SW-03

Variable Area Flowmeter and Switch

Features

/ Compact design

/ Brass and stainless steel versions

/ Scales for water and air

/ Highly accurate switching

/ Very low switching hysteresis

/ Non-abrasive burnt-in scale on sight glass

Description:

The SW-03 series of flowmeters and switches operates according to a modified variable area principle. The float is introduced into a cylindrical slit nozzle. The flowing medium moves the float in the direction of flow and the upper edge of the float indicates the flowing volume on the scale mounted on the sight glass. A reed contact is situated outside the device. This reed contact is infused in a stepless adjustable housing and thus protected from external influences. When the float reaches along with its integrated magnet the position of the reed contact, the contact blades get closed. If the volume of flow is higher the float continues to move maximum up to the stopper that prevents overriding of the operating range. This ensures a bistable switching action at any time.

Application:

The SW-03 series of variable area flowmeters and switches is intended for measuring and monitoring low-viscosity fluid or gaseous media, for example, in cooling systems for welding machines, laser and pipe installations, pump monitoring, compressors and so on.

Ordering Codes:

Order number	SW-03.	1.	1.	1.	06.	1.	1.	1.	0

SW-03 Variable Area Flowmeter and Switch

Process connection /
1 = female thread G 1/4″
2 = female thread G 1/2″
3 = female thread G 3/4″
4 = female thread G 1″

Material /
1 = brass
2 = stainless steel 1.4571

Scale /
1 = for water (20°C)
2 = for air (at 1.013 bar abs., 20°C)

Operating ranges / deactuation flow rates

	Water	Air
SW-03.1 and SW-03.2:		
01 =	0.1. . .1.6 l/min	3. . .30 Nl/min
02 =	0.2. . .3 l/min	6. . .60 Nl/min
03 =	0.3. . .8 l/min	6. . .160 Nl/min
04 =	1. . .12 l/min	20. . .220 Nl/min
SW-03.2 and SW-03.3:		
05 =	2. . .18 l/min	40. . .360 Nl/min
SW-03.3 and SW-03.4:		
06 =	3. . .35 l/min	60. . .700 Nl/min
07 =	4. . .50 l/min	60. . .825 Nl/min
SW-03.4 only:		
08 =		200. . .1600 Nl/min

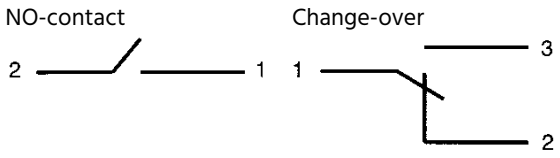
Number of contacts /
0 = none
1 = 1 contact
2 = 2 contacts

Contact function /
0 = no contacts
1 = NO-contact
2 = change-over contact
3 = Ex-change-over contact, (always with 2m infused cable)
4 = Ex-NO-contact, (always with 2m infused cable)
5 = change-over contact for PLC

Electrical connection /
0 = none, if no contacts
1 = plug DIN43650 shape A, counter plug incl.
2 = plug M12x1, counter plug incl. (-20. . .+85°C)
3 = 1 m infused cable (2 m for Ex)

Special issues /
0 = none
1 = please specify in detailed text

El. Connection:



Technical Specifications:

Protection class /	IP65 with plug IP67 with cable connection or with device plug M12x1
max. Pressure /	10 bar
Pressure drop /	0.01. . .0.2 bar
max. Temp. /	Water 100°C (160°C optional) Air 80°C
El. Connection /	device plug as per DIN 43650 A
Accuracy /	Water ±5% of full scale value Air ±10% of full scale value
Op. ranges /	Water: 0.1. . .1.5 l/min up to 4. . .50 l/min Air: 3. . .30 Nl/min up to 200. . .1600 Nl/min (with reference to 1.013 bar abs., 20°C

Wetted parts:

Element	brass version	st. steel version
Window	Duran® 50	Duran® 50
Float	brass nickel-plated Air: POM	st. steel 1.4571 Air: POM
Seals	NBR (optional FKM, EPDM)	FKM (optional NBR, EPDM)
Other parts	brass nickel-plated	st. steel 1.4571

Dry parts:

Element	brass version	st. steel version
Shell	aluminium, anodized	aluminium, anodized

Contacts (max. V):

Contact function	
NO-contact, NO M12x1	250V, 3A, 100VA
Change-over, CO M12x1	250V, 1,5A, 50VA (2)
Ex m-NO (1)	250V, 2A, 60VA
Ex m-CO (1)	250V, 1A, 30VA (2)
Change-over PLC	250V, 1A, 60VA

(1) ATEX II 2 G Ex mb IIC T6 Gb & ATEX II 2 D Ex tb IIIC T80°C Db (max. Ambient temperature 75°C)
ATEX II 2 G Ex mb IIC T5 Gb & ATEX II 2 D Ex tb IIIC T100°C Db (max. Ambient temperature 90°C)

(2) Minimum load 3VA

The contact opens respectively changes, when the upcoming flow falls below the adjusted setpoint.

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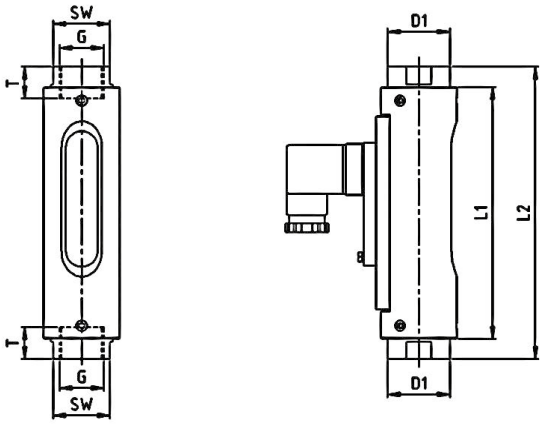
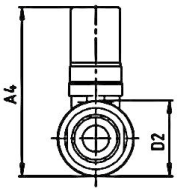
Dimensions in mm:

Type	SW	L1	L2	G	T	D1	D2	A4	Weight
SW-03.1.x.x.x	32	121	132	1/4"	10	35	43	96	800 g
SW-03.2.x.x.x	32	121	135	1/2"	14	35	43	96	800 g
SW-03.2.x.x.05	32	143	161	1/2"	14	35	43	96	800 g
SW-03.3.x.x.05	32	143	166	3/4"	15	35	43	96	960 g
SW-03.3.x.x.06/07	41	143	163	3/4"	15	45	50	104	1450 g
SW-03.4.x.x.06/07	41	143	181	1"	17	45	50	104	1450 g
SW-03.4.x.2.08	41	159	205	1"	17	45	50	104	1450 g





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