

# Rosemount™ 1208A Level and Flow Transmitter

Non-Contacting Radar



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# 1 About this guide

This Quick Start Guide provides basic guidelines for the Rosemount 1208A Level and Flow Transmitter. Refer to the 1208A [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**

**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.



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## 1.2 Bracket mounting

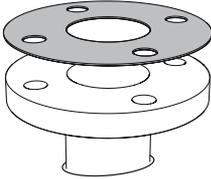
See the documentation supplied with the bracket kit.

## 2 Installing on a tank

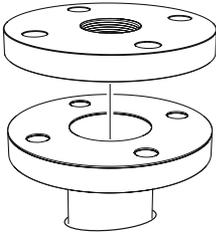
### 2.1 Mount the flange

#### Procedure

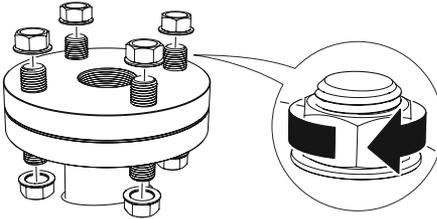
1. Place a suitable gasket on the tank flange.



2. Place the flange over the gasket.



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



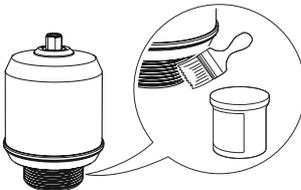
4. Apply appropriate thread sealant to the transmitter threads.

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#### Note

Only for NPT threaded tank connection.

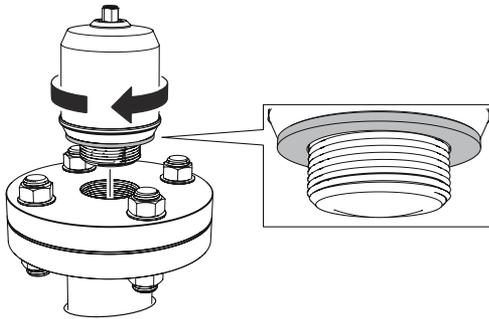
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5. Install and hand tighten the transmitter.

**Note**

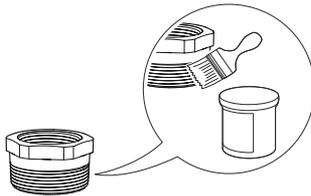
The gasket is necessary for the G threaded version only.



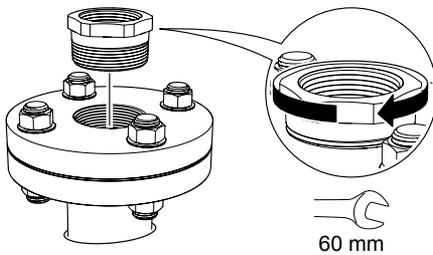
## 2.2 Mount the NPT threaded adapter

**Procedure**

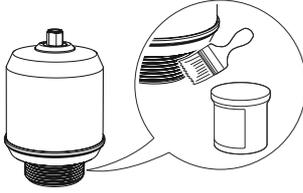
1. Apply appropriate thread sealant to the outer threads.



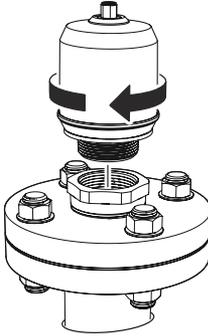
2. Mount the threaded adapter on the tank.



3. Apply appropriate thread sealant to the transmitter threads.



4. Install and hand tighten the transmitter.



## 3 Prepare the electrical connections

### 3.1 Connector type

M12 (A-coded)

### 3.2 Power supply

The transmitter operates on 18-30 Vdc at the transmitter terminals.

### 3.3 Outputs

The transmitter provides two configurable outputs:

**Output 1** Digital output / IO-Link mode

**Output 2** Digital output or active 4-20 mA analog output

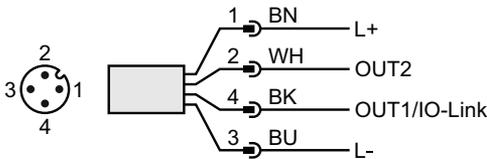
### 3.4 Internal power consumption

< 2 W (normal operation at 24 Vdc, no outputs)

< 3.6 W (normal operation at 24 Vdc, digital and analog outputs active)

