

Rosemount™ 2160 Wireless Level Detector

Vibrating Fork



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1 About this guide

This Quick Start Guide provides basic guidelines for the Rosemount 2160. Refer to the Rosemount 2160 [Reference Manual](#) for more instructions. The manual and this guide are also available electronically at [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

1.1 Safety messages

⚠ WARNING

Failure to follow safe installation and servicing guidelines could result in death or serious injury.

Ensure the level detector is installed by qualified personnel and in accordance with applicable code of practice.

Use the level detector only as specified in this manual. Failure to do so may impair the protection provided by the level detector.

The weight of a level detector with a heavy flange and extended fork length may exceed 37 lb. (18 kg). A risk assessment is required before carrying, lifting, and installing the level detector.

Repair, e.g. substitution of components, etc. may jeopardize safety and is under no circumstances allowed.

⚠ WARNING

Explosions could result in death or serious injury.

Verify that the operating atmosphere of the level detector is consistent with the appropriate hazardous locations certifications.

Before connecting a handheld communicator in an explosive atmosphere, ensure that the instruments are installed in accordance with intrinsically safe or non-incendive field wiring practices.

⚠ WARNING**Process leaks could result in death or serious injury.**

Ensure the level detector is handled carefully. If the process seal is damaged, gas might escape from the vessel (tank) or pipe.

⚠ WARNING**Physical access**

Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

Physical security is an important part of any security program and fundamental in protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

⚠ CAUTION**Hot surfaces**

The flange and process seal may be hot at high process temperatures. Allow to cool before servicing.



NOTICE

Power module considerations

Each power module contains primary lithium/thionyl chloride batteries. Under normal conditions, the battery materials are self-contained and are not reactive as long as the batteries and the pack integrity are maintained. Care should be taken to prevent thermal, electrical or mechanical damage. Contacts should be protected to prevent premature discharge.

Battery hazards remain when cells are discharged.

Use caution when handling the power module. The power module may be damaged if dropped from heights in excess of 20 ft. (6 m).

Power modules must be stored in a clean and dry area. For maximum battery life, storage temperature must not exceed 86 °F (30 °C).

The power module may be replaced in a hazardous area. The power module has surface resistivity greater than one gigaohm and must be properly installed in the wireless device enclosure. Care must be taken during transportation to and from the point of installation to prevent electrostatic charge build-up.

NOTICE

Shipping considerations for wireless products

The unit was shipped without the power module installed. Prior to re-shipment, ensure that the power module has been removed.

Each Black Power Module (model number 701PBKKF) contains two "C" size primary lithium batteries. Primary lithium batteries (charged or discharged) are regulated in transportation by the U.S. Department of Transportation, and are also covered by IATA (International Air Transport Association), ICAO (International Civil Aviation Organization), and ARD (European Ground Transportation of Dangerous Goods). It is the responsibility of the shipper to ensure compliance with these or any other local requirements. Consult current regulations and requirements before shipping.

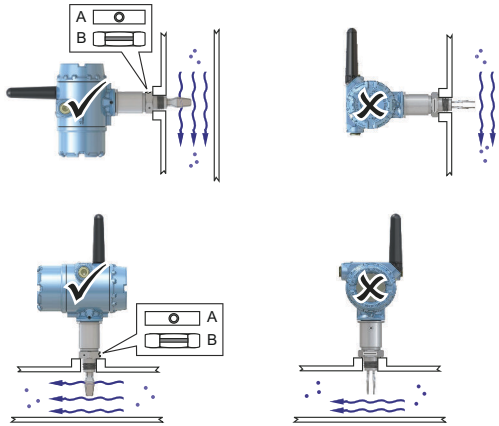
Each Blue Power Module (MHM-89004) contains two "D" size primary lithium batteries. Primary lithium batteries (charged or discharged) are regulated in transportation by the U.S. Department of Transportation, and are also covered by IATA (International Air Transport Association), ICAO (International Civil Aviation Organization), and ARD (European Ground Transportation of Dangerous Goods). It is the responsibility of the shipper to ensure compliance with these or any other local requirements. Kindly consult current regulations and requirements before shipping.

2 Installation

2.1 Fork alignment in a pipe installation

The fork is correctly aligned by positioning the groove or notch as indicated ([Figure 2-1](#)).

Figure 2-1: Correct Fork Alignment for Pipe Installation

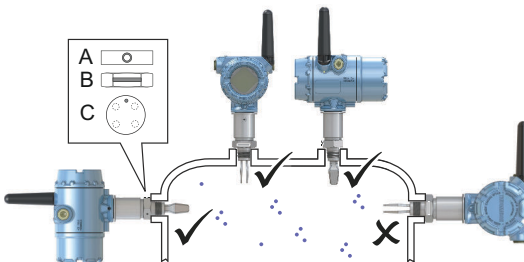


- A. Tri Clamp process connections have a circular notch*
- B. Threaded process connections have a groove*

2.2 Fork alignment in a vessel (tank) installation

The fork is correctly aligned by positioning the groove or notch as indicated ([Figure 2-2](#)).

Figure 2-2: Correct Fork Alignment for Vessel (Tank) Installation



- A. Tri Clamp process connections have a circular notch*
- B. Threaded process connections have a groove*
- C. Flanged process connections have a circular notch*

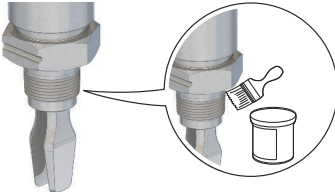
2.3 Mounting the threaded version

2.3.1 Threaded vessel (tank) or pipework connection

Procedure

1. Seal and protect the threads. Use anti-seize paste or PTFE tape according to site procedures.

A gasket may be used as a sealant for BSPP (G) threaded connections.

