YUA
Fast · Accurate · Managing

Dual vortex sensor

1.5 m/s
Very low gas lower limit of measurement

The Explosion-proof Certification applicable to various harsh working conditions

Excellent anti-vibration anti-electromagnetic interference

Dsa full spectrum signal processing



F231x-V Series
Vortex Flow Meter

Promotion Anti-vibration Vortex Flow Meter

VORTEX FLOW METER

Product Overview

The F231x-V vortex flow meter is based on the Karman vortex principle to measure gas, or liquid volume flow. It is widely used for industrial measurement because of its anti-pollution ability, sim plified structure, and high reliability.

Due to the built-in ultra-high sensitivity dual vortex sensor, the flowmeter can simultaneously detect the flow signal and disturbance signal, through the algorithm can automatically identify the flow signal and vibration, electromagnetic disturbance signal.

In comparison to the traditional vortex flow meter, the newly developed DSA (Digital Spectrum Analysis) technology greatly improves the low measuring limit, turndown ratio, anti-vibration, and anti-disturbance performance of flow meters, providing users with high accuracy and long-term stability.

Explosion-proof structure design, having certificate issued by the state:
Explosion-proof class: Ex db IIC T6 Gb / Ex tb IIIC T80°C Db
Protection code: IP67

Product Advantages

High Sensitivity

The low measuring limit of gas flow rate can reach 1.5 m/s

Wide Measuring Range

The turndown ratio is 1:53, which exceeds the traditional vortex flow meters

The Explosion-proof Certification

Ex db IIC T6 Gb
Ex tb IIIC T80°C Db

Protection Code IP67

Anti-vibration

Ultrasensitive dual vortex sensor for simultaneous detection of flow and vibration

- Wide measurement range, the low measuring limit can reach 1.5m/s (Actual Flow)
- Suitable for measuring dirty and wet compressed air, oxygen, natural gas and other industrial gases, steam, and etc
- Utralsensitive dual vortex sensor, provides a wider range ratio
- The explosion-proof certification: Ex db IIC T6 Gb / Ex tb IIIC T80°C Db Protection code: IP67
- Combining with DSA (digital full spectrum analysis technology), the flowmeter can accurately identify flow, vibration, and electromagnetic disturbance signals, greatly improving the anti-vibration ability of the flowmeter
- Integrates pressure and temperature sensors to monitor online gas pressure and temperature
- No moving parts, low pressure drop
- Standard Modbus RTU (RS485) interface, 4 to 20 mA current and pulse output
- Bluetooth function for wireless flowmeter configuration and data transmission
- The capacitive touch 2.0" IPS LCD with an ultra-wide viewing angle, user-friendly and multi-functional HMI
- The fully welded structure has better corrosion and high pressure and temperature resistance

