Quick Start Guide
00825-0300-4480, Rev AA
April 2024

Rosemount™ 1408H Level Transmitter

Non-Contacting Radar with HART® Protocol

ROSEMOUNT™

EMERSON.

Contents

1 About this guide

This Quick Start Guide provides basic guidelines for the Rosemount 1408H Level Transmitter. Refer to the Rosemount 1408H Reference Manual for more instructions.

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.

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.

To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

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.

Handle the transmitter carefully.

Install and tighten process connectors before applying pressure.

Do not attempt to loosen or remove process connectors while the transmitter is in service.

⚠ 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.

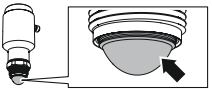
Physical security is an important part of any security program and fundamental in protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

⚠ CAUTION

Hot surfaces

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

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



1.2 Product certifications

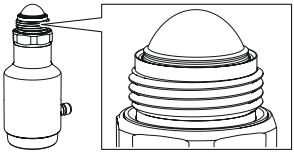
See the Rosemount 1408H Product Certifications document for detailed information on the existing approvals and certifications.

2 Cleaning the transmitter

Procedure

If needed, clean the wetted parts of the transmitter.

Use a damp cloth and a mild cleaning agent suitable for the media and wetted parts of the transmitter.



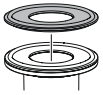
Note
Be careful not to scratch any of the surfaces.

3 Installing on a tank

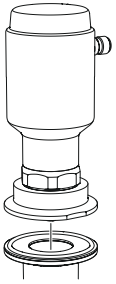
3.1 Mount the Tri Clamp version

Procedure

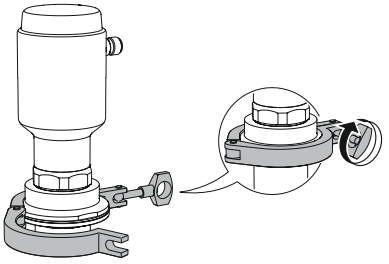
1. Place a suitable gasket on top of the tank flange.



2. Lower the transmitter into the nozzle.



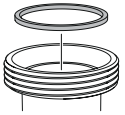
3. Tighten the clamp to the recommended torque (see the manufacturer's instruction manual).



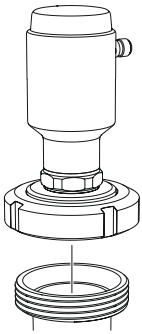
3.2 Mount the dairy coupling (DIN 11851)

Procedure

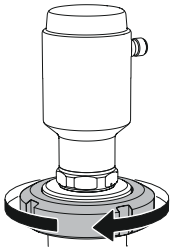
1. Place a suitable gasket on top of the tank flange.



2. Lower the transmitter into the nozzle.



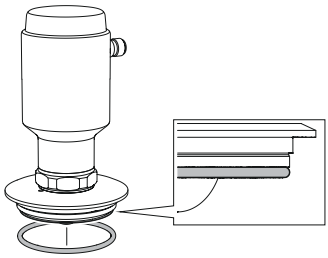
3. Tighten the lock nut to the recommended torque (see the manufacturer's instruction manual).



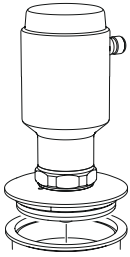
3.3 Mount the VARIVENT® version

Procedure

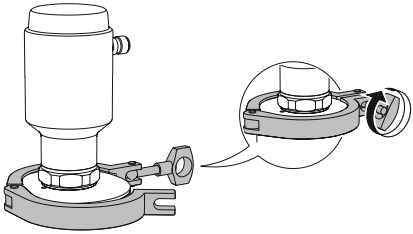
1. Mount a suitable O-ring on the adapter.



