

Micro Motion™ 4700 Transmitters with Intrinsically Safe Outputs

All Installation Types (Integral, 4-Wire, and 9-Wire)



Safety messages

Safety messages are provided throughout this manual to protect personnel and equipment. Read each safety message carefully before proceeding to the next step.

Safety and approval information

This Micro Motion product complies with all applicable European directives when properly installed in accordance with the instructions in this manual. Refer to the EU Declaration of Conformity for directives that apply to this product. The following are available: the EU Declaration of Conformity, with all applicable European directives, and the complete ATEX installation drawings and instructions. In addition, the IECEx installation instructions for installations outside of the European Union and the CSA installation instructions for installations in North America are available at Emerson.com/global or through your local Micro Motion support center.

Other information

Troubleshooting information can be found in the appropriate Configuration and Use Manual. Product Data Sheets and Manuals are available from the Micro Motion website at Emerson.com/global.

Return policy

Follow Emerson procedures when returning equipment. These procedures ensure legal compliance with government transportation agencies and help provide a safe working environment for Emerson employees. If you fail to follow Emerson procedures, then Emerson will not accept your returned equipment.

Return procedures and forms are available on our web support site at Emerson.com/global, or by calling the Micro Motion Customer Service department.

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1 Before you begin

1.1 About this document

This manual provides information on planning, mounting, wiring, and initial setup of the Micro Motion transmitter. For information on full configuration, maintenance, troubleshooting, or service of the transmitter, see the appropriate configuration and use manual.

The information in this document assumes that users understand basic transmitter and sensor installation, configuration, and maintenance concepts and procedures.

1.2 Hazard messages

This document uses the following criteria for hazard messages based on ANSI standards Z535.6-2011 (R2017).

 **DANGER**

Serious injury or death will occur if a hazardous situation is not avoided.

 **WARNING**

Serious injury or death could occur if a hazardous situation is not avoided.

 **CAUTION**

Minor or moderate injury will or could occur if a hazardous situation is not avoided.

NOTICE

Data loss, property damage, hardware damage, or software damage can occur if a situation is not avoided. There is no credible risk of physical injury.

Physical access

 **WARNING**

Unauthorized personnel can potentially cause significant damage and/or misconfiguration of end users' equipment. Protect against all intentional or unintentional unauthorized use.

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

1.3 Related product training

To ensure that your training efforts continually evolve with technology, Emerson offers a broad portfolio of different solutions and delivery methods that can be easily adapted to help meet your business needs. Our scalable, customizable training packages let you match the right training solutions to your operational needs and budget.

To learn more, please visit [Emerson Training](#).

For the best user experience, log into [MyEmerson.com](#).

1.4 Related documentation

See the approval documentation shipped with the transmitter, or download the appropriate documentation from the Micro Motion web site ([Emerson.com/flowmeasurement](#)):

- [Micro Motion 4700 Configurable Inputs and Outputs Transmitter Product Data Sheet](#)
- [Micro Motion 4700 Transmitters with Configurable Inputs and Outputs Configuration and Use Manual](#)
- [ProLink III with ProcessViz Software User Manual](#)
- *Micro Motion 4700 Transmitters with Intrinsically Safe Outputs Safety Manual*
- Sensor installation manual, shipped with the sensor
- FMEDA report for Coriolis Flow Meter with 4700 Transmitter, prepared for Emerson by exida.com LLC
- Micro Motion 4700 ISIO Software FMEA Report

2 Planning

2.1 Installation checklist

- Safety messages are provided throughout this content to protect personnel and equipment. Read each safety message carefully before proceeding to the next step.
- When choosing a location for components, refer to the following guidelines:
 - See the sensor installation manual for information on locating the sensor with remote-mount or extended-mount electronics.
 - Do not install a component in a location where its temperature, humidity, or vibration limits will be exceeded.
 - Maximum distance between components depends on the wire size, the wire type, and the power supply. Ensure that sufficient power is supplied to the transmitter terminals.
-  **WARNING**
If you plan to mount the transmitter in a hazardous area:
 - Verify that the transmitter has the appropriate hazardous area approval. Each transmitter has a hazardous area approval tag attached to the transmitter housing.
 - Ensure that any cable used between the transmitter and the sensor meets the hazardous area requirements.
 - For all hazardous area installations, you must strictly adhere to the safety instructions documented in the ATEX/IECEX and CSA approvals documentation available on the product documentation DVD shipped with the product or at [Emerson.com/flowmeasurement](https://www.emerson.com/flowmeasurement), and /or with requirements specified by the local Authority Having Jurisdiction (AHJ) over the installation.
- Verify that you have the appropriate cable and required cable installation parts for your installation. For wiring between the transmitter and sensor, verify the maximum cable length does not exceed 1000 ft (304.8 m).
- The transmitter can be mounted in any orientation as long as the conduit openings do not point upward.

NOTICE

Installing the transmitter with the conduit openings or transmitter display facing upward risks condensation moisture entering the transmitter housing, which could damage the transmitter.

- Any fittings, adapters, or blanking elements used on either conduit entries or threaded joints that are a part of flame-proof joints must comply with the requirements of EN/IEC 60079-1 & 60079-14 or CSA C22.2 No 30 & UL 1203 for Europe/International and North America respectively.
Only qualified personnel can select and install these elements in accordance with EN/IEC 60079-14 for ATEX/IECEX or to National Electrical Code (NEC)/Canadian Electrical Code (CEC) for North America.

- To prevent conduit connectors from seizing in the threads of the conduit openings, apply a conductive anti-galling compound to the threads.
Any anti-galling compound used on Flamepath threads must comply with the requirements of EN/IEC 60079-1 & 60079-14 or CSA C22.2 No 30 & UL 1203 for Europe/International and North America respectively.
- To maintain the Ingress protection thread sealant, a sealing washer or O-ring must be applied.
 - For Zone 1 applications, thread sealant must also comply with the requirements of EN/IEC 60079-14 and thus must be non-setting, non-metallic, non-combustible, and maintain earthing between the equipment and conduit.
 - For Class I, Groups A, B, C, and D applications thread sealant must also comply with the requirements of UL 1203/CSA C22.2 No. 30.
- Minimize the amount of moisture or condensation inside the transmitter housing. Moisture inside the transmitter housing can damage the transmitter and cause measurement error or flow meter failure. To do this:
 - Ensure the integrity of all gaskets and O-rings.
 - Install drip legs on conduit or cable.
 - Seal unused conduit openings.
 - Ensure that all covers are fully tightened.
Covers are fully tightened when they are fully bottomed and display no gap.
- Mount the meter in a location and orientation that satisfies the following conditions:
 - Allows sufficient clearance to open the transmitter housing cover. Install with 8–10 in. (200–250 mm) clearance at the wiring access points.
 - Provides clear access for installing cabling to the transmitter.
 - Provides clear access to all wiring terminals for troubleshooting.