UI Design

User-friendly and multi-functional HMI

High-resolution 2.0" IPS-LCD

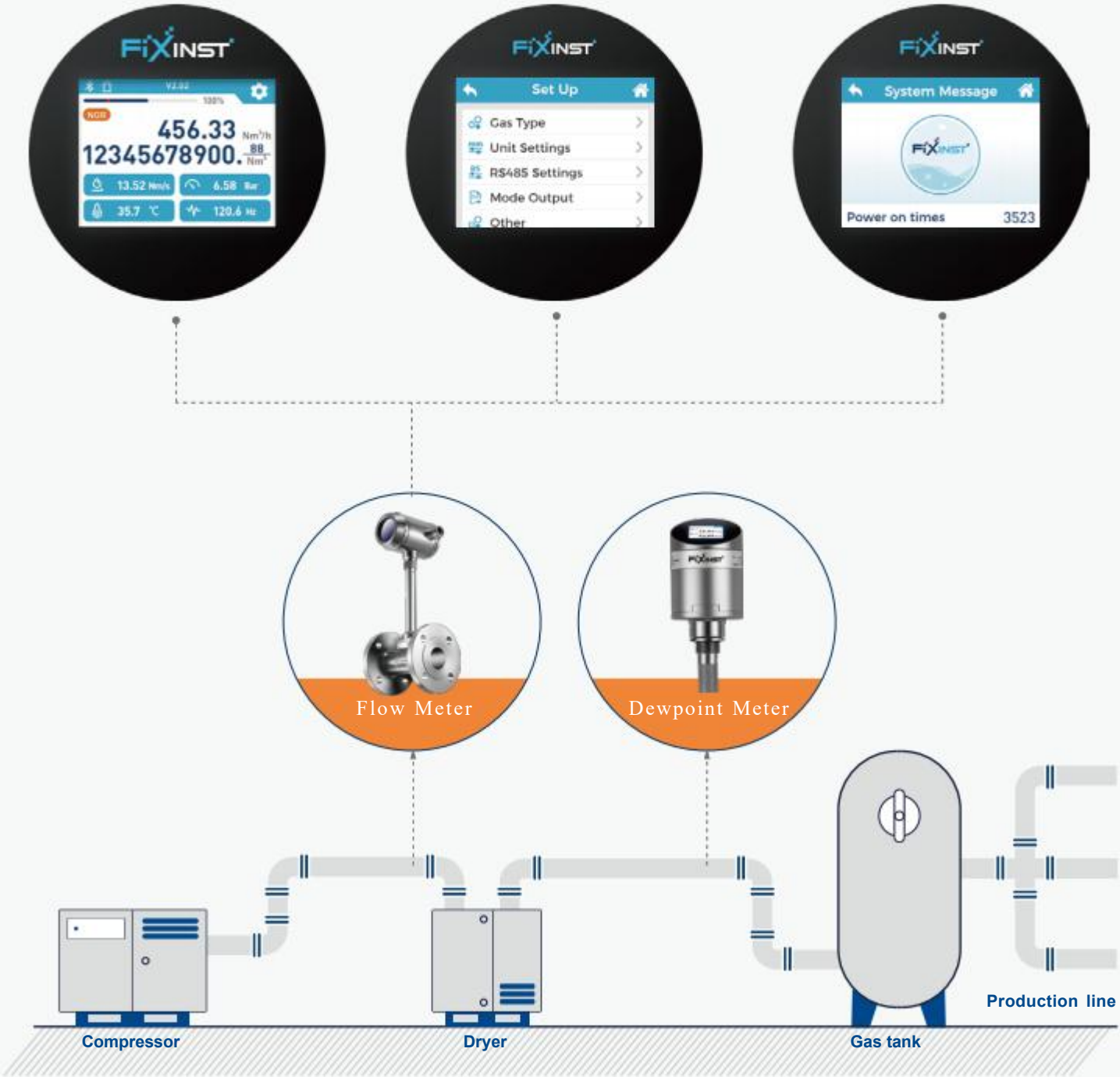
Clear and complete data presentation

Capacitive touch for operation

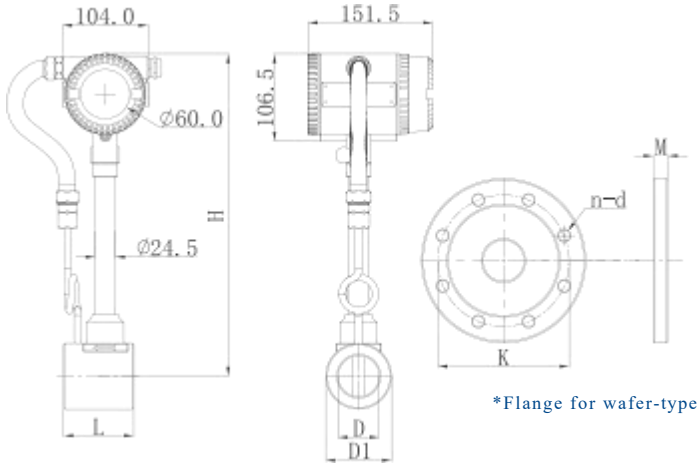
Excellent intuitive operation. What you see, what you get. Eliminate the complicated learning cost

