



principle characteristics

- The FM330 thermal gas flow sensor is designed based on the thermal principle.
- digital menu programmable
 - measure stability and vibration resistance
 - mass flow measurement without temperature and pressure compensation
 - unique design, can meet the water, oil and impurities of the medium
 - maintenance free, high precision, long life
 - wide range ratio, multiple display units are optional

product application

Can be used for a variety of gas measurement, such as: compressed air, gas, natural gas, liquefied gas, torch gas, hydrogen, argon, ammonia, etc., can be used for gas leak detection.

Mainly used in: petrochemical, electric power, metallurgy, electronics, hvac, water treatment, food and other industries.

Plug-in Outline Drawing



(DN50...DN1000mm)

(DN1000...DN4000mm)

Technical parameters

- ◇ measuring range: 0.1Nm/s... 120 nm/s
- ◇ Duct diameter range: duct type (DN10... 2000 mm)
- Insert type (DN50... 4000 mm)
- ◇ measurement accuracy: $\pm 1\% \dots 2.5\%$ FS
- ◇ Power supply: DC24V/AC220 $\leq$ 18W
- ◇ output signal: pulse /4... 20 ma/RS485 (HART)
- Support 1 or 2 relay output
- ◇ Working pressure: tube type $\leq$ 2.5Mpa/insert type $\leq$ 4.0Mpa
- ◇ Response speed: 1s
- ◇ medium temperature: -40... 450 °C
- ◇ storage temperature: -20... 65 °C
- ◇ field display: LCD screen
- ◇ protection level: IP65
- ◇ Body material: pipe type (carbon steel, stainless steel)
- Insert type (stainless steel)