2.2 Power requirements

Universal (self-switching) AC/DC input, automatically recognizes supply voltage:

- 18 VDC to 100 VDC
- 85 VAC (RMS) to 250 VAC (RMS)
- One pair of wiring terminals accepts either AC or DC power
- One internal ground lug for power-supply ground wiring
- Maximum load conditions:
 - 4700 4-Wire: 3.06 W (Maximum)
 - 4700 9-Wire: 2.19 W (Maximum)

Note

For DC power:

- Power requirements assume a single transmitter per cable.
- At start-up for in-rush current, the power source must provide a minimum of 2.0 amps of short-term current (1 ms) per transmitter and not pull voltage below 18 VDC.

- Length and conductor diameter of the power cable must be sized to provide 18 VDC minimum at the power terminals, at a load current of 0.2 amps.

Cable sizing formula

$$M = 18 \text{ V} + (R \times L \times 0.2 \text{ A})$$

- M: minimum supply voltage
- R: cable resistance
- L: cable length (in Ω/ft)

Typical power cable resistance at 68 °F (20.0 °C)

Wire gauge	Resistance
14 AWG	0.0050 Ω/ft
16 AWG	0.0080 Ω/ft
18 AWG	0.0128 Ω/ft
20 AWG	0.0204 Ω/ft
2.5 mm ²	0.0136 Ω/m
1.5 mm ²	0.0228 Ω/m
1.0 mm ²	0.0340 Ω/m
0.75 mm ²	0.0460 Ω/m
0.50 mm ²	0.0680 Ω/m

2.2.1 Maximum cable lengths between sensor and transmitter

The maximum cable length between the sensor and transmitter, which are installed separately, is determined by cable type.

Cable type	Wire gauge	Maximum length
Micro Motion 4-wire remote mount	Installation specific	<ul style="list-style-type: none"> 1,000 ft (305 m) without Ex-approval 500 ft (152 m) with IIC rated sensors 1,000 ft (305 m) with IIB rated sensors
Micro Motion 9-wire remote mount	Installation specific	1,000 ft (305 m) ⁽¹⁾
User-supplied 4-wire	VDC 22 AWG (0.326 mm ²)	300 ft (91 m)
	VDC 20 AWG (0.518 mm ²)	500 ft (152 m)
	VDC 18 AWG (0.823 mm ²)	1,000 ft (305 m)
	RS-485 22 AWG (0.326 mm ²) or larger	1,000 ft (305 m)

⁽¹⁾ For Smart Meter Verification, the limit is 60 ft (18 m).

3 Mounting and sensor wiring

3.1 Mounting and sensor wiring for integral-mount transmitters

There are no separate mounting requirements for integral transmitters, and there is no need to connect wiring between the transmitter and the sensor.

3.2 Mount the transmitter to a wall or instrument pole

There are two options available for mounting the transmitter:

- Mount the transmitter to a wall or flat surface.
- Mount the transmitter to an instrument pole.

Prerequisites

- If you are mounting the transmitter to a wall or flat surface:
 - Ensure that the surface is flat and rigid and that it does not vibrate or move excessively.
 - Confirm that you have the necessary tools and the mounting kit shipped with the transmitter.
 - Confirm that the mounting surface, method, and surface structure ensures sufficient strength to secure the transmitter (for example, when mounting to drywall use a toggle type drywall anchor).
- If you are mounting the transmitter to an instrument pole:
 - Ensure that the instrument pole extends at least 12 in (305 mm) from a rigid base, and is no more than 2.5 in (64 mm) in diameter.
 - Confirm that you have the necessary tools, and the instrument-pole mounting kit shipped with the transmitter.

Procedure

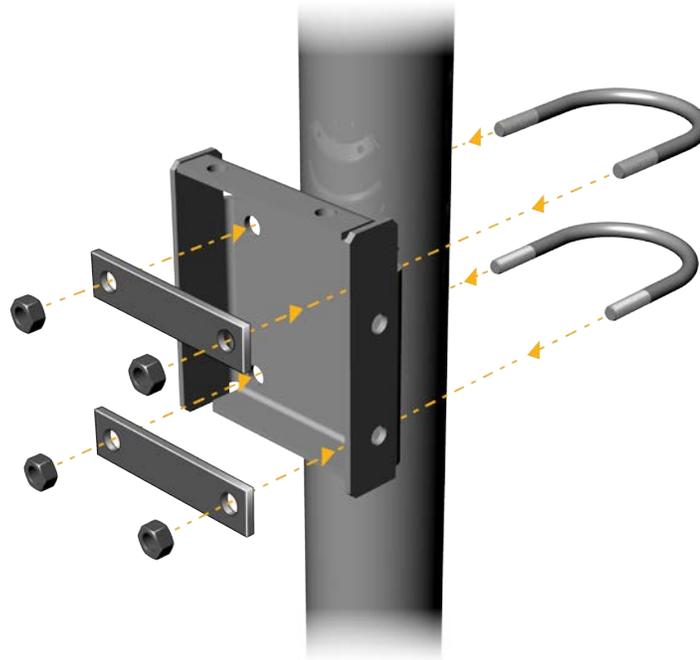
1. Attach the mounting bracket to the transmitter and tighten the screws.

