sapphire](https://www.rosemount.com/Sapphire) for details.



Rosemount 1075 High Temperature Thermocouple

- Proven performance with DIN standard design
- Ceramic or heat resistant metal protection tubes for optimal performance in gas, abrasive or thermal shock environments



Sapphire Sensor

- Trusted performance for challenging applications up to 1800 °C (3272 °F) and 65 bar (942 psi)
- Sapphire protection tube option protects thermocouple against toxic hydrogen gases
- Single forged housing and dual seals protect plant personnel and assets in high pressure applications

Large project on the horizon? Need one transmitter shipped overnight? Whether your demands are big or small, Emerson has the resources and experience to exceed your expectations anywhere in the world.

GLOBAL REACH LOCAL SUPPORT



Worldwide Manufacturing

With numerous Rosemount Temperature manufacturing sites located worldwide and continued expansion of our operations, Emerson is ready to respond to all your project and daily needs. Our world-class manufacturing provides:

- Globally consistent product from every factory
- A single provider for transmitters, sensors and thermowells
- Capacity to fulfill the needs of your largest projects
- Overnight deliveries for emergency needs

Local Expertise

When you need a temperature expert, Emerson is there. Our experienced Instrumentation Consultants help you find the right product for your temperature application and advise you on best installation practices to ensure you see real results. With our extensive global network of service and support personnel, we can be onsite to help when and where you need us.

Online Resources

For more information on Rosemount temperature products and capabilities visit Rosemount.com/temperature for information on:

- Detailed Product Information
- Application Examples
- Cost Saving Calculators
- Product Data Sheets
- Manuals

SINGLE POINT MEASUREMENT



HIGH DENSITY MEASUREMENT



ROSEMOUNT TEMPERATURE



SENSORS AND THERMOWELLS

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