**Quick Start Guide**
00825-0100-4160, Rev CG
August 2024

# Rosemount™ 2160 Wireless Level Detector

## Vibrating Fork

ROSEMOUNT™

EMERSON

## Contents

# 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.

## 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 in the loop 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.

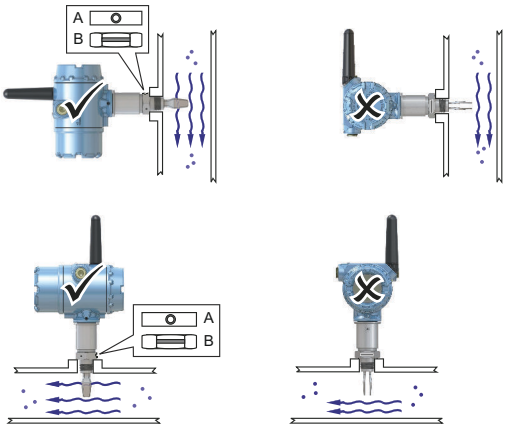
Each Blue Power Module (A0701PBU) contains two “D” size primary lithium batteries. Primary lithium batteries (charged or discharged) are regulated in transportation by the U.S. Department of Transportation, and are also covered by IATA (International Air Transport Association), ICAO (International Civil 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**

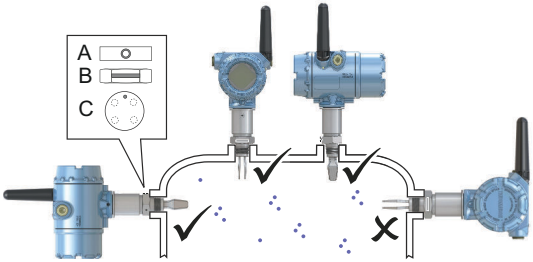



*A. Tri Clamp process connections have a circular notch*
*B. Threaded process connections have a groove*

## 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*

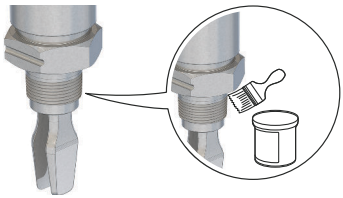
## 2.3 Mounting the threaded version

### 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.

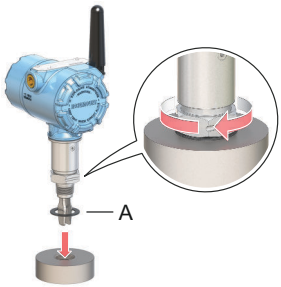
   A gasket may be used as a sealant for BSPP (G) threaded connections.



2. Screw the level detector into the process connection.

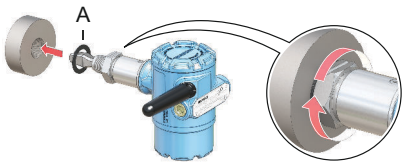
**Note**
Tighten using the hexagon nut only.

