

Micro Motion[®] Model 1700 and 2700

Installation Manual



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.

Emerson Flow customer service

Email:

- Worldwide: flow.support@emerson.com
- Asia-Pacific: APflow.support@emerson.com

Telephone:

North and South America		Europe and Middle East		Asia Pacific	
United States	800-522-6277	U.K.	0870 240 1978	Australia	800 158 727
Canada	+1 303-527-5200	The Netherlands	+31 (0) 704 136 666	New Zealand	099 128 804
Mexico	+41 (0) 41 7686 111	France	0800 917 901	India	800 440 1468
Argentina	+54 11 4837 7000	Germany	0800 182 5347	Pakistan	888 550 2682
Brazil	+55 15 3413 8000	Italy	8008 77334	China	+86 21 2892 9000
Venezuela	+58 26 1731 3446	Central & Eastern	+41 (0) 41 7686 111	Japan	+81 3 5769 6803
		Russia/CIS	+7 495 981 9811	South Korea	+82 2 3438 4600
		Egypt	0800 000 0015	Singapore	+65 6 777 8211
		Oman	800 70101	Thailand	001 800 441 6426
		Qatar	431 0044	Malaysia	800 814 008
		Kuwait	663 299 01		
		South Africa	800 991 390		
		Saudi Arabia	800 844 9564		
		UAE	800 0444 0684		

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1 Planning

Topics covered in this chapter:

- *Meter components*
- *Installation types*
- *Maximum cable lengths between sensor and transmitter*
- *Output options*
- *Environmental limits*
- *Hazardous area classifications*
- *Power requirements*
- *Orientation*
- *Accessibility for maintenance*

1.1 Meter components

The transmitter is one component of a Micro Motion device. The other major component is the sensor.

A third component, called the core processor, provides additional memory and processing functions.

1.2 Installation types

The transmitter was ordered and shipped for one of up to eight installation types. The fifth character of the transmitter model number indicates the installation type.

Figure 1-1: Installation type indication for Model 1700 and Model 2700 transmitters



The model number is located on the device tag on the side of the transmitter.

Table 1-1: Installation types for Model 1700 and Model 2700 transmitters

Model code	Description
R	Remote mount 4-wire
I	Integral

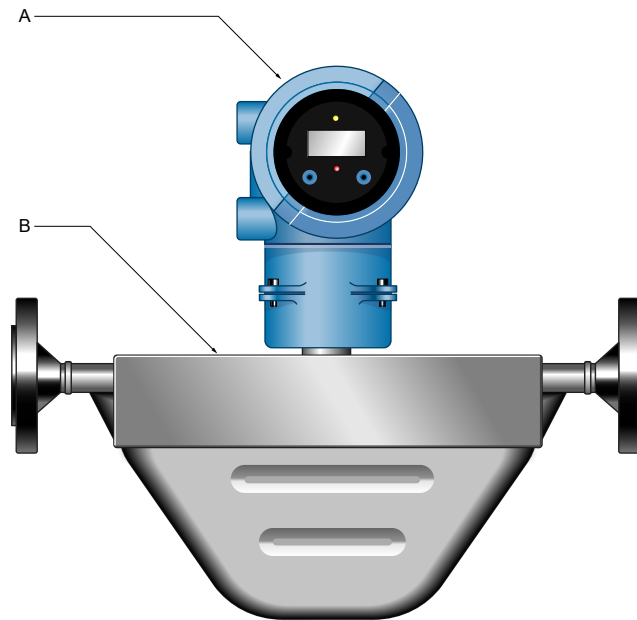
Table 1-1: Installation types for Model 1700 and Model 2700 transmitters (continued)

Model code	Description
E	Remote enhanced core processor (painted aluminum housing) with remote transmitter
C	Remote mount 9-wire (painted aluminum housing)
B	Remote core processor with remote transmitter
M	Remote mount 4-wire (stainless steel housing)
P	Remote mount 9-wire (stainless steel housing)
H ⁽¹⁾	Remote mount 4-wire (painted aluminum housing) for connecting to Compact Density Meter (CDM), Fork Density Meter (FDM), Fork Viscosity Meter (FVM)

