

流量センサー FSシリーズ FS-AR

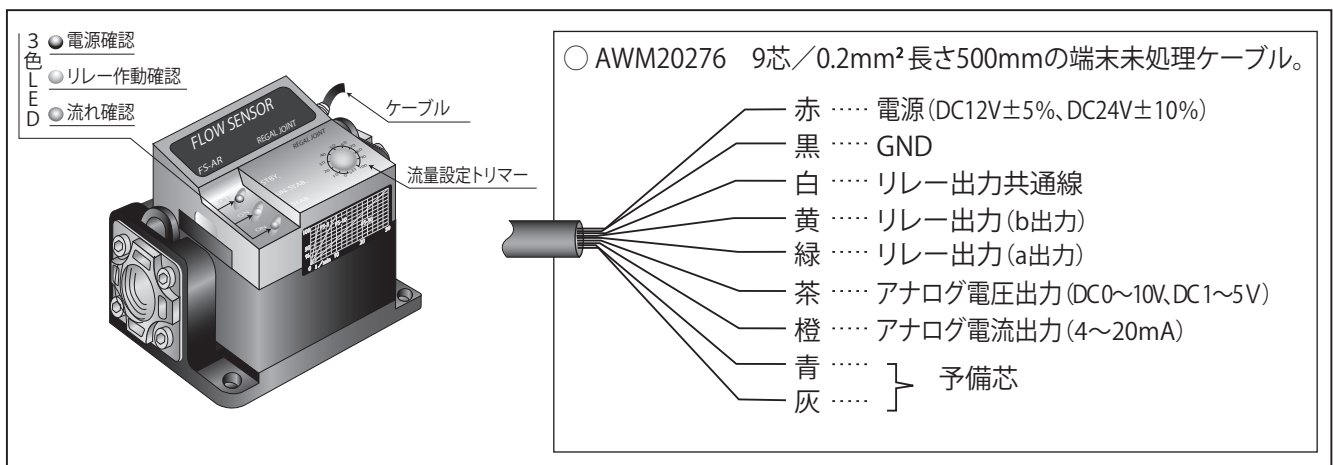
特 長

羽根車式の流量センサー

- コンパクトな外観設計。
- アナログ出力
(電圧出力DC 0~10V or 電圧出力DC 1~5V or 電流出力4~20mA) の出力機能搭載。
- リレー出力機能搭載。
実流量が設定値以上、または以下になった場合、リレー回路が作動。装置の停止・警報作動などのスイッチ機能に利用できる。
- 3色LEDランプにて動作確認。
流れ確認(緑)・リレー作動確認(黄)・電源確認(赤)



電気配線



仕 様

型 式	FS-3AR	FS-10AR	FS-30AR
流量範囲	0.5~3L/min	1.5~10L/min	5~30L/min
電源電圧	DC 12V±5% or DC 24V±10%		
消費電流	MAX 50mA (但し1~5V、4~20mA出力時 MAX70mA)		
ケーブル	AWM20276 9芯/0.2mm ² /500mm		
アナログ出力	DC 0~10V(電圧出力) or 4~20mA(電流出力) or DC 1~5V(オプション)		
アラーム出力	MAX DC 30V・2A/リレー出力 a or b どちらか 1 接点(トランスファー)		
精 度	±2.5%(FS)		
流れ方向	自 由		

注文形式 FS-AR

流量 出力 ボディ材質 アダプタ材質 口径 オリング 電源
 FS— — — — — — —

記入例:FS-10AR-0-J-B-3/8-F-24

FS-AR
タイプ

流量	出力	ボディ材質	アダプタ材質	口径	オリング	電源				
3AR 0.5~3 L/min	0 0~10V	J 標準 (ポリアセタール)	B 標準 (BsBM+Niメッキ)	3/8 標準	F クロロ ブレンゴム	24 DC24V±10%				
10AR 1.5~10 L/min	1 1~5V						S SUS	1/2	V フッ素ゴム	12 DC12V±5%
30AR 5~30 L/min	4 4~20mA									
	P パルス出力									

FSシリーズは高温対応用(～150℃)、薬液対応用(フッ素樹脂ボディ)もございます。

Impeller flow meter FS Series FS-AR

Feature

Impeller type of flow meter.