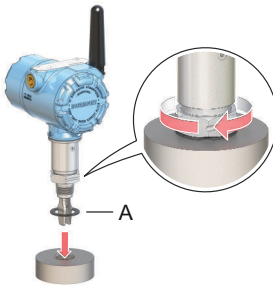


2. Screw the level detector into the process connection.

Note

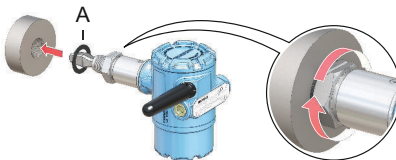
Tighten using the hexagon nut only.

Figure 2-3: Vertical Installation



A. Gasket for BSPP (G) threaded connection

Figure 2-4: Horizontal Installation

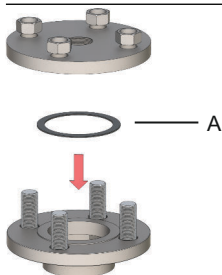


A. Gasket for BSPP (G) threaded connection

2.3.2 Threaded flange connection

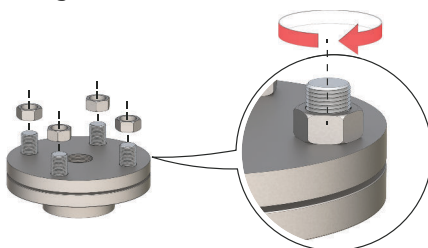
Procedure

1. Place the customer-supplied flange and gasket on the vessel (tank) nozzle.



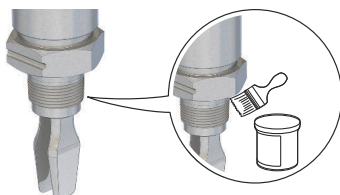
A. Gasket (customer supplied)

2. Tighten the bolts and nuts with sufficient torque for the flange and gasket.



3. Seal and protect the threads. Use anti-seize paste or PTFE tape according to site procedures.

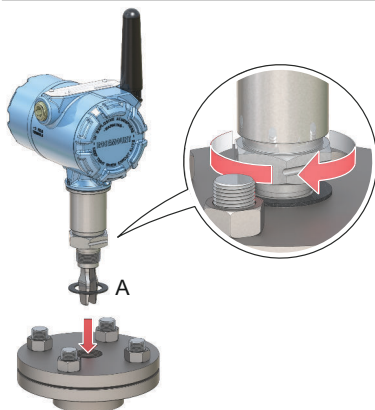
A gasket may be used as a sealant for BSPP (G) threaded connections.



4. Screw the level detector into the flange thread.

Note

Tighten using the hexagon nut only.

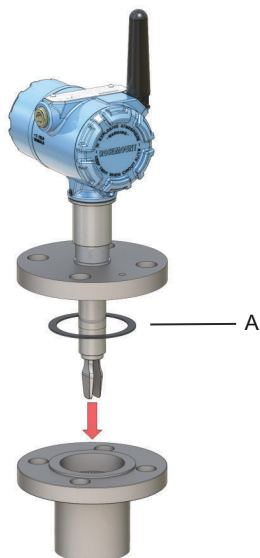


A. Gasket for BSPP (G) threaded connection

2.4 Mounting the flanged version

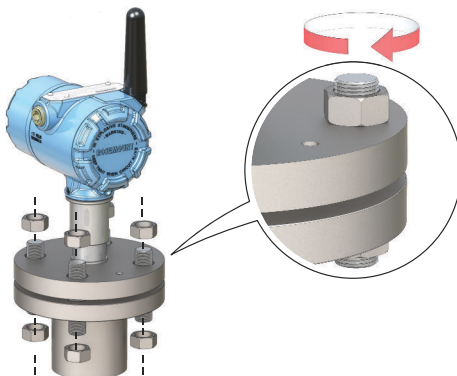
Procedure

1. Lower the level detector into the nozzle.



A. Gasket (customer supplied)

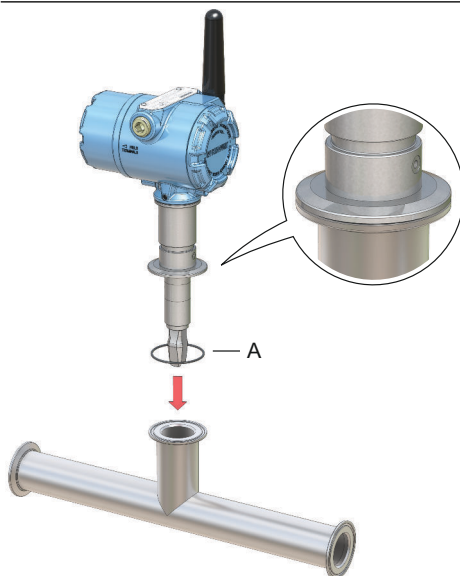
2. Tighten the bolts and nuts with sufficient torque for the flange and gasket.



