

Rosemount 708 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 you are backed by Emerson's proven experience in Smart Wireless field instrumentation and expert technical support*

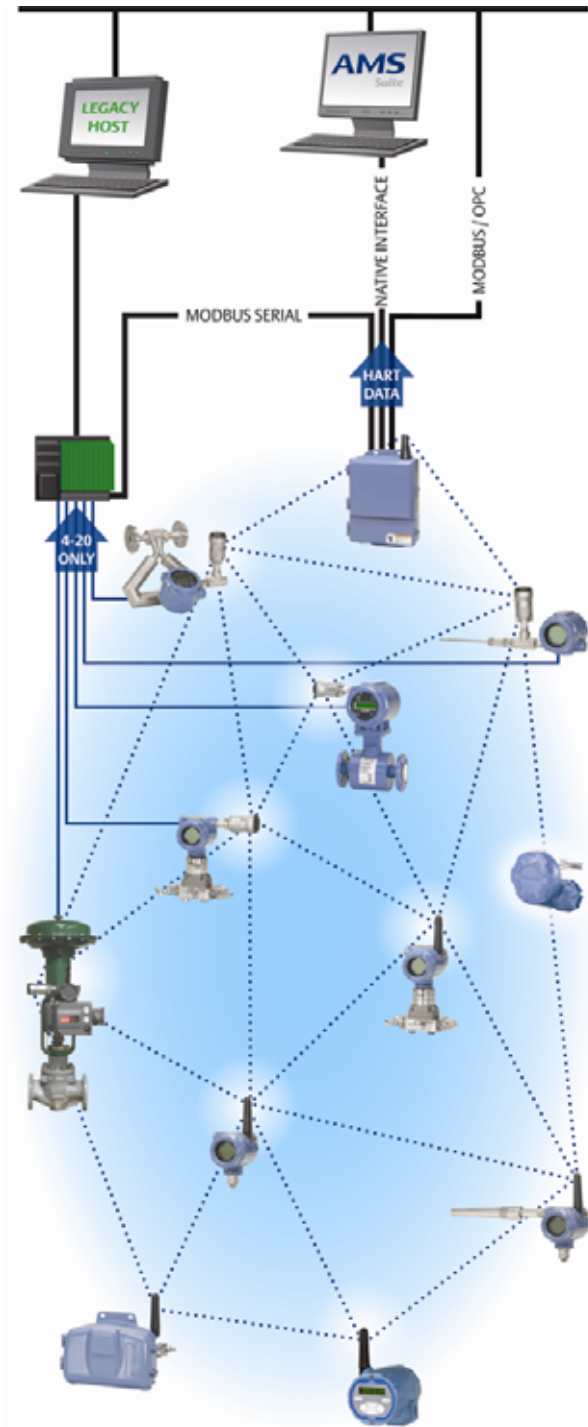


WirelessHART

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Emerson's Smart Wireless Solution



IEC 62591 (*WirelessHART™*)... The Industry Standard

Self-Organizing, Adaptive Mesh Routing

- No wireless expertise required, network automatically finds the best communication paths
- The self-organizing, self-healing network manages multiple communication paths for any given device. If an obstruction is introduced into the network, data will continue to flow because the device already has other established paths. The network will then lay in more communication paths as needed for that device.

Reliable Wireless Architecture

- Standard IEEE 802.15.4 radios
- 2.4 GHz ISM band sliced into 15 radio-channels
- Time Synchronized Channel Hopping to avoid interference from other radios, WiFi, and EMC sources and increase reliability
- Direct sequence spread spectrum (DSSS) technology delivers high reliability in challenging radio environment

Emerson's Smart Wireless

Seamless Integration to All Existing Host Systems

- Native integration into DeltaV and Ovation is transparent and seamless
- Gateways interface with existing host systems using industry standard protocols including OPC, Modbus TCP/IP, and Modbus RTU

Layered Security Keeps Your Network Safe

- Ensures that data transmissions are received only by the Smart Wireless Gateway
- Network devices implement industry standard Encryption, Authentication, Verification, Anti-Jamming, and Key Management
- Third party security verification including Achilles and FIPS197.