(1) This option is only available with the Model 2700 FOUNDATION Fieldbus™ transmitter

Figure 1-2: Integral installation (model code I)

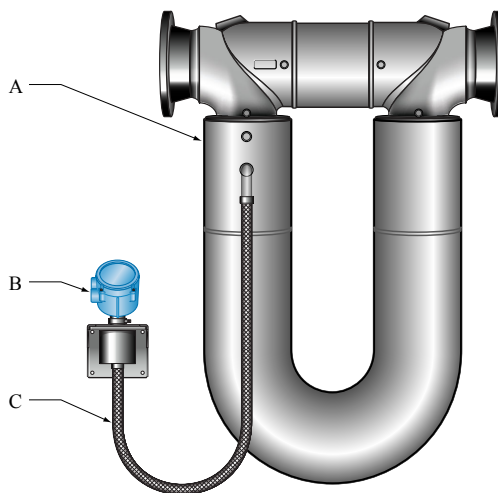
The transmitter is mounted directly to the sensor. Integral installations do not require separate transmitter installation. Power supply and I/O must be field wired to the transmitter.



- A. Transmitter
- B. Sensor

Figure 1-3: High-temperature meters with factory connection (model code I)

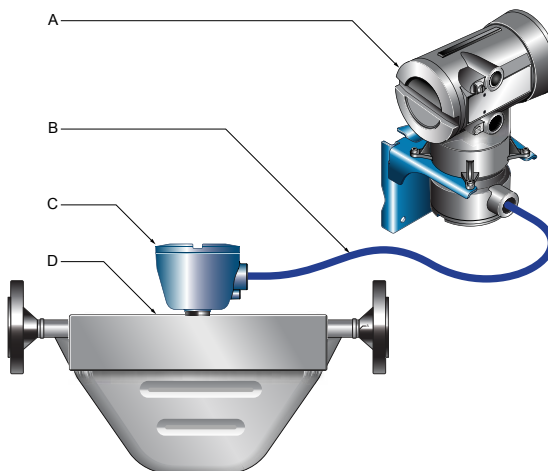
The transmitter is shipped with a flexible connection factory installed between the sensor and the transmitter. The transmitter must be dismantled from its shipping location (spot-welded to the sensor case) and then mounted separately. Power supply and I/O must be field wired to the transmitter.



- A. Sensor
- B. Transmitter or core processor
- C. Factory-installed flexible connection

Figure 1-4: 4-wire remote installation for Coriolis meters (model code R or M)

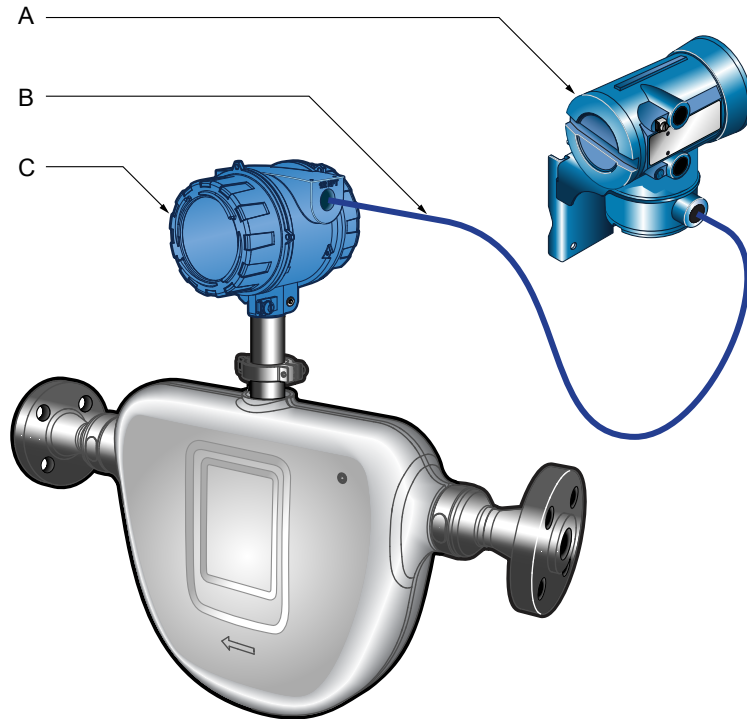
The transmitter is installed remotely from the sensor. The 4-wire connection between the sensor and transmitter must be field wired. Power supply and I/O must be field wired to the transmitter.