2.5 Mounting the Tri Clamp version

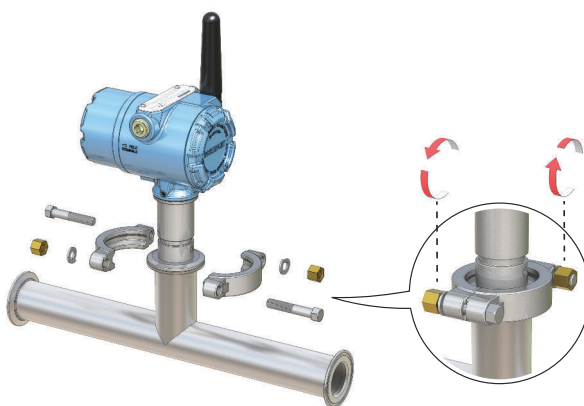
Procedure

1. Lower the level detector into the flange face.



A. Seal (supplied with Tri Clamp)

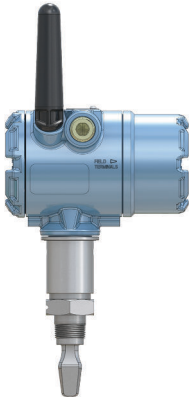
2. Fit the Tri Clamp.



2.6 Position the antenna

The antenna should be positioned vertically, either straight up or straight down, and it should be approximately 3 ft. (1 m) from any large structure, building, or conductive surface to allow for clear communication to other devices.

Figure 2-5: Antenna Positioned Vertically



2.7 Adjust LCD meter orientation

If a device display is ordered, it will be shipped attached to the level detector. The display is ordered in the level detector model number, option code M5.

2.7.1 Rotate the device display

The device display can be rotated in 90-degree increments.

Procedure

1. Squeeze the two black tabs on opposite sides of the display.
2. Gently pull out the display.
3. Rotate the display to the desired orientation, and snap the display into place.

Note

If the device display four-pin connector is inadvertently removed from the interface board, carefully re-insert the connector before snapping the device display back into place.

2.8 Adjust housing orientation

The housing can be rotated for optimal viewing of the optional LCD display and to get the best antenna position.

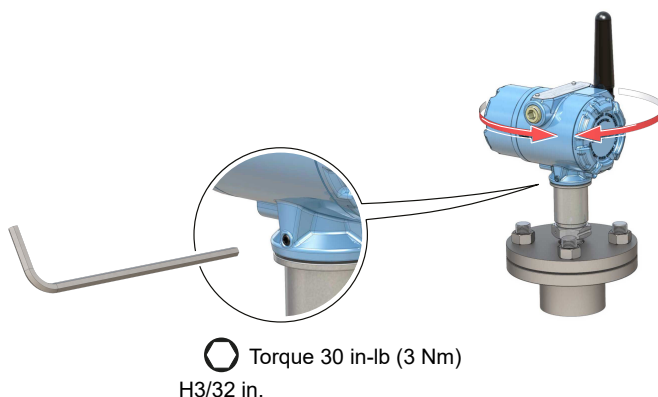
Procedure

1. Loosen the set screw until the level detector housing can rotate smoothly.
Do not unscrew all the way. Rotating the housing, without this screw in place, can damage the internal wiring.
2. First, rotate the housing clockwise to the desired location.
If the desired location cannot be achieved due to thread limit, rotate the housing counterclockwise.
3. Re-tighten the set screw.

Note

Do not attempt to rotate the housing beyond the thread limit.

Figure 2-6: Housing Rotation



2.9 Install the power module

To install the battery that supplies all power to the Rosemount 2160:

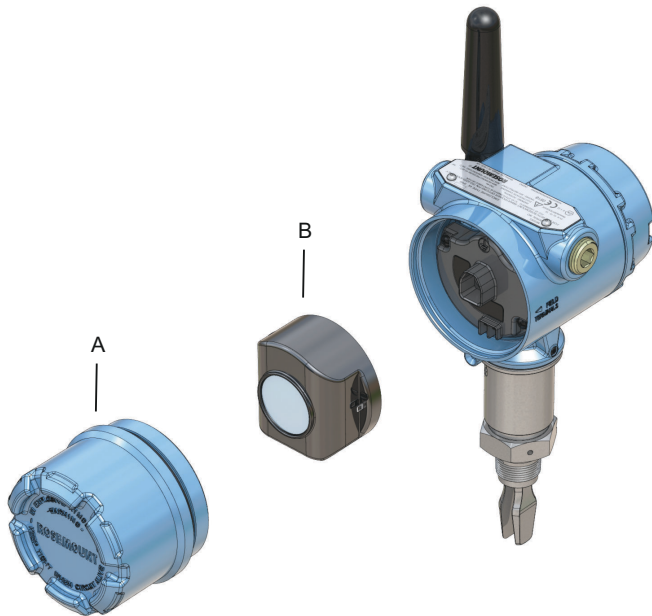
Prerequisites

Only use an Emerson approved power module designed for use with the Rosemount 2160. The power modules are only compatible with their respective covers.

Procedure

1. Remove the power module cover.
 2. Connect the power module.
 3. Replace the power module cover and tighten to safety specification (metal-to-metal).
-

Figure 2-7: Wireless Power Module Installation



- A. Power module cover
B. Power module
-

3 Configuration

3.1 Configuration procedure

Follow these steps for proper configuration:

