

# SMART DIFFERENTIAL PRESSURE SENSING TECHNOLOGY FOR DEMANDING HVAC APPLICATIONS

**WOLF RELIES ON THE NEW A2G SENSOR GENERATION FROM WIKA**



For its ventilation systems in outdoor use, WOLF Anlagen-Technik relies on the new product family of A2G sensors from WIKA. The weatherproof, modular differential pressure sensors offer flexible configuration, simplified commissioning and reliable performance in all weather conditions. The solution significantly reduces the number of variants, saves storage and training effort and, at the same time, increases transparency, control quality and energy efficiency. Thanks to automatic calibration, app support and intelligent interfaces, the product family is ideally suited for modern building automation – today and tomorrow.



**Smart in sensing**

## Challenge

### Precision under harsh conditions

Nowadays, HVAC systems must meet high requirements in terms of energy efficiency, air quality and operational safety – often under difficult weather conditions. Particularly when used outdoors, sensors are exposed to UV radiation, temperature fluctuations and moisture. This places high demands on functionality, stability and easy integration.

### A robust platform for the future

WOLF develops system solutions for industrial building equipment, including air-handling units installed outdoors that can withstand extreme operating conditions. Here, a sensor solution was required that is weatherproof, can be directly integrated and does not need an additional case – durable, precise and flexibly configurable. It should not only reduce the installation and maintenance effort, but also cover different requirements with as few variants as possible.

### Smart sensing technology for modern air-handling systems

- Differential pressure measurement as a key technology for demand-controlled ventilation
- Reliable measurement solutions for energy-efficient buildings
- Robust sensing technology for demanding operating conditions in indoor and outdoor areas



Our equipment is often located outdoors and is therefore exposed to extreme weather conditions. It must withstand wind, rain and sun exposure while delivering precise measured values. Together with WIKA and the new generation of A2G sensors, we have found a future-proof solution for this.

### Stefan Springer

State-certified electrical engineer for measurement and control technology at WOLF Anlagen-Technik GmbH & Co. KG



Image source: WOLF Anlagen-Technik GmbH & Co. KG

# Solution

## Collaboration and development

WOLF was looking for a weatherproof, integrable solution for outdoor ventilation systems. In collaboration with WIKA, a new product family was developed based on the existing A2G series, which is not only weatherproof but also offers significantly expanded functionality and communication. The product family combines proven technology with new functions and allows easy integration into a wide variety of plant concepts.

## The new generation of the A2G series

The new series combines several functions that were previously often distributed across several instrument models: differential pressure measurement, air flow calculation and PID-based control. It is complemented by modern interfaces, NFC-based configuration and adjustment via WIKA app. Compared to previous models, the new product family combines everything in one flexibly configurable system. This means that many applications can be efficiently covered with just a few base instruments.



Image source: WIKA Alexander Wiegand SE & Co. KG



Image source: WOLF Anlagen-Technik GmbH & Co. KG

## About WOLF Anlagen-Technik GmbH & Co. KG

- Medium-sized provider of customised plant engineering solutions for over 75 years
- Systems for air-conditioning technology, paint shops and agricultural engineering
- In-house production, automation technology, hygiene competence and retrofit expertise

# Solution

## Weatherproof design

The new product family has been consistently designed for outdoor use. The compact plastic case complies with the requirements of IP65 ingress protection and is UV-resistant, the sensor element is temperature-compensated. This eliminates the need for additional protective housings. Even under extreme weather conditions, the A2G series provides reliable and stable measured values.

## Modular solution

Instead of twelve different variants, WOLF only uses four flexibly configurable base instruments with the new A2G series. This reduces warehousing, simplifies spare parts management and lowers training effort. At the same time, a wide variety of HVAC applications can be covered efficiently – with less effort and consistently high functionality.

## Digital integration

The A2G sensors can be seamlessly integrated into modern building automation systems. In addition to traditional analogue signals (0–10 V, 4–20 mA), digital interfaces such as Modbus® RTU and LoRaWAN® are available. They can therefore be integrated directly into all control and regulation systems as well as into cloud solutions, which ensures increased transparency, data availability and efficiency in control and maintenance.

## Easy configuration via app

The integrated NFC interface allows for contactless configuration of the sensors, without the need for additional special software. The free WIKa app enables you to read out, parameterise and clone complete settings. This saves time during commissioning and simplifies standardisation, which offers many advantages, especially for recurring plant layouts or during replacement.

## The new generation of the A2G series

Differential pressure sensors with intelligent design

- A2G-500 with traffic light indication and switching output
- A2G-520 with air flow calculation
- A2G-540 with integrated PID control
- NFC, Modbus, LoRaWAN®
- IP65, UV-resistant

## Automatic zero point calibration

The A2G sensors automatically perform a zero point calibration, as required or at fixed intervals, eliminating the need for manual intervention. Especially at differential pressures below 50 Pa, this prevents drift-related deviations and ensures stable long-term results. This allows for reliable control quality, even in demanding HVAC applications.



Image source: WOLF Anlagen-Technik GmbH & Co.  
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## Advantages at a glance

- Weatherproof, directly integrable solution
- Reduction from 12 to 4 sensor variants
- Lower storage and training effort
- Fast commissioning via app
- Automatic zero point calibration
- Increased transparency for service and operation
- Colour display, visual status indication with traffic light function
- Integration into modern control systems
- OEM branding possible through insert sheet

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We are not developing rigid products, but rather scalable solutions that can be adapted flexibly to different requirements. For today and for tomorrow.”

**Martin Widmer**

Global Market Segment Manager VAC at WIKAI



Image source: WIKAI Alexander Wiegand SE & Co. KG

### Smart sensing technology for rough applications

The modular A2G product family combines weather resistance, intelligence and flexibility in a sophisticated system. For WOLF, it was the key to more standardisation and technical clarity with regard to all project steps from engineering to plant maintenance. The partnership-based cooperation with WIKAI led to a practical solution that can be scaled, adapted and developed further in the long term. A convincing approach – both functionally and economically.



Image source: WOLF Anlagen-Technik GmbH & Co. KG

### Contact

Do you want to make your HVAC systems more efficient and future-proof? Contact us and we will be happy to advise you.

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