

Electronic duct air flow sensor **RHEASGARD® KLGF** with active output, in an impact-resistant plastic housing, optionally with/without display, for determining the flow velocity in m/s. The measuring transducer converts the measurement signal into a standard signal of 0 - 10 V.

Electronic duct air flow monitor **RHEASREG® KLSW** with switching output (relay one-step or two-step), in a plastic housing, for determining the flow velocity in m/s. Fine adjustment of the measuring range end value by the user is possible with the help of a potentiometer.

The flow sensors are suitable for monitoring or controlling airflows in ducts, at ventilators and dampers, for flow-dependent monitoring of humidifiers and electric heating registers according to DIN 57100, part 420, or for use in connection with DDC systems.

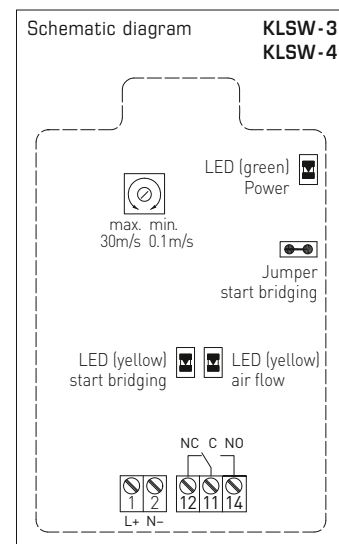
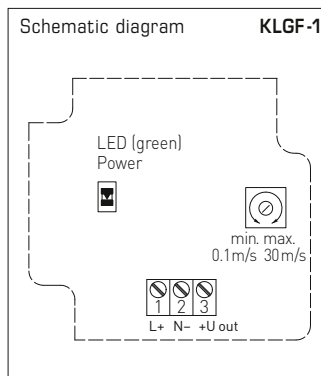
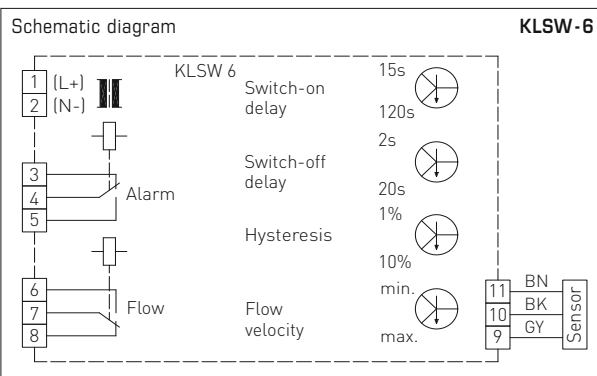
TECHNICAL DATA

Power supply:	24 V AC / DC or 230 V AC +5 / -13 %, 50...60 Hz
Output:	1 or 2 potential-free relays (changeover contacts), 8 A, max. 2 kW or 0 - 10 V (relative, linearised on request), see table
Current consumption:	approx. 3 VA
	KLGF-1, KLSW-3, KLSW-4 KLSW-6
Measuring range:	0.1...30 m/s 0.1...15 m/s
Sensitivity:	0.1...30 m/s (adjustable) 0.1...15 m/s (adjustable)
Switching hysteresis:	2 % (permanently set) approx. 1...10 % (adjustable)
Start bridging:	– approx. 15...120 s (adjustable)
Switch-off delay:	– approx. 2...20 s (adjustable)
Connection cable:	max. 50 m at minimum cross section 1.5 mm ² per conductor; avoid laying parallel with mains voltage-carrying lines, or use shielded cables, apply cable screen one-sided
Ambient temperature:	0...+60 °C at the device; 0...+80 °C medium
Medium:	pollutant-free, non-precipitating air
Sensors:	calorimetric, sensor breakage protection, temperature-compensated
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016) KLSW-xx, KLGF-1 with display: 108 x 70 x 73.5 mm (Thor 2) KLGF-1 without display: 72 x 64 x 37.8 mm (Tyr 1), with quick-locking screws (slotted / Phillips head combination)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm)
Protective tube:	metal (brass, nickel-plated), Ø 10 mm, nominal length NL = 140 mm
Process connection:	by mounting flange (included in the scope of delivery)
Electrical connection:	0.25 - 2.5 mm ² , via screw terminals
Protection class:	II (according to EN 60 730) at KLSW 3 (UB = 230 V AC) III (according to EN 60 730) at UB = 24 V
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU

