AQUASYNC
INNOVATION
YOUR SHIP'S GUARDIAN IN THE DIGITAL AGE

MASS FLOWMETER

INTEGRATED & SPLIT

AQUASYNC INNOVATION(SINGAPORE) PTE. LTD.
Address: 8 Temasek Boulevard #11-01.Suntec city Tower 3, Singapore 038988
Online: E-mail : sales@aquasync.sg Website: www.aquasync-marine.com

Product Index

INTEGRATED & SPLIT

INTEGRATED

AMF-VI-AL 01

DN2-DN40

Temperature -50~+150℃

Accuracy ±0.10%, ±0.20% (Liquid)
±0.5% (Gas)

AMF-WI-AL 03

DN15-DN80

Temperature -50~+150℃

Accuracy ±0.20% (Liquid)

AMF-UI-AL 05

DN100-DN200

Temperature -50~+150℃

Accuracy ±0.10%, ±0.20% (Liquid)
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AMF-VI-SS 01

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SPLIT

07 AMF-VS-AL

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Temperature -196~+240℃

Accuracy ±0.10%, ±0.20% (Liquid)
±0.5% (Gas)

09 AMF-WS-AL

DN15-DN80

Temperature -196~+240℃

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11 AMF-US-AL

DN100-DN200

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Accuracy ±0.10%, ±0.20% (Liquid)
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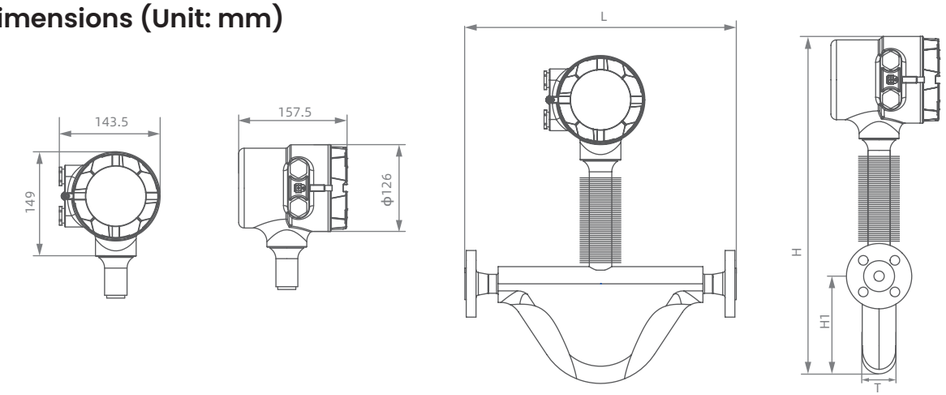
Mass flowmeter -Integrated

Characteristics of Flowmeter

- Twin V-shaped tube design provides improved sensitivity and measurement accuracy.
- Optimized balance between performance and installation footprint, ensuring flexible integration across various system layouts.
- Medium operating frequency helps mitigate the effects of potential gas entrainment.
- Excellent self-draining capability when installed vertically or at a slight inclination.
- Cost-effective configuration designed for general-purpose measurement applications.
- Optional high-pressure models available for demanding high-pressure measurement environments.

Dimensions (Unit: mm)



Physical Pictures

Technical Parameters

		AMF-VI-AL	AMF-VI-SS
Accuracy		☐ ±0.10%(Liquid) ☐ ±0.20% (Liquid) ☐ ±0.5% (Gas)	
Power		☐ 24VDC ☐ AC220V	
Signal Output		Standard Configuration: (4~20)mA、Frequency x1、RS485 x1	
Material	Measuring:	☐ SS316L ☐ Hastelloy C22	
	Flange:	☐ SS304 ☐ SS316 ☐ SS316L	SS316
	Sensor Housing:	☐ SS304 ☐ SS316L ☐ SS304+Anti-Corrosion Coating	SS316L
	Transmitter Housing:	Cast Aluminum Alloy (with epoxy polyurethane coating on the surface)	SS316L
Temperature Range	Sensor:	Standard Version:-50~150℃ Note: The temperature rang of integrated mass flowmeters recommend to be used in medium from -50~+150℃, if out of the range, we recomment to select split version.	
	Transmitter:	-40~60℃	
Enclosure Rotection	Sensor:	IP67	
	Transmitter:	IP67	
Ex Class		Ex db ia [ia Ga] IIC T1...T6 Gb; Ex ia tb [ia Da] IIIC T80°C...T440°C Db;	
Connection-Flange		Flange Standards:EN 1092-1:2018 GB/T 9119-2010 ASME B16.5-2017 HG/T 20592-2009 Threaded Ends: NPT (ASME B1.20.1) BSPT (ISO 7-1)	

