FIXINST
Fast · Accurate · Managing

1:100
Ultra-Wide
Turndown Ratio

01010
Fully Digital
Signal Processing

Built-In Flow Conditioner
No Straight Pipe Required

MFC
Compact Design
Flexible Installation



F236x Series

Compact Mass Flow Meter

MASS FLOW METER

Product Overview

Semiconductor, photovoltaic, lithium battery, fine chemical, and laboratory precision gas supply industries are seeing growing demand for accurate small-flow gas measurement and automatic control. Traditional volumetric flow meters are highly affected by temperature, pressure, and gas density, requiring additional temperature and pressure compensation to maintain accuracy. Conventional MFM/MFC products on the market also tend to have high costs, limited turndown ratios, and limited adaptability to varying operating conditions, making large-scale deployment across small and medium-sized production lines and multi-branch micro-piping systems challenging

The F236x Next-Generation Compact Thermal Mass Flow Meter (MFM) offers high cost-effectiveness, high accuracy, no straight pipe length limits, no temperature or pressure compensation, and ready-to-use installation. It provides an alternative to rotameters, vortex flow meters, and conventional volumetric flow instruments, meeting the needs of precise small- to medium-flow gas measurement and closed-loop control

Product Advantages

1:100

Ultra-Wide Turndown Ratio

A wide 1:100 turndown ratio, with a minimum flow rate as low as 0.04 SLM (DN3)