- A. Transmitter
- B. Field-wired 4-wire connection
- C. Core processor
- D. Sensor

Figure 1-5: 4-wire remote installation for density and viscosity meters (CDM, FDM, or FVM with fieldbus only)(model code H)

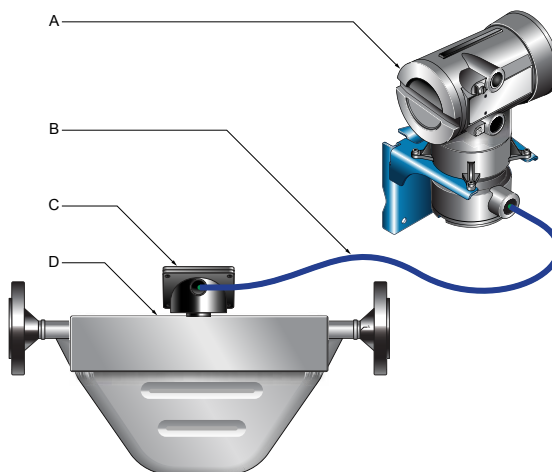
The transmitter is installed remotely from the Compact Density Meter (CDM), Fork Density Meter (FDM), or Fork Viscosity Meter (FVM). The 4-wire connection between the sensor and transmitter must be field wired. Power supply and I/O must be field wired to the transmitter.



- A. Transmitter
 - B. Field-wired 4-wire connection
 - C. Meter electronics
-

Figure 1-6: 9-wire remote installation (model code P)

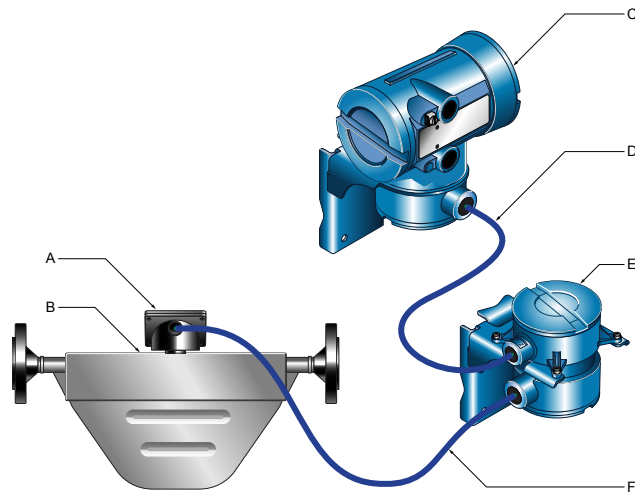
The transmitter and core processor are combined in a single unit that is installed remotely from the sensor. The 9-wire connection between the transmitter/core processor and the sensor must be field wired. Power supply and I/O must be field wired to the transmitter.



- A. Transmitter
- B. Field-wired 9-wire connection
- C. Junction box
- D. Sensor

Figure 1-7: Remote core processor with remote sensor installation (model code B or E)

The transmitter, core processor, and sensor are all mounted separately. The 4-wire connection between the transmitter and core processor must be field wired. The 9-wire connection between the core processor and the sensor must be field wired. Power supply and I/O must be field wired to the transmitter. This configuration is sometimes called double-hop.



- A. Junction box
- B. Sensor
- C. Transmitter
- D. Field-wired 4-wire connection
- E. Core processor
- F. Field-wired 9-wire connection

1.3 Maximum cable lengths between sensor and transmitter

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

Table 1-2: Maximum cable lengths between sensor and transmitter

Cable type	Wire gauge	Maximum length
Micro Motion 4-wire	Not applicable	<ul style="list-style-type: none"> • 1000 ft (300 m) without Ex-approval • 500 ft (150 m) with IIC rated sensors • 1000 ft (300 m) with IIB rated sensors
Micro Motion 9-wire	Not applicable	60 ft (20 m)
User-supplied 4-wire	VDC 22 AWG (0.35 mm ²)	300 ft (90 m)