



# EMERSON Rosemount 1208C Level and Flow Transmitter User Guide

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**EMERSON Rosemount 1208C Level and Flow Transmitter**



## Product Information

The Rosemount™ 1208C Level and Flow Transmitter is a non-contacting radar device designed to provide accurate and reliable level and flow measurements in various industrial applications. It comes with a Quick Start Guide that provides basic guidelines for installation and usage. For more detailed instructions, refer to the 1208C Reference Manual.

The transmitter is equipped with safety features that must be followed to prevent death or serious injury. Failure to follow safe installation and servicing guidelines, as specified in the Quick Start Guide and Reference Manual, may impair the protection provided by the equipment. The transmitter should only be installed by qualified personnel in accordance with applicable code of practice.

## Product Usage Instructions

### Safety Guidelines

Before using the transmitter, read and follow the safety messages provided in the Quick Start Guide. Failure to follow these guidelines could result in death or serious injury.

- Ensure the transmitter is installed by qualified personnel and in accordance with applicable code of practice.
- Disconnect power before servicing to prevent ignition of flammable or combustible atmospheres.
- Handle the transmitter carefully and install and tighten process connectors before applying pressure.
- Restrict physical access by unauthorized personnel to protect end users' assets.
- Allow the transmitter and process seal to cool before servicing if they are hot at high process temperatures.

## Mounting on a Tank

Follow the below steps to mount the transmitter on a tank:

1. Place a suitable gasket on the tank flange.
2. Place the flange over the gasket.
3. Tighten the bolts and nuts with sufficient torque for the flange and gasket choice.
4. Apply appropriate thread sealant to the transmitter threads (only for NPT threaded tank connection).
5. Install and hand tighten the transmitter.

### **If using an NPT threaded adapter, follow these additional steps:**

1. Apply appropriate thread sealant to the outer threads of the adapter.
2. Mount the threaded adapter on the tank.
3. Apply appropriate thread sealant to the transmitter threads.
4. Install and hand tighten the transmitter.

## About this guide

This Quick Start Guide provides basic guidelines for the Rosemount 1208C Level and Flow Transmitter. Refer to the 1208C Reference Manual for more instructions.

### 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 to 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.

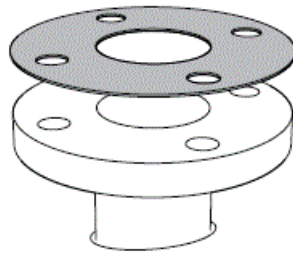
**Bracket mounting**

- See the documentation supplied with the bracket kit.

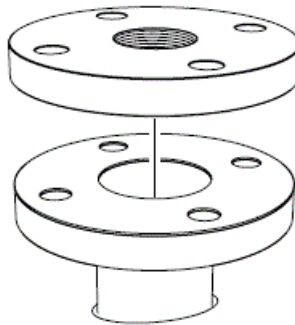
**Installing on a tank**

**Mount the flange**

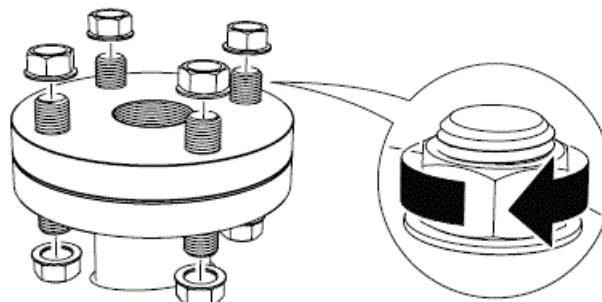
***Procedure***



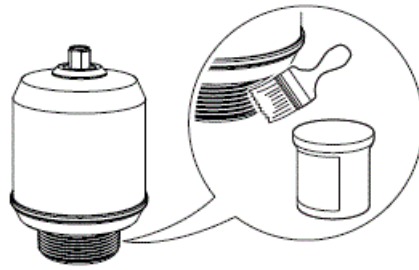
1. Place a suitable gasket on the tank flange.



