

Flow switch

For industrial heat exchangers

Model FSM-6100

WIKA data sheet FL 60.01



Applications

- Heating, cooling, air-conditioning and water treatment plants
- Pumps and dosing systems

Special features

- Switch point repeatability of $\pm 5\%$ for reliable switching
- High-quality bellows and microswitch for a service life of > 500,000 cycles
- Rigid paddles from stainless steel to withstand pressure surges and high medium temperatures



Flow switch, model FSM-6100

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Description

The model FSM-6100 electromechanical flow switch is designed for the detection of interrupted flow ("no flow") of water and other non-corrosive liquids in industrial coolers, heaters or other industrial pipelines.

The flow switch signal is used for operational controls that prevent system failure, e.g. due to ice formation in the absence of cooling water flow.

The cost-effective flow switch is enclosed by a plastic case. The ingress protection of IP30 protects it from unwanted ingress of foreign bodies.

The model FSM-6100 is equipped with UL-listed microswitches and protective bellows to ensure high durability with continuous operation and a long service life.

The range of flow ranges, with pipe sizes from 25 ... 150 mm [1 ... 6 in], enables use for flow measurement in a variety of applications with non-critical media.

Specifications

Basic information	
Connection location	Horizontal and vertical pipe mounting Flow direction in line with the arrow marking on the process connection
Case	Plastic (ABS) ■ Blue (RAL 5022) ■ Red (RAL 3028)

Sensor element	
Type of measuring element	Paddle
Material	Stainless steel 316 and bellows from phosphor bronze

Process connection	
Thread size	■ 1" NPT, male per ASME B1.20.1 ■ 1" BSPT, male per ISO 7
Connection location	Lower mount
Material	Brass (ASTM B455 C38500) Nickel-plated
Sealing	NBR

Output signal		
Switching function	1 x SPDT (single pole double throw)	
Setting range of the switch points	→ See table “Setting range of the switch points”	
Switch point repeatability	±5 % of span	
Contact material	Silver alloy, UL-certified	
Electrical rating AC		
Resistive load	125 V	15 A
	250 V	15 A
Inductive load	125 V	15 A
	250 V	15 A
Electrical rating DC		
Resistive load	125 V	0.5 A
	250 V	0.25 A
Inductive load	30 V	5 A
	125 V	0.05 A
	250 V	0.03 A

Electrical connection	
Connection type	M16 via feed-through grommet

Operating conditions	
Medium temperature range	-20 ... +100 °C [-4 ... +212 °F]
Ambient temperature range	-20 ... +70 °C [-4 ... +158 °F]
Storage temperature range	-20 ... +70 °C [-4 ... +158 °F]
Max. operating pressure	10 bar
Overpressure limit	15 bar
Permissible media	Water, ethylene glycol and other liquids that are not corrosive to brass, phosphor bronze and nitrile materials
Ingress protection (IP code) per IEC 60529	IP30

Operating conditions	
Service life	> 500,000 cycles
Weight	Approx. 400 to 420 g, depending on setting range

Setting range of the switch points

Nominal bore in mm [in]	Length of paddle combinations (L) in mm	Switch point with decreasing flow in l/min		Switch point with increasing flow in l/min		Max. operating flow in l/min
		Minimum	Maximum	Minimum	Maximum	
25 [1]	28	15	50	25	60	150
32 [1.25]	28	45	100	50	110	200
40 [1.5]	28	50	140	60	160	350
50 [2]	37	100	240	110	260	450
	37 + 50	50	160	60	180	450
65 [2.5]	37	225	480	230	520	1,000
	37 + 50	140	320	150	340	1,000
80 [3]	37	320	750	380	860	1,300
	37 + 50	210	550	225	635	1,000
	37 + 50 + 80	105	320	115	340	1,000
100 [4]	37	500	1,400	590	1,700	2,500
	37 + 50	350	1,100	400	1,300	2,000
	37 + 50 + 80	200	580	230	680	2,000
125 [5]	37	730	1,750	1,030	2,100	3,200
	37 + 50	500	1,500	650	2,050	3,200
	37 + 50 + 80	400	1,000	475	1,250	2,000
	37 + 50 + 80 + 100	300	800	330	930	2,000
150 [6]	37	2,650	3,000	2,750	3,100	4,000
	37 + 50	850	2,400	990	2,600	4,000
	37 + 50 + 80	650	1,800	750	1,900	3,200
	37 + 50 + 80 + 100	350	1450	450	1,550	3,200

The above flow ranges are considered with water as the medium (density $\rho = 1,000 \text{ kg/m}^3$ at pressure, $p = 1 \text{ atm}$, temperature = $25 \text{ }^\circ\text{C}$ [$77 \text{ }^\circ\text{F}$]).