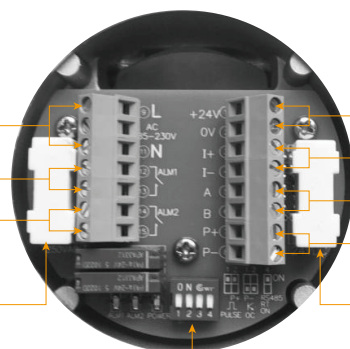
wiring diagram

power supply: AC85~230V

Alarm output 1

Alarm output 2

AC220V Fuse wire



power supply: DC24V

4-20mA output

RS485 communication

Pulse output

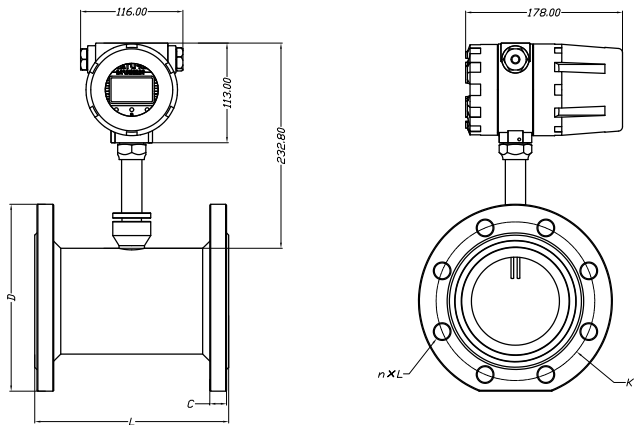
DC24V Fuse wire

Pulse output mode selection: Set 1/2 to "ON",

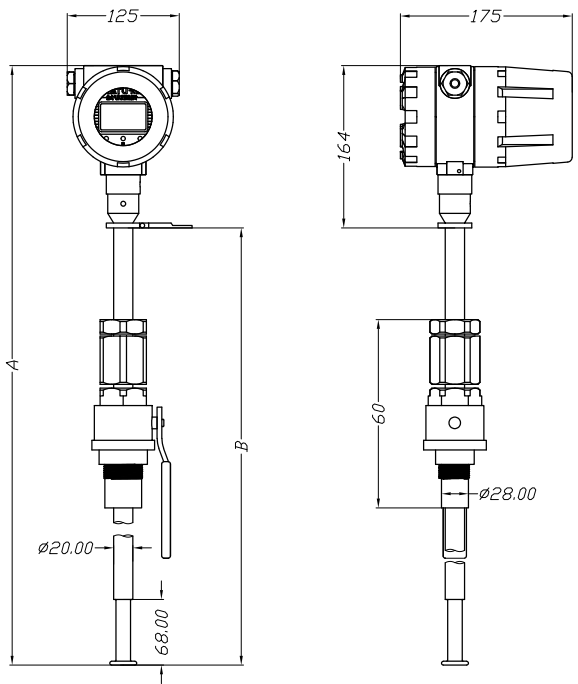
The pulse output is NPN mode, otherwise it is OC gate mode.

4 Indicates whether the resistance of the RS485 communication terminal is enabled or disabled.

Size chart (mm)



caliber	A	B
≤ DN500	565	370
> DN500	825	630



caliber (DN)	Flange outside diameter (D)	Center hole diameter (K)	Screw hole (n × L)	Overall length (L)
1 5	9 5	6 5	4 × 1 4	2 0 0
2 0	1 0 5	7 5	4 × 1 4	2 0 0
2 5	1 1 5	8 5	4 × 1 4	2 0 0
3 2	1 4 0	1 0 0	4 × 1 8	2 0 0
4 0	1 5 0	1 1 0	4 × 1 8	2 0 0
5 0	1 6 5	1 2 5	4 × 1 8	2 0 0
6 5	1 8 5	1 4 5	8 × 1 8	2 2 0
8 0	2 0 0	1 6 0	8 × 1 8	2 2 0
1 0 0	2 2 0	1 8 0	8 × 1 8	2 2 0
1 2 5	2 5 0	2 1 0	8 × 1 8	2 2 0
1 5 0	2 8 5	2 4 0	8 × 2 2	2 2 0
2 0 0	3 4 0	2 9 5	1 2 × 2 2	2 2 0
2 5 0	4 0 5	3 5 5	1 2 × 2 6	2 2 0
3 0 0	4 6 5	4 1 0	1 2 × 2 6	2 2 0

Range table (unit: Nm³/h)

CAL	Nitrogen/air	oxygen	hydrogen
15	65	32	10
25	175	89	28
32	290	144	45
40	450	226	70
50	700	352	110
65	1200	600	185
80	1800	900	280
100	2800	1420	470
125	4400	2210	700
150	6300	3200	940
200	10000	5650	1880
250	17000	8830	2820

CAL	Nitrogen/air	oxygen	hydrogen
300	25000	12720	4060
400	45000	22608	7200
500	70000	35325	11280
600	100000	50638	16300
700	135000	69240	22100
800	180000	90432	29000
900	220000	114500	77808
1000	280000	141300	81120
1200	400000	203480	91972
1500	600000	318000	101520
2000	700000	565200	180480

Selection table

FM 330-	G	15	A	DC	S	...	Detailed description
FM 330-							FM 330 thermal gas flow sensor
	G						Pipeline type
	T						Insertable
		15					Pipe diameter (DN)
			A				Output signal: 4... 20mA
			AR				Output signal: 4... 20mA + RS485
			ARC				Output signal: 4... 20mA + RS485 + relay
				DC			Power supply: DC24V
				AC			Power supply: AC110... 220V
					S		Stainless steel material
						Z	Special customization with suffixes is available

