S S REGELTECHNIK WFS Paddle Flow Switch Instruction Manual

Contents

S S REGELTECHNIK WFS Paddle Flow Switch

Product Information

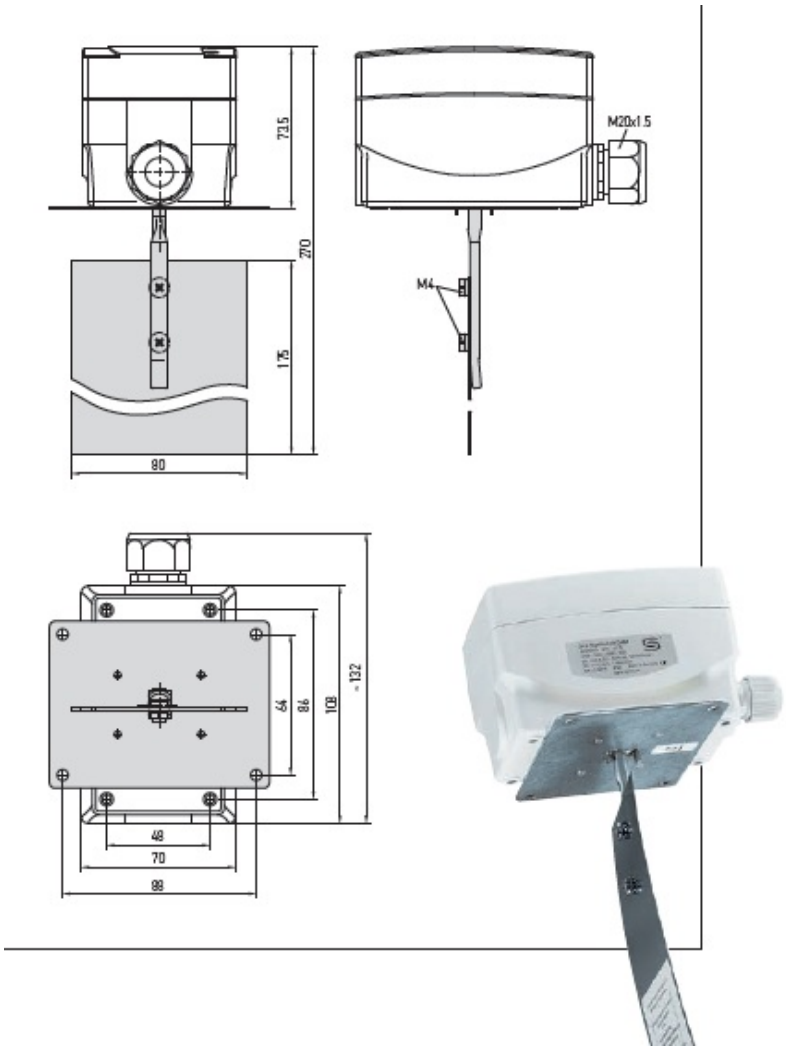
- **Product Name:** Windfahnenschalter
- **Model Number:** WG01
- **Manufacturer:** SplusS
- **Product Type:** Vane switch
- **Design:** Mechanical
- **Features:** Paddle, switching output
- **Contact Load:** 1-3 breaks when flow rate drops to preset value, 1-2 closes simultaneously and can be used as signal contact
- **Housing Material:** Not specified
- **Housing Dimensions:** Not specified
- **Cable Connection:** Not specified
- **Housing Temperature:** Not specified
- **Operating Difference:** Not specified
- **Electrical Connection:** Not specified
- **Protection Class:** Not specified
- **Protection Type:** Not specified
- **Standards:** Not specified

Product Usage Instructions

1. The wind vane switch must be installed in horizontal air ducts.
2. Ensure that there is a damping section (5 times the pipe diameter) before and after the installation location to avoid air turbulence that could destabilize the vane/paddle.
3. If wind speeds exceed 5 m/s, cut the vane/paddle at the marked spots to prevent breakage.
4. The wind vane switch is factory adjusted to the respective minimum values for switch-on and switch-off.
5. To increase the minimum values, rotate the range adjusting screw in the + direction.
6. Refer to the connecting diagram for the correct wiring of the wind vane switch.

Operating Instructions, Mounting & Installation
Vane switch, mechanical, with paddle, with switching output

Dimensional drawing



Range adjusting screw

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:** 15 (8) A; 24…250 V AC (Contact load) 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 (M 20 x 1.5; with strain relief, exchangeable, inner diameter 8 – 13 mm)
- **Housing temperature:** –40…+85 °C
- **Operating difference:** ≥ 1,5 m ⁄ s
- **Electrical connection:** 0.14 – 1.5 mm2, 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.
- **Assembly note:** the installation is only possible in horizontal air ducts. Make sure that there is a damping section (≥ 5 times the pipe diameter) before and after the installation location.
- For wind speeds > 5 m⁄s, cut the vane ⁄ paddle at the marked spots. This will result in an increase of the default values (see table).

