

Rosemount™ 3408 Wireless Level Transmitter

Non-Contacting Radar with *WirelessHART*® Protocol



Contents

About this guide.....	3
Mount the process seal antenna.....	7
Mount the lens antenna.....	9
Mount the ATAP lens antenna.....	11
Rotate the transmitter housing.....	14
Install the power module.....	15
Configuration.....	17

1 About this guide

This Quick Start Guide provides basic guidelines for the Rosemount 3408 Wireless Level Transmitter. Refer to the Rosemount 3408 [Reference Manual](#) for more instructions. The manual and this guide are also available electronically on [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 transmitter is installed by qualified personnel and in accordance with applicable code of practice.

Use the equipment only as specified in this Quick Start Guide and the Reference Manual. Failure to do so may impair the protection provided by the equipment.

For installations in hazardous locations, the transmitter must be installed according to the Rosemount 3408 [Product Certifications](#) document and System Control Drawing.

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

Substitution of components may impair Intrinsic Safety.

Potential electrostatic charging hazard, wipe with a damp cloth.

⚠ WARNING**Explosions could result in death or serious injury.**

To prevent ignition of flammable or combustible atmospheres, read, understand and adhere to the manufacturer's live maintenance procedures.

Flammable liquids for use with the transmitter shall have a fire point of 80 °C above the process temperature.

Verify that the operating atmosphere of the transmitter 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 transmitter is handled carefully. If the process seal is damaged, gas might escape from the tank.

⚠ 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.

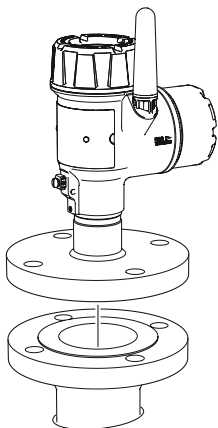
Each Blue Power Module (MHM-89004) contains two "D" size primary lithium batteries. Primary lithium batteries (charged or discharged) are regulated in transportation by the U.S. Department of Transportation, and are also covered by IATA (International Air Transport Association), ICAO (International Civil 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 Mount the process seal antenna

2.1 Mount the flanged version

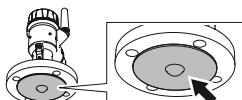
Procedure

1. Lower the transmitter into the nozzle.



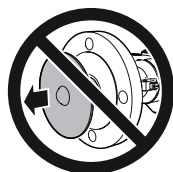
Note

Be careful not to scratch or otherwise damage the PTFE sealing.



⚠ WARNING

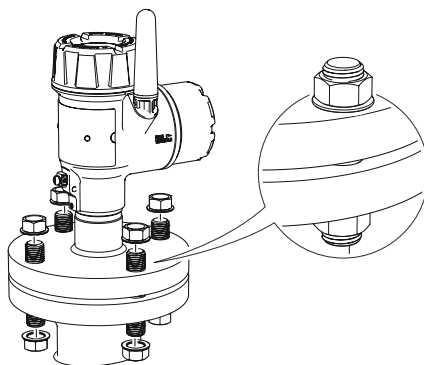
Do not remove the PTFE sealing.



2. Tighten the bolts and nuts (see [Table 2-1](#)).

Note

- Re-tighten after 24 hours and again after the first temperature cycle.
- Check at regular intervals and re-tighten if necessary.



2.2 Torque specifications

The conditions used for the calculation are:

- Standard mating metal flange
- A193 B8M Cl.2 / A4-70 bolt material
- Friction coefficient of $\mu=0.16$

Low strength bolt and non-metallic mating flange may require lower tightening torque.

Table 2-1: Torque Values for Process Seal Antenna, lb-ft (N-m)

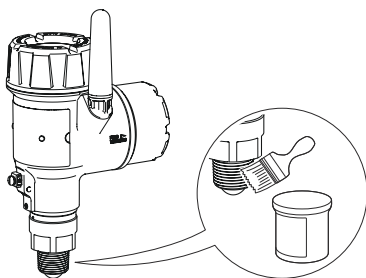
Process connection size	Process connection rating					
	ASME B16.5		EN1092-1		JIS B2220	
	Class 150	Class 300	PN16	PN40	10K	20K
2-in./DN50/50A	29 (40)	52 (70)	26 (35)	29 (40)	18 (25)	37 (50)
3-in./DN80/80A	33 (45)	48 (65)	37 (50)	41 (55)	22 (30)	70 (95)
4-in./DN100/100A	59 (80)	52 (70)	37 (50)	74 (100)	26 (35)	74 (100)
6-in./DN150/150A	66 (90)	66 (90)	74 (100)	136 (185)	74 (100)	N/A