Figure 3-1: Mounting bracket to a painted aluminum transmitter



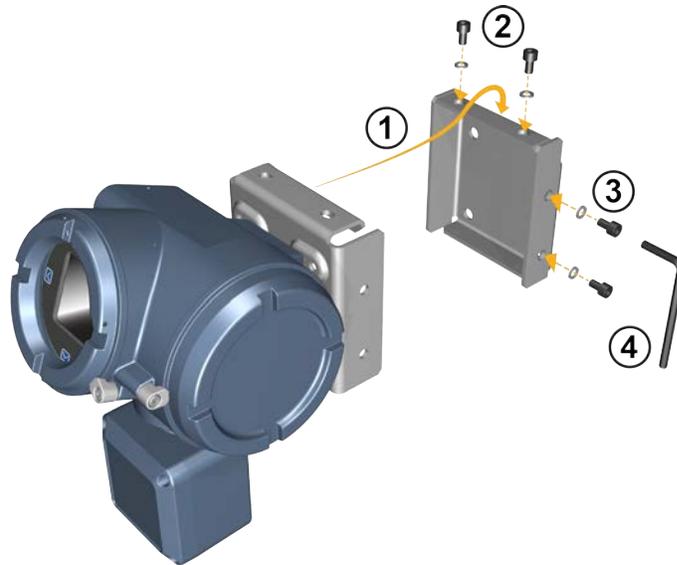
-
2. Using a wall-mount or pole-mount:
 - For wall-mount installations, secure the mounting bracket to the prepared surface.
 - For pole-mount installations, attach the U-bolt mounting piece to the instrument pole.

Figure 3-2: Pole-mounting bracket attachment for a painted aluminum transmitter



3. Place and attach the transmitter-mounting bracket to the mounting bracket secured to the wall or instrument pole.

Figure 3-3: Attaching and securing a painted aluminum transmitter to mounting bracket



Tip

To ensure the mounting bracket holes are aligned, insert all attachment bolts into place before tightening.

3.3 Wire a remote-mount transmitter to the sensor

Use this procedure to wire a 4-wire or 9-wire remote-mount transmitter to the sensor.

Prerequisites

- Prepare the 9-wire cable as described in the [Micro Motion 9-Wire Flow Meter Cable Preparation and Installation Guide](#).
- Connect the cable to the sensor-mounted core processor or junction box as described in the sensor documentation. You can access all product documentation on the documentation DVD shipped with the product or at Emerson.com.

Procedure

1. Remove the transmitter-to-sensor wiring compartment cover to reveal the terminal connections.

Figure 3-4: Removal of the transmitter-to-sensor wiring compartment cover



-
2. Feed the sensor wiring cable into the transmitter wiring compartment.

Figure 3-5: Sensor wiring feed through



-
3. Connect the sensor wires to the appropriate terminals.

Figure 3-6: 4-wire transmitter-to-sensor wiring connections

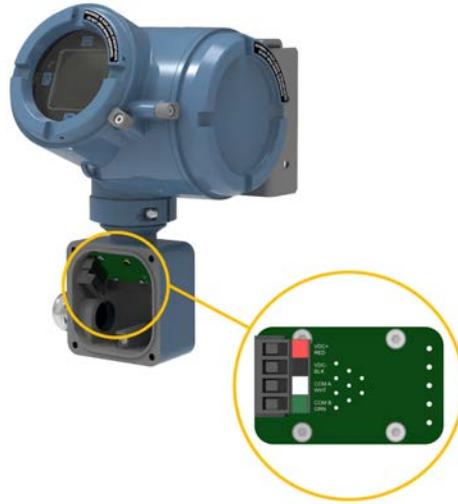
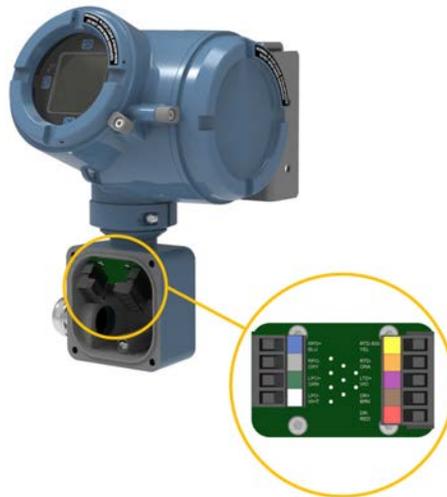


Figure 3-7: 9-wire transmitter-to-sensor wiring connections



Note

Connect the four drain wires in the 9-wire cable to the ground screw located inside the junction box.

4. Replace the transmitter-to-sensor wiring compartment cover and tighten the screws to 16 in-lbs +/- 1 in-lbs.

3.4 Ground the meter components

In 9-wire remote installations, the transmitter and sensor are grounded separately.

Prerequisites

NOTICE

Improper grounding could cause inaccurate measurements or meter failure.



WARNING

Failure to comply with requirements for intrinsic safety in a hazardous area could result in an explosion causing death or serious injury.

Note

For hazardous area installations in Europe, refer to standard EN 60079-14 or national standards.

If national standards are not in effect, adhere to the following guidelines for grounding:

- Use copper wire, 14 AWG (2.08 mm²) or larger wire size.
- Keep all ground leads as short as possible, less than 1 Ω impedance.
- Connect ground leads directly to earth, or follow plant standards.

Procedure

1. Ground the sensor according to the instructions in the sensor documentation.
2. Ground the transmitter according to applicable local standards, using the transmitter's internal or external ground screw.
 - The earth ground terminal is located inside the power wiring compartment.
 - The external ground screw is located on the side of the transmitter located below the transmitter tag.

3.5 Rotating the transmitter on the sensor (optional)

For easier access to the user interface or the wiring terminals, the transmitter can be rotated on the sensor in 45° increments, for eight different orientations.