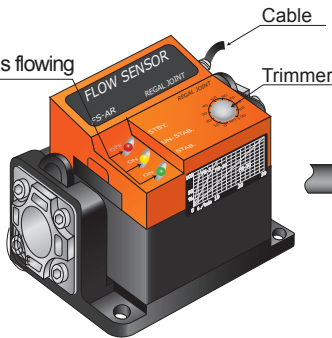
- Over 100,000 units supplied for use as device coolant-water monitors to leading manufacturers of semiconductor/liquid crystal product devices worldwide.
- Analog output
- Relay output
If the actual flow rate is more than the set value, or falls below, the relay circuit is activated. It can use as a guide, such as stop and alarm operation of the device.
- Pulse output (Open collector)
- 3-color LED for confirming flow conditions.
Red---Power
Yellow---Relay
Green---Whether it is flowing



Wiring (Interface)

3-color LED

- Red---Power
- Yellow---Relay
- Green---Whether it is flowing



○ AWM20276 (9cores 0.2mm² 500mm)

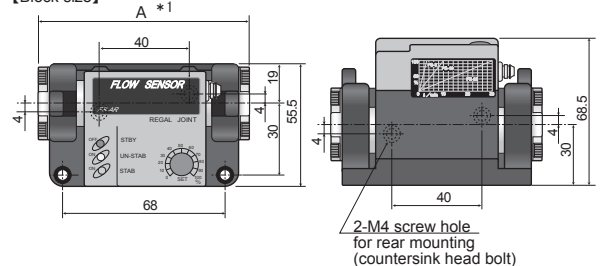
- Red Power Supply(+) DC12V±5% or DC24V±10%
- Black Power Supply(-)
- White Relay output commonly used
- Green Relay output (a)
- Yellow Relay output (b)
- Brown Analog voltage output DC0~10V or DC1~5V
- Orange Analog current output DC4~20mA
- Blue Pulse output open collector output
- Gray Spare

Specifications

Model	FS-3AR	FS-10AR	FS-30AR	
Rated flow range	0.5~3.0L/min	1.5~10.0L/min	5.0~30.0L/min	
Applicable fluid	Industrial water, Water			
Detection type	Impeller type			
Fluid temperature	0~60°C (No freezing, no dewing)			
Operating temperature	0~40°C (No freezing, no dewing)			
Accuracy *2	±2.5% F.S.			
Max.working pressure	1.0MPa			
Power supply voltage *3	DC12V±5% or DC24V±10%			
Current consumption	Max. 50mA (DC1~5V, 4~20mA : MAX70mA)			
Cable	AWM20276 (9cores 0.2mm ² 500mm)			
*4 Relay output	Max. load current	Less than DC2A		
	Max. applied voltage	Less than DC30V		
	Output mode	a or b contact output		
*5 Analog output	Voltage output	DC0~10V		
	Current output	DC4~20mA		
*6 Pulse output	Max. load current	Less than DC100mA		
	Max. applied voltage	Less than DC40V		
	Output mode	A or B open collector output		
	Frequency outputs	0~43Hz	0~93Hz	0~121Hz
Standard	RoHS compliance (Only SUS adapter)			
Wetted material	Polyacetal, Polyamide			
Connection material	SUS or BsBM (Ni plating)			
O-ring for sealing	Chloroprene or Fluoro rubber			
Orifice diameter	φ5	φ7	φ10	
Adapter connection size	Rc3/8 or Rc1/2			
Weight	Approx. 380g			
Mounting position	Free			
Flow direction	Both direction			
Construction	Water drip-proof against electronic circuit			

Dimensions

[Block size]



[A Dimension Table]

Adapter connection size	A Dimension	
	BsBM	SUS
Rc3/8	92	98
Rc1/2	115	115

*1 Dimension A differ depending upon the adapter type. Adapter connection size is determined by the selection at the time of the order.