3 Mount the lens antenna

3.1 Mount on NPT threaded connections

Procedure

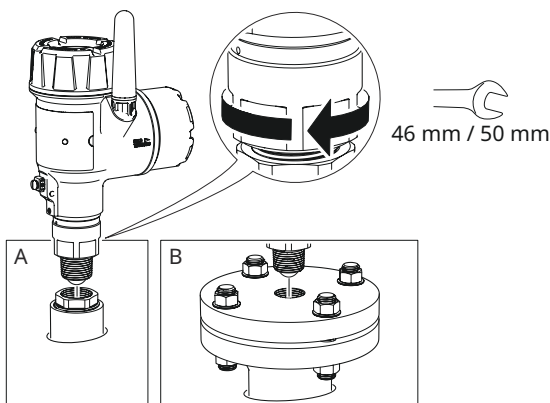
1. Apply anti-seize paste or PTFE tape on threads according to your site procedures.



2. Mount the transmitter on the tank.

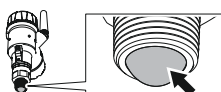
Example

- (A) Threaded fitting
- (B) Threaded flange



Note

Be careful not to scratch or otherwise damage the PTFE sealing.



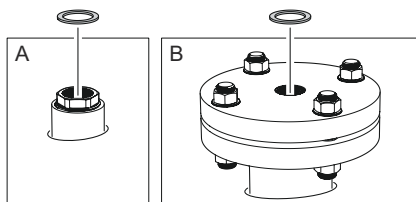
3.2 Mount on BSPP (G) threaded connections

Procedure

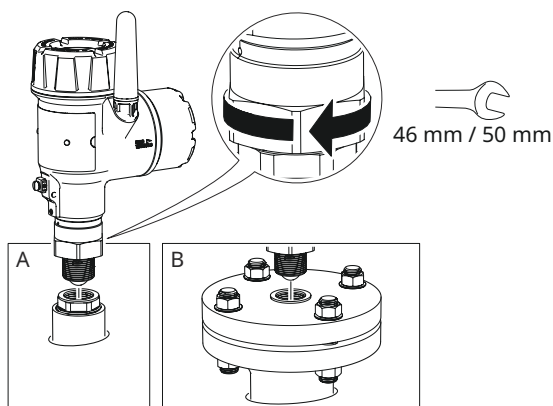
1. Place a suitable gasket on the tank nozzle.

Example

- (A) Threaded fitting
- (B) Threaded flange

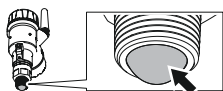


2. Mount the transmitter on the tank.



Note

Be careful not to scratch or otherwise damage the PTFE sealing.

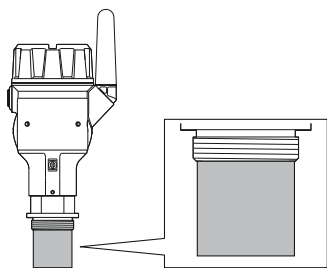


4 Mount the ATAP lens antenna

4.1 Open air installations

The antenna extension must be fitted to the transmitter to comply with open air requirements.

Figure 4-1: Antenna Extension



4.2 Mount the bracket

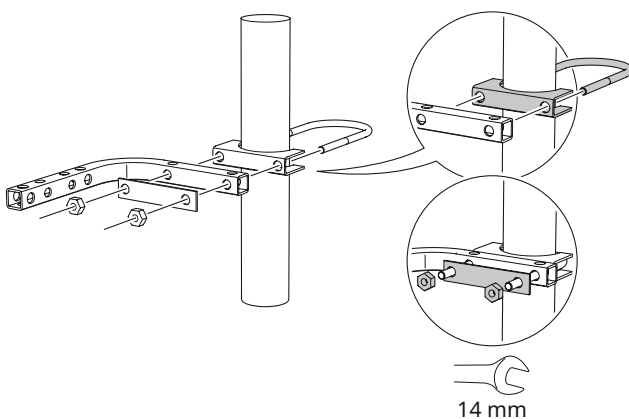
Prerequisites

Mount the bracket so that it is not susceptible to vibration.