**Figure 2-3: Vertical Installation**




*A. Gasket for BSPP (G) threaded connection*

**Figure 2-4: Horizontal Installation**

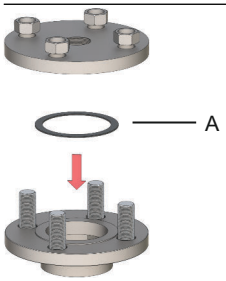



*A. Gasket for BSPP (G) threaded connection*

## 2.3.2 Threaded flange connection

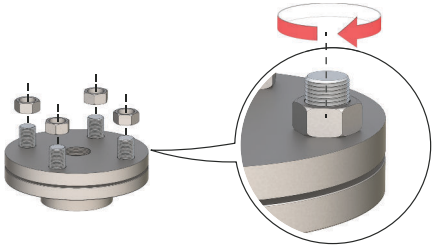
### Procedure

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



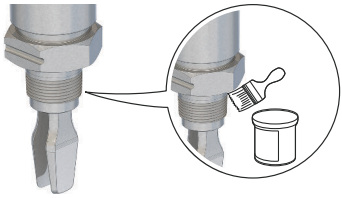

*A. Gasket (customer supplied)*

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



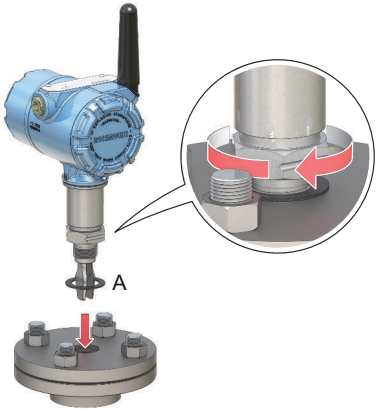
3. Seal and protect the threads. Use anti-seize paste or PTFE tape according to site procedures.

   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.

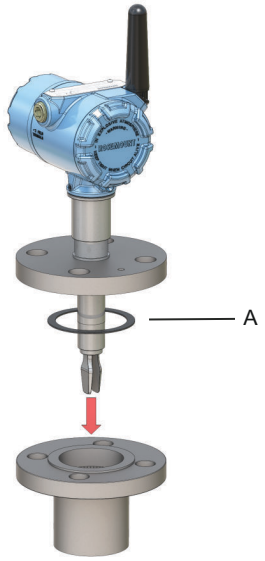



*A. Gasket for BSPP (G) threaded connection*

## 2.4 Mounting the flanged version

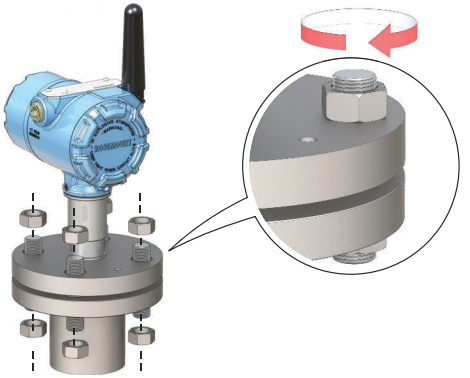
### Procedure

1. Lower the level detector into the nozzle.




*A. Gasket (customer supplied)*

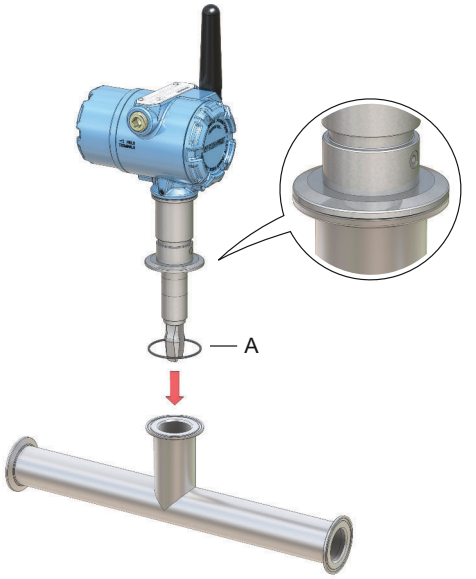
2. Tighten the bolts and nuts with sufficient torque for the flange and gasket.



