

# Differential pressure sensor

## For ventilation and air-conditioning

### Model A2G-50

WIKA data sheet PE 88.02



for further approvals  
see page 5

#### Applications

- For measuring differential pressures and static pressures
- Monitoring of filters
- Overpressure monitoring in clean rooms and laboratories

#### Special features

- Electrical output signal 0 ... 10 V or 4 ... 20 mA, can be selected directly at the instrument via jumpers
- Modbus® output signal (option)
- LC display (option)
- Maintenance-free
- Maximum operating pressure 20 kPa



Differential pressure sensor, model A2G-50

## Description

The model A2G-50 differential pressure sensor is used for measuring differential pressures of gaseous media in ventilation and air-conditioning applications.

It is based on the piezoresistive measuring principle. This compact differential pressure sensor offers excellent performance and high quality at an attractive price.

Electrical analogue output signals for both measurement parameters (0 ... 10 V or 4 ... 20 mA; adjustable in the instrument via jumpers) or the digital Modbus® versions enable the direct connection to control systems or the building automation system.

## Specifications

Differential pressure sensor, model A2G-50				
	Variant 1	Variant 2	Variant 3	Variant 4
<b>Measuring element</b>	Piezo measuring cell			
<b>Measuring range</b>	0 ... 2,500 Pa <sup>1)</sup> 0 ... 2,000 Pa <sup>2)</sup> 0 ... 1,500 Pa <sup>2)</sup> 0 ... 1,000 Pa <sup>2)</sup> 0 ... 500 Pa <sup>2)</sup> 0 ... 250 Pa <sup>2)</sup> 0 ... 100 Pa <sup>2)</sup> -100 ... +100 Pa <sup>2)</sup>	0 ... 7,000 Pa <sup>1)</sup> 0 ... 5,000 Pa <sup>2)</sup> 0 ... 4,000 Pa <sup>2)</sup> 0 ... 3,000 Pa <sup>2)</sup> 0 ... 2,500 Pa <sup>2)</sup> 0 ... 2,000 Pa <sup>2)</sup> 0 ... 1,500 Pa <sup>2)</sup> 0 ... 1,000 Pa <sup>2)</sup>	-250 ... +250 Pa <sup>1)</sup> -100 ... +100 Pa <sup>2)</sup> -50 ... +50 Pa <sup>2)</sup> -25 ... +25 Pa <sup>2)</sup> 0 ... 250 Pa <sup>2)</sup> 0 ... 100 Pa <sup>2)</sup> 0 ... 50 Pa <sup>2)</sup> 0 ... 25 Pa <sup>2)</sup>	0 ... 12,000 Pa <sup>1)</sup> 0 ... 10,000 Pa <sup>2)</sup> 0 ... 9,000 Pa <sup>2)</sup> 0 ... 8,000 Pa <sup>2)</sup> 0 ... 7,500 Pa <sup>2)</sup> 0 ... 7,000 Pa <sup>2)</sup> -1,000 ... +1,000 Pa <sup>2)</sup> -500 ... +500 Pa <sup>2)</sup>
	8 measuring ranges can be selected via jumpers (measuring ranges < 250 Pa: automatic zero point setting (AZ) recommended)			
	Option: Digital indicator (D), automatic zero point setting (AZ), digital indicator and automatic zero point setting (AZ-D)			
<b>Accuracy</b>	0 ... 12,000 Pa: ±2 Pa ± 1.5 % 0 ... 7,000 Pa: ±2 Pa ± 1.5 % 0 ... 2,500 Pa: ±2 Pa ± 1.5 % -250 ... +250 Pa: ±2 Pa ± 1.5 %			
	All data refer to the above mentioned pressure range.			
<b>Units (adjustable in the menu)</b>	<ul style="list-style-type: none"> <li>■ Air flow</li> <li>■ Differential pressure</li> </ul>			
	m <sup>3</sup> /h, m <sup>3</sup> /s, l/s, cfm Pa, kPa, mbar, inWC, mmWC			
<b>Process connection</b>	Connecting nozzle (ABS), lower mount, for hoses with inner diameter 4 or 6 mm			
<b>Power supply U<sub>B</sub></b>	<ul style="list-style-type: none"> <li>■ With automatic zero point setting (AZ)</li> <li>■ Without automatic zero point setting (AZ)</li> </ul>			
	AC 24 V or DC 24 V ±10 % Output signal 0 ... 10 V: DC 14 ... 30 V or AC 24 V ±10 % Output signal 4 ... 20 mA: DC 9 ... 30 V or AC 24 V ±10 %			
<b>Electrical connection</b>	Cable gland M16 Screw terminals max. 1.5 mm <sup>2</sup>			
<b>Output signal</b>	DC 0 ... 10 V (3-wire) or 4 ... 20 mA (3-wire)			
<b>Current consumption</b>	< 1.0 W (DC 0 ... 10 V), < 1.2 W (4 ... 20 mA), < 1.3 W (Modbus®)			
<b>Case</b>	Plastic (ABS)			
<b>Permissible temperatures</b>	<ul style="list-style-type: none"> <li>■ Ambient temperature</li> <li>■ Storage temperature</li> <li>■ Medium temperature</li> </ul>			
	-20 ... +70 °C -50 ... +70 °C -10 ... +50 °C			
<b>Ingress protection</b>	IP54			
<b>Weight</b>	150 g			

