Honeywell

FEMA

Compact Electronic Air & Liquid Flow Switch

KSW and KSL

PRODUCT DATA

GENERAL

These highly reliable compact electronic flow switches are designed for detecting the flow of water and/or air in ducts or pipes.

As soon as the medium's flow speed rises above or drops below a customer-selected value, the device switches an electronic circuit.

FEATURES

- No moveable parts in the detection zone.
- Can be mounted directly to pipes and ducts.
- Immersion well also used for mounting the device.
- Temperature-compensated operating range.
- 2.5 mm^2 screw terminals.
- Highly resistant to pollution and corrosion.
- Small pipe/duct connection.

SPECIFICATIONS

Type	KSW-230	KSW-24	KSL-230	KSL-24
Media	liquids and air	liquids and air	air	air
Power supply	230/240 Vac ±10%	24 Vac/dc ±10%	230/240 Vac ±10%	24 Vac/dc ±10%
Power supply indication	LED green	LED green	LED green	LED green
Power consumption	3.5 VA	3.5 VA	4 VA	4 VA
Ambient temperature	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C
Medium temperature	-10 ... +80 °C	-10 ... +80 °C	-10 ... +80 °C	-10 ... +80 °C
Relay contact	SPDT	SPDT	SPDT	SPDT
Contact load	250 Vac, 10(2) A	250 Vac, 10(2) A	250 Vac, 10(2) A	250 Vac, 10(2) A
Switch indication	LED yellow	LED yellow	LED yellow	LED yellow
Start retardation 60sec	on/off (jumper)	on/off (jumper)	on/off (jumper)	on/off (jumper)
Setpoint adjustment	potentiometer	potentiometer	potentiometer	potentiometer
Range	0.05 … 3 m/sec	0.05 … 3 m/sec	0.1 … 30 m/sec	0.1 … 30 m/sec
Response time	1-10 sec	1-10 sec	1-10 sec	1-10 sec
Immersion depth	45 mm	45 mm	130 mm	130 mm
Max. pressure	30 bar	30 bar	10 bar	10 bar
Process connection	G 1/2"	G 1/2"	PG7 + mounting flange	PG7 + mounting flange
Housing IP	IP 65	IP 65	IP 65	IP 65
Sensor IP	IP 67	IP 67	IP 67	IP 67
Protection class	II	II	II	II
Wiring terminals	5 x 2.5 mm^2	5 x 2.5 mm^2	5 x 2.5 mm^2	5 x 2.5 mm^2
Sensor material	1.4305	1.4305	MS 58 nickel-plated	MS 58 nickel-plated
Weight	350 g	350 g	400 g	400 g

EN0B-0318GE51 R0710

CE

MOUNTING

KSW

The sensor can be mounted in a standard T-piece with connection R1/2". Calming distance upstream from the sensor should be 10 times the pipe diameter, and downstream from the sensor 5 times the pipe diameter. The sensor head must be placed in the center of the pipe. When monitoring flow in vertical pipes, the flow direction should be from bottom to top.

KSL

The sensor should be mounted so as to ensure that the air flows through the lateral opening. To fix the sensor on the duct, a circular mounting bracket must be fixed with at least two attached screws on the duct. The centric hole of 10 mm allows individual fastening of the sensor immersion well with one screw. The red marking on the circular sensor immersion well (approx. 4 mm from the housing bottom) indicates the direction of flow and is intended as an assembly aid. Vertical and horizontal mounting possible. The sensor must be placed in an area of calm flow.

FIELD WIRING

KSW

Connect the power supply to terminals L and N. Connect Common (15), Normally Closed (16), and Normally Open (18) accordingly.

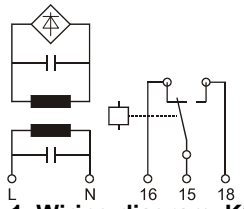


Fig. 1. Wiring diagram, KSW

KSL

Connect the power supply to terminals L and N. Connect Common (11), Normally Closed (12), and Normally Open (14) accordingly.

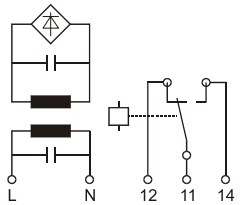
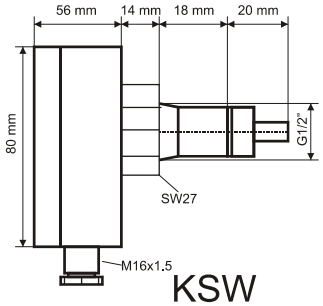


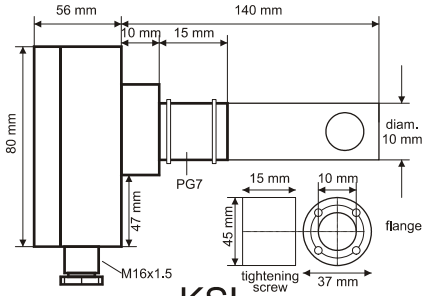
Fig. 2. Wiring diagram, KSL

NOTE: To ensure the protection standard after field wiring, use only cables having a diameter of 6 to 9 mm.

DIMENSIONS



KSW



KSL

SWITCHPOINT ADJUSTMENT

KSW

Connect the KSW according to the mounting instructions and as appropriate to the given conditions. Switch on the power supply (green LED goes ON). Then switch on the liquid flow. Turn the potentiometer marked "Rough" CW until the yellow LED goes ON. To prevent malfunction at short flow-peaks, the potentiometer marked "Fine" must be turned until the switchpoint is slightly exceeded. Bypass function (60 sec) during the start-up phase can be realized by internal DIP switch.

KSL

Connect the KSL according to the mounting instructions and as appropriate to the application conditions. Turn the potentiometer marked "Sensitivity" CCW to the end stop. Switch on the power supply (green LED goes ON). Then switch on the air flow. Turn the potentiometer marked "Sensitivity" CW towards max. until the yellow LED goes ON. To prevent malfunction at short flow-peaks, turn the potentiometer slightly beyond the switchpoint. To verify function, reduce or switch the air flow. The yellow LED must go OFF and the internal relay must switch back. Bypass function (60 sec) during the start up phase can be realized by internal DIP switch.

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