## 2.5 Mounting the Tri Clamp version

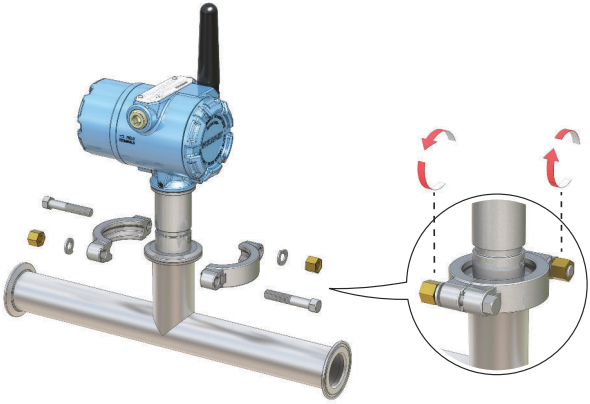
### Procedure

1. Lower the level detector into the flange face.




*A. Seal (supplied with Tri Clamp)*

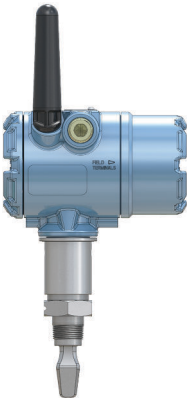
2. Fit the Tri Clamp.



## 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.

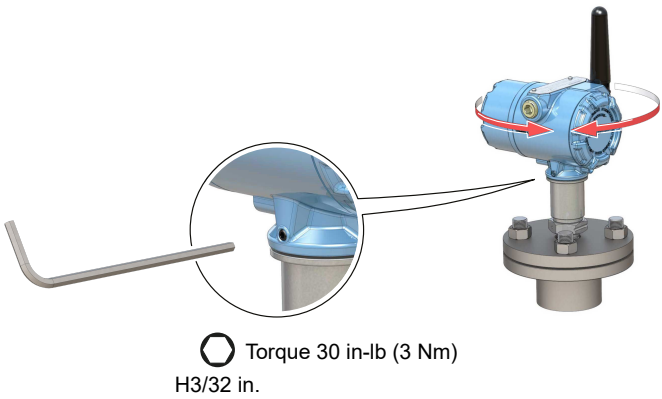
2. First, rotate the housing clockwise to the desired location.

   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:

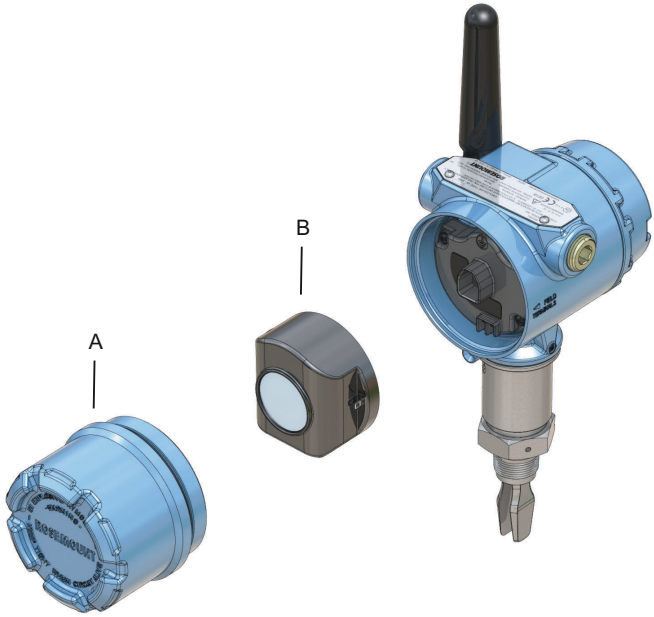
### Prerequisites

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.

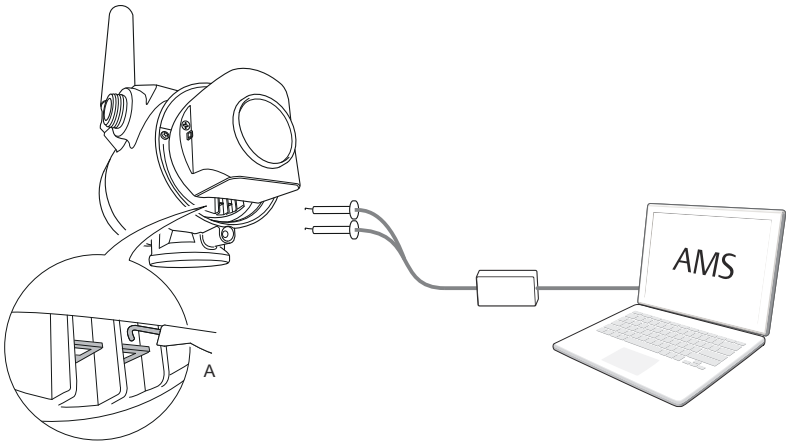
## 3.2 Get started with your preferred configuration tool