SmartPower™ Solutions

Emerson SmartPower™ Solutions provide an intrinsically safe Power Module, allowing field replacements without removing the transmitter from the process, keeping personnel safe, and reducing maintenance costs.

Rosemount 708 Wireless Acoustic Transmitter

Ultrasonic Acoustic Event Detection

- Reliably detects and transmits information about acoustic events such as leaks
- Transmitter output includes acoustic level (0-255 counts) and temperature (-40 to 260 °C)
- Transmitter communicates process variable and status information via the wireless network for integration into existing host systems



Monitor Steam Traps

- Armstrong SteamLogic™ software provides critical, real-time information on the condition of your monitored steam trap population
- Armstrong SteamLogic™ delivers immediate notification of a failed steam trap and its location
- Real-time monitoring provides instantaneous feedback for system maintenance and optimization

Monitor Pressure Relief Valves or Pressure Safety Valves

- Turbulence generated by a leaky valve can be detected using the acoustic transmitter
- Notification when release is occurring and when the release has stopped
- Emerson Smart Wireless network provides time stamped information to the host
- Automated data enables reporting of a tamper-proof data log



Mounting Flexibility

The wireless acoustic transmitter can be directly mounted to process piping without cutting pipes or changing pipe configurations allowing for a flexible, easy installation.

Reliable Transmitter Performance

The rugged and robust design of the transmitter ensures reliable performance in harsh environments.

Ordering Information

Table 1. Rosemount 708 Acoustic Transmitter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Model	Product Description	
Standard		Standard
708	Acoustic Transmitter	★
Output Protocol		
Standard		Standard
X	Wireless	★
Measurement		
Standard		Standard
1	Steam Traps with Armstrong SteamLogic software	★
2	Other Measurements	★
Housing		
Standard		Standard
P	Engineered Polymer	★
Waveguide Configuration		
Standard		Standard
A1	Acoustic Waveguide	★
Product Certifications		
Standard		Standard
NA	No Hazardous Location Approval	★
I1	ATEX Intrinsic Safety	★
I5	FM Intrinsically Safe	★
I7	IECEX Intrinsic Safety	★
Mounting Hardware		
Standard		Standard
NA00	No Mounting Hardware	★
HC01	Stainless Steel Mounting Band, Pipe size 1/2 to 2-1/2-in.	★
HC02	Stainless Steel Mounting Band, Pipe size 3-in. to 4-in.	★
HC03	Stainless Steel Mounting Band, Pipe size 4-in. to 10-in.	★

Wireless Options (Include with selected model number)

Wireless Update Rate, Operating Frequency and Protocol		
Standard		Standard
WA3	User Configurable Update Rate, 2.4 GHz DSSS, IEC 62591 (WirelessHART)	★
Omnidirectional Wireless Antenna and SmartPower Solutions		
Standard		Standard
WP5 ⁽¹⁾	Internal Antenna, Compatible with Green Power Module (I.S. Power Module Sold Separately)	★
Configuration		
Standard		Standard
C1	Factory Configure Date, Descriptor, Message Fields and Wireless Parameters	★
Typical Model Number: 708 X 1 P A1 NA HC01 WA3 WP5		

(1) Power module must be shipped separately, order 701PGNKF.

Specifications

Functional Specifications

Output

IEC 62591 (WirelessHART) 2.4 GHz DSSS

Humidity Limits

0–95% relative humidity

Transmit Rate

User selectable 1 second to 60 minutes

Radio Frequency Power Output from Antenna

Internal (WP option) antenna: Maximum of 10 mW (10 dBm) EIRP

Physical Specifications

Electrical Connections/Power Module

- Replaceable, non-rechargeable, Intrinsically Safe Lithium-Thionyl Chloride power module pack with PBT/PC enclosure
- Ten year power module life at reference conditions⁽¹⁾

Field Communicator Connections

Communication Terminals - Clips permanently fixed to power module

Materials of Construction

Housing

PBT/PC

Cover O-ring

Silicone

Power Module Housing

PBT/PC

Wave Guide

Machined 316L SST

Mounting

Transmitters are directly attached to process piping using two stainless steel mounting bands.