1) Standard  
2) Jumpers

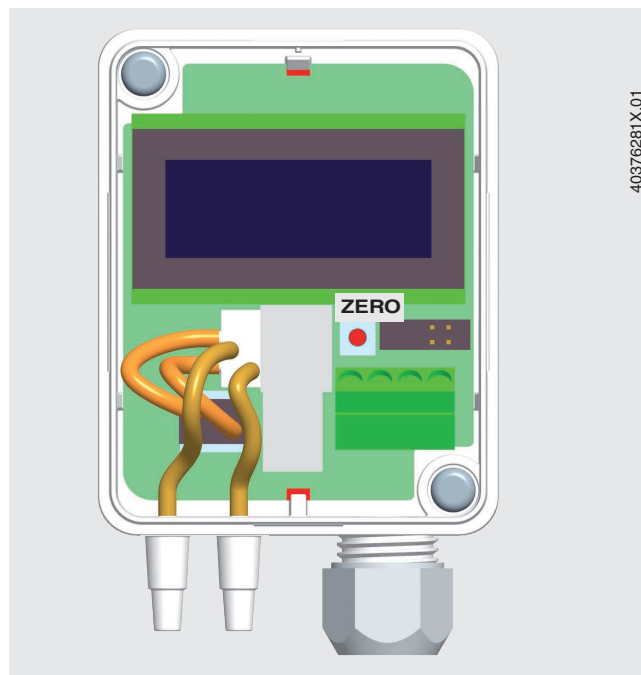
## Modbus® version (option)

Modbus® communication	
Protocol	Modbus® via serial interface
Measuring range	-250 ... +2,500 Pa, -250 ... +7,000 Pa
Transfer mode	RTU
Interface	RS-485
Byte format	(11 bits) in RTU mode Coding system: 8 bits binary  Bits per byte: - 1 Start bit - 8 data bits, lowest-order bit is sent first - 1 bit for parity - 1 stop bit
Baud rate	9,600, 19,200, 38,400 - adjustable in the configuration
Modbus® addresses	1 ... 247 addresses - adjustable in the configuration

## Automatic zero point setting (option)

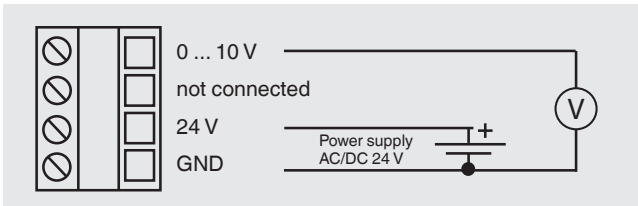
The automatic zero point setting aligns the zero point from time to time so that a manual zero point setting is not necessary.

During the zero point setting (3 seconds every 10 minutes), the output signal and the digital display show the last measured value.

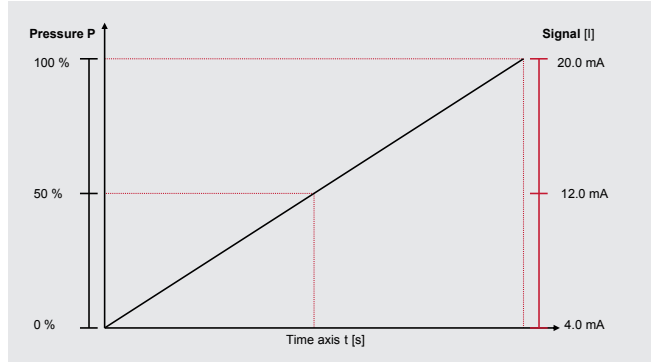
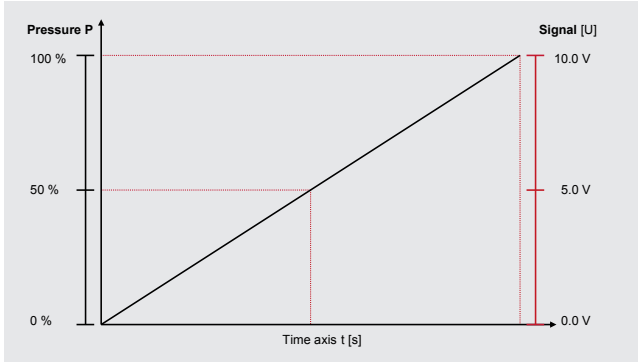
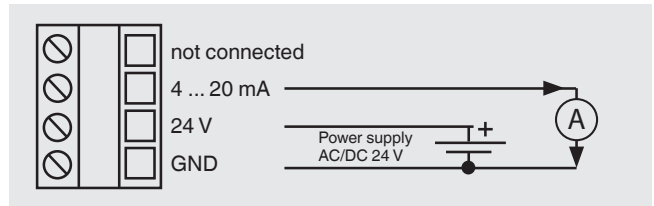


