

Product Data Sheet

PS-001094, Rev. C
September 2009

Micro Motion® Model 2200S 2-Wire Transmitter with MVD™ Technology

The Micro Motion® Model 2200S 2-wire transmitter enables the use of reliable and accurate Micro Motion Coriolis meters virtually anywhere in your plant. The 2-wire Coriolis meter delivers measurement accuracy, repeatability, and operational savings on a level not previously possible in loop-powered applications.



Reduce installation costs and increase measurement reliability

- Replace existing 2-wire flow devices with minimal effort and without incurring additional power or cabling costs
- Low energy, loop-powered design enables easy integration of Coriolis into existing processes for improved measurement and reduced maintenance for an even greater number of flow points
- Reduce the complexity and improve the performance of new process plants with loop-powered mA output and HART protocol 2-wire Coriolis
- Compact, integral 2-wire transmitter design saves electrical cost and space for use on integrated systems and skids
- Direct mass measurement improves process control while reducing number of measurement devices required
- Accurate, repeatable measurement ensures higher quality production and overall improved process profitability



Micro Motion 2-wire Coriolis flow and density meter

Utilizing Micro Motion MVD technology, the Micro Motion 2-wire Coriolis meter delivers multivariable and diagnostic information via HART® communications. Comprised of a cutting-edge Model 2200S transmitter and the proven best-in-class performance of a Micro Motion Coriolis meter, the Micro Motion 2-wire meter brings reduced costs through improved process consistency and maximized uptime. Micro Motion 2-wire Coriolis is ideally suited for use in the chemical, petrochemical and refining industries, and for continuous process and mass balance applications.

MVD technology. MVD technology makes your Micro Motion flowmeter work smarter. Front-end digital processing dramatically reduces signal noise and gives you faster response time compared to analog devices.

Only MVD technology allows you to:

- Measure multiple variables for accurate process control
- Identify and resolve problems easily with built-in smart diagnostics
- Flexible architecture enables tuning for your application needs
- Upgrade transmitter functionality as needed, without impacting availability

Model 2200S transmitters. The Model 2200S transmitter is suitable for a range of process conditions, including CSA Class I Div. 1 and ATEX Zone 1 approvals. To facilitate installation in hazardous areas, Micro Motion offers an adapter-barrier. Finally, the Micro Motion Model 2200S is also available with a 316L stainless steel enclosure suited for harsh environments, such as applications in the offshore and marine industries.

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Physical specifications

Transmitter

Housing	NEMA 4X (IP66/67) polyurethane-painted cast aluminum or 316L stainless steel
Weight	See the Product Data Sheet for the sensor for combined weight of the flowmeter
Cable gland entrances	One 1/2"–NPT or M20 × 1.5 female conduit port for output and power supply
Mounting	Available integrally mounted to Micro Motion ELITE and F-Series sensors The transmitter can be rotated on the mounting in 45° increments, for eight different orientations.

Adapter-barrier

Housing	IP20
Weight	0.34 lb (152 g)
Mounting	DIN rail mounting type: DIN 46277 Can be stacked side-to-side

Hazardous area classifications

Model 2200S transmitter

CSA C-US

Ambient temperature –40 to +140 °F (–40 to +60 °C)

Class I, Div. 1, Groups C and D

Class I, Div. 2, Groups A, B, C, and D


Class II, Div. 1, Groups E, F, and G

IECEX

Ex ib IIB/IIC T4

Ex nA II T4

ATEX

CE 0575  II 2G Ex ib IIB/IIC T4
II 2D Ex ibD 21 T70 °C

Ambient temperature range Ta –40 °C to +60 °C

Adapter-barrier

CSA C-US

Class I, Div. 1, Groups C and D⁽¹⁾


Class I, Div. 2, Groups A, B, C, and D

Class II, Div. 2, Groups F and G

IECEX

[Ex ib] IIB/IIC

ATEX

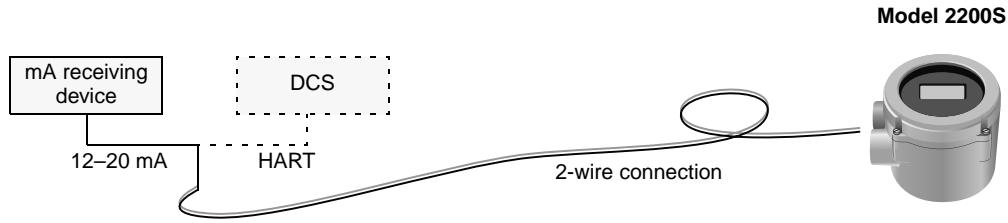
CE 0575  II (2) G [Ex ib] IIB/IIC
II (2) D [Ex ibD]

(1) When installed in a suitable enclosure.