IPS ultra-wide view

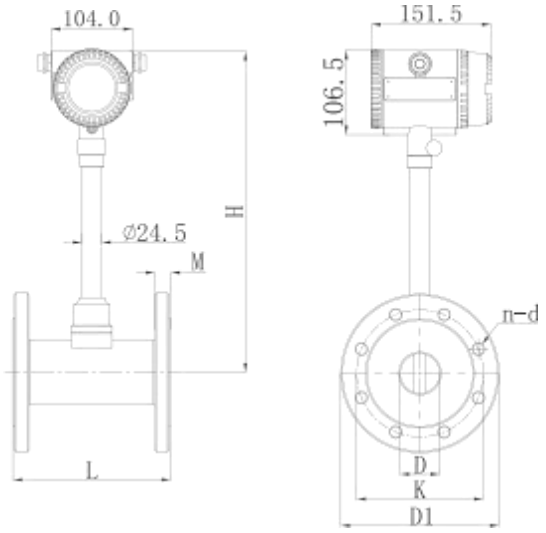
HD display, information is displayed in high definition from any angle



Product Dimensions



F231A-V dimension schematic



F231B-V dimension schematic

F231A-V (Aluminum housing) detailed dimension of wafer-type

DN	(Inch)	D Pipe inner diameter (mm)	D1 Pipe outer diameter (mm)	H Pipe center to top of housing (mm)	L Total length (mm)	M Flange thickness (mm)	n Number of flange holes	K Screw hole center distance (mm)	d Screw hole diameter (mm)
32	1 1/4	32	63	375	100	18	4	100	18
40	1 1/2	40	78	380	100	18	4	110	18
50	2	50	81	380	100	19	4	125	18
65	2 1/2	65	97	390	100	20	4	145	18
80	3	80	113	395	100	20	8	160	18
100	4	100	131	405	101	22	8	180	18
125	5	125	158	420	103	22	8	210	18
150	6	150	184	430	103	24	8	240	22
200	8	200	232	455	135	26	12	295	22
250	10	250	282	480	145	28	12	355	26

F231B-V (Aluminum housing) detailed dimension of flange-type

DN	(Inch)	D Pipe inner diameter (mm)	D1 Flange outer diameter (mm)	H Pipe center to top of housing (mm)	L Total length (mm)	M Flange thickness (mm)	n Number of flange holes	K Screw hole center distance (mm)	d Screw hole diameter (mm)
32	1 1/4	32	140	405	200	18	4	100	18
40	1 1/2	40	150	410	200	18	4	110	18
50	2	50	165	420	200	19	4	125	18
65	2 1/2	65	185	430	200	20	8	145	18
80	3	80	200	440	200	20	8	160	18
100	4	100	220	450	200	22	8	180	18
125	5	125	250	460	200	22	8	210	18
150	6	150	285	480	200	24	8	240	22
200	8	200	340	505	200	26	12	295	22
250	10	250	405	530	250	28	12	355	26

* For optional ANSI, JIS or other flange sizes, please consult sales

Technical Data

Measuring Medium	
Medium	Gas / Liquid

Flow	
Measuring Range	1.5 m/s … 80 m/s (Gas, actual velocity) 0.15 m/s ... 8 m/s (Liquid)
Accuracy	Class 1.0
Repeatability	±0.2% RD
Reference Condition	20 °C, 1 bar(a) - ISO 1217 (Configurable)

Pressure	
Measuring Range	0 …1.7 MPa(a) (6.3 MPa.a Option)
Accuracy	±0.5% FS

Temperature	
Measuring Range	-40 … +160 °C (Standard)
Accuracy	±0.5 °C (±1.0 %FS @ >100 °C)

Explosion-proof Class & Protection Code	
Explosion-proof Class	Ex db IICT6 Gb / Ex tb IIICT80°C Db
Protection Code	IP67