Procedure

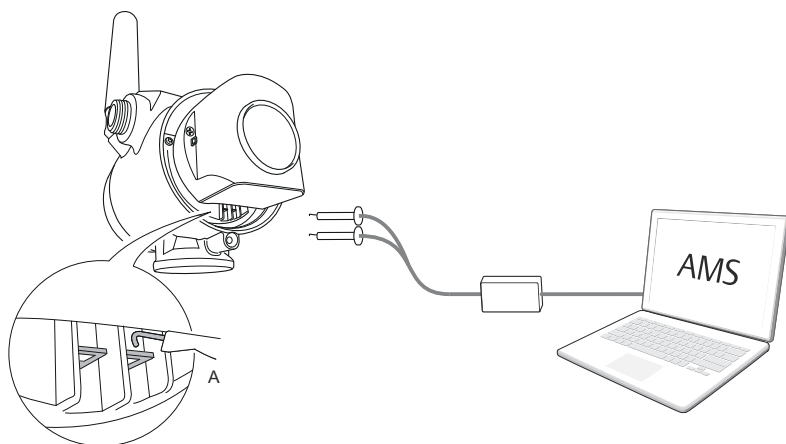
1. Get started with your preferred configuration tool.
2. Join device to wireless network.
 - a) Insert power module.
 - b) Connect to device.
 - c) Configure update rate.
 - d) Obtain network ID and join key.
 - e) Enter network ID and join key.
 - f) Verify device joins Network.
3. Configure device.
 - a) Connect to device.
 - b) Configure using basic setup.
 - c) Consider optional guided setups.
4. Verify the fork status (dry or wet) is as expected.

3.2 Get started with your preferred configuration tool

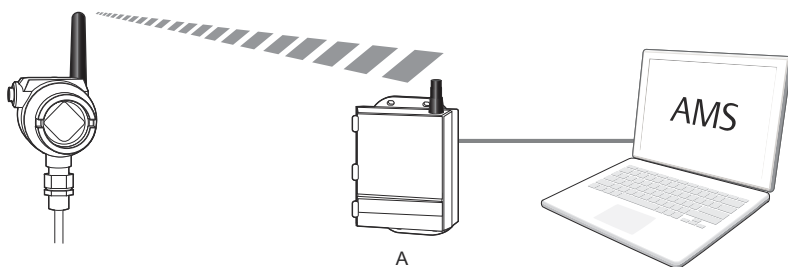
3.2.1 AMS Wireless Configurator

The AMS Wireless Configurator is the recommended software tool for the wireless network devices, and is supplied with the Emerson Wireless Gateway.

Configuration can be done by connecting to the wireless network devices either point-to-point using a HART® modem as shown in [Figure 3-1](#), or wirelessly through the Gateway as shown in [Figure 3-2](#). Initial configuration to join a device to the wireless network must be done point-to-point.

Figure 3-1: Connect Point-to-Point using HART Modem

A. Communication terminals

Figure 3-2: Connect Wirelessly through the Wireless Gateway

A. Wireless Gateway

Confirm correct device driver

The Device Descriptor (DD) is a configuration tool that is developed to assist the user through the configuration.

Procedure

1. Verify that the correct DD is loaded on your systems to ensure proper communication.
2. Download the latest DD from the **Device Driver Hub** page at [Emerson.com/MySoftware](https://www.emerson.com/en-us/MySoftware).

Add the DD to AMS Wireless Configurator

Prerequisites

The Rosemount 2160 DD is typically installed together with AMS Wireless Configurator.

Procedure

1. Close AMS Wireless Configurator.
2. Go to **Start** → **Programs** → **AMS Device Manager** and select **Add Device Type**.
3. Browse to the downloaded DD files and select **Ok**.

Need help?

In the **Add Device Type** application, select the **Help** button for more information on how to complete this operation.

Configure the HART® modem interface

Before connecting to the device using a HART modem, the HART modem interface must be configured in AMS Wireless Configurator.

Procedure

1. Close AMS Wireless Configurator.
2. Go to **Start** → **All** → **AMS Wireless Configurator** and select **Network Configuration**.
3. Select **Add**.
The **Select Network Component Type** window opens.
4. Select **HART modem**.
5. Select **Install** and follow the on-screen instructions.

Need help?

In the **Network Configuration** application, select the **Help** button for more information on how to complete this operation.

Configure the wireless network interface

Before connecting to the device wirelessly using a Wireless Gateway, the wireless network must be configured in AMS Wireless Configurator.

Procedure

1. Close AMS Wireless Configurator.
2. Go to **Start** → **All** → **AMS Wireless Configurator** and select **Network Configuration**.
3. Select **Add**.
The **Select Network Component Type** window opens.

4. Select **Wireless Network**.
5. Select **Install** and follow the on-screen instructions.

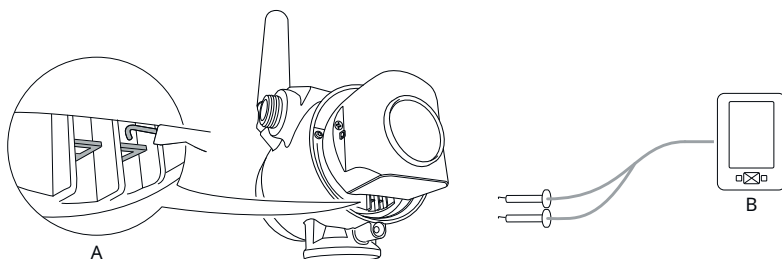
Need help?

In the **Network Configuration** application, select the **Help** button for more information on how to complete this operation.

3.2.2 Handheld communicator

This section describes how to prepare the handheld communicator to communicate with a Rosemount 2160. The handheld communicator can be used to configure the device with a point-to-point connection. Connect the leads on the handheld communicator to the communication terminals of the device.

Figure 3-3: Connect Point-to-Point using a Handheld Communicator



A. Communication terminals

Get the latest Device Descriptor (DD)

If the DD is not installed in your handheld communicator, see the appropriate handheld communicator User's Manual available at [Emerson.com/FieldCommunicator](https://www.emerson.com/FieldCommunicator) for instructions on how to update the handheld communicator with the latest DD.