Weight

708 with power module -1.31 lbs. (0.595 kg)

708 without power module - 0.98 lbs. (0.445 kg)

Enclosure ratings

NEMA 4X and IP66/67

Performance Specifications

Vibration Effect

Tested per the requirements of IEC60770-1 field or pipeline with high vibration level (10-60 Hz 0.21 mm displacement peak amplitude/60-2000 Hz 3g).

Temperature Limits

Ambient Limit -40 °C to 85 °C (-40 °F to 185 °F)

Storage Limit -40 °C to 85 °C (-40 °F to 185 °F)

Heat from the process is transferred to the transmitter housing. If the process temperature is high, the ambient temperature will need to be lower to account for heat transferred to the transmitter housing.

Temperature Derating

Process Temperature (°C)	Max Ambient (°C)
260	41
240	45
220	49
200	53
180	57
160	61
140	64
120	68
100	72
85	75

ElectroMagnetic Compatibility (EMC)

All Models:

Meets all relevant requirements of EN 61326-2-3:2006

Wireless Output Specifications

Acoustic Level

0-255 counts

Temperature

-40 to 260 °C (-40 to 500 °F)

(1) Reference conditions are 70 °F (21 °C), transmit rate of once per minute, and routing data for three additional network devices.

Rosemount 708 Certifications

Approved Manufacturing Locations

Rosemount Inc. – Chanhassen, Minnesota, USA
Emerson Process Management GmbH & Co. - Karlstein, Germany
Emerson Process Management Asia Pacific Private Limited - Singapore

European Union Directive Information

The EC Declaration of Conformity for all applicable European directives for this product can be found on www.rosemount.com. A hard copy may be obtained by contacting your local sales representative.

ATEX Directive (94/9/EC)

Emerson Process Management complies with the ATEX Directive.

Electro Magnetic Compatibility (EMC) (2004/108/EEC)

EN 61326-1; 2006
EN 61326-2-3; 2006

Radio and Telecommunications Terminal Equipment Directive (R&TTE) (1999/5/EC)

Emerson Process Management complies with the R & TTE Directive.

Telecommunication Compliance

All wireless devices require certification to ensure that they adhere to regulations regarding the use of the RF spectrum. Nearly every country requires this type of product certification. Emerson is working with governmental agencies around the world to supply fully compliant products and remove the risk of violating country directives or laws governing wireless device usage.

FCC and IC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: This device may not cause harmful interference. This device must accept any interference received, including interference that may cause undesired operation.

This device must be installed to ensure a minimum antenna separation distance of 20 cm from all persons.

Ordinary Location Certification for FM Approvals

As standard, the transmitter has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM Approvals, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

Hazardous Locations Certificates

North American Certifications

FM Approvals

- 15 Intrinsically Safe
Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D
Zone Marking: Class I, Zone 0, AEx ia IIC
Temperature Codes T4 ($T_{amb} = -40$ to 70 °C)
Ambient temperature limits: -40 to 70 °C
For use with SmartPower Solutions, model number 701PGN green power module only.
Enclosure Type 4X / IP66/67


Special Conditions for Safe Use (X):

1. The Rosemount 708 Wireless Acoustic Transmitter shall only be used with the SmartPower Solutions, model number 701PGN green power module.
2. Potential Electrostatic charging Hazard – See Instructions.

Standards:

FM3600:1998
FM3610:2010
ANSI/NEMA 250
ANSI/IEC60529:2004

European Certifications

- 11 ATEX Intrinsic Safety
Certificate No.: BASEEFA11ATEX0174X  II 1G
Ex ia IIC T4 Ga ($T_a = -40$ °C $\leq T_{amb} \leq 70$ °C)
IP66/67
For use with SmartPower Solutions, model number 701PGN green power module only.
CE 1180

Special Conditions for Safe Use (X):

1. The engineered polymer enclosure of the Rosemount 708 may constitute a potential electrostatic ignition risk and must not be rubbed or cleaned with a dry cloth.

Standards:

EN60079-0:2009
EN60079-11:2007

IECEx System Certifications

- 17 IECEx Intrinsic Safety
Certificate No.: IECExBAS 11.0091X
Ex ia IIC T4 Ga ($T_a = -40$ °C $\leq T_{amb} \leq 70$ °C)
IP66/67
For use with SmartPower Solutions, model number 701PGN green power module only.