### 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.

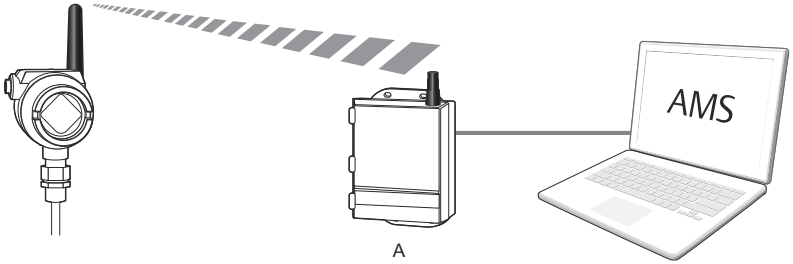
Configuration can be done by connecting to the wireless network devices either point-to-point using a HART® modem as shown in Figure 3-1, or wirelessly through the Gateway as shown in Figure 3-2. Initial configuration to join a device to the wireless network must be done point-to-point.

**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*

## Download the latest Device Descriptor (DD)

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

### Procedure

Download the latest DD from the **Device Driver** page at Emerson.com/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** → **Programs** → **AMS Device Manager** and select **Network Configuration**.
3. Select **Add**.
4. In the drop down list, select **HART modem** and then select **Install**.
5. 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**

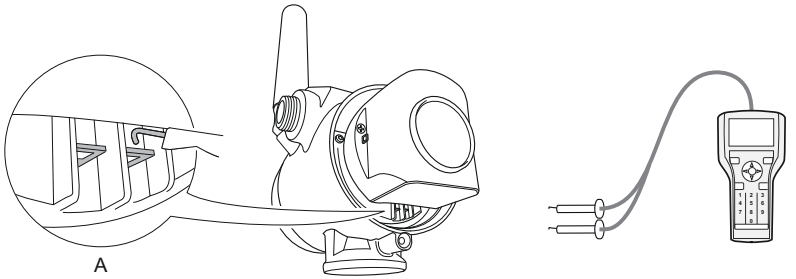
1. Close AMS Wireless Configurator.
2. Go to **Start** → **Programs** → **AMS Device Manager** and select **Network Configuration**.
3. Select **Add**.
4. In the drop-down list select **Wireless Network** and then select **Install**.
5. Follow the on-screen instructions.

**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 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.

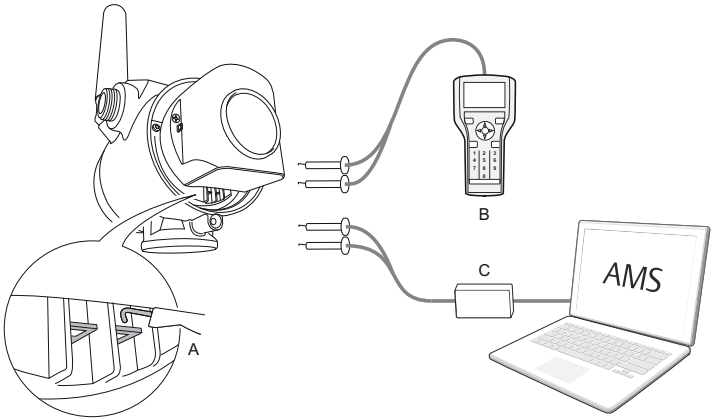
2. Enable **Active Advertising** on the Gateway to ensure that new devices join the network faster.