2. Lower the transmitter into the nozzle.



3. Tighten the clamp to the recommended torque (see the manufacturer's instruction manual).

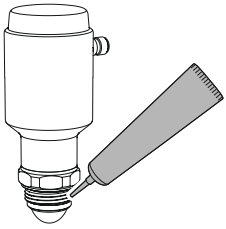


3.4 Mount on a threaded connection

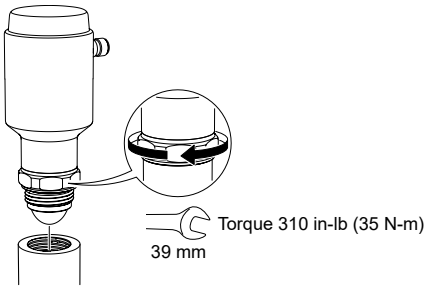
Procedure

1. Apply lubricating paste on the transmitter thread.

Note
The paste must be approved for the application and compatible with the elastomers used.



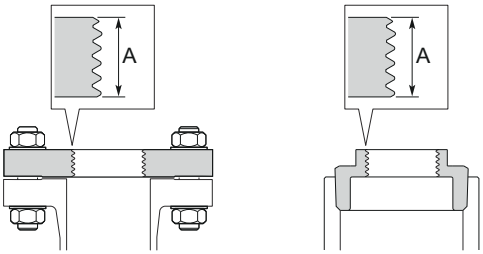
2. Mount the transmitter on the tank.



3.4.1 Thread engagement length

Refer to Figure 3-1 for the required thread engagement length at the customer G1 process connection.

Figure 3-1: Thread Engagement Length

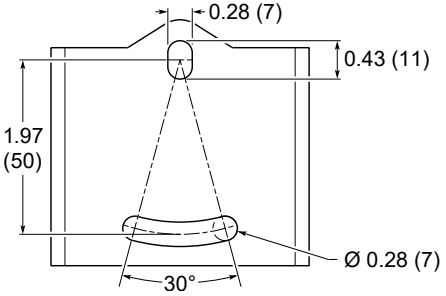


A. 0.35 to 0.63 in. (9 to 16 mm)

4 Bracket mounting

4.1 Bracket hole pattern

Figure 4-1: Hole Pattern

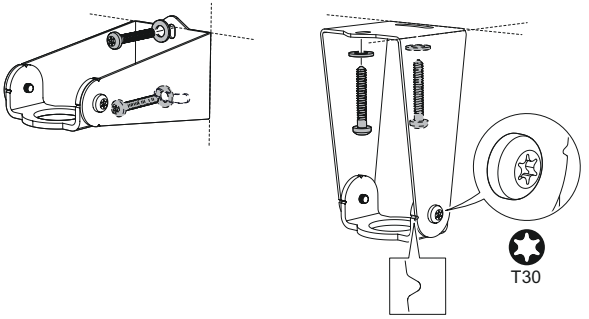


Dimensions are in inches (millimeters).

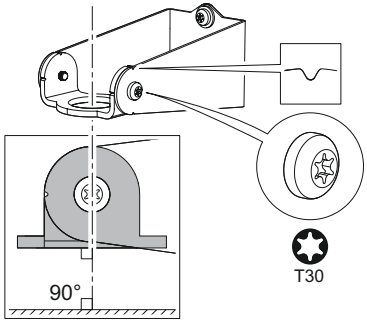
4.2 Mount the bracket

Procedure

1. Mount the bracket on the wall/ceiling or other flat surface.

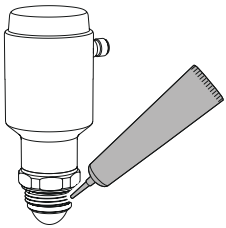


2. Ensure the adjustable holder is directed toward the ground.

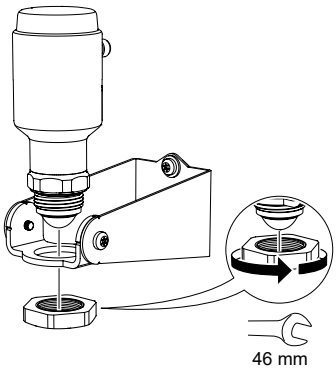


3. Apply lubricating paste on the transmitter thread.

Note
The paste must be approved for the application and compatible with the elastomers used.