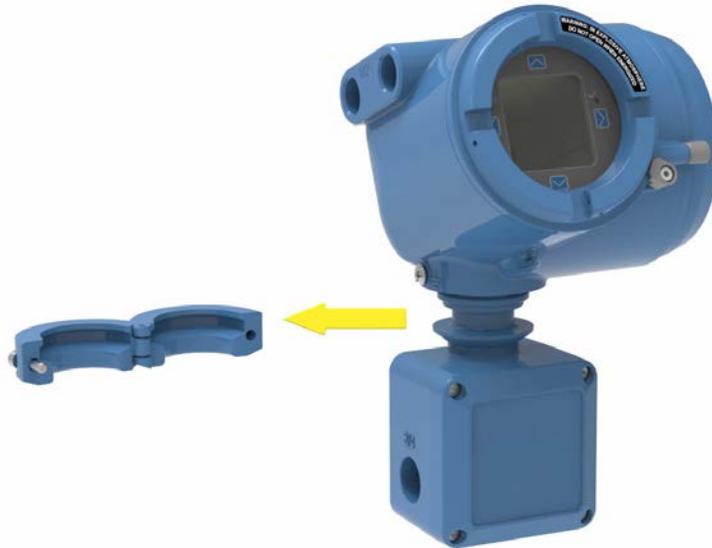
Figure 3-8: Rotating the transmitter on the sensor



Procedure

1. Remove the metal clamping ring from the base of the feed through (refer to [Figure 3-8](#)).
2. Gently lift the transmitter (in [Figure 3-9](#)) on the feed through until it disengages from the notches on the feed through. You will not be able to remove the transmitter completely.

Figure 3-9: Lifting the Transmitter



3. Rotate the transmitter to the desired position.

! CAUTION

Do not rotate the housing more than 360°. Excessive rotation can damage the wiring and cause measurement error or flow meter failure.

4. Lower the transmitter, sliding it onto the notches on the feedthrough.
5. Replace the clamping ring on the feed through. Tighten the screw to 28 in lbf (3.16 N m)– 32 in lbf (3.62 N m).

! CAUTION

Ensure that the connection between the transmitter and the sensor is moisture-proof. Inspect and grease all gaskets and O-rings. Moisture in the electronics can cause measurement error or flow meter failure.

3.6 Rotating the display orientation

The user interface orientation for the transmitter can rotate 360° in 90° increments by software selection.

Using the display, select **Menu** → **Configuration** → **Display Settings** → **Rotation**.



3.7 Rotate the sensor wiring junction box on a remote-mount transmitter (optional)

In remote-mount installations, you can rotate the sensor wiring junction box on the transmitter up to plus or minus 180°.

Procedure

1. Using a 4 mm hex key, loosen and remove the clamp securing the sensor wiring junction box in place.

Figure 3-10: Removal of the clamp



2. Gently rotate the junction box to the desired position.

You can rotate the junction box plus or minus 180° to any position.

Figure 3-11: Rotation of the sensor wiring junction box



3. Gently set the junction box into its new position, confirming that the position is locked.
4. Replace the clamp in its original position and tighten the cap screw. Tighten the screw to 28 in lbf (3.16 N m)- 32 in lbf (3.62 N m).

Figure 3-12: Re-attachment of the clamp

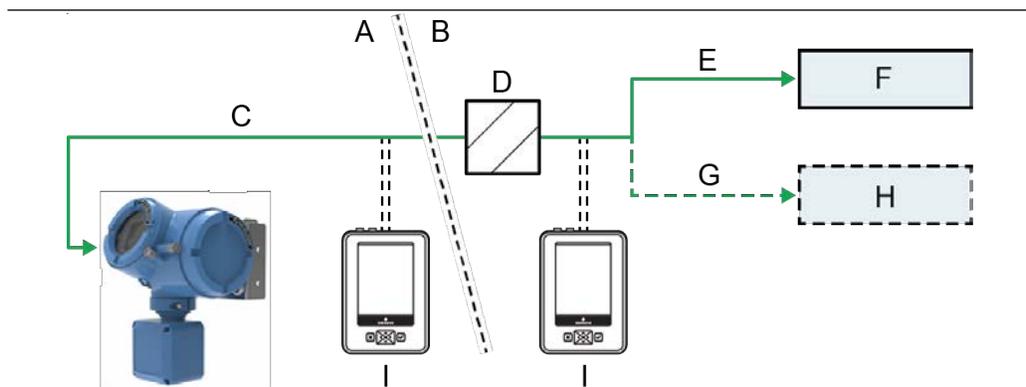


4 Wiring the channels

4.1 Installation types for the 4700 transmitter

! WARNING

If you are installing the transmitter in a hazardous area, refer to Micro Motion approval instructions shipped with the product or available from the Emerson website. Improper installation in a hazardous area can cause an explosion resulting in injury or death.



- A. Hazardous area
- B. Safe area
- C. 2-wire signal cable
- D. Barrier
- E. 4-20 mA, FO, or DO
- F. Signal input device
- G. HART variables
- H. DCS
- I. Emerson AMS Trex communicator

4.2 Available channels

Signal	Channel A		Channel B		Channel C	
Wiring terminals	1	2	3	4	5	6
mA inputs and outputs	4-20 mA Output 1 (HART®)			4-20 mA Output 2		
Frequency outputs				Frequency Output 1		
Discrete outputs				Discrete Output 1		

4.3 Barriers verified by Micro Motion

The following table lists the barriers that Micro Motion has verified with the 4700 transmitter. For other barriers, refer to the manufacturer's data sheet.

Table 4-1: Barriers verified by Micro Motion

Vendor	Barrier
Pepperl & Fuchs	KFD2-STC1-EX1
MTL	5541
MTL	7707P+
MTL	7787+
MTL	5042
MTL	3046B
MTL	7728P+
INTRINSPAK	9002/13-280-110-001

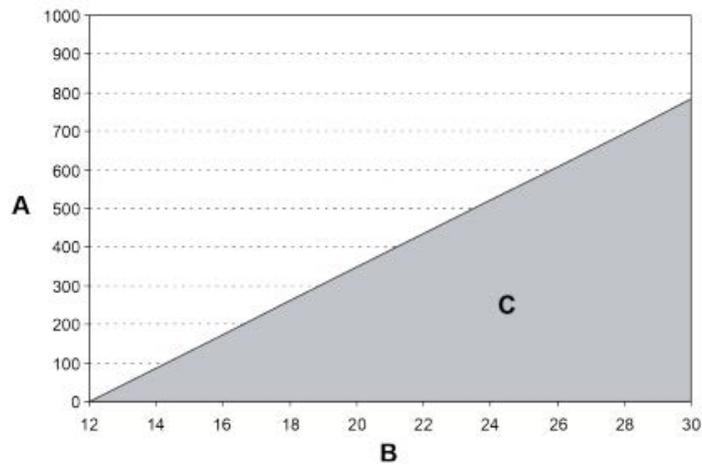
4.4 mA power requirements

The supply voltage required by the 4700 transmitter depends on the total resistance in the mA loop. This includes all sensor resistance and wire resistance.