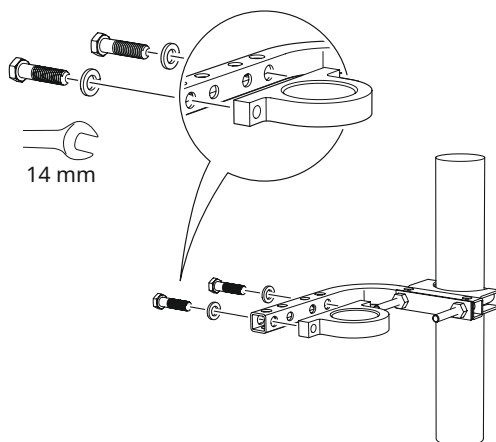
Procedure

1. Mount the bracket to the pipe/wall.

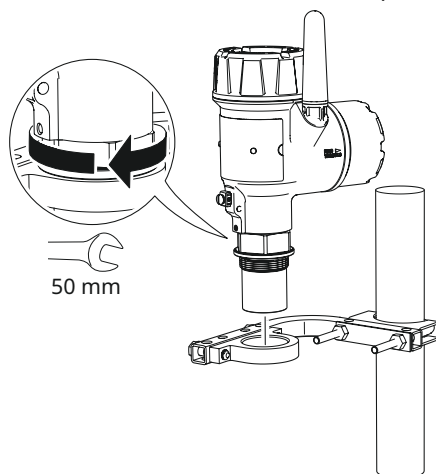
Example



2. Mount the adapter.



3. Secure the transmitter to the adapter.



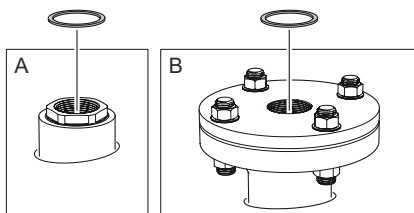
4.3 Mount on 1½-in. BSPP (G) threaded connections

Procedure

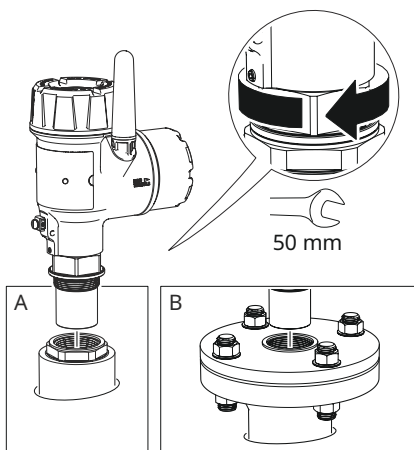
1. Place a suitable gasket on the tank nozzle.

Example

- (A) Threaded fitting
- (B) Threaded flange



2. Mount the transmitter on the tank.

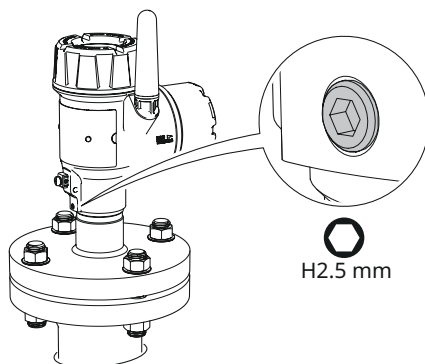


5 Rotate the transmitter housing

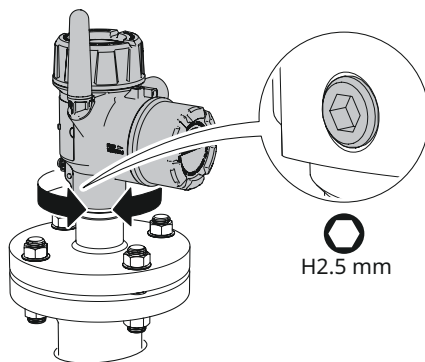
The housing can be rotated to improve field access or to better view the optional LCD display.