4. Secure the transmitter to the bracket.



5 Prepare the electrical connections

5.1 Connector type

M12 male (A-coded)

5.2 Cable selection

Use 24-18 AWG wire (0.20-0.75 mm^2). Twisted pairs and shielded wiring are recommended for environments with high EMI (electromagnetic interference).

5.3 Internal power consumption

< 0.8 W in normal operation

5.4 Cable shield grounding

Make sure the instrument cable shield is:

- Continuously connected throughout the segment.
- Connected to a good earth ground at the power supply end.

5.5 Power supply

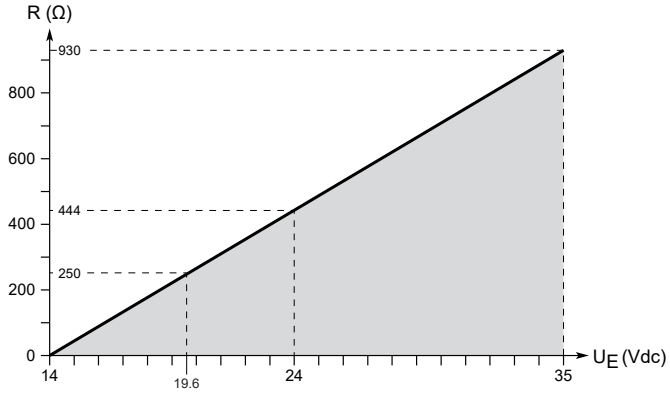
The transmitter operates on 14-35 Vdc at the transmitter terminals.

5.6 Load limitations

For HART® communication, a minimum loop resistance of 250 Ω is required. Maximum loop resistance (R) is determined by the voltage level of the external power supply (U_E):

$R = 44.4 \times (U_E - 14)$

Figure 5-1: Load Limits



5.7 Wiring diagram

Figure 5-2: Connection

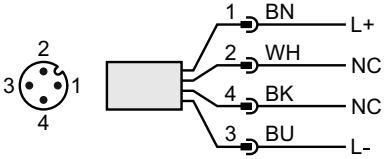


Table 5-1: Pin Assignment

Pin	Wire color(1)		Signal	
1	BN	Brown	L+	24 V
2	WH	White	NC	Not connected
3	BU	Blue	L-	0 V
4	BK	Black	NC	Not connected

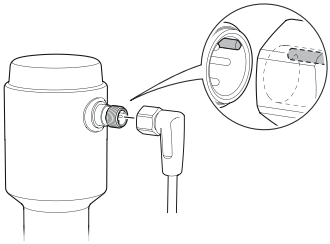
(1) According to IEC 60947-5-2.

6 Power up transmitter

Procedure

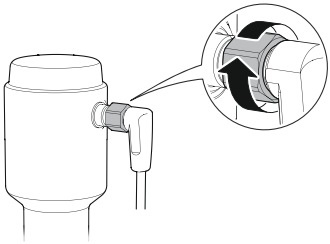
1. ⚠ Verify the power supply is disconnected.
2. Insert the M12 connector gently.

Note
Do not force the connector into place. Check that it is aligned properly.



3. Once fully inserted, turn the screw ring until tight.

   See the manufacturer's instruction manual for recommended torque.



4. Connect the power supply.

7 Configuration

7.1 Configuration tools

- Field Device Integration (FDI) compliant systems
- Device Descriptor (DD) compliant systems
- Device Type Manager (DTM™) 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.

7.3 Confirm correct device driver

Procedure

1. Verify that the correct FDI/DD/DTM Package is loaded on your systems to ensure proper communication.
2. Download the latest FDI/DD/DTM Package from the **Device Driver** page at Emerson.com/MySoftware.

7.4 Configure transmitter using guided setup

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

Procedure

1. Select **Configure** → **Guided Setup** → **Initial Setup**.
2. Select **Basic Setup** and follow the on-screen instructions.
3. Select **Verify Level** to check your level measurement.

Quick Start Guide
00825-0300-4480, Rev. AA
April 2024

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

ROSEMOUNT™

EMERSON™