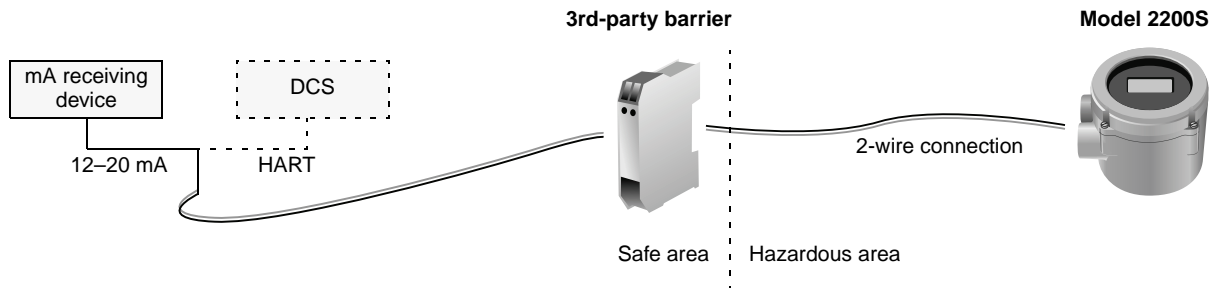
Micro Motion adapter-barrier

The Micro Motion adapter-barrier provides Class I, Div. 1 and Zone 1 intrinsic safety protection, and re-spans the I/O signal from 12–20 mA to 4–20 mA.

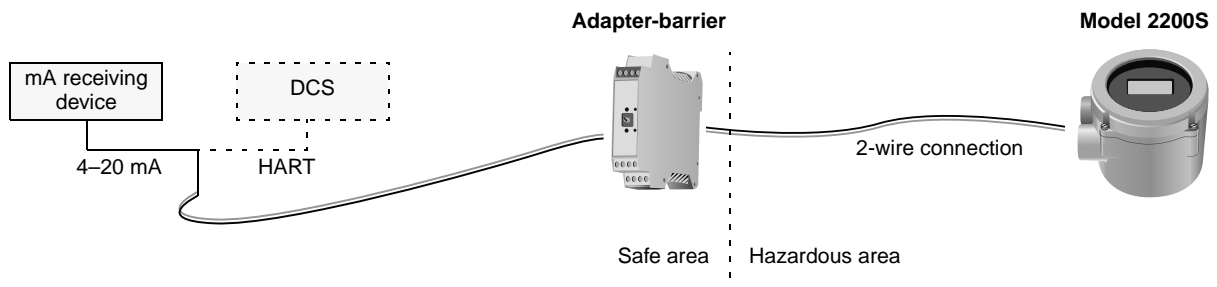
Transmitter to host with no barrier



Transmitter to host with third-party barrier



Transmitter to host with Micro Motion adapter-barrier



Input/output signals and power supply

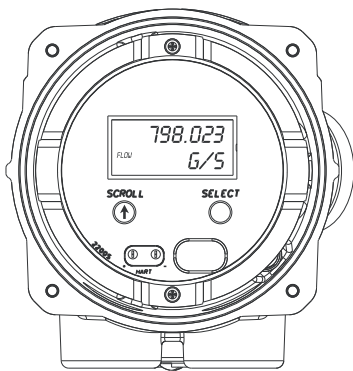
Transmitter

- One passive 12–20 mA output
- Isolated to ± 50 VDC from earth ground
- Maximum load limit: 600Ω
- External power: 17–36 VDC
- 0.8 W maximum
- Can report mass flow, liquid volume flow, gas standard volume flow, density, temperature, or drive gain
- Output is linear with process from 11.9 to 20.25 mA

Adapter-barrier

- Isolation voltage
 - Power to field side: > 1500 VAC
 - Power to host side: > 500 VAC
 - Field to host side: > 1500 VAC
 - Power supply
 - 18–42 VDC
 - Maximum supply current: 170 mA
 - Maximum power: 3 W
 - Field side
 - One passive 12–20 mA input
 - Over/under range: 11–21 mA
 - HART pass-through
 - Loop supply: > 25 V
 - HART-compliant impedance: $> 250 \Omega$
 - Compliant with ATEX, CSA, and IECEx intrinsic safety requirements
 - Host side
 - One active or passive 4–20 mA output
 - Over/under range: 2–22 mA
 - Maximum load limit (active output): < 1 k Ω
 - Maximum loop voltage (passive input): < 36 V
 - Linearity: $< 0.05\%$ span
 - Conforms to NAMUR NE43 (February 2003) (depending on transmitter configuration)
 - EMI effects:
Conforms to NAMUR NE21 Version 08.22.2007
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User interface