Specification

DN	Flange End Face (L)	Flange Center Height (H1)	Total Height (H)	Sensor Thickness (T)	Nominal Flow Rate (kg/h)	Maximum Flow (kg/h)
2	387	112	356	49	70	120
4	387	112	356	49	300	520
5	387	112	356	49	500	900
10	387	138	363	60	1,200	2,100
15	420	182	409	62	4,000	7,000
25	450	244	476	79	11,000	20,000
40	625	298	548	105	26,000	47,000

Note: The dimensions in the data table are for standard connections. If the long neck option is selected for the connection method, the total height (H) needs to be increased by 80mm on the basis of the standard.

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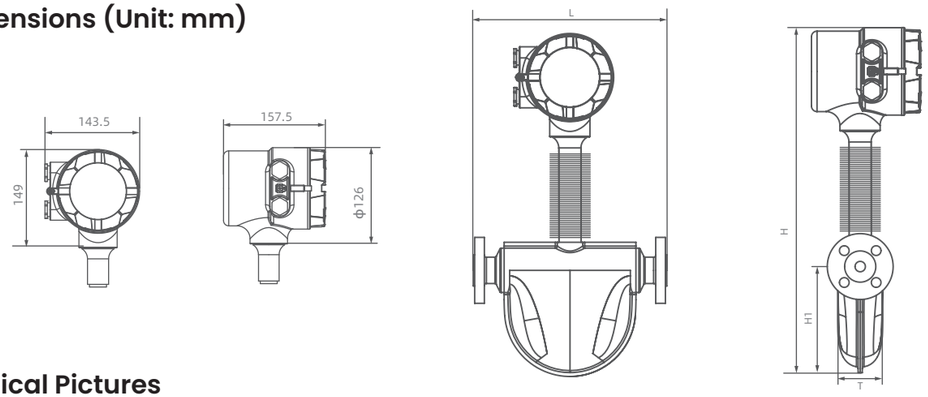
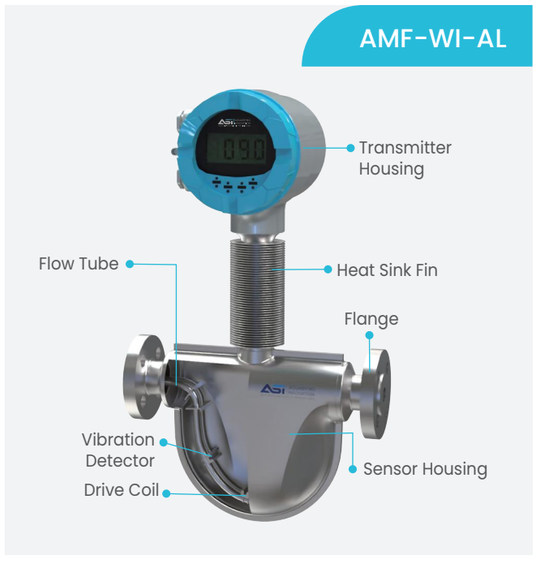