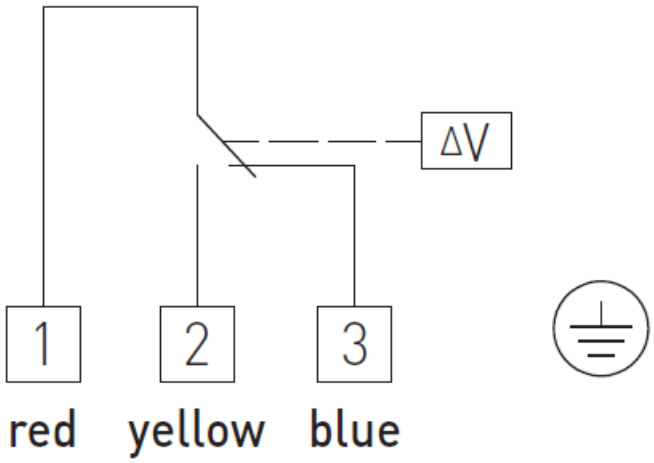
RHEASREG® **WFS**	Vane switch, mechanical, with paddle				
Type / WG01	**Switch-on value [m/s]**		**Switch-off value [m/s]**		**Item No.**
	min.	**max.**	**min.**	**max.**	
WFS					
WFS -1E	2,5 m / s	9,2 m / s	1 m / s	8 m / s	1702-3020-0000-000
Note:	Minimum values in brackets apply to wind speeds > 5 m/s				
Spare part					
PWFS-08	Spare paddle for WFS (Stainless steel vane)			7700-0010-2000-000	

Installation and Commissioning

- Switch-on value: min. 2.5 m/s (default)
  - min. 4.0 m/s (vane cut on the side)
  - max. 9.2 m/s (via range adjusting screw)
- Switch-off value: min. 1.0 m/s (default)
  - min. 2.5 m/s (vane cut on the side)
  - max. 8.0 m/s (via range adjusting screw)

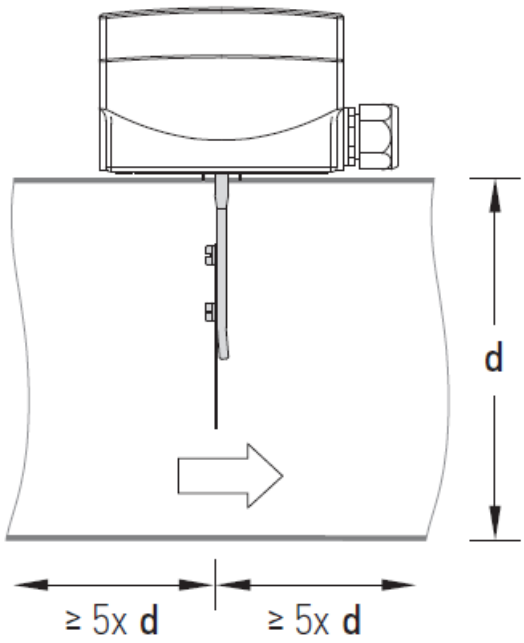
The wind vane switch has been factory adjusted to the respective minimum value (default) .
Due to a risk of breakage at wind speeds > 5 m/s, the sides of the vane must be cut along the markings (see sticker).
As a result, the default values will increase as indicated above.
The range adjusting screw can be used to variably increase the minimum values up to the respective maximum value (rotate in “+” direction).

Connecting diagram



flow > switch-on value
no flow existing (flow falling below the preset switch-off value)

Installation



The installation is only possible in horizontal air ducts!
Install the wind vane switch so that only the airflow impacts the vane/paddle and the measurement is not distorted by its own weight (see last page).
It is important to have a damping section of at least 5 times
the pipe diameter (5x d) before and after the installation location.
This is to avoid any air turbulence which might destabilase the vane /paddle.