KLSW-xx



**KLGF-1
with display**





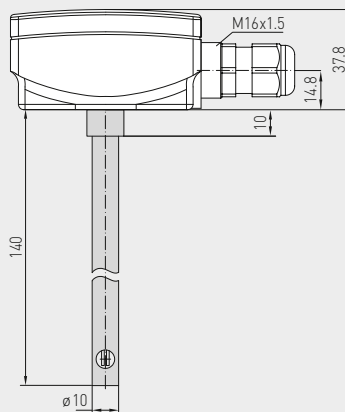
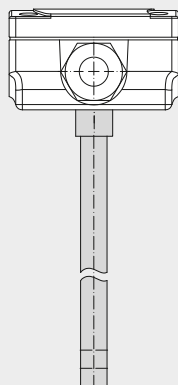
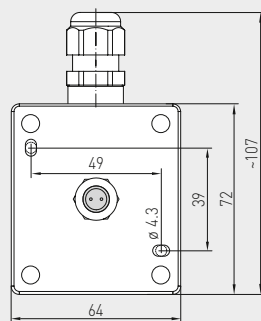
S+S REGELTECHNIK

RHEASGARD® KLGF
RHEASREG® KLSW

Duct airflow monitors,
including mounting flange, electronic, one-step and two-step,
with active/switching output



Dimensional drawing

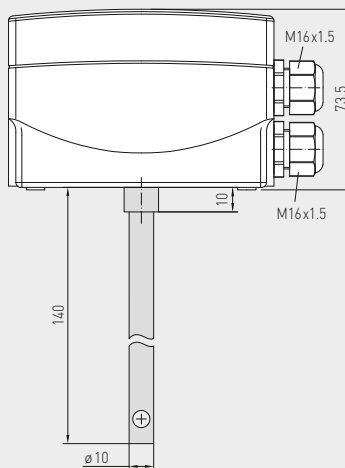
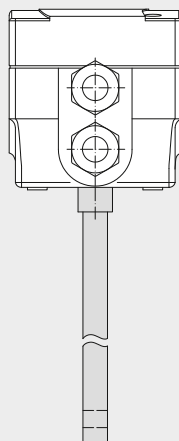
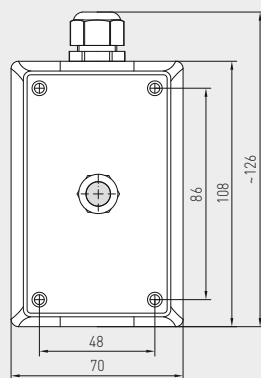


KLGF-1 without display
(compact)

KLGF-1
without display
(compact)

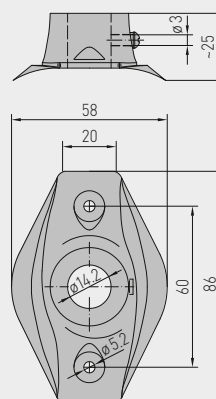


Dimensional drawing



KLSW-xx
KLGF-1 with display

Dimensional drawing



MF-14-K

RHEASGARD® KLGF Duct airflow monitors
RHEASREG® KLSW Duct airflow monitors, one-step and two-step

Type / WG01	Relay (Steps)	Power- Supply	Output	Display	Item No.
KLGF					
KLGF 1	–	24 V AC / DC	0-10 V (relative)		1701-3120-1000-000
KLGF 1_Display	–	24 V DC	0-10 V (linearised)		on request
KLSW	one-step				
KLSW 3	1	230 V AC	1 x Changeover contact		1701-3011-0001-000
KLSW 4	1	24 V AC / DC	1 x Changeover contact		1701-3021-0000-000
KLSW	two-step				
KLSW 6	2	24 V AC / DC	2 x Changeover contact		1701-3022-0000-000
Note:	KLSW 6 is supplied as standard with a manual reset button! Automatic reset <u>(without</u> reset button) on request				
ACCESSORIES				Tube Gland	
MF-14-K	Mounting flange, plastic (included in the scope of delivery)			Ø 14.2 mm	7100-0030-2000-000
MF-10-K	Mounting flange, plastic			Ø 10.2 mm	7100-0031-1000-000
For further information see last chapter!					