*2 Since F.S.(Full scale) is $\begin{cases} 30\text{L/min} \\ 10\text{L/min, the deflection could be of } \\ 3\text{L/min} \end{cases}$ $\begin{cases} \pm 0.75\text{L/min.} \\ \pm 0.25\text{L/min.} \\ \pm 0.075\text{L/min.} \end{cases}$

*3 Power supply is transmitted of either DC 12V or DC 24V on the time of the order.

*4 Relay output is set on the time of the order, 3AR = 2.0L/min, 10AR = 6.0L/min, and 30AR = 20.0L/min.

*5 Analog output is selected of either voltage or current output on the time of the order. Please select and use one or the other. When the analog voltage output is selected, the analog current output cannot be selected.

*6 When the pulse output is selected, the analog output cannot be selected.

Order form

■ ISO screw(Rc) is used.

FS- Flow range — Output — Wetted Materials — Adapter Materials — Adapter size (ISO) — O ring — Power supply

How to order : FS-10S-0-J-B-3/8-F-24

	Flow range	Output	Wetted Materials	Adapter Materials	Adapter size	O ring	Power supply
FS-S type	3S 0.5~3 ℓ/min	0 0~10V	J Standard (Polyacetal)	B Standard (BsBM+Ni plating)	3/8 Standard	F Chloroprene rubber	24 DC24V±10%
	10S 1.5~10 ℓ/min	4 4~20mA	B 150°C-compatible (SUS304·316)	S SUS	1/2 *	V Fluoro rubber	12 DC12V±5%
	30S 5~30 ℓ/min		T fluorine resin		1/4 Only on 150°C-compatible bodies		
FS-AR type	3AR 0.5~3 ℓ/min	0 0~10V	J Standard (Polyacetal)	B Standard (BsBM+Ni plating)	3/8 Standard	F Chloroprene rubber	24 DC24V±10%
	10AR 1.5~10 ℓ/min	1 1~5V	B 150°C-compatible (SUS304·316)	S SUS	1/2 *	V Fluoro rubber	12 DC12V±5%
	30AR 5~30 ℓ/min	4 4~20mA P Puls Output	T fluorine resin		1/4 Only on 150°C-compatible bodies		
FS-C type	3C 0.5~3 ℓ/min	0 0~10V	J Standard (Polyacetal)	B Standard (BsBM+Ni plating)	3/8 Standard	F Chloroprene rubber	24 DC24V±10%
	10C 1.5~10 ℓ/min			S SUS	1/2	V Fluoro rubber	
	30C 5~30 ℓ/min						
FS-N type	3N 0.5~3 ℓ/min	P Pulse Output	J Standard (Polyacetal)	B Standard (BsBM+Ni plating)	3/8 Standard	F Chloroprene rubber	24 DC24V±10%
	10N 1.5~10 ℓ/min		B 150°C-compatible (SUS304·316)	S SUS	1/2 *	V Fluoro rubber	12 DC12V±5%
	30N 5~30 ℓ/min		T fluorine resin		1/4 Only on 150°C-compatible bodies		

Regarding <Adapter size>

The diameter type of the connection section differs depending on the type of body material. Please refer to the table below when filling out your order form.

Wetted Materials	Connection diameter		
	3/8	1/2	1/4
Standard type(J)	●	●	—
150°C/Compliant(B)	●	●	●
fluorine resin type(T)	●	—	—

Regarding <Adapter size> Regarding <Adapter material/O-ring>

- When selecting "B: 150°C-compatible" as the body material, do not fill in the adapter material and O-ring fields.
- When selecting "T: Fluororesin" as the body material, do not fill in the O-ring field. We also offer products in which the adapter material is fluoro-resin. Please contact our sales department for details.

* 1/4 diameter cannot be selected for 30L specification.

Other

- ① Please contact our sales department for other specifications.
- ② Please contact our sales department for inquires regarding date of delivery, etc.
- ③ Shape and specification may change without notice due to performance improvements.