3.3 Join device to wireless network

3.3.1 Power up the wireless device

Prerequisites

Make sure that the Wireless Gateway is installed and functioning properly before any wireless field devices are powered.

Wireless devices should be powered up in order of proximity from the Gateway, beginning with the closest. This will result in a simpler and faster network installation.

Procedure

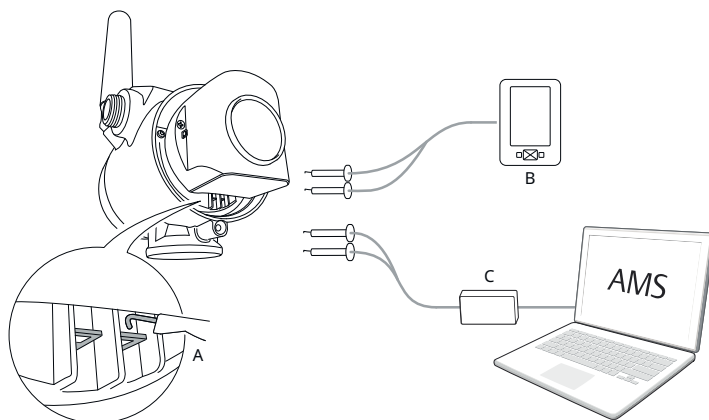
1. Install the power module.
2. Enable **Active Advertising** on the Gateway to ensure that new devices join the network faster.

3.3.2 Connect to device

Procedure

1. Connect a handheld communicator or a HART® modem to the communication terminals as shown in [Figure 3-4](#).

Figure 3-4: Connect to Device



- A. Communication terminals
- B. Handheld communicator
- C. HART modem

2. Do one of the following:
 - AMS Wireless Configurator:
 - a. Start AMS Wireless Configurator.
 - b. Select **View** → **Device Connection View**.
 - c. Double click the device under the HART modem.
 - Handheld communicator:
 - Turn on the handheld communicator and connect to the device.

3.3.3 Configure update rate

The update rate is the frequency at which a new measurement is transmitted over the wireless network. The default update rate is 1 minute.

Prerequisites

Note

If the time between each update is too long, the high/low alerts may be triggered too late.

Procedure

1. Select **Configure** → **Guided Setup**.
2. Select **Configure Update Rate** and follow the on-screen instructions.

Note

If the update rate is reconfigured, the unit will continuously update for five minutes and then update with the reconfigured update rate.

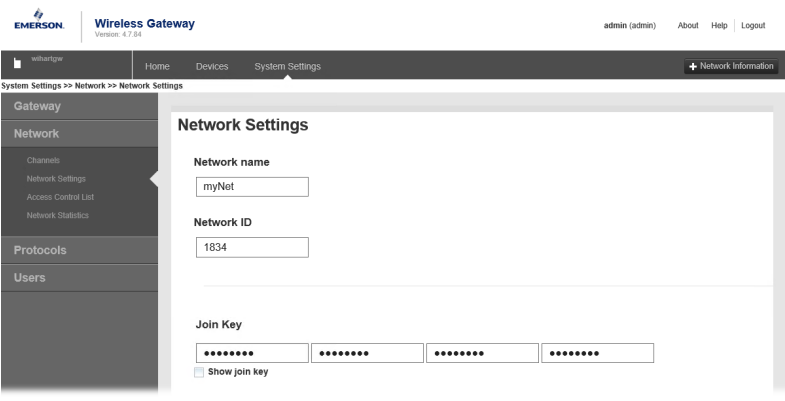
3.3.4 Obtain network ID and join key

In order to communicate with the Wireless Gateway, and ultimately the host system, the Rosemount 2160 must be configured to communicate on the wireless network.

Procedure

From the Wireless Gateway's integrated web interface, select **System Settings** → **Network** → **Network Settings**.

Figure 3-5: Gateway Network Settings



3.3.5 Enter network ID and join key

The device must be configured with the same Network ID and Join Key as the Gateway in order to join the network.

Procedure

1. Select **Configure** → **Guided Setup**.
2. Select **Join Device to Network** and follow on-screen the instructions.

Postrequisites

If the device is not to be commissioned yet, remove the power module and fasten the housing cover. This is to conserve power module life and to ensure safe transportation. The power module should be inserted only when the device is ready to be commissioned.

3.3.6 Verify device joins network

Network connection can be verified in several different ways:

- At the device display
- Using the AMS Wireless Configurator
- In the Wireless Gateway's integrated web interface
- Using the handheld communicator

If the Rosemount 2160 was configured with the Network ID and Join Key, and sufficient time has passed, the device should be connected to the network.

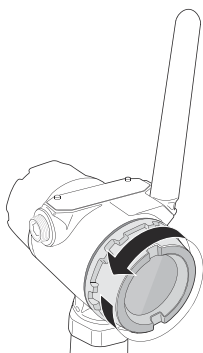
Note

It may take several minutes for the device to join the network.

Verify by device display

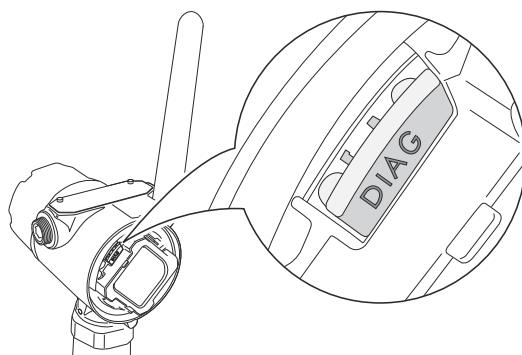
Procedure

1. Unscrew the device display cover.



2. Press the **DIAG** button.

The display will show: Tag, Device Serial Number, Network ID, Network Connection Status, and Supply Voltage screens.