Vane switch, mechanical, with paddle, with switching output

Mechanical wind vane switch **RHEASREG® WFS** with switching output, in an impact-resistant plastic housing, with stainless-steel paddle, for flow monitoring of gaseous, non-aggressive media.

The flow sensor is used as a flow controller or air flow monitor in air conditioning ducts, in air intake or exhaust devices of ventilators or electric heating registers (also for contaminated, oily air).

TECHNICAL DATA

Switching capacity: (Contact load)	15 (8) A; 24...250 V AC at 24 V AC min. 150 mA
Contact:	dustproof microswitch as single-pole, potential-free changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor 2)
Base body:	galvanised steel
Moving arm:	brass
Vane:	stainless steel V2A (1.4301)
Cable connection:	cable gland , plastic (M20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm)
Housing temperature:	-40...+85 °C
Operating difference:	≥ 1 m/s
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU

FUNCTION

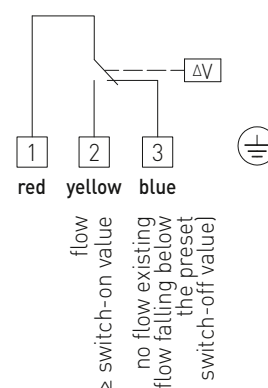
Monitor:	Contact 1 - 3 breaks when flow rate drops to the preset value. Simultaneously, contact 1 - 2 closes and can be used as signal contact. Device is factory-set to the minimum switch-off value, which can be increased by turning the range adjusting screw clockwise.
Installation:	vertical in horizontal air ducts. Min. smoothing distance = 5 x duct diameter upstream and downstream of vane. For airspeeds > 5 m/s, vane is to be trimmed at the marked spots. Thereby the minimum switch-off value increases to approx. 2.5 m/s and the minimum switch-on value to approx. 4 m/s.

WFS



Connecting diagram

WFS





S+S REGELTECHNIK

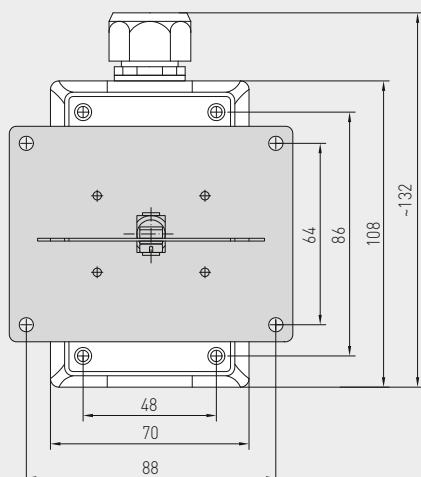
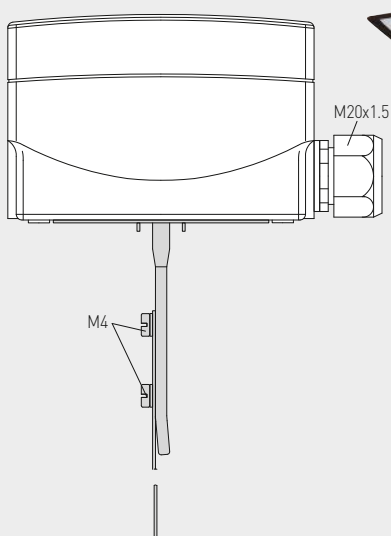
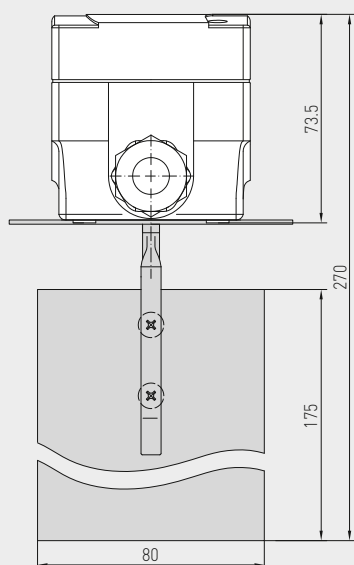
RHEASREG® WFS