Procedure

1. Loosen the set screw.



2. Rotate the transmitter housing to the desired location, and then retighten the set screw.



6 Install the power module

Prerequisites

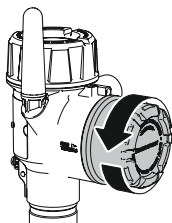
Only use an Emerson approved power module designed for use with the Rosemount 3408. The power modules are only compatible with their respective covers.

⚠ WARNING

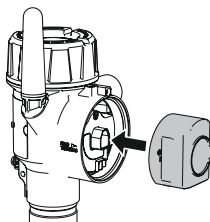
For use with Emerson SmartPower™ option 701PBKKF or MHM-89004.

Procedure

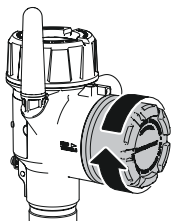
1. Remove the power module cover.



2. Connect the power module.

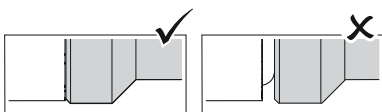


3. Attach and tighten the power module cover.



Note

Make sure the cover is fully engaged. There should be no gap between the cover and the housing.



7 Configuration

7.1 Configuration tools

- Field Device Integration (FDI) compliant systems
- Device Descriptor (DD) compliant systems

7.2 Download AMS Device Configurator

AMS Device Configurator is a software for configuration of Emerson field devices using FDI technology.

Procedure

Download the software at [Emerson.com/AMSDeviceConfigurator](https://emerson.com/AMSDeviceConfigurator).

7.3 Confirm correct device driver

Procedure

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

7.4 Connect to device

Procedure

1. Remove the power module cover.

2. Connect a HART® modem or handheld communicator to the "COMM" terminals.

Figure 7-1: Connect via HART Modem

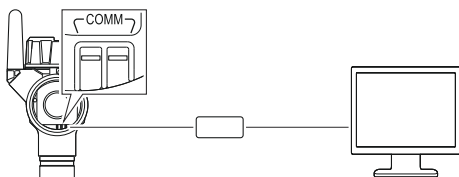


Figure 7-2: Connect to Handheld Communicator



3. Start the configuration software and connect to the device.

Postrequisites

Once finished, attach and tighten the power module cover.

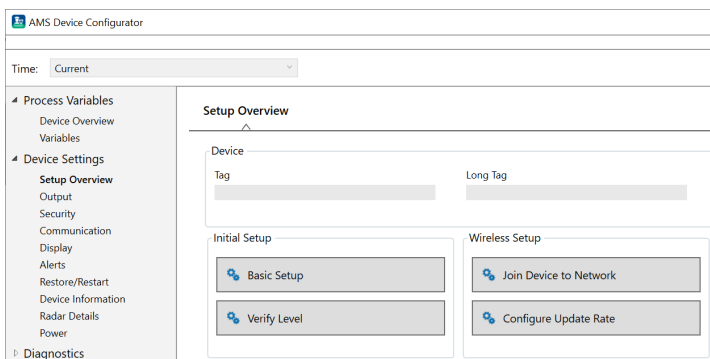
7.5 Configure device using basic setup

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

Procedure

1. Select **Device Settings** → **Setup Overview**.

2. Under **Initial Setup**, select **Basic Setup** and follow the on-screen instructions.



3. Select **Verify Level** to check your level measurement.

7.6 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 one minute.

Prerequisites

Note

Set the update rate so that there is enough safety margin in the system for high/low alerts. If the time between each update is too long, the high/low alerts may be triggered too late.

Procedure

1. Select **Device Settings** → **Setup Overview**.
2. Under **Wireless Setup**, select **Configure Update Rate** and follow the on-screen instructions.

Postrequisites

Run **Check Level Response** to make sure that configured update rate is sufficient for the application.

7.7 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 **Device Settings** → **Setup Overview**.

2. Obtain **Network ID** and **Join Key** for the wireless network (available in wireless gateway).
3. Under **Wireless Setup**, select **Join Device to Network** and follow the on-screen instructions.

7.8 Wait for device to join network

Procedure

1. Select **Process Variables** → **Device Overview**.
2. Wait for communication status to become **Connected**. This takes several minutes.



PRELIMINARY



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