Physical Pictures



Technical Parameters

		AMF-WI-AL	AMF-WI-SS
Accuracy		☐ ±0.10%(Liquid) ☐ ±0.20% (Liquid) ☐ ±0.5% (Gas)	
Power		☐ 24VDC ☐ AC220V	
Signal Output		Standard Configuration: (4~20)mA、Frequency x1、RS485 x1	
Material	Measuring:	☐ SS316L ☐ Hastelloy C22	
	Flange:	☐ SS304 ☐ SS316 ☐ SS316L	SS316
	Sensor Housing:	☐ SS304 ☐ SS316L ☐ SS304+Anti-Corrosion Coating	SS316L
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Enclosure Rotection	Sensor:	IP67	
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DN	Flange End Face (L)	Flange Center Height (H1)	Total Height (H)	Sensor Thickness (T)	Nominal Flow Rate (kg/h)	Maximum Flow (kg/h)
15	279	153	384	64	4,200	7,500
25	329	180	414	73	14,000	25,000
40	445	217	430	99	32,000	56,000
50	556	286	550	137	70,000	120,000
80	693	337	618	175	150,000	260,000

Note: The dimensions in the data table are for standard connections. If the long neck option is selected for the connection method, the total height (H) needs to be increased by 80mm on the basis of the standard.

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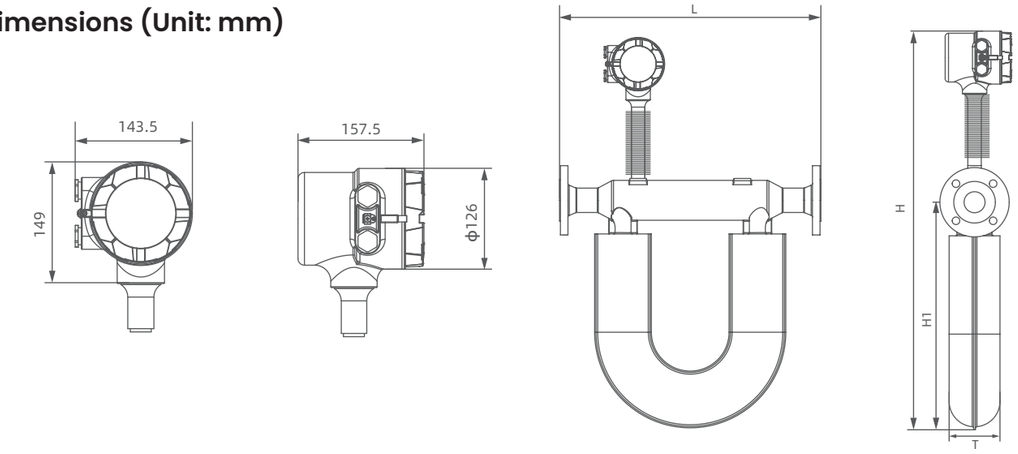

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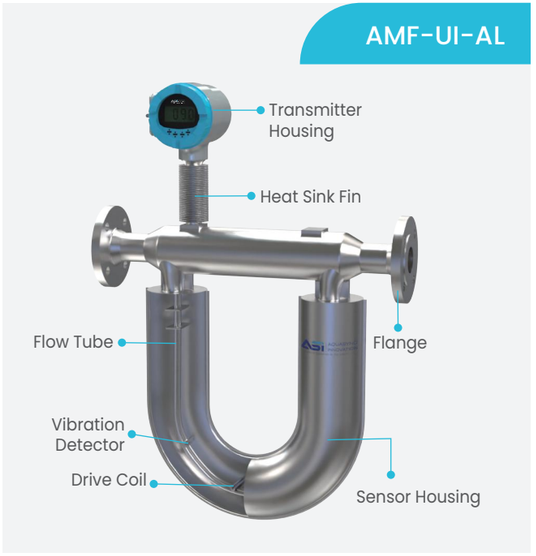