2. Place the flange over the gasket.

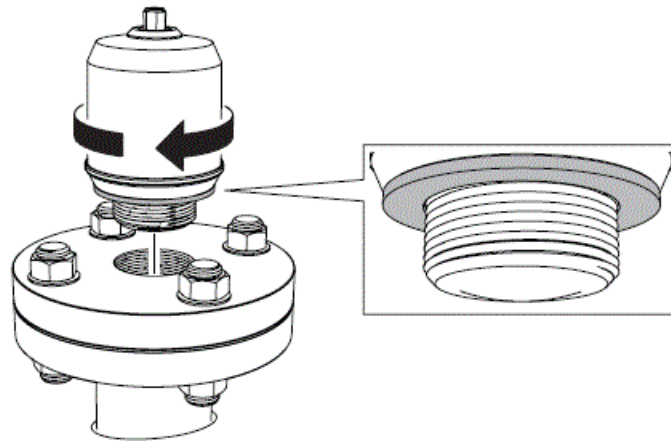


3. Tighten the bolts and nuts with sufficient torque for the flange and gasket choice.



4. Apply appropriate thread sealant to the transmitter threads.

- **Note:** Only for NPT threaded tank connection.

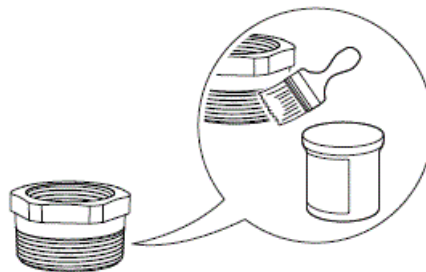


5. Install and hand tighten the transmitter.

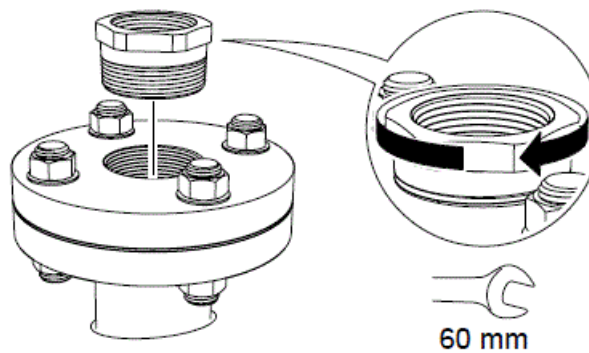
- **Note:** The gasket is necessary for the G-threaded version only.

### Mount the NPT threaded adapter

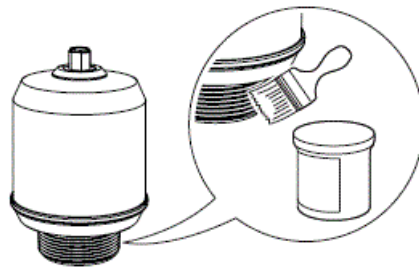
#### *Procedure*



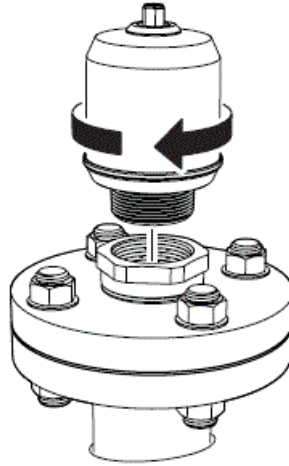
1. Apply appropriate thread sealant to the outer threads.



2. Mount the threaded adapter on the tank.



3. Apply appropriate thread sealant to the transmitter threads.



4. Install and hand tighten the transmitter.

## **Prepare the electrical connections**

### **Connector type**

- M12 male (A-coded)

### **Cable selection**

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

### **Internal power consumption**

- < 0.8 W in normal operation

### **Cable shield grounding**

Make sure the instrument cable shield is:

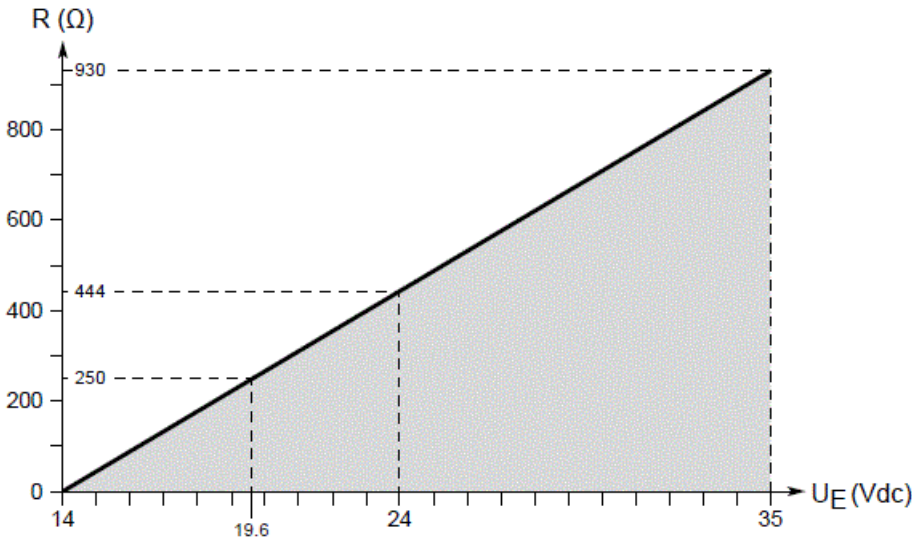
- Continuously connected throughout the segment.
- Connected to a good earth ground at the power supply end.

### **Power supply**

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

Load limitations

Figure 3-1: Load Limits



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 ( $U_E$ ):

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

Wiring diagram

Figure 3-2: Connection

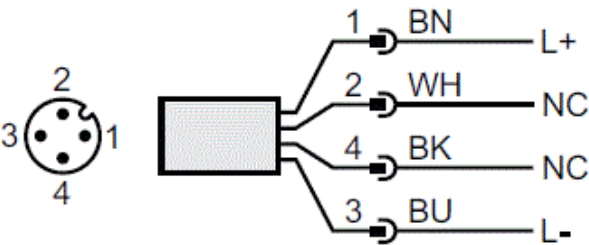


Table 3-1: Pin Assignment

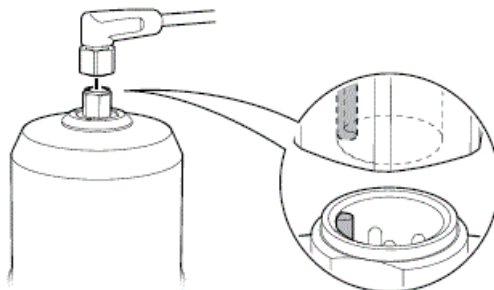
Pin	Wire color <sup>(1)</sup>		Signal	
1	BN	Brown	L+	24 V
2	WH	White	NC	Not connected
3	BU	Blue	L-	0 V
4	BK	Black	NC	Not connected

1. According to IEC 60947-5-2.

## Power up transmitter

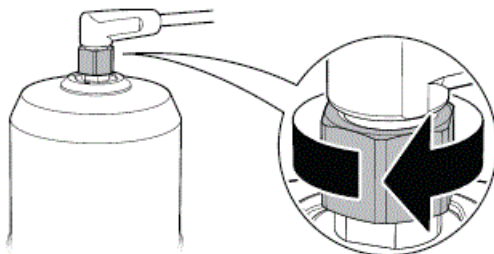
### Procedure

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.

## Configuration

### Configuration tools

- Field Device Integration (FDI) compliant systems



- Device Descriptor (DD) compliant systems
- Device Type Manager (DTM™) compliant systems (pending)

## **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).

## **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 at [Emerson.com/DeviceInstallKits](https://emerson.com/DeviceInstallKits).

## **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.

**For more information:** [Emerson.com](https://emerson.com)


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00825-0200-7062, Rev. AA  
February 2023

## **Documents / Resources**

 <p>Rosemount™ 1208C Level and Flow Transmitter Non-Contacting Radar</p>	<p><a href="#">EMERSON Rosemount 1208C Level and Flow Transmitter</a> [pdf] User Guide K8C1208CL, K8C1208CLB, 1208cl, 1208clb, Rosemount 1208C, Rosemount 1208C Level and Flow Transmitter, Level and Flow Transmitter, Flow Transmitter, Transmitter</p>
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## References

- [Emerson Global | Emerson](#)
- [AMS Device Configurator for Emerson Field Devices | Emerson](#)
- [Rosemount 1208 Non-Contacting Level and Flow Transmitter | Emerson US](#)
- [Software Downloads & Drivers | Emerson US](#)

Manuals±.