Compact Design

Ideal for confined piping, cabinets, and modules

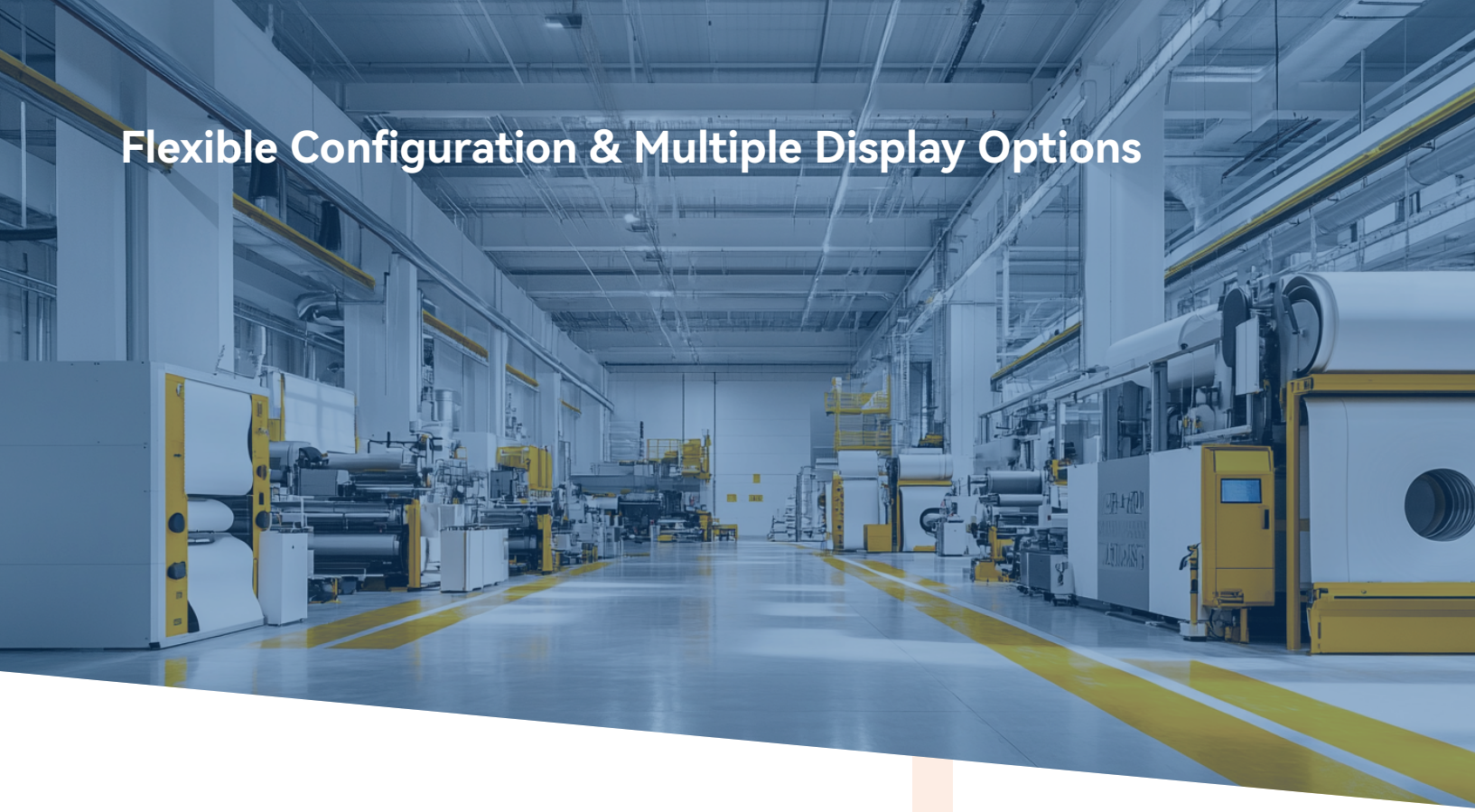
01010

Fully Digital Signal Processing

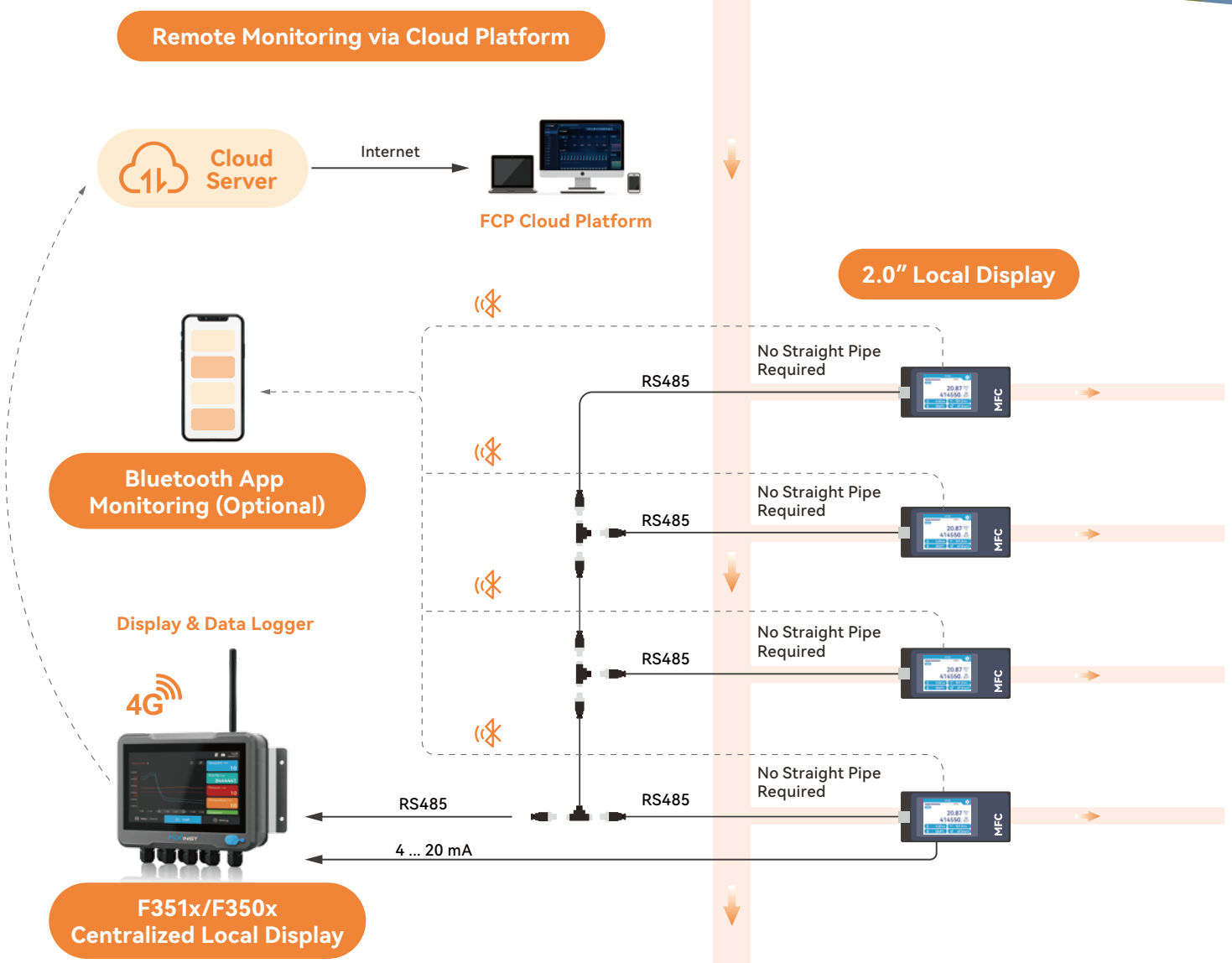
Adaptive signal processing effectively suppresses random errors