Channel A mA HART terminal requirements

Use the following chart to determine the required supply voltage for Channel A based on loop resistance.

Figure 4-1: Channel A mA/HART supply voltage and loop resistance



- A. External resistor R_{load} (ohms)
- B. Supply voltage VDC (volts)
- C. Operating region

Note

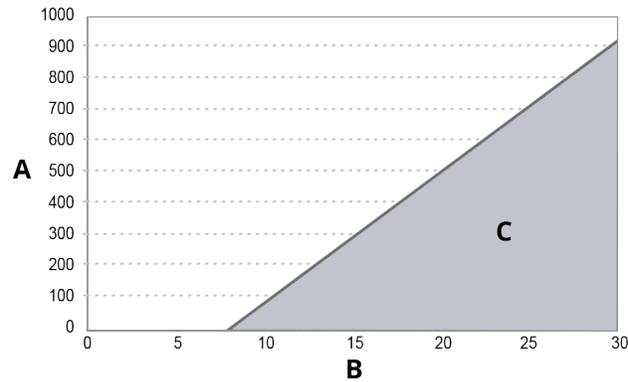
$$R_{max} = (V_{supply} - 12) / 0.023$$

Minimum 250Ω and 17.5V required for HART communications.

Channel C terminal requirements

Use the following chart to determine the required supply voltage for Channel C based on loop resistance.

Figure 4-2: Channel C mA output supply voltage and loop resistance



- A. Total loop resistance R_{max} (including barrier)
- B. R_{load}
- C. Supply voltage VDC (volts)
- D. Operating region

Note

$$R_{max} = (V_{supply} - 12) / 0.023$$

mA Output is linear with process from 3.8 to 20.5 mA.

4.5

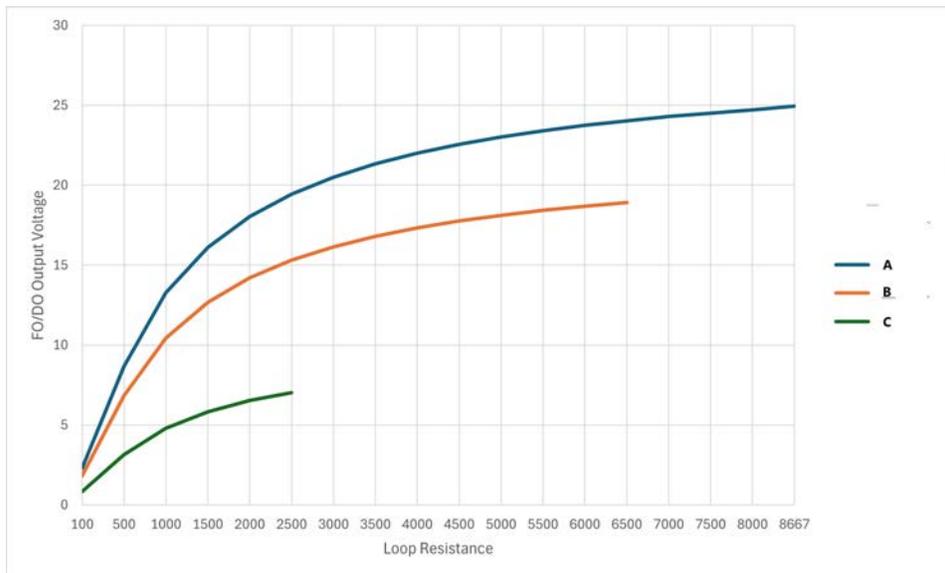
FO and DO power requirements

The supply voltage required by the 4700 transmitter depends on the total resistance in the loop. This includes all sensor resistance and wire resistance.

Channel B terminal requirements

Use the following chart to determine the required supply voltage for Channel B based on loop resistance.

Figure 4-3: Output high to low voltages



- A. 30V supply
- B. 24V supply
- C. 12V supply

Minimum resistance = 100Ω
Maximum resistance = 8.87 Ω

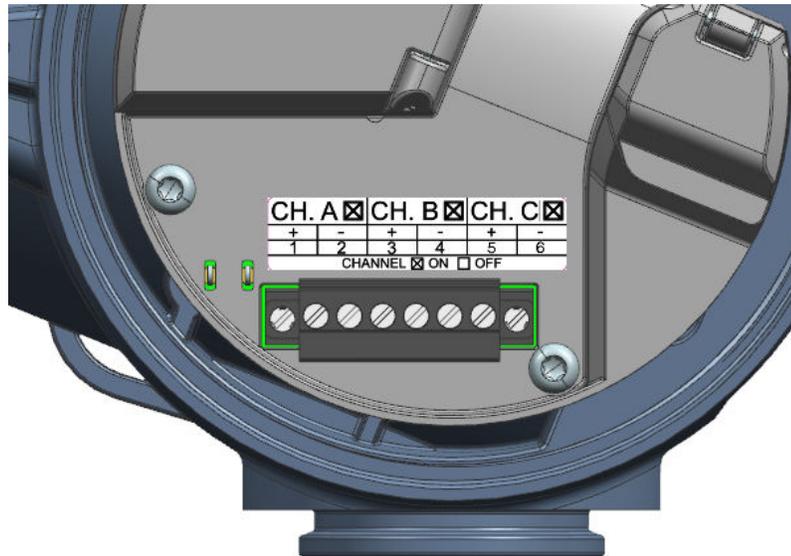
Note
(Vsupply - 1.8) * (RL / (1125 + RL))