When the network diagnostic status is displayed as "NETWK OK", the device has successfully joined the network.

Verify with AMS Wireless Configurator

Procedure

1. Start the AMS Wireless Configurator.
2. Navigate to the Smart Wireless Gateway icon.

When the device has joined the network, it will appear in the AMS Wireless Configurator window.

Verify by Gateway

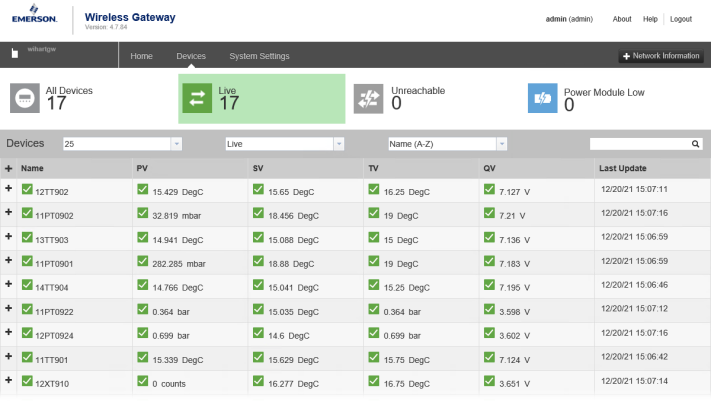
Procedure

1. From the Emerson Wireless Gateway home page, navigate to the **Devices** page.
This page shows whether the device has joined the network and if it is communicating properly.

2. Locate the device in question and verify all status indicators are good (green).

It may take several minutes for the device to join the network and be seen on the Gateway's integrated web interface.

Figure 3-6: Wireless Gateway Devices Page



Verify with handheld communicator

Prerequisites

Do not remove the power module. Removing the power module may cause the device to drop off the network.

Note

In order to communicate with a handheld communicator, the device must be powered by the power module.

Procedure

1. Connect the handheld communicator.
2. Select **Service Tools** → **Communications**.
3. Select **Join Status**.

3.4 Configure device using guided setup

The options available in the Basic Setup wizard include all items required for basic operation.

Procedure

1. Select **Configure** → **Guided Setup**.
2. Select **Basic Setup** and follow the on-screen instructions.
3. Consider optional guided setups such as **Configure Device Display** and **Configure Alerts**.

4 Product certifications

Rev 4.27

4.1 European directive information

A copy of the EU Declaration of Conformity can be found at the end of the document. The most recent revision of the EU Declaration of Conformity can be found at [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

4.2 Ordinary location certification

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

4.3 Environmental conditions

Table 4-1: Environmental Conditions (Ordinary Location and Low Voltage Directive (LVD))

Type	Description
Location	Indoor and outdoor use
Maximum altitude	6562 ft. (2000 m)
Ambient temperature	-58 to 185 °F (-50 to 85 °C)
Pollution degree	2

4.4 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.

4.5 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 and this device must accept any interference, including any interference that may cause undesired operation of the device. This device must be installed to ensure a minimum antenna separation distance of 8 in. (20 cm) from all persons.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including any interference that may cause undesired operation of the device.

4.6 South Africa



Ta-2020/7139

4.7 Installing equipment in North America

The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

4.8 U.S.A.

4.8.1 I5 Intrinsic Safety, Non-Incendive, Dust Ignition-proof

Certificate	FM17US0357X
Standards	FM Class 3600:2011; FM Class 3610:2010; FM Class 3611:2004; FM 3810:2005; ANSI/ISA 60079-0:2005; ANSI/ISA 60079-11:2009; ANSI/NEMA® 250:1991; ANSI/IEC 60529:2004
Markings	IS: Class I/II/III, Division 1, Groups A, B, C, D, E, F, and G IS: Class I, Zone 0, AEx ia IIC T4 (Ta = -58 °F to +158 °F / -50 °C to +70 °C) NI: Class I, Division 2, Groups A, B, C, and D T4 (Ta = -58 °F to +158 °F / -50 °C to +70 °C) DIP: Class II/III, Division 1, Groups E, F, and G T4 (Ta = -50 °C to +85 °C) Type 4X/IP66

Specific Condition of Use (X):

- 1. WARNING - Potential Electrostatic Charging Hazard - The enclosure is constructed from plastic. To prevent the risk of electrostatic sparking the plastic surface should only be cleaned with a damp cloth.