Cost-Effective

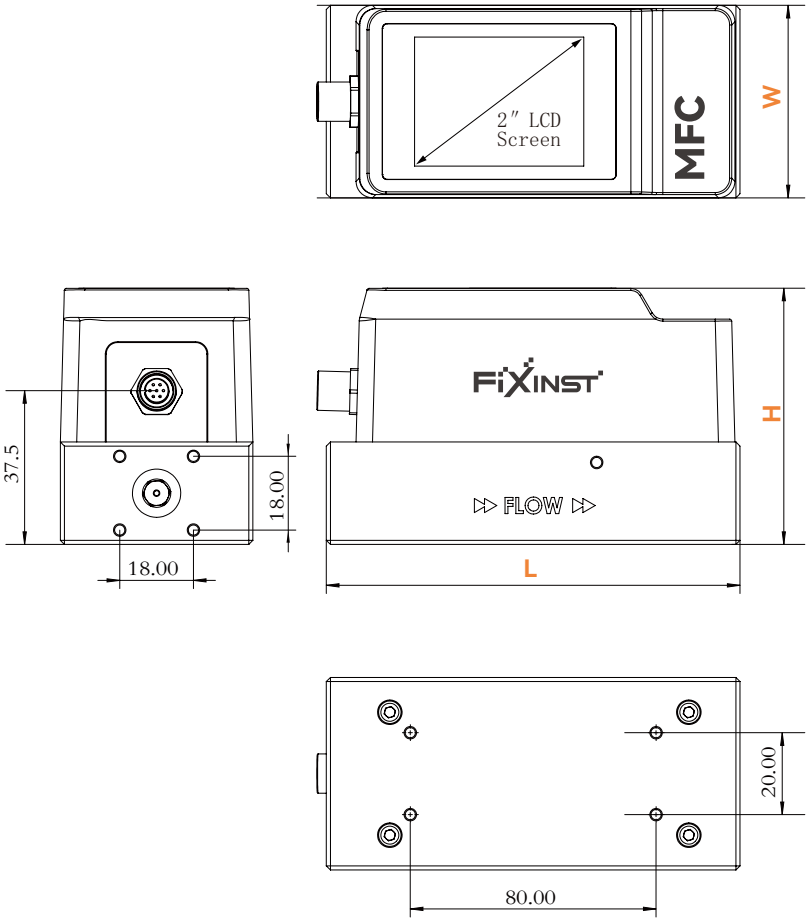
- Based on the thermal diffusion principle, with integrated temperature measurement and an optional pressure sensor for enhanced measurement capabilities
- Ultra-wide 1:100 turndown ratio, with a minimum flow rate as low as 0.04 SLM (DN3)
- Integrated digital adaptive signal processing effectively, suppresses random errors
- 2.0″ IPS LCD with a capacitive touchscreen and ultra-wide viewing angle, offering smooth touch response and a clear display
- Standard Modbus RTU (RS485) interface, with 4–20 mA current and pulse outputs
- Bluetooth connectivity enables function configuration and data retrieval via a smart terminal
- Relay alarm output provides early warnings when preset limits are exceeded
- Built-in flow conditioner eliminates the need for straight pipe runs. Compact design allows easy installation
- Multiple installation methods and material options provide excellent adaptability to different operating conditions
- Excellent cost-effectiveness without compromising measurement accuracy



Flexible Configuration & Multiple Display Options



Product Dimensions



F236x Detailed Dimensions

DN (mm)	Type Thread Size (Inch)	L (mm)	W (mm)	H (mm)
8	G1/4″ Female Thread	101	47	62.5
15	G3/8″ Female Thread	150	47	72.5
20	G1/2″ Female Thread	180	47	77.5
25	G1″ Female Thread	200	50	87.5
32	G1 1/4″ Female Thread	230	60	92.5
40	G1 1/2″ Female Thread	260	72	102.5
50	G2″ Female Thread	320	85	117.5

* Note: For dimensions of other connection types, please contact our sales team for the latest specifications

Product Applications

Thermal flow meters are widely used in industrial furnaces, medical and pharmaceutical gas equipment, laboratory microreactors, gas mixing systems, gas chromatographs, semiconductor processing equipment, fiber-optic manufacturing, and other applications



Precision Manufacturing & Semiconductors



Research & Medical Equipment



New Energy & Airtightness Testing



General Industry (e.g., Low-Flow Compressed Air)