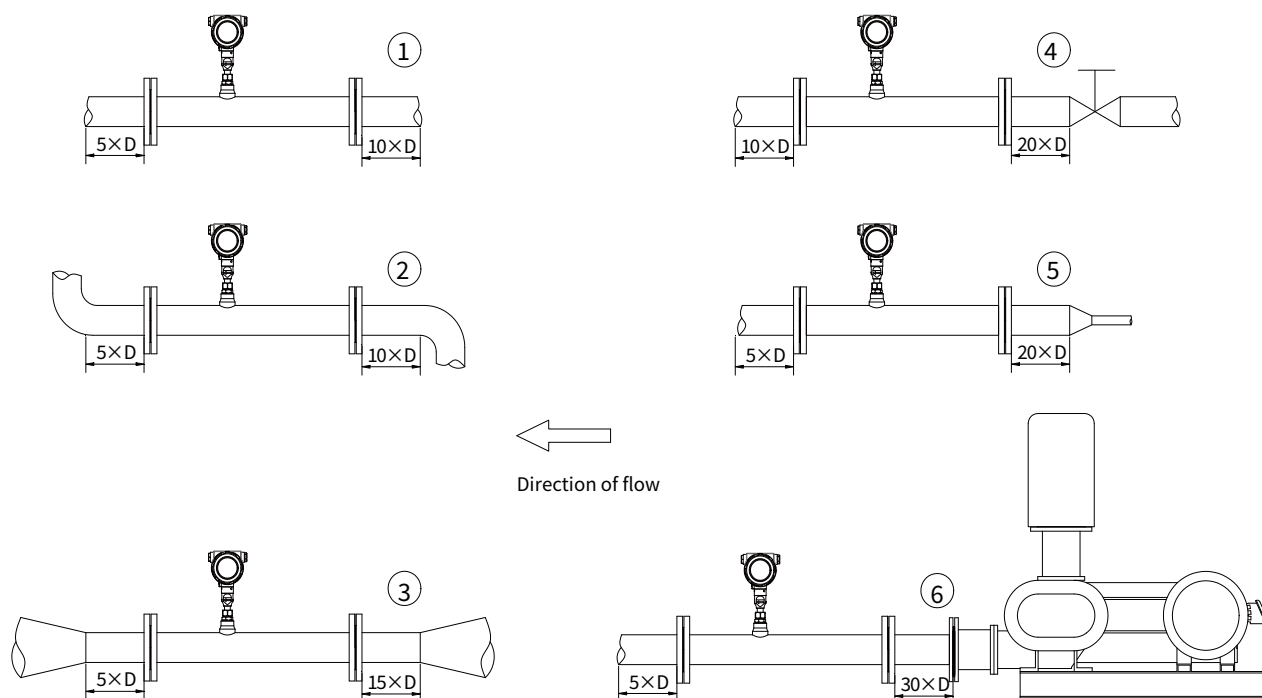
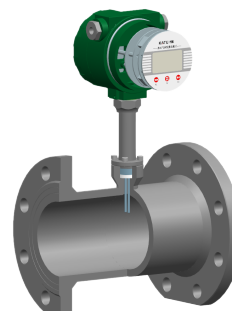
Installation Precautions

- ⚠ If the instrument is installed outdoors, the instrument shade should be added to avoid the sun and rain.
- ⊘ Do not install in the occasion of strong vibration.
- ⊘ Do not be exposed to the environment containing a large amount of corrosive gases.
- ⊘ Do not share power with converter, welder and other equipment that pollute the power supply. If necessary, install purification power for the converter.

Installation location and piping requirements

1, the instrument should be far away from the elbow, obstacles, diameter, valve, to ensure a stable flow field, one side requires a long upper limit straight pipe, the front straight pipe length is greater than 10D, The length of the straight back pipe was greater than 5D.

The following figure shows the length of straight pipe required by several situations frequently encountered in the field:



Type of pipe installation	serial number	Straight pipe before	After the straight section
Horizontal tube	1	10D	5D
Bend pipe	2	10D	5D
Expanding head of pipeline	3	15D	5D
Downstream of the valve	4	20D	5D
Shrinkage tube	5	20D	5D
Downstream of the pump	6	30D	5D

2. If the requirements for straight pipe segment cannot be met on site, the gas rectifier can be connected in series to reduce the requirements for straight pipe segment.