Vane switch, mechanical, with paddle,
with switching output

Dimensional drawing

WFS

WFS



RHEASREG® WFS Vane switch, mechanical, with paddle

Type / WG01	Switch-on value		Switch-off value		Item No.
	min.	max.	min.	max.	
WFS					
WFS-1E	2.5 m/s	9.2 m/s	1 m/s	8 m/s	1702-3020-0000-000
Spare part					
PWFS-08	Spare paddle for WFS (Stainless steel vane)				7700-0010-2000-000

Flow monitors, mechanical, with paddle, with switching output

Mechanical paddle flow monitor **RHEASREG® SW** with switching output, in an impact-resistant plastic housing, with stainless-steel paddle, for flow monitoring of liquid and gaseous, non-aggressive media in pipes, hydraulic systems of 3/4" through 1/2" to 8" diameter.

The flow sensor is used as a flow controller or low water alarm, e. g. for pumps in oil and cooling circuits, cooling systems, evaporators, compressors and heat exchangers, with brass or stainless-steel bodies.

TECHNICAL DATA

Switching capacity:	15 (8) A; 24...250 V AC, at 24 V AC min. 150 mA
Contact:	dustproof microswitch as potential-free single-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor2)
Base body:	galvanised steel
Screwed socket:	brass or stainless steel (see table)
Paddle:	stainless steel V4A (1.4401)
Cable connection:	cable gland , plastic (M20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm)
Housing temperature:	-40...+85 °C
Max. temperature of medium:	+120 °C
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014/30/EU, low-voltage directive 2014/35/EU

FUNCTION

Monitor:	Contact COM-NO (red - yellow) breaks when flow rate drops to the preset value. Simultaneously, contact COM-NC (red - blue) closes and can be used as signal contact. Device is factory-set to the minimum switch-off value, which can be increased by turning the range adjusting screw clockwise.
Installation:	vertical in horizontal pipes, tee R x" according to DIN 2950, min. smoothing distance = 5 x pipe diameter upstream and downstream of paddle

Table of switching values

Pipe Ø DN in inches	Factory Setting OFF / ON (m ³ /h)	Max. Setting OFF / ON (m ³ /h)
SW-1 / SW-2		
1"	0.6 / 1.0	2.0 / 2.1
1 1/4"	0.8 / 1.3	2.8 / 3.0
1 1/2"	1.1 / 1.7	3.7 / 4.0
2"	2.2 / 3.1	5.7 / 6.1
2 1/2"	2.7 / 4.0	6.5 / 7.0
3"	4.3 / 6.2	10.7 / 11.4
4"	11.4 / 14.7	27.7 / 29.0
4" Z	6.1 / 8.0	17.3 / 18.4
5"	22.9 / 28.4	53.3 / 55.6
5" Z	9.3 / 12.9	25.2 / 26.8
6"	35.9 / 43.1	81.7 / 85.1
6" Z	12.3 / 16.8	30.6 / 32.7
8"	72.6 / 85.1	165.7 / 172.5
8" Z	38.6 / 46.5	90.8 / 94.2
SW-3 / SW-4		
1/2"	0.174 / 0.48	0.846 / 0.948
3/4"	0.138 / 0.408	0.768 / 0.858