4.6 Access the wiring channels

Procedure

1. Remove the wiring access cover to reveal the I/O wiring terminal block connectors.

Figure 4-4: Channels on the transmitter terminal



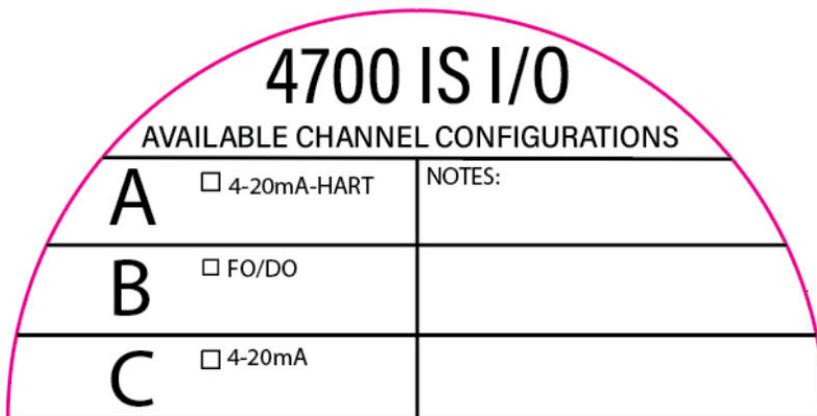
2. Confirm which transmitter channels are activated, or **ON**, and identify the type of configuration you will be wiring based on the options available.

Figure 4-5: Activated channel identification

CH. A <input checked="" type="checkbox"/>		CH. B <input checked="" type="checkbox"/>		CH. C <input checked="" type="checkbox"/>	
+	-	+	-	+	-
1	2	3	4	5	6
CHANNEL <input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF					

3. (Recommended) Record the channel and wiring configuration on the label provided inside the transmitter housing cover.

Figure 4-6: Channel and wiring configurations label



4.7 Wire the Channel A mA/HART Output

Wire the mA/HART Output in explosion-proof, intrinsically safe, or nonhazardous installations.



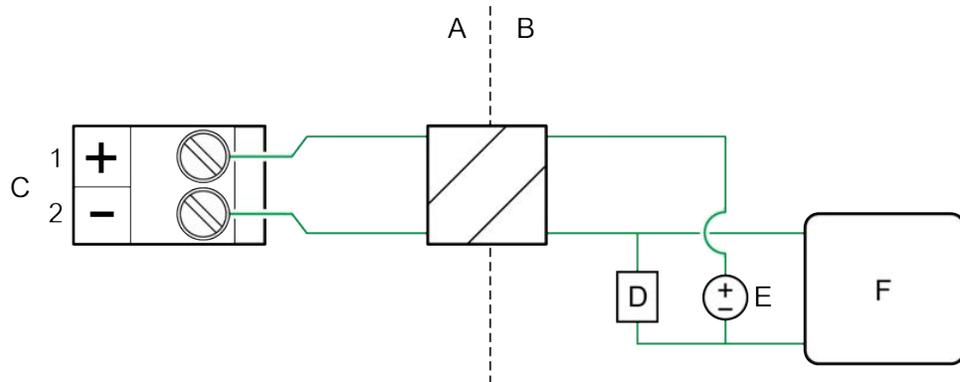
WARNING

Meter installation and wiring should be performed only by suitably-trained personnel using the appropriate government and corporate safety standards.

Procedure

Wire to the appropriate output terminal and pins.

Figure 4-7: Channel A mA/HART® output wiring



- A. Hazardous area
- B. Non-hazardous area
- C. mA/HART output
- D. 250–600 Ω resistance
- E. 24V nominal
- F. HART device

4.8 Wire the Channel A and C mA Output

Wire the mA Output in explosion-proof, intrinsically safe, or nonhazardous installations.

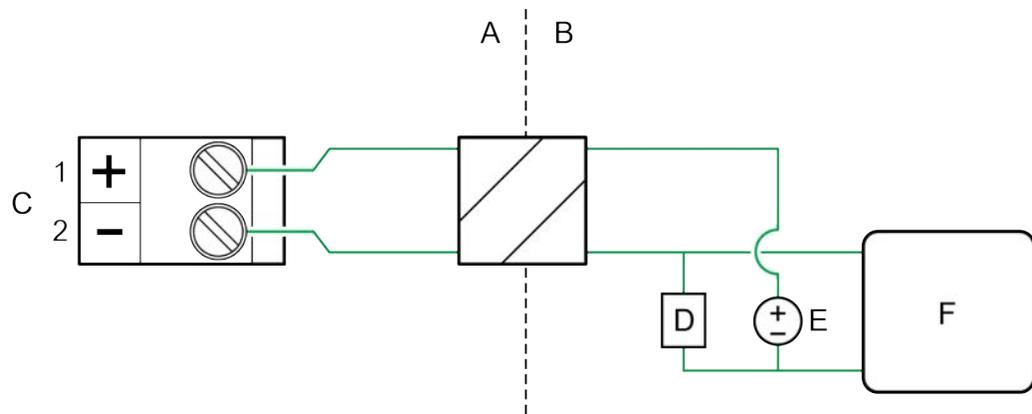
! WARNING

Meter installation and wiring should be performed only by suitably-trained personnel using the appropriate government and corporate safety standards.

Procedure

Wire to the appropriate output terminal and pins.

Figure 4-8: Channel B and C mA Output wiring



- A. Hazardous area
- B. Non-hazardous area
- C. mA Output
- D. 250–600 Ω resistance
- E. 24V nominal
- F. Input device

4.9 Wire the mA/SIL output

Refer to the [Micro Motion 4700 Safety Manual for Safety Instrumented Systems \(SIS\)](#) for additional information regarding installation and commissioning that complies with SIS requirements.

4.10 Wire the mA/HART multidrop installation

Wire the mA/HART multidrop output in explosion-proof, intrinsically safe, or nonhazardous installations.