Measuring Range

F236x Standard Range & Extend Range

DN (mm)	Size (Inch)	Flow-Extend (SLM)	Flow-Std (SLM)
8	G1/4″	1 … 50	5 … 250
15	G3/8″	6 … 300	30 … 1500
20	G1/2″	10 … 550	50 … 2500
25	G1″	16 … 800	80 … 4000
32	G1 1/4″	28 … 1400	140 … 7000
40	G1 1/2″	44 … 2200	220 … 11000
50	G2″	70 … 3500	350 … 17500

F236x-C Measuring Range

DN (mm)	Size (Inch)	Flow (SLM)
8	G1/4″	0 … 50
15	G3/8″	0 … 100
20	G1/2″	0 … 1000

* For flow ranges at additional pipe sizes, please contact our sales team.
Reference conditions: 20 °C, 1 bar(a) - ISO 1217

Technical Data

Flow

Medium	Compressed air, N_2, O_2, CO_2, and other non-condensing gases [see Ordering Information]
Measuring Range	Reference Flow Measuring Range
Accuracy	±(1.5% RD + 0.3% FS)
Reference Conditions	20 °C, 1 bar(a) - ISO 1217
Repeatability	≤ ±0.5% RD
Zero Drift	< 0.1% FS/Year
Response Time	< 100 ms
Pressure Rating	0 … 1.7 MPa(a)
Pressure Drop	≤ 5 kPa (Full Scale)

Temperaure

Measuring Range	0 … +60 ℃
Accuracy	±0.3 ℃

Pressure (Optional)

Measuring Range	0 … 1.7 Mpa(a)
Accuracy	±0.3 %FS @23℃

Power

Supply Voltage & Power	18 … 30 VDC 10W @ 24VDC

Display

Display	2.0" IPS LCD with capacitive touch

Output

4~20 mA Output (Standard)	Flow Velocity / Flow Rate / Temperature (Configurable)
Pulse Output (Optional)	Consumption / Alarm
Digital Output (Standard)	Modbus RTU (RS485)
Wireless Output (Optional)	Bluetooth
Connector	1 × 8Pin M8, Female

Material

Header	ABS+PC
Flow Channel	Aluminum Alloy SUS304 or SUS316L (Optional)

Other

Process Connection	Threaded Connection Compression Fitting Connection VCR Connection, etc.
Dimension	Refer to [Product Dimensions]
Weight	<1.0 kg
Protection Code	IP65

Order Information

Model	Digital Output	Analog Output	Wireless Comm.	Flow Range	Pressure	Body Material	Diameter	Process Conn.	Gas Type	Description
F236A										New-Generation Compact Mass Flow Meter (MFM), Accuracy ±(1.5% RD + 0.3% FS), Max. Pressure 1.6 MPa(g)
F236A-C										New-Generation Compact Mass Flow Controller (MFC), Accuracy ±(1.5% RD + 0.3% FS), Max. Pressure 1.6 MPa(g)
	1									Modbus RTU (RS485)
		1								4 ... 20 mA Output
			V0013 0001							None (Default)
			S1701 0044							Bluetooth Module
				V0205 0004						Standard Range (0.5 ... 29.7 Nm/s)
				V0205 0005						Extend Range (1.66 ... 148.48 Nm/s)
					V0013 0001					None (Default)
					E1403 0016					Built-In Absolute Pressure Sensor, 0 ... 1.7Mpa(a)
						V0212 0001				SUS304
						V0212 0005				SUS316L
						V0212 0006				Aluminum Alloy
							DN8~ DN50			Nominal Diameter
								V0222 1401		Threaded connection, Female thread, R thread
								V0222 1402		Threaded connection, Female thread, G thread
								V0222 1403		Threaded connection, Female thread, NPT thread
									V0202 0001	Air
									V0202 0002	Oxygen (O_2)
									V0202 0003	Nitrogen (N_2)
									V0202 0004	Hydrogen (H_2), Real Gas Calibration
									V0202 0005	Nitrous Oxide (N_2O)
									V0202 0006	Carbon Dioxide (CO_2)
									V0202 0007	Natural Gas (NG)
									V0202 0008	Argon (Ar)
									V0202 0009	Helium (He), Real Gas Calibration
									V0202 0010	Other Specified Gases (Specify Gas or Gas Mix)

* For flow ranges at additional pipe sizes, please contact our sales team. Reference conditions: 20 °C, 1 bar(a) - ISO 1217
* For the F236A-C, only DN8–DN20 nominal diameters are available. The measuring range is fixed and cannot be customized

Optional Accessory

Model	Description
LOK	Double Ferrule Compression Fitting, Male Thread (DN8~DN25)
VCR	VCR Connection (DN8~DN25)
VCO	VCO Connection (DN8~DN25)