### 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.

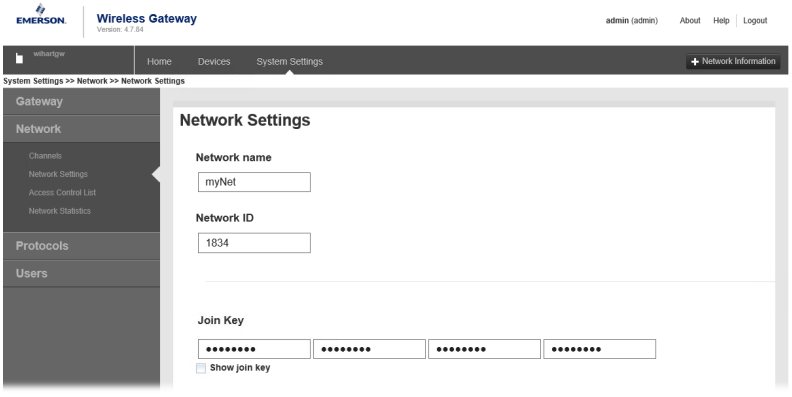
### 3.3.4 Obtain network ID and join key

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. This step is the wireless equivalent of connecting wires from a device to the host system.

#### 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 four ways, further described in this section:

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

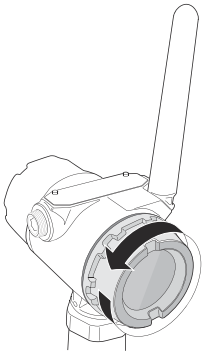
If the Rosemount 2160 was configured with the Network ID and Join Key, and sufficient time has passed, the device should be connected

to the network. It usually takes a few minutes for the device to join the network.

## Verify by device display

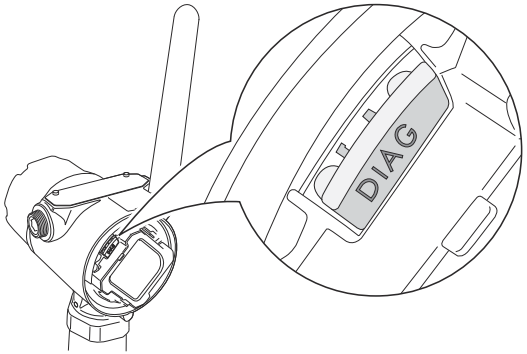
### Procedure

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

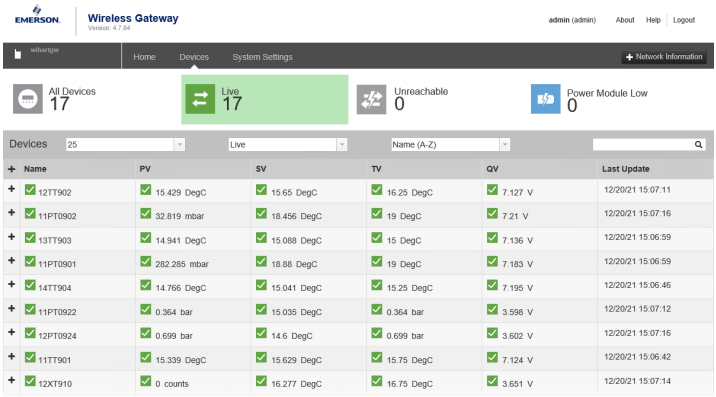
1. From the Emerson Wireless Gateway home page, navigate to the **Devices** page.