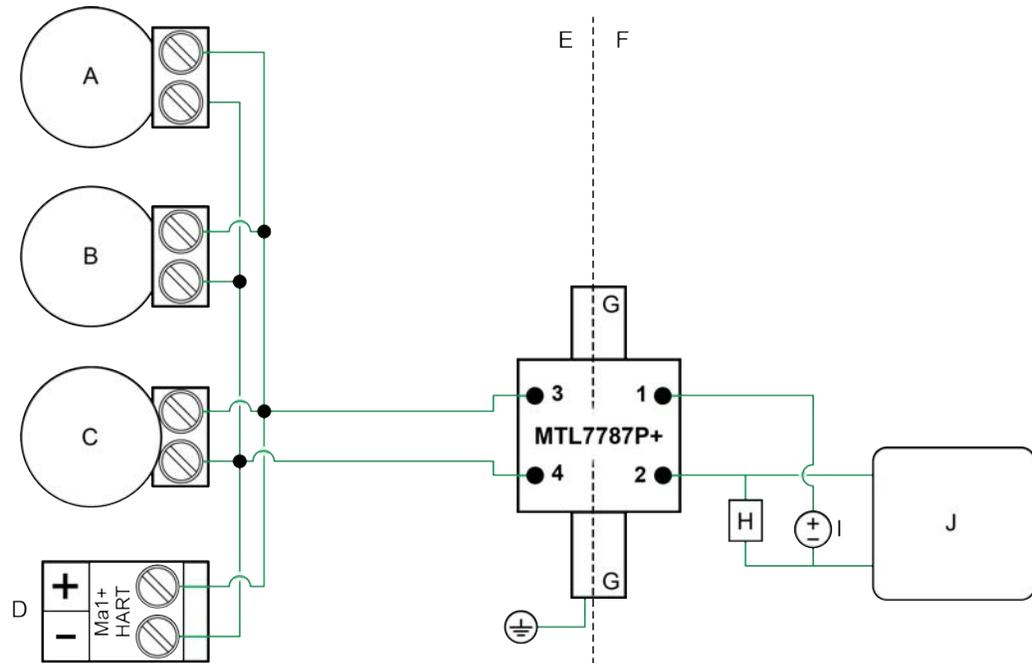
 **WARNING**

Meter installation and wiring should be performed only by suitably-trained personnel using the appropriate government and corporate safety standards.

Procedure

See the following figure for information on wiring an mA/HART multidrop installation.

Figure 4-9: mA/HART multidrop wiring



- A. Input Device 1
- B. Input Device 2
- C. Input Device 3
- D. Meter (mA+/HART output)
- E. Hazardous area
- F. Non-hazardous area
- G. DIN rail
- H. 250 Ω resistance
- I. 24VDC
- J. HART/Field Communicator

4.11 Wire the Frequency Output or the Discrete Output

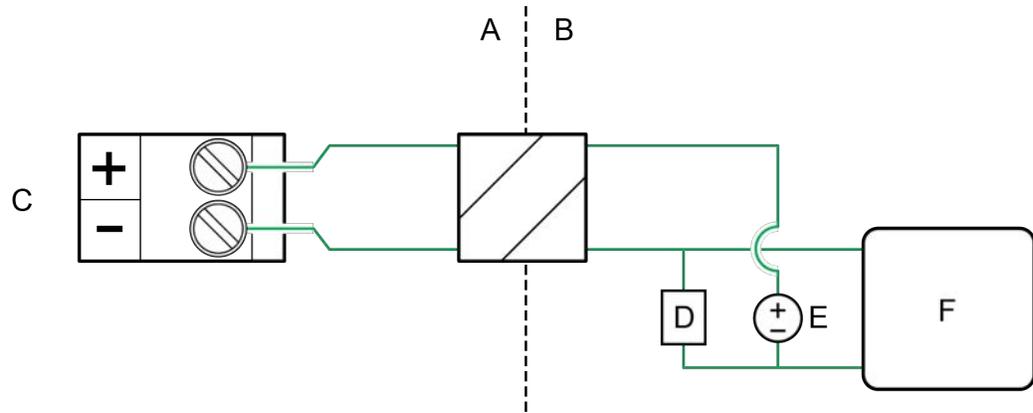
! WARNING

Meter installation and wiring should be performed only by suitably-trained personnel using the appropriate government and corporate safety standards.

Procedure

Wire to the appropriate output terminal and pins.

Figure 4-10: Frequency Output or Discrete Output wiring



- A. Hazardous area
- B. Non-hazardous area
- C. Frequency Output
- D. 100 - 6.67 Ω resistance
- E. 24V nominal
- F. Input device

5 Wiring the power supply

You can install a user-supplied switch in the power supply line.

Important

For compliance with the Low Voltage Directive 2014/35/EU (European installations), verify that the transmitter is located in close proximity to a switch.

Procedure

1. Remove the wiring access cover.
 2. Open the **Power** warning flap to locate the power terminals.
-

Figure 5-1: Location of power supply wiring terminals and equipment ground

- A. Power supply wiring terminals (+ and -)
 - B. Conduit connection for power supply wiring
 - C. Equipment ground
-

3. Connect the power supply wires.
 - For DC power: connect to terminals + and -.
 - For AC power: connect to terminals L/L1 (line) and N/L2 (neutral).
-

NOTICE

Do not use the conduit specified for power supply wires for input/output wiring (see [Figure 5-1](#)) to avoid pinched wires when the cover is closed.

4. Tighten the two screws holding the power connector in place.
5. Ground the power supply using the equipment ground, also under the **Power** warning flap.

6 Powering up the transmitter

Prerequisites

The transmitter must be powered up for all configuration and commissioning tasks, or for process measurement.

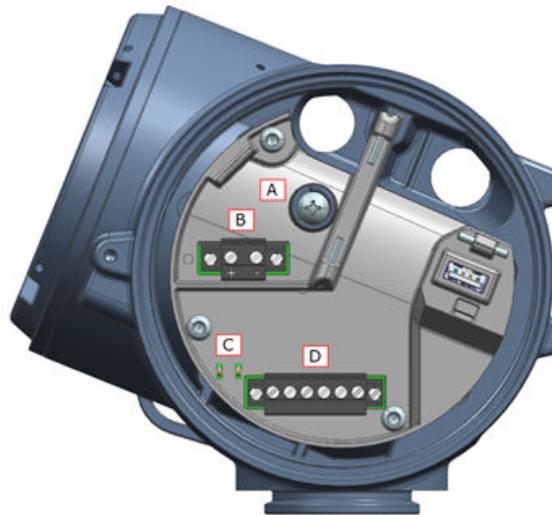
Procedure

1. Ensure that all transmitter and sensor covers and seals are closed.

⚠ DANGER

To prevent ignition of flammable or combustible atmospheres, ensure that all covers and seals are tightly closed. For hazardous area installations, applying power while housing covers are removed or loose can cause an explosion.