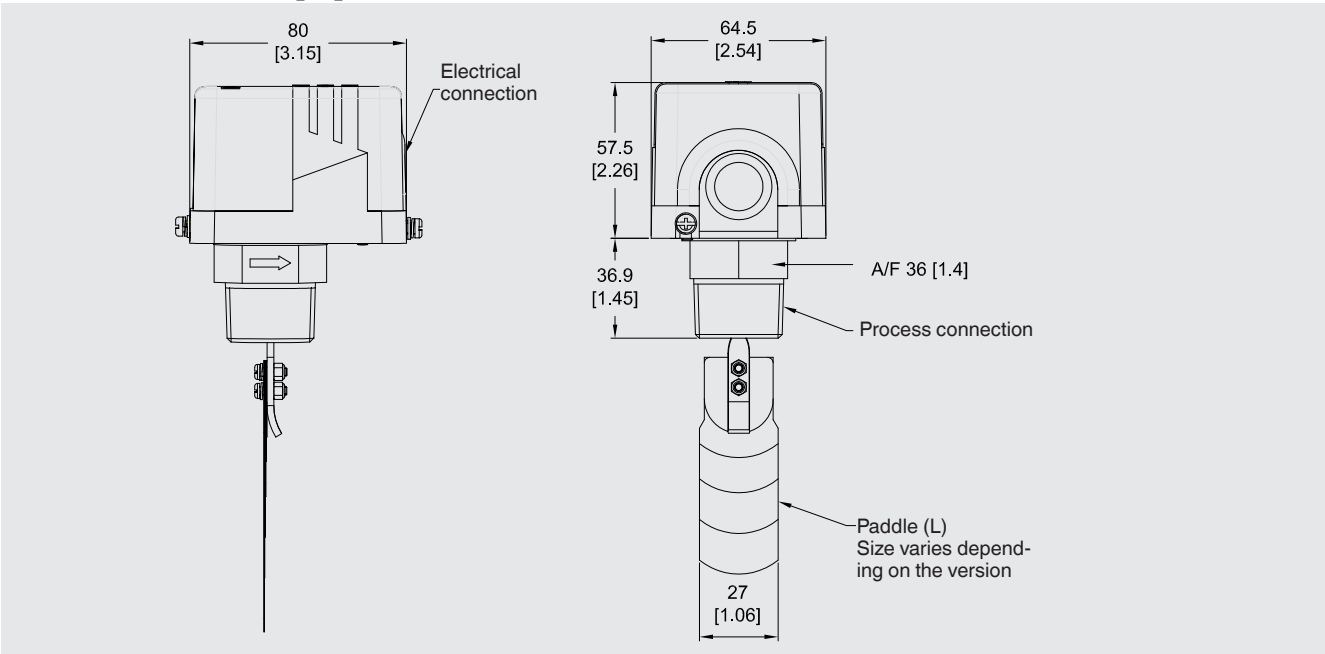
Approvals

Optional approvals

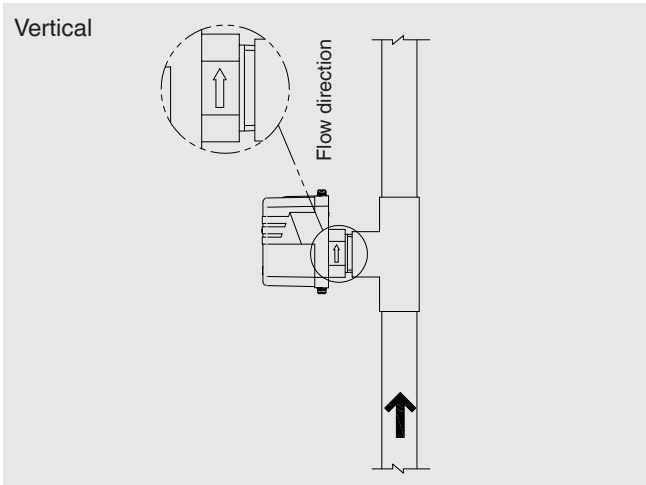
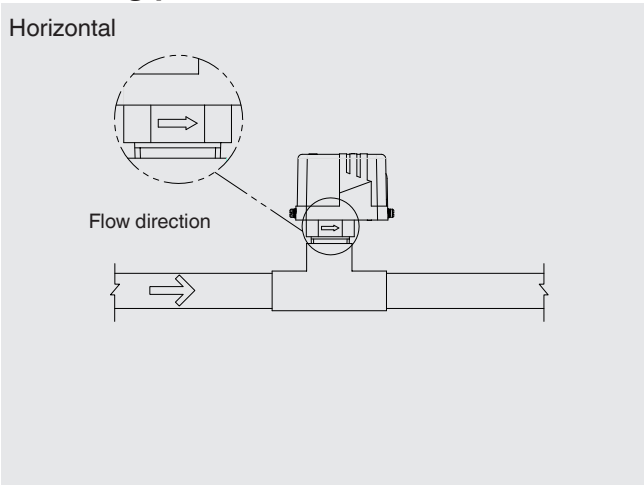
Logo	Description	Country
	EU declaration of conformity	European Union
	Low voltage directive	
	RoHS directive	
	EAC	Eurasian Economic Community

→ Approvals and certificates, see website

Dimensions in mm [in]



Mounting position



Accessories

Model	Description	Order number
Cable gland with nut	M16 x 1.5 x 8 from PA6 Colour: RAL9005	85500944

Ordering information

Model / Approvals / Case colour / Process connection / Accessories

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