   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 4.19

## 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.

## 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<br>IS: Class I, Zone 0, AEx ia IIC<br>T4 (Ta = -58 °F to +158 °F / -50 °C to +70 °C)<br>NI: Class I, Division 2, Groups A, B, C, and D<br>T4 (Ta = -58 °F to +158 °F / -50 °C to +70 °C)<br>DIP: Class II/III, Division 1, Groups E, F, and G<br>T4 (Ta = -50 °C to +85 °C)<br>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<br>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 2160X**S* version**

| Temperature class | Maximum Ambient Temperature range (Ta) | Process temperature range (Tp) |
|---|---|---|
| T3C, T2, T1 | -50 °C ≤ Ta ≤ 70 °C | -40 °C to 100 °C |
| T3C, T2, T1 | -50 °C ≤ Ta ≤ 60 °C | -40 °C to 115 °C |
| T3, T2, T1 | -50 °C ≤ Ta ≤ 50 °C | -40 °C to 150 °C |

**Table 4-3: Temperature Code for 2160X**E* version**

| Temperature class | Maximum Ambient Temperature range (Ta) | Process temperature range (Tp) |
|---|---|---|
| T3C, T2, T1 | -50 °C ≤ Ta ≤ 70 °C | -70 °C to 115 °C |
| T3, T2, T1 | -50 °C ≤ Ta ≤ 65 °C | -70 °C to 185 °C |
| T2, T1 | -50 °C ≤ Ta ≤ 60 °C | -70 °C to 260 °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** | Ⓔx II 1 G<br>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 2160X**S* 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 2160X**E* 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 2160X**S* 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 2160X**E* 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

## 4.13 China

### 4.13.1 I3 NEPSI Intrinsic Safety

**Certificate** GYJ20.1149X (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** | EAЭC KZ 7500525.01.01.01708 |

### 4.14.1 IM Technical Regulations Customs Union (EAC) Intrinsic Safety

| | |
|---|---|
| **Certificate** | EAЭC KZ 7500525.01.01.00939 |
| **Markings** | 0Ex ia IIC T5...T3 Ga X<br>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 60079-0:2020; ABNT NBR IEC 60079-11:2017 |
| **Markings** | Ex ia IIC T5...T2 Ga |

**Specific Conditions of Use (X):**

See certificate.

## 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 - Vlarem

**Certificate** VIL/35/P017110041/NL/002

**Standards** Vlarem II Chapter 5.17
Vlarem II Annex 5.17.7

### 4.20.3 Switzerland - SVTI

**Certificate** KVU 302.011

## 4.21 Pressure approvals

### 4.21.1 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.

## 4.22 EU Declaration of Conformity

**Figure 4-1: EU Declaration of Conformity**

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# 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) | Sr. Manager Product Approvals (function) |
| Dajana Prastalo (name) | 6-May-24; Mölnlycke (date of issue & place) |

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# Declaration of Conformity CE

## 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**********I1WA3WK1***

**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
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

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# 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

# 4.23 China RoHS

***含有China RoHS管控物质超过最大浓度限值的部件型号列表 Rosemount 2160***
***List of Rosemount 2160 Parts with China RoHS Concentration above MCVs***

| 部件名称 Part Name | 有害物质 / Hazardous Substances | | | | | |
|---|---|---|---|---|---|---|
| | 铅 Lead (Pb) | 汞 Mercury (Hg) | 镉 Cadmium (Cd) | 六价铬 Hexavalent Chromium (Cr +6) | 多溴联苯 Polybrominated biphenyls (PBB) | 多溴联苯醚 Polybrominated diphenyl ethers (PBDE) |
| 电子组件 Electronics Assembly | X | O | O | O | O | O |
| 壳体组件 Housing Assembly | O | O | O | O | O | O |
| 传感器组件 Sensor Assembly | X | O | O | O | O | O |

*本表格系依据SJ/T11364的规定而制作.*
*This table is proposed in accordance with the provision of SJ/T11364.*

*O: 意为该部件的所有均质材料中该有害物质的含量均低于GB/T 26572所规定的限量要求.*
*O: Indicate that said hazardous substance in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.*

*X: 意为在该部件所使用的所有均质材料里，至少有一类均质材料中该有害物质的含量高于GB/T 26572所规定的限量要求.*
*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.*

**Quick Start Guide**
**00825-0100-4160, Rev. CG**
**August 2024**

For more information: **Emerson.com/global**



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