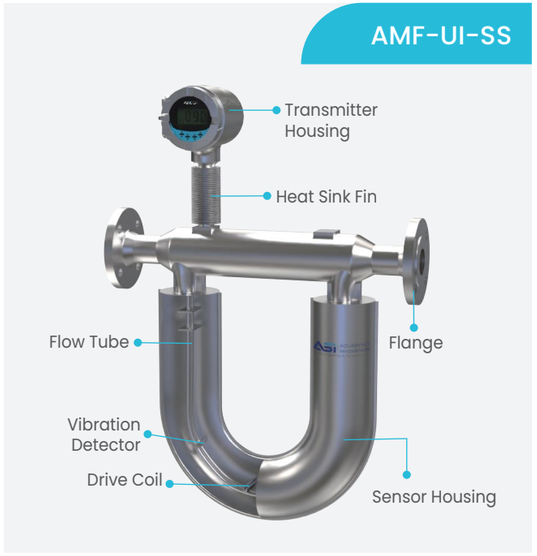

Technical Parameters

		AMF-UI-AL	AMF-UI-SS
Accuracy		☐ ±0.10%(Liquid) ☐ ±0.20% (Liquid) ☐ ±0.5% (Gas)	
Power		☐ 24VDC ☐ AC220V	
Signal Output		Standard Configuration: (4~20)mA、Frequency x1、RS485 x1	
Material	Measuring:	☐ SS316L ☐ Hastelloy C22	
	Flange:	☐ SS304 ☐ SS316 ☐ SS316L	SS316
	Sensor Housing:	☐ SS304 ☐ SS316L ☐ SS304+Anti-Corrosion Coating	SS316L
	Transmitter Housing:	Cast Aluminum Alloy (with epoxy polyurethane coating on the surface)	SS316L
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Specification

DN	Flange End Face (L)	Flange Center Height (H1)	Total Height (H)	Sensor Thickness (T)	Nominal Flow Rate (kg/h)	Maximum Flow (kg/h)
100	850	871	1158	196	240,000	420,000
150	1064	1050	1362	302	500,000	880,000
200	1266	1257	1599	326	1,000,000	1,800,000

Note: The dimensions in the data table are for standard connections. If the long neck option is selected for the connection method, the total height (H) needs to be increased by 80mm on the basis of the standard.

Mass flowmeter -Split

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• Cost-effective configuration designed for general-purpose measurement applications.
• Optional high-pressure models available for demanding high-pressure measurement environments
• Remote (split) installation, allowing the transmitter to be mounted in easily accessible areas and suitable for high-temperature operating environments.

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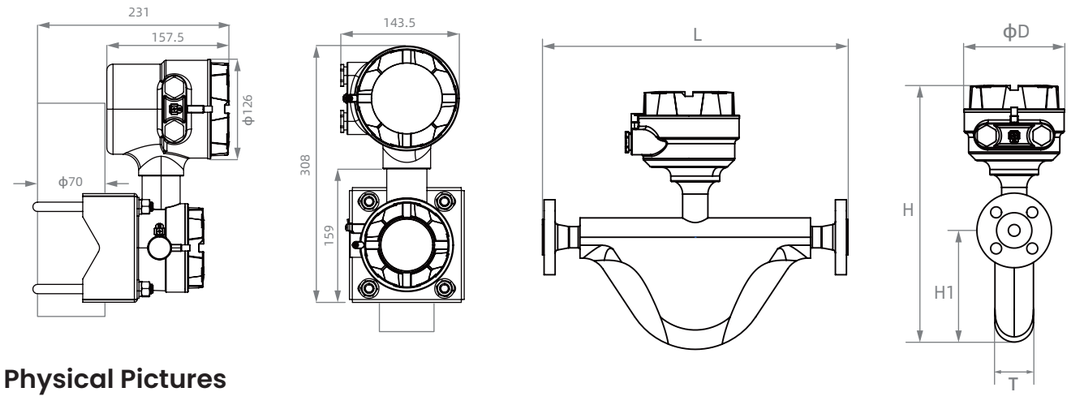