### 3.5 Wiring diagram

**Figure 3-1: Connection**

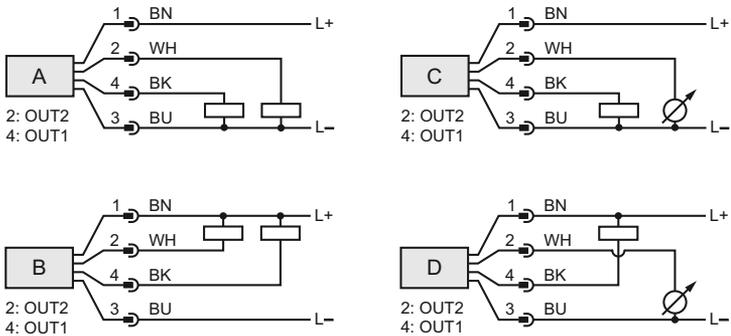


**Table 3-1: Pin Assignment**

Pin	Wire color <sup>(1)</sup>		Signal	
1	BN	Brown	L+	24 V
2	WH	White	OUT2	Digital output or active 4-20 mA analog output
3	BU	Blue	L-	0 V
4	BK	Black	OUT1/IO-Link	Digital output or IO-Link mode

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

**Figure 3-2: Example Circuits**

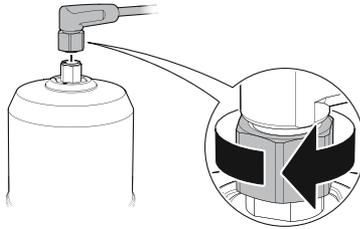


- A. 2 x Digital output PnP
- B. 2 x Digital output NpN
- C. 1 x Digital output PnP / 1 x Analog output
- D. 1 x Digital output NpN / 1 x Analog output

## 4 Power up transmitter

### Procedure

1. ⚠ Verify the power supply is disconnected.
2. Insert the M12 connector and screw tight.  
See the manufacturer's instruction manual for recommended torque.



3. Connect the power supply.

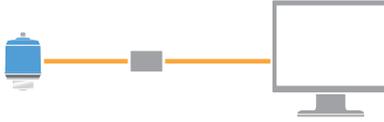
## 5 Connect the transmitter to the IO-Link

IO-Link devices can be set using an IO-Link USB Communicator, through the IO-Link master, or via the PLC.

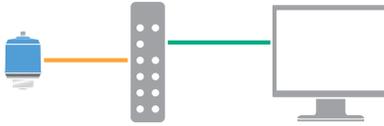
### Procedure

Start the configuration software and connect the transmitter.

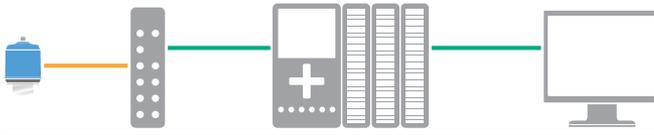
**Figure 5-1: Connection via the IO-Link USB Communicator**



**Figure 5-2: Connection via the IO-Link Master**



**Figure 5-3: Connection via the PLC**



## 6 Get started with your preferred configuration tool

### 6.1 IO-Link configuration tools

Examples:

- Rosemount IO-Link Assistant (available as accessory)
- FDT® frame applications, e.g. PACTware

### 6.2 Rosemount IO-Link Assistant

#### 6.2.1 Get the latest IODD files

The Rosemount IO-Link Assistant software checks and lets you download the latest IODDs for your device catalog.

#### Prerequisites

For an online update, an internet connection is required.

#### Procedure

1. Click the  icon.
2. In the **Vendor** list, select **Rosemount Inc.**, and then select the check box for the devices to be installed/updated.  
Alternatively, browse to an already downloaded IODD zip file, and select **Open**.
3. Select **OK**.

### 6.3 FDT®/DTM framework

#### 6.3.1 Download the IODD file

#### Procedure

1. Download the IODD from the IODDFinder portal at [ioddfinder.io-link.com](http://ioddfinder.io-link.com).
2. Unzip the IODD package.