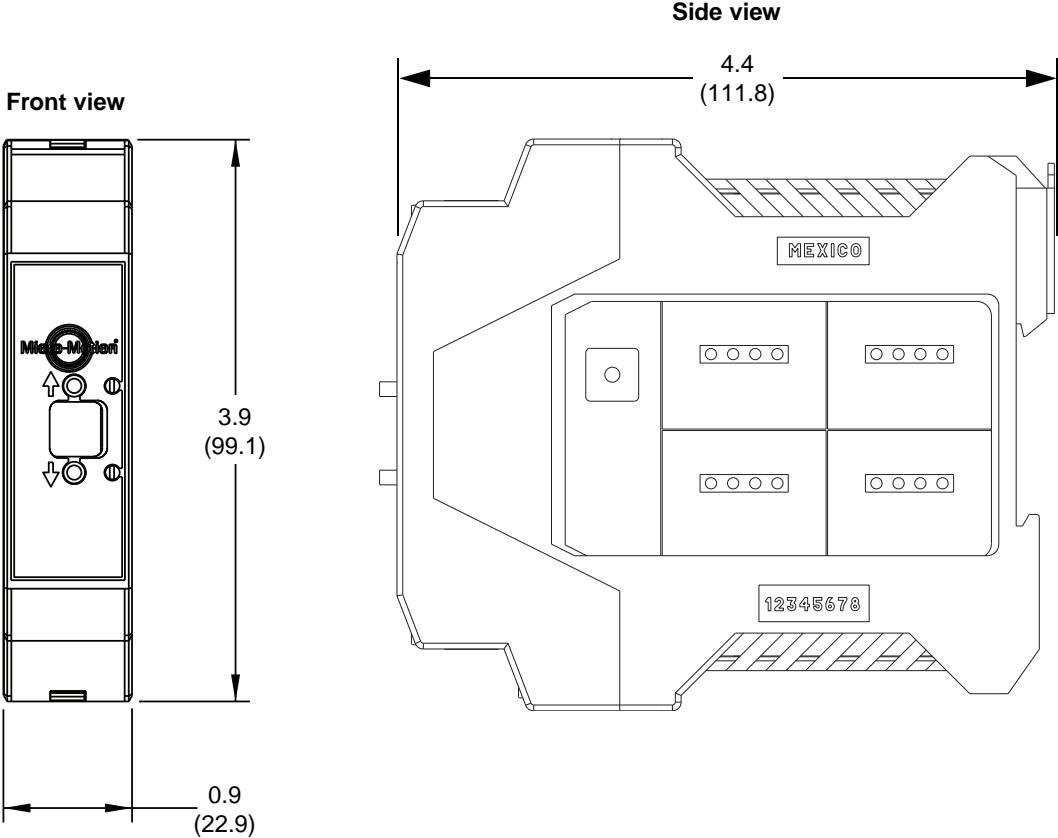


- Standard user interface with LCD panel
 - Suitable for hazardous area installation.
 - User interface module can rotate 360° on the transmitter in 90° increments.
 - Two clips for HART/Bell 202 connections (requires removing transmitter housing cover).
 - Two membrane pushbuttons for local operation (requires removing transmitter housing cover).
 - Depending on purchase option, transmitter housing cover has glass or plastic lens.
 - User interface module includes LCD panel. LCD line 1 displays process variable; line 2 displays engineering unit of measure, with optional alarm indication.
 - LCD panel can be configured to scroll through display list at user-specified scroll rate. Display list includes user-selected process variables and, optionally, all active alarms.
 - Display update rate is user-configurable: 100 to 10,000 milliseconds.
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Dimensions

Adapter-barrier

Dimensions in inches (mm)



Ordering information

Model	Product description
2200S	Micro Motion Coriolis 2-wire MVD transmitter
Code	Mounting/housing material
I	Integral-mount transmitter / Polyurethane-painted aluminum
J ⁽¹⁾	Integral-mount transmitter / 316L stainless steel
Code	Output options / Power supply
H	One 12–20 mA output with HART/Bell 202
K	One 4–20 mA output with HART/Bell 202, supplied with Micro Motion adapter-barrier
Code	I/O terminations
1	Compression screw terminals
Code	Display
1	Dual-line display for process variables and totalizer reset, glass lens
4 ⁽²⁾	Dual-line display for process variables and totalizer reset, non-glass lens
Code	Conduit connections
B	1/2-inch NPT — no gland
C	1/2-inch NPT with brass/nickel cable gland
D	1/2-inch NPT with stainless steel cable gland
E	M20 — no gland
F	M20 with brass/nickel cable gland
G	M20 with stainless steel cable gland
Code	Approvals
M	Micro Motion standard (no approval)
A	CSA (U.S.A. and Canada)
Z	ATEX Zone 1
L	ATEX Zone 2
I	IECEX Zone 1
3	IECEX Zone 2
Code	Language
E	English installation manual and English configuration manual
F	French installation manual and French configuration manual
G	German installation manual and German configuration manual
M	Chinese installation manual and Chinese configuration manual
S	Spanish installation manual and Spanish configuration manual
Code	Software options 1
Z	No software options 1
Code	Software options 2
Z	No software options 2
Code	Factory options
Z	Standard product
Typical model number: 2200S I H 1 1 B Z E Z Z Z	

(1) Not recommended for truck-mount.

(2) Available only with Approval Code M.

Micro Motion—The undisputed leader in flow and density measurement



World-leading Micro Motion measurement solutions from Emerson Process Management deliver what you need most:

Technology leadership

Micro Motion introduced the first reliable Coriolis meter in 1977. Since that time, our ongoing product development has enabled us to provide the highest performing measurement devices available.

Product breadth

From compact, drainable process control to high flow rate fiscal transfer—look no further than Micro Motion for the widest range of measurement solutions.

Unparalleled value

Benefit from expert phone, field, and application service and support made possible by more than 600,000 meters installed worldwide and over 30 years of flow and density measurement experience.

 www.micromotion.com

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