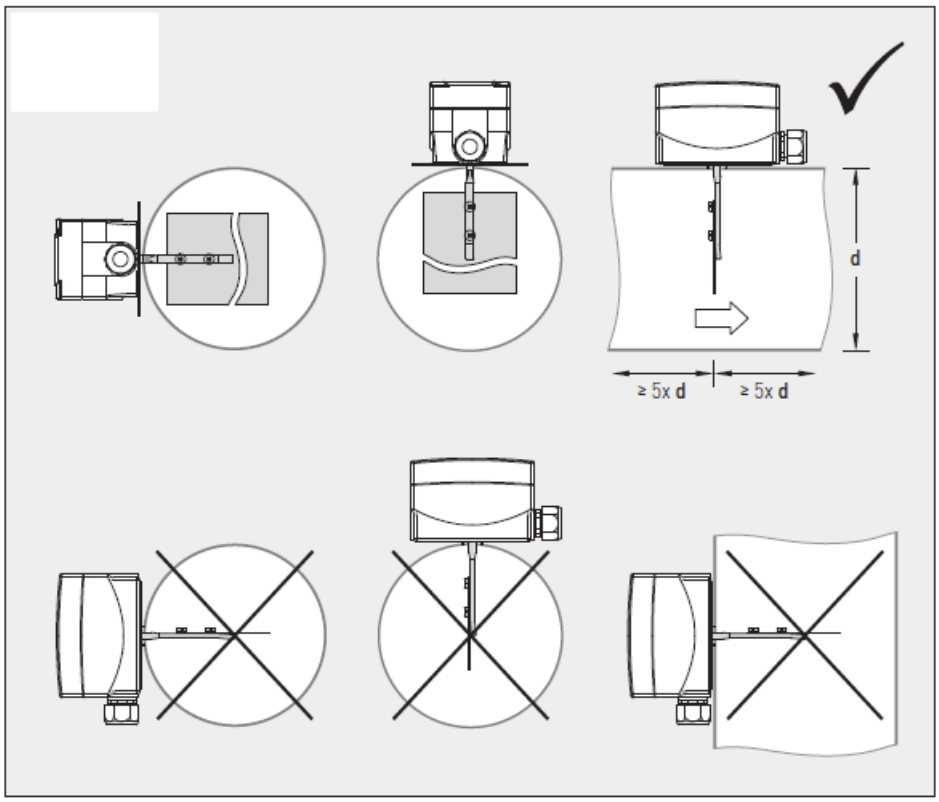
General notes

Our “General Terms and Conditions for Business“ together with the “General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry“ (ZVEI conditions) including supplementary clause “Extended Retention of Title“ apply as the exclusive terms and conditions.
In addition, the following points are to be observed:

- These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!
- Devices must only be connected under dead-voltage condition. To avoid damages and errors at the device (e.g. by voltage induction) shielded cables are to be used, laying parallel with current-carrying lines is to be avoided, and EMC directives are to be observed.
- This device shall only be used for its intended purpose. Respective safety regulations issued by the VDE, the states, their control authorities, the TÜV and the local energy supply company must be observed. The purchaser has to adhere to the building and safety regulations and has to prevent perils of any kind.
- No warranties or liabilities will be assumed for defects and damages arising from improper use of this device.
- Consequential damages caused by a fault in this device are excluded from warranty or liability.
- These devices must be installed and commissioned by authorized specialists.
- The technical data and connecting conditions of the mounting and operating instructions delivered together with the device are exclusively valid. Deviations from the catalogue representation are not explicitly mentioned and are possible in terms of technical progress and continuous improvement of our products.
- In case of any modifications made by the user, all warranty claims are forfeited.
- This device must not be installed close to heat sources (e.g. radiators) or be exposed to their heat flow. Direct sun irradiation or heat irradiation by similar sources (powerful lamps, halogen spotlights) must absolutely be avoided.
- Operating this device close to other devices that do not comply with EMC directives may influence functionality.
- This device must not be used for monitoring applications, which serve the purpose of protecting persons against hazards or injury, or as an EMERGENCY STOP switch for systems or machinery, or for any other similar safety-relevant purposes.
- Dimensions of enclosures or enclosure accessories may show slight tolerances on the specifications provided in these instructions.
- Modifications of these records are not permitted.
- In case of a complaint, only complete devices returned in original packing will be accepted.

Notes on commissioning:
This device was calibrated, adjusted and tested under standardized conditions. When operating under deviating conditions, we recommend performing an initial manual adjustment on-site during commissioning and subsequently at regular intervals.
Commissioning is mandatory and may only be performed by qualified personnel!
These instructions must be read before installation and commissioning and all notes provided therein are to be regarded!

Mounting diagram



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Documents / Resources

	S S REGELTECHNIK WFS Paddle Flow Switch [pdf] Instruction Manual 6000-2350-0000-1XX, 23500-2022 V105, WFS, WFS Paddle Flow Switch, Paddle Flow Switch, Flow Switch, Switch

References

- S+S Regeltechnik | Ihr zuverlässiger Partner