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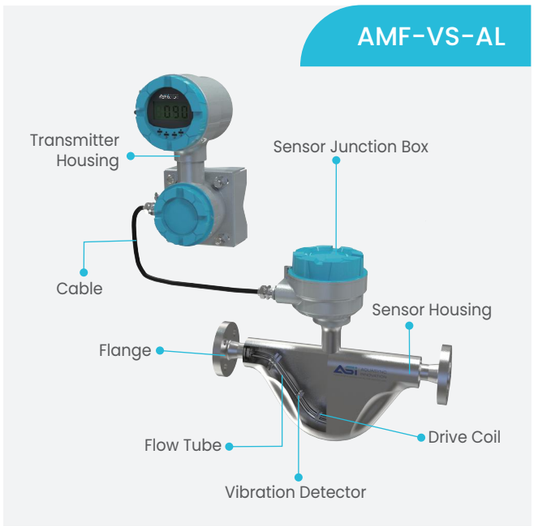

Technical Parameters

		AMF-VS-AL	AMF-VS-SS
Accuracy		☐ ±0.10%(Liquid) ☐ ±0.20% (Liquid) ☐ ±0.5% (Gas)	
Power		☐ 24VDC ☐ AC220V	
Signal Output		Standard Configuration: (4~20)mA、Frequency x1、RS485 x1	
Material	Measuring:	☐ SS316L ☐ Hastelloy C22	
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5	387	112	356	49	127
10	387	138	363	60	127
15	420	182	409	62	127
25	450	244	476	79	127
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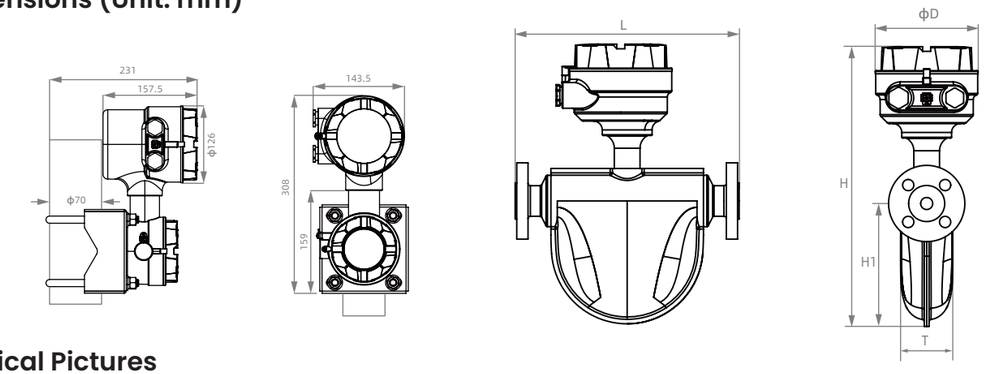

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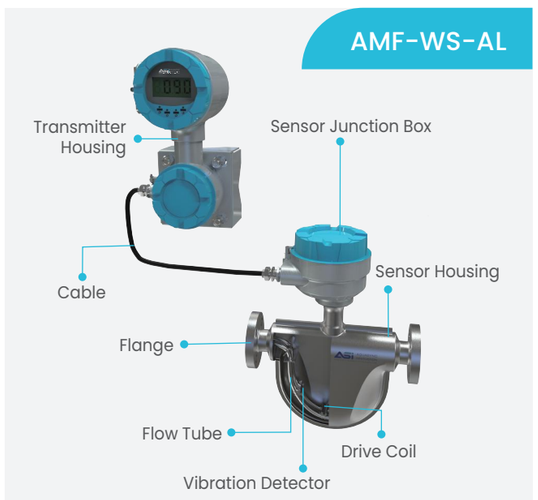