# Electrical connection

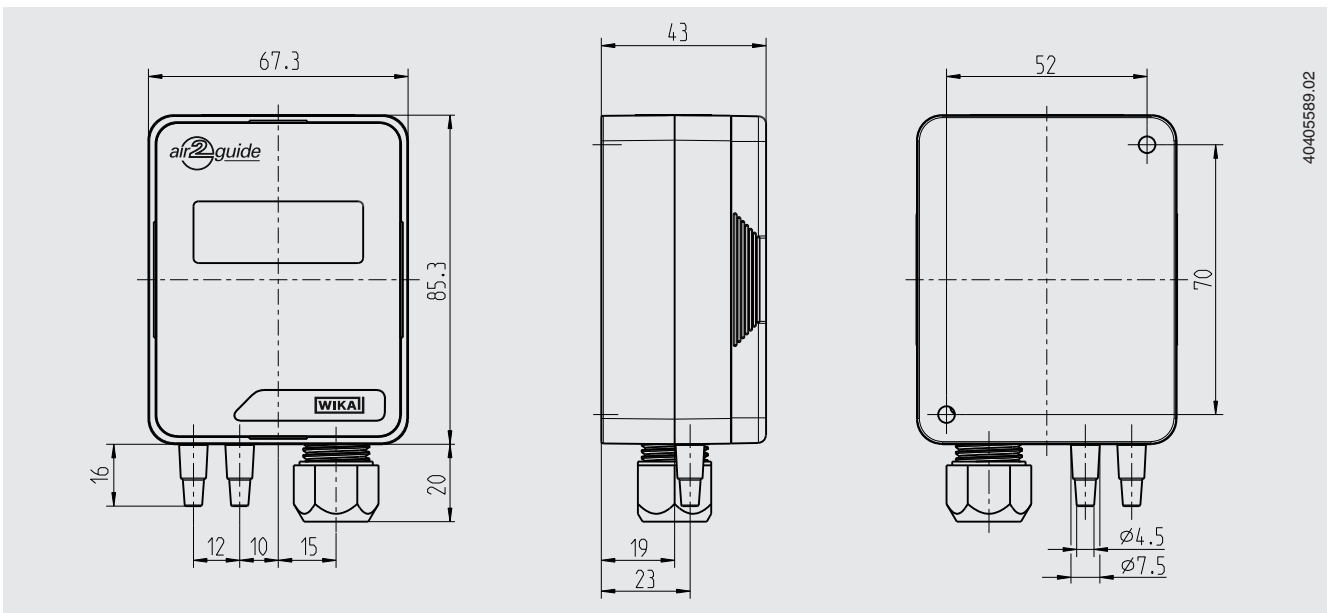
## Output signal DC 0 ... 10 V






## Output signal 4 ... 20 mA









# Dimensions in mm



## Accessories

Description	Order number
<b>Connections for static duct probes for ¼" pipes</b>	
 Insertion length 100 mm	40232956
Insertion length 150 mm	40232964
Insertion length 200 mm	40232972
<b>Measuring hoses</b>	
 PVC hose, inner diameter 4 mm, roll at 25 m	40217841
PVC hose, inner diameter 6 mm, roll at 25 m	40217850
Silicone hose inner diameter 4 mm, roll at 25 m	40208940
Silicone hose inner diameter 6 mm, roll at 25 m	40208958
<b>Duct connector for hose 4 and 6 mm</b>	40217507
	

## Approvals

Logo	Description	Country
	<b>EC declaration of conformity</b> <ul style="list-style-type: none"> <li>■ EMC directive</li> <li>■ RoHS conformity</li> <li>■ WEEE directive</li> </ul>	European Union
	<b>EAC (option)</b> Import certificate	Eurasian Economic Community
	<b>GOST (option)</b> Metrology, measurement technology	Russia
	<b>KazInMetr (option)</b> Metrology, measurement technology	Kazakhstan
-	<b>MTSCHS (option)</b> Permission for commissioning	Kazakhstan
	<b>UkrSEPRO (option)</b> Metrology, measurement technology	Ukraine
	<b>Uzstandard (option)</b> Metrology, measurement technology	Uzbekistan

### Certificates (option)

- 2.2 test report
- 3.1 inspection certificate

Approvals and certificates, see website

### Scope of delivery

- Differential pressure transmitter
- 2 mounting screws

### Ordering information

Model / Measuring range / Options

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