SW

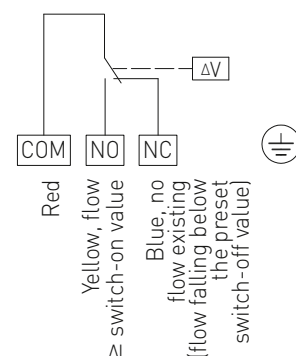


SW-3E
SW-4E

Incl. attached Tee Fitting
according to DIN 2950

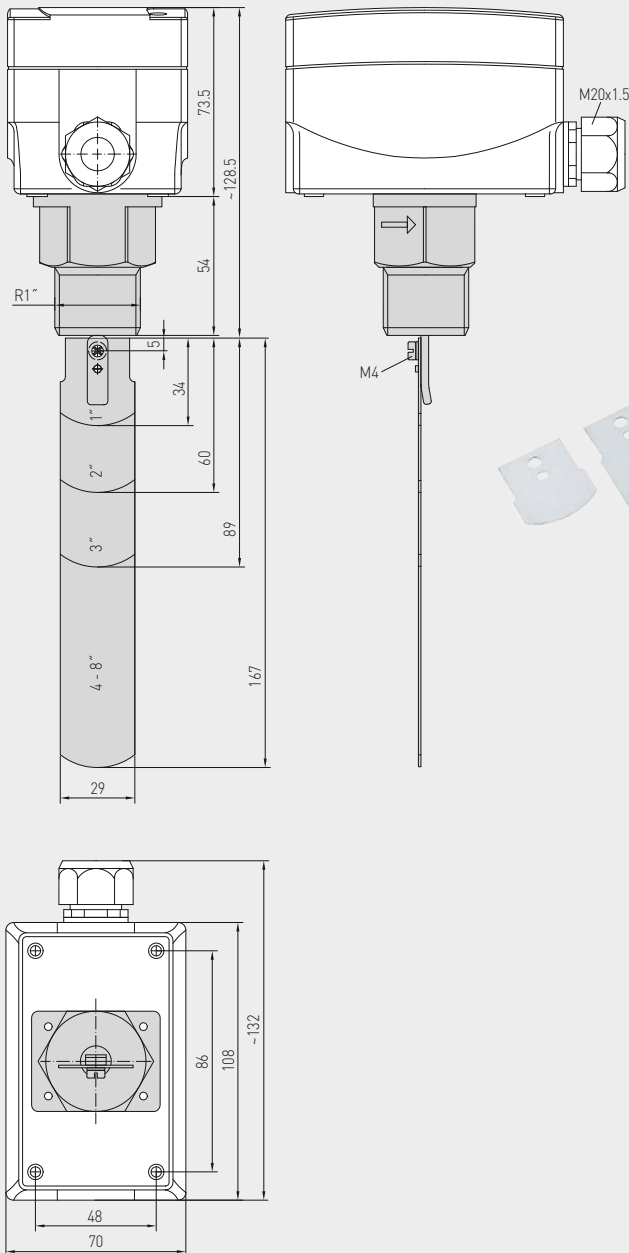
Connecting diagram

SW





Dimensional drawing

SW
PSW-09**PSW-09**Set of stainless steel
paddles (Spare part)

Pipe diameters with paddle combinations

Pipe Ø DN in inches	in mm	Paddle combination PSW-09
1/2"	15 mm	1
3/4"	20 mm	1
1"	25 mm	1
1 1/4"	32 mm	1
1 1/2"	40 mm	1
2"	50 mm	1, 2
2 1/2"	65 mm	1, 2
3"	80 mm	1, 2, 3
4" Z	100 mm	1, 2, 3 plus 4 (shorten to 92 mm)
5" Z	125 mm	1, 2, 3 plus 4 (shorten to 117 mm)
6" Z	150 mm	1, 2, 3 plus 4 (shorten to 143 mm)
7 - 8" Z	200 mm	1, 2, 3 plus 4 (unshortened)

RHEASREG® SW Flow monitors, mechanical, with paddle

Type / WG01	Pipe Ø DN	Max. Operating Pressure PN max	Medium	(Contacting Parts Made of)	Incl. attached Tee Fitting according to DIN 2950	Item No.
SW						
SW-1E	1" - 8"	11 bar	normal	(brass)	—	1702-3011-0000-000
SW-2E	1" - 8"	30 bar	aggressive	(stainless steel V4A)	—	1702-3012-0101-000
SW-3E	½"	11 bar	normal	(brass)		1702-3013-0031-000
SW-4E	¾"	11 bar	normal	(brass)		1702-3014-0041-000
Spare part						
PSW-09	Set of stainless steel paddles 1-8" (4 pieces)					7700-0010-1000-000
Note:	Z = Fourth paddle included in the scope of delivery to be used in addition to the three paddles already factory-mounted (1, 2, 3 plus 4)!					