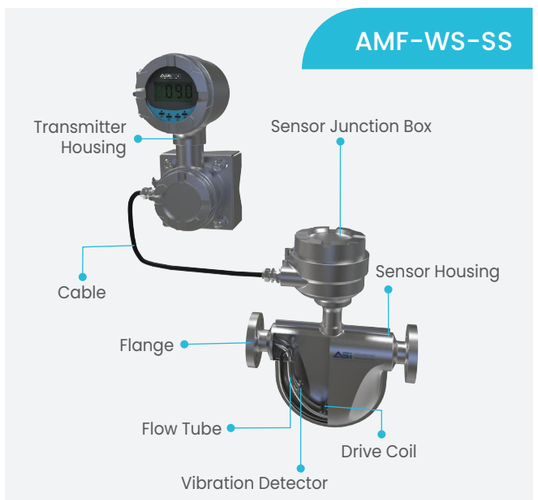

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Accuracy		☐ ±0.10%(Liquid) ☐ ±0.20% (Liquid) ☐ ±0.5% (Gas)	
Power		☐ 24VDC ☐ AC220V	
Signal Output		Standard Configuration: (4~20)mA、Frequency x1、RS485 x1	
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	Flange:	☐ SS304 ☐ SS316 ☐ SS316L	SS316
	Sensor Housing:	☐ SS304 ☐ SS316L ☐ SS304+Anti-Corrosion Coating	SS316L
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25	329	180	414	73	127
40	445	217	430	99	127
50	556	286	550	137	127
80	693	337	618	175	127

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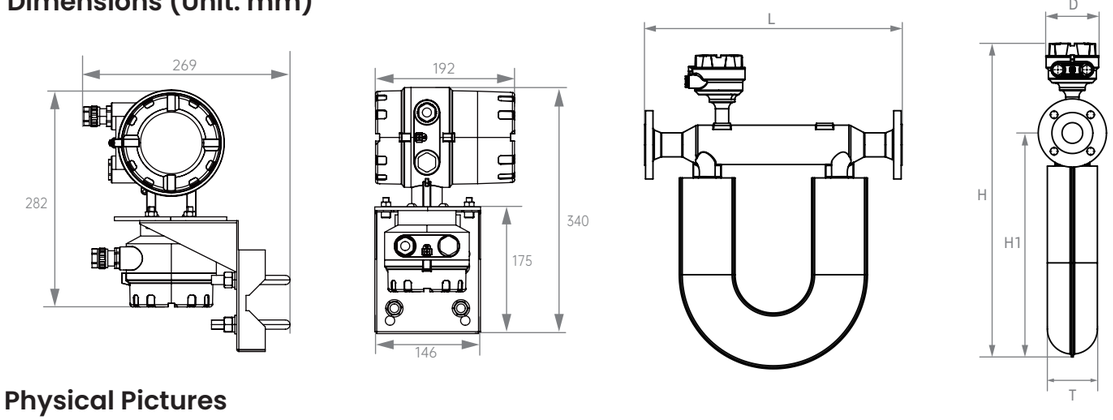

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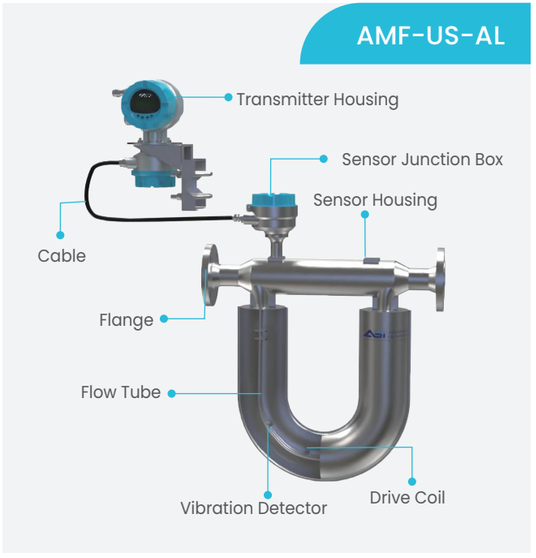