4.9 Canada

4.9.1 I6 Intrinsic Safety

Certificate	80051772
Standards	CSA Std C22.2 No. 0-M91(R 2006); CSA C22.2 No. 157-M1992 (R 2006); CSA Std C22.2 No. 30-M1986 (R 2003); CAN/CSA-C22.2 No. 94-M91 (R 2006); CSA Std C22.2 No. 142-M1987 (R 2004); CAN/CSA E60079-11:02; ANSI/ISA - 12.27.01-2003
Markings	Class I, Division 1, Groups A, B, C, D T2, T3C Type 4X

The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 4-2: Temperature Code for 2160XS* version**

Temperature class	Maximum Ambient Temperature range (Ta)	Process temperature range (Tp)
T3C, T2, T1	$-50\text{ }^{\circ}\text{C} \leq T_a \leq 70\text{ }^{\circ}\text{C}$	$-40\text{ }^{\circ}\text{C}$ to $100\text{ }^{\circ}\text{C}$
T3C, T2, T1	$-50\text{ }^{\circ}\text{C} \leq T_a \leq 60\text{ }^{\circ}\text{C}$	$-40\text{ }^{\circ}\text{C}$ to $115\text{ }^{\circ}\text{C}$
T3, T2, T1	$-50\text{ }^{\circ}\text{C} \leq T_a \leq 50\text{ }^{\circ}\text{C}$	$-40\text{ }^{\circ}\text{C}$ to $150\text{ }^{\circ}\text{C}$

Table 4-3: Temperature Code for 2160XE* version**

Temperature class	Maximum Ambient Temperature range (Ta)	Process temperature range (Tp)
T3C, T2, T1	$-50\text{ }^{\circ}\text{C} \leq T_a \leq 70\text{ }^{\circ}\text{C}$	$-70\text{ }^{\circ}\text{C}$ to $115\text{ }^{\circ}\text{C}$
T3, T2, T1	$-50\text{ }^{\circ}\text{C} \leq T_a \leq 65\text{ }^{\circ}\text{C}$	$-70\text{ }^{\circ}\text{C}$ to $185\text{ }^{\circ}\text{C}$
T2, T1	$-50\text{ }^{\circ}\text{C} \leq T_a \leq 60\text{ }^{\circ}\text{C}$	$-70\text{ }^{\circ}\text{C}$ to $260\text{ }^{\circ}\text{C}$

4.10 Europe

4.10.1 I1 ATEX Intrinsic Safety

Certificate	Baseefa 09ATEX0253X
Standards	EN IEC 60079-0:2018; EN 60079-11:2012
Markings	 II 1 G Ex ia IIC T5...T2 Ga

The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 4-4: Temperature Code for 2160XS* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-40 °C ≤ Ta ≤ 40 °C	-40 °C to 80 °C
T4	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 115 °C
T3	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 150 °C

Table 4-5: Temperature Code for 2160XE* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-50 °C ≤ Ta ≤ 40 °C	-70 °C to 80 °C
T4	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 115 °C
T3	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 185 °C
T2	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 260 °C

Specific Conditions of Use (X):

1. The surface resistivity of the antenna is greater than 1 GΩ. To avoid electrostatic charge build-up, it must not be rubbed or cleaned with solvents or a dry cloth.
2. The Rosemount 2160 enclosure is made of aluminum alloy and given a protective epoxy coating; however, care should be taken to protect it from impact or abrasion if located in Zone 0.

4.11 International

4.11.1 I7 IECEx Intrinsic Safety

Certificate	IECEx BAS 09.0123X
Standards	IEC 60079-0:2017; IEC 60079-11:2011
Markings	Ex ia IIC T5...T2 Ga

The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 4-6: Temperature Code for 2160XS* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-40 °C ≤ Ta ≤ 40 °C	-40 °C to 80 °C
T4	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 115 °C
T3	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 150 °C

Table 4-7: Temperature Code for 2160XE* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-50 °C ≤ Ta ≤ 40 °C	-70 °C to 80 °C
T4	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 115 °C
T3	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 185 °C
T2	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 260 °C

Specific Conditions of Use (X):

1. The surface resistivity of the antenna is greater than 1 GΩ. To avoid electrostatic charge build-up, it must not be rubbed or cleaned with solvents or a dry cloth.
2. The Rosemount 2160 enclosure is made of aluminum alloy and given a protective epoxy coating; however, care should be taken to protect it from impact or abrasion if located in Zone 0.

4.12 Republic of Korea

4.12.1 IP KTL Intrinsic Safety

Certificate	20-KA4BO-0922X
Markings	Ex ia IIC T5-T2 Ta (see table in the certificate)

4.12.2 GP KTL KCC mark for ordinary locations use

Certificate	KCC-REM-ERN-RMDSWIT2160XXX
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4.13 China

4.13.1 I3 NEPSI Intrinsic Safety

Certificate	GYJ25.1106X (CCC)
Markings	Ex ia IIC T5...T2 Ga

Specific Instructions:

See certificate.

Specific Condition of Use (X):

See certificate.

4.14 Technical Regulations Customs Union (TR-CU)



TR CU 012/2011 "On safety of equipment intended for use in explosive atmospheres"

TR CU 004/2011 "On safety of low-voltage equipment"

TR TC 032/2013 "On the safety equipment of high pressure"

Certificate EA3C KZ 7500525.01.01.01708

4.14.1 IM Technical Regulations Customs Union (EAC) Intrinsic Safety

Certificate EA3C KZ 7500525.01.01.01906

Markings 0Ex ia IIC T5...T3 Ga X
0Ex ia IIC T5...T2 Ga X

Specific Conditions of Use (X):

See certificate.

4.15 Brazil

4.15.1 I2 INMETRO Intrinsic Safety

Certificate UL-BR 18.0283X (Sweden), UL-BR 23.0983X (USA)

Standards ABNT NBR IEC 60079-0; ABNT NBR IEC 60079-11

Markings Ex ia IIC T5...T2 Ga

Specific Conditions of Use (X):

See section [I7 IECEx Intrinsic Safety](#).

4.16 Japan

4.16.1 I4 CML Intrinsic safety

Certificate CML 21JPN2838X

Markings Ex ia IIC T5...T2 Ga

Specific Condition of Use (X):

See certificate.

