

# TECHNICAL INFORMATION

Mechanical paddle vane switch ■ contact SPDT

# WP.Ex-WFS-1E



## Symbol picture



## Highlights

- Simple equipment according to ATEX / IECEx
- Installation in zone 1, 2 category II2G
- Simple assembly using push-in clamping technology
- Proven technology

## Application

The wind vane switch can be installed in hazardous areas of categories 2G, 3G (zone 1, zone 2).

The switching module must be installed in the safe area. The wiring from the switching amplifier to the wind vane switch must be carried out according to the rules/requirements of intrinsic safety.

## Function

Wird die eingestellte Luftgeschwindigkeit unterschritten schaltet das interne Relais um. Steigt die Luftgeschwindigkeit über den eingestellten Wert inkl. der Hysterese schaltet das Relais auf den Ursprungszustand zurück.

Contact 1 - 3 breaks when flow rate drops to the present value. Simultaneously, contact 1 - 2 closes.

The device is factory-set to the minimum switch-off value, which can be increased by turning the range adjusted screw clockwise.

## Types

WP.Ex-WFS-1E	Mechanical paddle vane switch Paddle switch Flow sensor Vane switch relay
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## Technical data

Supply	via associated intrinsically safe circuit
Input signal	Air speed
Output signal	SPDT – changeover contact
Electrical connection	0,25 – 1,5 mm <sup>2</sup>
Humidity	10 ... 85 %RH without condensation
Temperature range	-20 ... +40°C
Switch off value	1-8 m/s
Operating difference	1 m/s
Housing material	PA GG30
Base body	Steel galvanized
Moving arm	Brass
Vane	Stainless steel
IP protection type	IP54
Maintenance	frei
Dimensions	108 x 70 x 73,5 mm (housing without paddle)
Weight	Ca. 600 g
Cable gland	M20 plastig
Explosion proof	Simple apparatus Ex i

## Associated intrinsically safe switching module

1 channel	
BS.Ex - DT1361	Switching module Ex i

Others on request

## Mounting

The device can be mounted in any position, but it must always be in the direction of the air flow. For installations in vertical lines, the device must be adjusted to compensate for the weight of the flag.

Min. smoothing distance at least 5 times duct diameter upstream and downstream of vane. For air speeds > 5 m/s, the vane must be cut at the marked points. This increases the minimum switch-off value to approx. 2.5 m/s and the minimum switch-on value to approx. 4 m/s.



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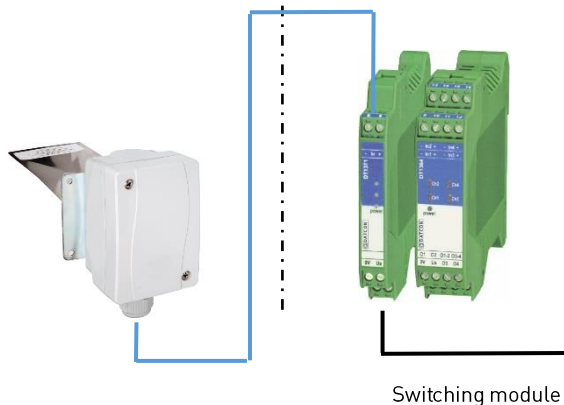
## Explosion proof



### ATTENTION!

- Install according to manufacturer instructions and standards and guidelines.
- According to the manufacturer's specifications, this device can be used in Zone 1 (II 2G) or Zone 2 (II 3G).
- The devices may only be used in measuring stands against which the materials in contact with the process are resistant
- Danger from electrostatic discharge! Damp clean only

zone 1,2	safe area
$U_i = 10\text{ V}$ $I_i = 12\text{ mA}$ $P_i = 25\text{ mW}$ $C_i = 0$ $L_i = 0$	$U_o = 8,61\text{ V}$ $I_o = 11,6\text{ mA}$ $P_o = 24,95\text{ mW}$ $C_o = 2\text{ }\mu\text{F}$ $L_o = 100\text{ mH}$



## Safety notes



Installation, electrical connection, maintenance and commissioning may only be carried out by trained specialists.



The qualified personnel must have knowledge of the types of protection against ignition, rules and regulations for equipment in the Ex area.

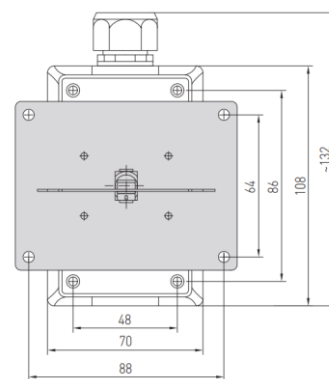
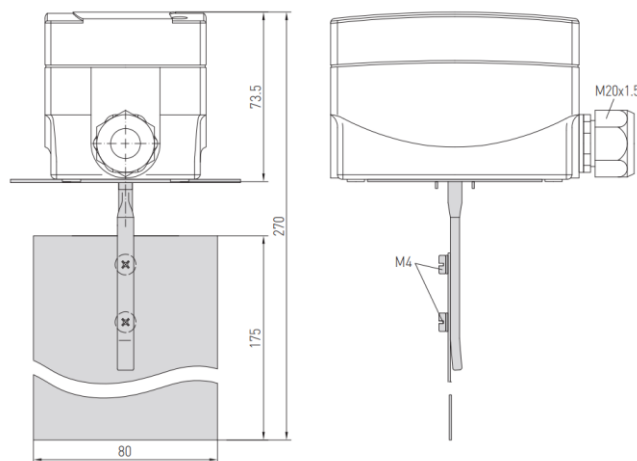


Excessive mechanical and improper stresses are to be avoided.



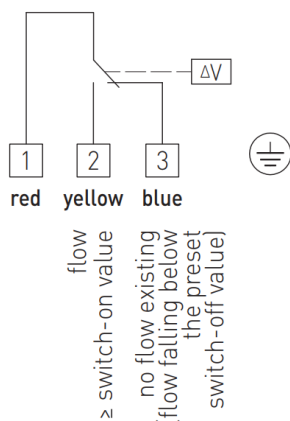
This device must not be used for surveillance purposes which protect persons against danger or injury or safety-related tasks.

## Dimensions



## Electrical connection

Only use switching amplifiers with intrinsically safe outputs to supply the wind vane switch. The switching module BS.Ex is recommended and checked, see accessories.



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