

S6040A/S6065A

AIR & LIQUID FLOW SWITCHES

SPECIFICATION DATA & MOUNTING INSTRUCTIONS

FEATURES

- Cost-effective switches for HVAC applications.
- High-capacity, fully-encapsulated NC/NO micro-switch.
- A single type suitable for pipes with a diameter of 1 to 8".

COMMON SPECIFICATIONS

Switching capacity	15 (8) A, 24...250 Vac
Lifetime	50000 cycles at nominal load
Working temperature	-40... +85 °C
Electrical connection	Screw terminal, wire up to 1.5 mm ² cable Ø 6...9 mm
Protection class	I according to EN60730
Protection standard	IP65 according to EN60529
Housing material	ABS and corrosion-protected steel



GENERAL

The S6040 and S6065A air and liquid flow switches are designed for monitoring flow rates in pipes and ducts employed in HVAC applications.

The S6040A1003 Air Flow Switch monitors air flow and the flow of non-aggressive gases in the air ducts of air conditioning systems and air treatment systems.

The S6065A Liquid Flow Switches are suitable for monitoring flow in water, oil, cooling circuits, and lubrication systems.

The S6065A2001 is designed for monitoring aggressive liquids. Table 1 on page 2 presents the reset and switch points for water. Data for other media must be determined empirically.

ACCESSORIES

- PA1 Paddle for S6040
- PA2 Paddle set for S6065

MODELS

Specification	S6040A1003	S6065A1003	S6065A2001
Flow medium	air	non-aggressive liquid	aggressive liquid
Mounting	vertically through a 20-mm hole in the duct; mount paddle inside	Rp 1" (ISO7/1)	Rp 1" (ISO7/1)
Maximum duct/pipe temperature	85 °C	120 °C	120 °C
Pressure	0.25 bar	11 bar	30 bar
Paddle material	1.4301	1.4401	1.4401
Lever	yellow brass	yellow brass	1.4404
Sensor body	zinc-plated steel	yellow brass	1.4404
Housing dimensions	108 x 70 x 72 mm	113 x 70 x 65 mm	108 x 70 x 72 mm
Weight	700 g	850 g	850 g
Approvals	--	TÜV-approved	TÜV-approved

MOUNTING

The S6040A1003 Air Flow Switch (with separate paddle) is mounted in the vertical position (i.e. with the switch box at the top). Necessary flow smoothing distance: min. five times the diameter of duct before and behind the switch! The device must be mounted with the package-included seal plate through an approx. 20-mm hole in the duct. The device must be fixed with two package-included screws. The paddle must then be mounted with a screw on the shaft inside of the duct.

The S6065A1003 and S6065A2001 Liquid Flow Switches can be mounted in any desired position far from elbows, valves, and filters. The arrow on the housing must point downstream. In the case of vertical pipes, reset the range to balance the paddle weight. To prevent malfunction caused by impurities in the medium, do not mount the device with the housing pointing downwards.

SWITCH-POINT ADJUSTMENT

S6040A1003 Air Flow Switch

Min. switch point: approx. 2.5 m/s; reset point: 1 m/s.

Max. switch point: approx. 9.2 m/s; reset point: 8.0 m/s.

S6065A1003 and S6065A2001 Liquid Flow Switches

The flow switch is factory-set to the min. flow rate. To adjust the device to a certain switch level, turn the adjustment screw clockwise. Table 1 lists the reset points and switch points for water. Data for other media must be determined empirically.

Table 1. Reset and switch points for water

pipes DN	paddles (L)	reset and switch point (m ³ /h)			
		min. flow rate		max. flow rate	
		reset pt.	switch pt.	reset pt.	switch pt.
1"	1"	0.6	1.0	2.0	2.1
1-1/4"	1"	0.8	1.3	2.8	3.0
1-1/2"	1"	1.1	1.7	3.7	4.0
2"	1"+2"	2.2	3.1	5.7	6.1
2-1/2"	1"+2"	2.7	4.0	6.5	7.0
3"	1"+2"+3"	4.3	6.2	10.7	11.4
4"	1"+2"+3"	11.4	14.7	27.7	29.0
4"	1"+2"+3"+Z*	6.1	8.0	17.3	18.4
5"	1"+2"+3"	22.9	28.4	53.3	55.6
5"	1"+2"+3"+Z*	9.3	12.9	25.2	26.8
6"	1"+2"+3"	35.9	43.1	81.7	85.1
6"	1"+2"+3"+Z*	12.3	16.8	30.6	32.7
8"	1"+2"+3"	72.6	85.1	165.7	172.5
8"	1"+2"+3"+Z*	38.6	46.5	90.8	94.2

*Z = 8" paddle which must be cut to the proper length to match the pipe diameter. The paddles must be able to move without touching the inside of the pipe!

FIELD WIRING

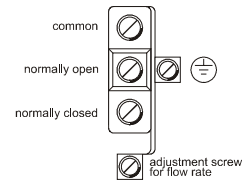


Fig. 1. Field wiring

DIMENSIONS

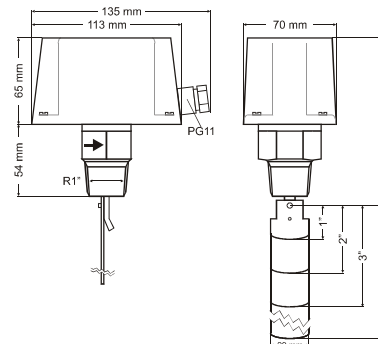


Fig. 2. S6065A1003 dimensions

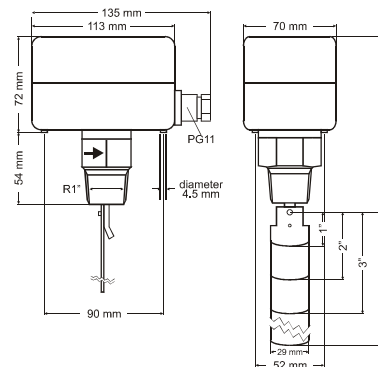


Fig. 3. S6065A2001 dimensions

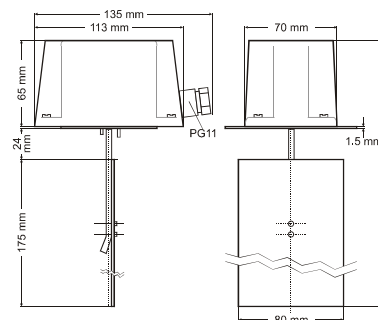


Fig. 4. S6040A1003 dimensions

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