Figure 6-1: Transmitter with Power and USB Doors Hidden



- A. Ground Connection
- B. Power Connection
- C. HART Connection
- D. Output Terminal Connection

2. Turn on the electrical power at the power supply.
The transmitter will automatically perform diagnostic routines. During this period, the `Warming Up` alert is active. The diagnostic routines should complete in approximately 30 seconds.

Postrequisites

Although the sensor is ready to receive process fluid shortly after power-up, the electronics can take up to 10 minutes to reach thermal equilibrium. Therefore, if this is the initial startup, or if power has been off long enough to allow components to reach ambient temperature, allow the electronics to warm up for approximately 10 minutes before

relying on process measurements. During this warm-up period, you may observe minor measurement instability or inaccuracy.

7

Configuring the transmitter with Guided Setup

At initial startup of the transmitter, click the right arrow for the **Menu** option to access Guided Setup. This tool guides you through basic configuration of the transmitter. The Guided Setup allows you to upload configuration files, set the transmitter display options, configure channels, and review sensor calibration data.

Procedure

To access the guided setup screen from the display main menu, go to: **Startup Tasks** → **Guided Setup**.

8 Using the display controls

The transmitter display interface includes a display (LCD panel) and four capacitive buttons – left, up, down, and right arrow keys – used to access the display menus and navigate the display screens.

Procedure

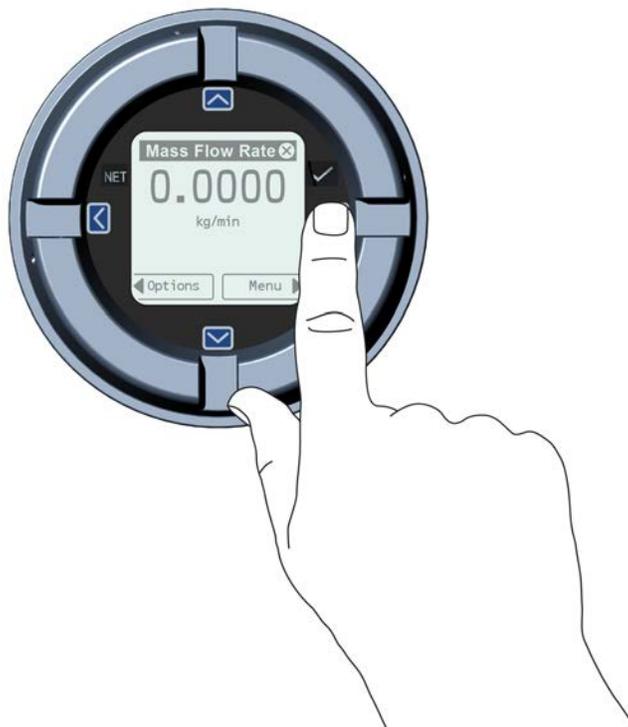
1. To activate a capacitive button, press the desired button that is designated with arrows (up, down, left, and right).

You can activate the capacitive button through the lens. Do not remove the transmitter housing cover.

Important

The transmitter only detects one button selection at a time. Be sure to press your thumb or finger on a single capacitive button.

Figure 8-1: Proper finger positioning for activating a capacitive button



2. Use the arrow indicators on the display screen to identify which capacitive button to use to navigate the screen (see examples 1 and 2).

Important

When using the arrow keys, you must first activate the capacitive button, then release the same button by removing your finger from the glass to move up, down, right, left or to make a selection. To enable auto-scroll when navigating up or down, activate the appropriate button and continue to hold for one second. Release the button when the desired selection is highlighted.

Figure 8-2: Example 2: Active arrow indicators on the transmitter display



8.1 Configure the display backlight

By default, the backlight is set to ON.

Procedure

To configure the backlight, select **Menu** → **Configuration** → **Display Settings** → **Backlight**.

9 Communicating with the transmitter

Use either the HART® terminals connected to ProLink™ III or a Trex unit to download or upload data from/to the transmitter, because the service port is for factory use only.

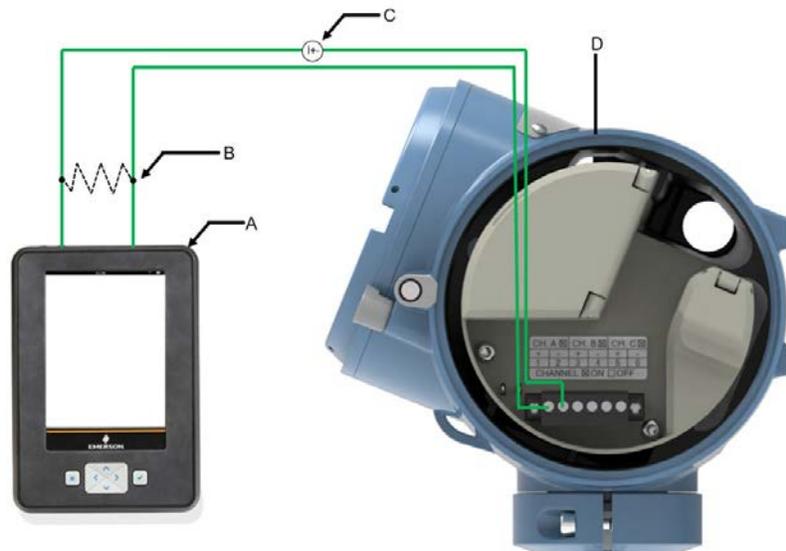
Procedure

1. To connect to the transmitter terminals or to the HART connection posts:
 - a) Remove the transmitter end cap.
 - b) Attach the leads from the Field Communicator to terminals 1 and 2 on the transmitter, or to the HART connection posts, and add resistance as required.
The Field Communicator must be connected across a resistance of 250–600 Ω .

Tip

HART connections are not polarity-sensitive. It does not matter which lead you attach to which terminal.

Figure 9-1: Field Communicator connection to transmitter terminals



- A. Field Communicator
- B. 250–600 Ω resistance
- C. External power supply, if required
- D. Transmitter with end-cap removed

2. Turn on the Field Communicator and wait until the main menu is displayed.



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