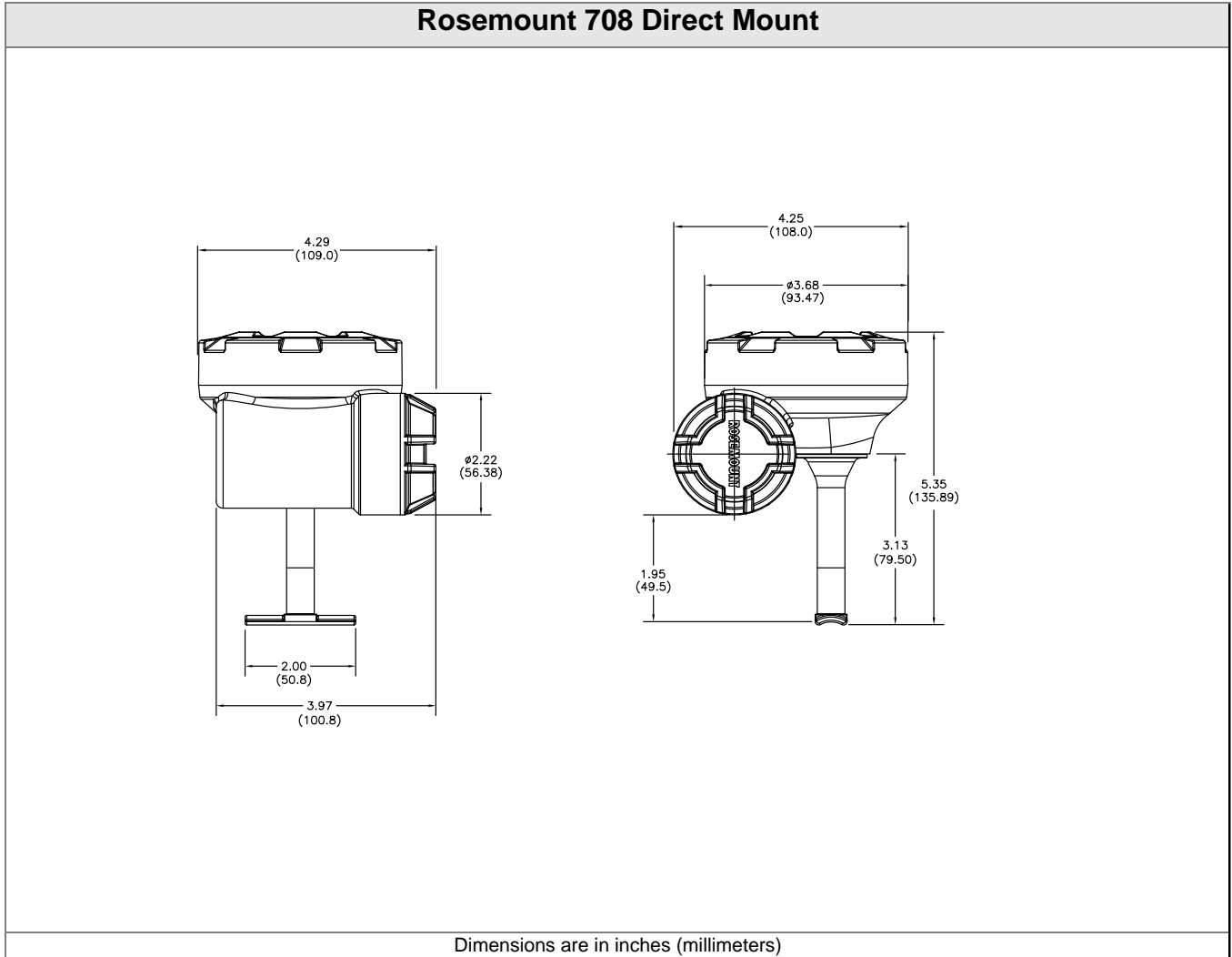
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Standards:

IEC60079-0:2007-10
IEC60079-11:2006

Dimensional Drawings



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