Power	
Power	18 ... 30 VDC 10W @ 24VDC

Display	
Display	2.0" IPS LCD with capacitive touch

Output	
4~20 mA Output (Standard)	Flow rate / Temperature / Pressure (Configurable)
Frequency Output (Standard)	Actual flow rate
Pulse (Standard)	Consumption / Alarm
Digital Output	Modbus RTU (RS485) HART (Option)
Wireless Communication	Bluetooth Wi-SUN / IOT-4G (Option, choose one of two)
Connector	Wiring terminal

Operating Environment	
Environment Temperature	-40 ... +85 °C
Environment Humidity	0 ... 95 %RH

Other	
Process Connection	Wafer-type / Flange-type
Product Material	Main Body : 304 / 316L Vortex Snesor : 316L Meter Housing : Aluminum / Stainless steel
EMC	Compliant with IEC 61326-1

Measuring Range

Inch	DN	ID (mm)	Flow Velocity (m/s)	Flow Rate (m^3/h)
1/2	15	15	5.5 ... 80	3.5 ... 50.9
3/4	20	20	5.0 ... 80	5.7 ... 90.4
1	25	25	4.0 ... 80	7.1 ... 141.3
1 1/4	32	32	3.0 ... 80	8.7 ... 231.5
1 1/2	40	40	2.0 ... 80	9.0 ... 361.7
2	50	50	1.5 ... 80	10.6 ... 565.2
2 1/2	65	65	1.5 ... 80	17.9 ... 955.2
3	80	80	1.5 ... 80	27.1 ... 1446.9
4	100	100	1.5 ... 80	42.4 ... 2260.8
5	125	125	1.5 ... 80	66.2 ... 3532.5
6	150	150	1.5 ... 80	95.4 ... 5086.8
8	200	200	1.5 ... 80	169.6 ... 9043.2
10	250	250	1.5 ... 80	265.1 ... 14130.0
12	300	300	1.5 ... 80	381.7 ... 20347.2

* The above is the gas flow range. Steam, liquid and other medium flow range, please consult the sale staff

Order Information

Model	Diameter	Medium Pressure	Wireless Comm.	Extended Function	Monitor	Housing Material	Medium Type	Description
F231A-V								New Generation Anti-vibration Vortex Flow Meter, with Temperature and Pressure Compensation, Modbus Output, -40...+160 C, Class 1.0 Accuracy, Wafer-type, with special fanges, bolts, nuts, metal gaskets
F231B-V								New Generation Anti-vibration Vortex Flow Meter, with Temperature and Pressure Compensation, Modbus Output, -40...+160 C, Class 1.0 Accuracy, Flange-type
	DN15 ~ DN350							Nominal Diameter
		PN16						1.7 MPa(a)
		PN63						6.3 MPa(a)
			V0013 0001					None (Defalt)
			S1701 0010					IOT-4G Module
			S1701 0023					Built-in Wi-SUN Sub-module, 470 frequency band, mainly applicable to China
			S1701 0024					Built-in Wi-SUN Sub-module, 915 frequency band, mainly suitable for Asia, America and Australia
			S1701 0025					Built- in Wi-SUN Sub-module, 868 frequency band, mainly suitable for Europe and the Middle East
				V0013 0001				None (Default)
				S1701 0022				HART communication
				F0111 0001				FAD free air delivery measuring module (Temperature/ Atmospheric pressure/Humidity)
					S0105 0002			All-in-one display, The capacitive touch 2.0" IPS LCD with an ultra-wide view
					S0105 0002A			Split display, The capacitive touch 2.0" IPS LCD with an ultra-wide view
						S0302 0050		Non-explosive aluminum housing
						S0302 0051		Explosion-proof aluminum housing
						S0302 0052		Non-explosion proof stainless steel housing
						S0302 0053		Explosion-proof stainless steel housing
							V0202 0011	Gas
							V0202 0013	Liquid

* Customized supporting special flanges, bolts, nuts, metal winding pads and other materials please consult the sales staff.
* Built-in 4G or Wi-SUN module, not compatible with explosion-proof function
* There are difference in regulations and standards between contuntries and regions. Please select according to the local Wi-SUN frequency band

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