### 6.3.2 Integrate IODDs into an FDT®/DTM framework

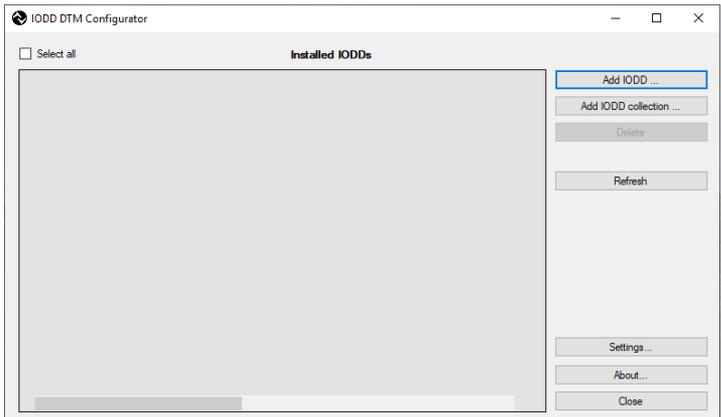
An IODD DTM Interpreter is required to integrate IODDs into an FDT/DTM environment (e.g PACTware).

#### Prerequisites

The IODD DTM Interpreter is usually included in the FDT/DTM software installation package. It can also be downloaded from [Emerson.com/Rosemount1208A](http://Emerson.com/Rosemount1208A).

#### Procedure

1. Start the **IODD DTM Interpreter** software.
2. Select **Add IODD**.



3. Browse to the IODD file (.xml) and select **Open**.
4. Start the configuration tool and update the device catalog.

#### Need help?

If the new DTM is not added automatically at start-up, then select **View → Device Catalog → Update Device Catalog**.

## 7 Perform the basic setup

### 7.1 Set the engineering units

#### Procedure

1. Under **Menu**, select **Parameter** → **Basic Setup**.
2. In the **Engineering Units** list, select **Metric** or **Imperial**.
3. Select **Write to device**.

### 7.2 Enter the reference height

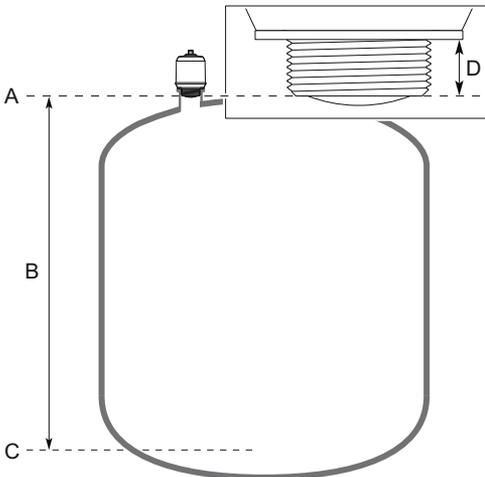
#### Procedure

1. Under **Menu**, select **Parameter** → **Basic Setup**.
2. Enter the Reference Height.
3. Select **Write to device**.

#### 7.2.1 Reference height

Distance between the Device Reference Point and Zero Level.

**Figure 7-1: Reference Height**



- A. Device Reference Point
- B. Reference Height
- C. Zero Level
- D. 0.79 in. (20 mm)

## 7.3 Configure the analog output

The transmitter can be set to output the level or volume flow as a 4-20 mA signal.

### Procedure

1. Under **Menu**, select **Parameter** → **OUT2 Analog Output**.
2. In the **OUT2 Configuration** list, select **Analog Output 4-20 mA**.
3. In the **Analog Control Variable** list, select **Level** or **Volume Flow**.
4. In the **Alarm Mode** list, select **Low Alarm** or **High Alarm**.
5. Select **Analog Range Values**, and then enter the desired Upper Range Value (20 mA) and Lower Range Value (4 mA).
6. Select **Write to device**.

## 7.4 Configure the digital output

The transmitter can be set to output a switching signal for high and low limits (using the same pin).

### Procedure

1. Under **Menu**, select **Parameter** → **Basic Setup**.
2. In the **Digital Outputs P-n** list, select **PnP** or **nPN**.
3. Select **OUT1 Digital Output** or **OUT2 Digital Output**.
4. In the **OUT1 Configuration** or **OUT2 Configuration** list, select **Digital Output Normally Open**.
5. In the **DO Control Variable** list, select **Level** or **Volume Flow**.
6. Select **Set Point Configuration**, and then set the alarm parameters as desired.
7. Select **Write to device**.

## 7.5 Set up the volume flow measurement

### Procedure

1. Under **Menu**, select **Volume Flow**.
2. In the **Volume Flow Calculation Method** list, select the preferred method. Choose from:
  - Linearization table
  - Parshall flume
  - Khafagi-Venturi flume

3. Select **Volume Flow Table/Formula**, and then set the parameters as desired.
4. Select **Write to device**.









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