4.17 India**4.17.1 IW Intrinsic Safety**

Certificate	PESO P541133/1
Markings	Ex ia IIC T5...T2 Ga

4.18 United Arab Emirates**4.18.1 Intrinsic Safety**

Certificate	23-11-22694/Q23-11-048838/NB0002, 23-11-22710/Q23-11-048839/NB0002
Markings	Same as IECEx (I7)

Specific Conditions of Use (X):

Same as IECEx (I7)

4.19 NAMUR compliance**4.19.1 Suitable for intended use**

Compliant with NAMUR NE 95:2013, "Basic Principles of Homologation"

4.20 Overfill prevention**4.20.1 Germany - WHG**

Certificate	Z-65.11-518
Application	TÜV-tested and approved by DIBt for overfill prevention according to the German WHG regulations.

4.20.2 Belgium - Vlare

Prototype number	AV/61543334.001
Report number	AUD/35/61543334/00/NL/001
Standards	Vlare II Chapter 5.6 Vlare II Chapter 5.17 Vlare II Chapter 6.5 Vlare II Annex 5.17.7

4.20.3 Switzerland - SVTI

Certificate KVU 302.011

4.21 Leak detection approval

4.21.1 Belgium - Vlarem

Prototype number AV/61543334.003

Report number AUD/35/61543334/00/NL/003

Standards Vlarem II Chapter 5.6
 Vlarem II Chapter 5.17
 Vlarem II Chapter 6.5
 Vlarem II Annex 5.17.3

4.22 Pressure approvals

4.22.1 Canadian Registration Number (CRN)

Certificate 0F04227.2C

The requirements of CRN are met when a Rosemount 2160 CSA-approved vibrating fork level detector model is configured with 316/316L stainless steel (1.4401/1.4404) process-wetted parts and either NPT threaded or 2-in. to 8-in. ASME B16.5 flanged process connections.

4.23 EU Declaration of Conformity

Figure 4-1: EU Declaration of Conformity

Rev. #5



Declaration of Conformity

CE

We,

Rosemount Tank Radar AB
Layoutvägen 1
S-435 33 MÖLNLYCKE
Sweden

declare under our sole responsibility that the product,

Rosemount™ 2160 Series
WirelessHART™ Vibrating Fork Liquid Level Switch

manufactured by,

Rosemount Tank Radar AB
Layoutvägen 1
S-435 33 MÖLNLYCKE
Sweden

to which this declaration relates, is in conformity with the provisions of the European Union Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and, when applicable or required, a European Union notified body certification, as shown in the attached schedule.



(signature)

Dajana Prastalo

(name)

Sr. Manager Product Approvals

(function)

1-Aug-25; Mölnlycke

(date of issue & place)

Page 1 of 3

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Declaration of Conformity

EMC Directive (2014/30/EU)

Harmonized Standards: EN 61326-1:2013
Other Standards Used: IEC 61326-1:2020

ATEX Directive (2014/34/EU)

Rosemount 2160X***IIWA3WK1***
Baseefa 09ATEX0253X – Intrinsically safe
Equipment Group II, Category 1 G
Ex ia IIC T5...T2 Ga
Harmonized Standards: EN IEC 60079-0:2018; EN 60079-11:2012

RED Directive (2014/53/EU)

Harmonized Standards: EN 300 328; V2.2.2; EN 18031-1:2024
Other Standards Used: EN 301 489-1: V2.2.0; EN 301 489-17: V3.2.0
EN 61010-1:2010 + A1:2019 + AC:2019-04; EN IEC 62311:2020

RoHS Directive (2011/65/EU)

Harmonized Standards: EN IEC 63000:2018



Declaration of Conformity



ATEX Directive Notified Body

SGS Fimko Oy [Notified Body Number: 0580]
Takomotie 8
FI-00380, Helsinki
Finland

ATEX Notified body for Quality Assurance

DNV Product Assurance AS [Notified Body Number: 2460]
Veritasveien 3
1363 Høvik
Norway



4.24 China RoHS

Table 4-8: List of Rosemount 2160 Parts with China RoHS Concentration above MCVs (含有 China RoHS 管控物质超过最大浓度限值的 Rosemount 2160 部件型号列表)

Hazardous Substance 有害物质	Part name 部件名称		
	Electronics Assembly 电子组件	Housing Assembly 壳体组件	Sensor Assembly 传感器组件
Lead (铅) (Pb)	X	O	X
Mercury (汞) (Hg)	O	O	O
Cadmium (镉) (Cd)	O	O	O
Hexavalent Chromium (六价铬) (Cr+6)	O	O	O
Polybrominated biphenyls (多溴联苯) (PBB)	O	O	O
Polybrominated diphenyl ethers (多溴二苯醚) (PBDE)	O	O	O
Dibutyl phthalate (邻苯二甲酸二正丁酯) (DBP)	O	O	O
Diisobutyl phthalate (邻苯二甲酸二异丁酯) (DIBP)	O	O	O
Butyl benzyl phthalate (邻苯二甲酸丁苄酯) (BBP)	O	O	O
Bis(2-ethylhexyl) phthalate (邻苯二甲酸二(2-乙基)己酯) (DEHP)	O	O	O
This table is prepared in accordance with the provision of SJ/T 11364 / 本表格依据 SJ/T 11364 的规定编制 O: Indicate that said hazardous substance contained in all of the homogeneous materials for this part does not exceed the limit requirement of GB/T 26572. O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下 X: Indicate that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572. X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求			



Quick Start Guide
00825-0100-4160, Rev. CJ
January 2026

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