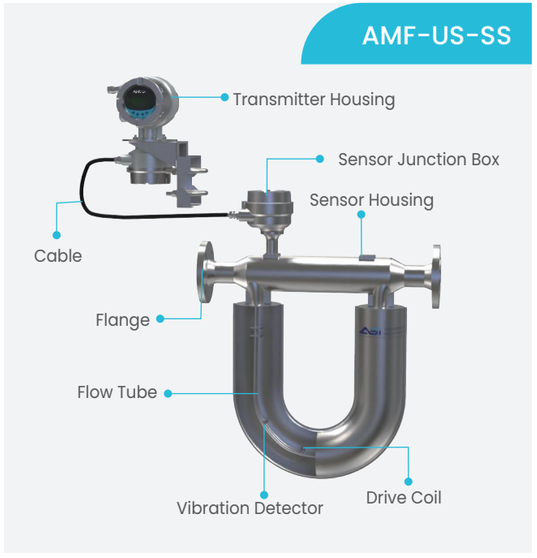

Technical Parameters

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Signal Output		Standard Configuration: (4~20)mA、Frequency x1、RS485 x1	
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Specification

DN	Flange End Face (L)	Flange Center Height (H1)	Total Height (H)	Sensor Thickness (T)	Transmitter Thickness (D)
100	850	876	1109	196	117
150	1064	1050	1307.5	302	117
200	1266	1257	1566	326	127

Note: The dimensions in the data table are for standard connections. If the long neck option is selected for the connection method, the total height (H) needs to be increased by 80mm on the basis of the standard.

Wiring Instructions for Transmitters

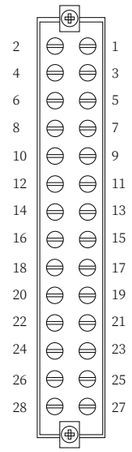
Integrated

After unscrewing the transmitter end cover, proceed with wiring.

Output Terminal	Connecting Terminal	Define
DC/AC+	DC/AC+	DC24V+, AC220V+
DC/AC-	DC/AC-	DC24V-, AC220V-
⏚	⏚	Earth
mA1	mA1	4~20mA+/Hart
mA2	mA2	4~20mA-/Hart
485A	485A	Modbus RS485 A
485B	485B	Modbus RS485 B
Freq	Freq	Frequency+
GND	GND	GND

Split

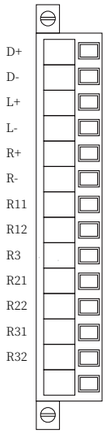
Terminal Box for Transmitter



Terminal

Terminal	Symbol	Define	Cable Color
2	D+	Excitation signal+	Red
4	D-	Excitation signal-	Black
6	L+	Left detection signal+	Purple
8	L-	Left detection signal ground	Ash
10	R+	Right detection signal+	White
12	R-	Right detection signal ground	Green
14	R11	RTD signal1	Blue
16	R12	RTD signal2	Palm
18	R3	RTD common terminal	Yellow
20	R21	Reserve	
22	R22	Reserve	
24	R31	Reserve	
26	R32	Reserve	
28			

Sensor Terminal Junction Box



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R12	RTD signal2	Palm
R3	RTD common terminal	Yellow
R21	Reserve	
R22	Reserve	
R31	Reserve	
R32	Reserve	

Signal Cable

a. 4-20mA/frequency/pulse/switching quantity: standard cable is sufficient.

b. 4-20mA (Hart): Using shielded cables.

c. RS485 communication: It is recommended to use Class A cables in EIA/TIA-485 standards.

Cable Specifications	Class A
Characteristic Resistance	135-165Ω（signal frequency3-20MHz）
Cable Capacitance	<30pF/m
Wire Diameter	>0.34mm2 (22AWG)
Cable Type	Twisted pair cable
Wire Resistance	≦110Ω/km
Signal Attenuation	The entire cable cross-section does not exceed 9dB.
Shield	Copper braided shielding or braided shielding with foil can be used for shielding. When grounding, the factory's grounding requirements must be followed.

The communication distance is related to the wire diameter specifications.

Wire Diameter Specification	0.35mm2 (22AWG)	0.50mm2 (20AWG)	0.75mm2 (18AWG)	1.00mm2 (17AWG)	1.50mm2 (15AWG)
Maximum Cable Length	240ft（80m）	360ft（120m）	540ft（180m）	720ft（240m）	1000ft（300m）

Note: For split type transmitters, sensors and transmitters The dedicated cable for connecting the device is provided by the manufacturer, please place an order confirm the length during shipment.