

Dual differential pressure sensor For ventilation and air-conditioning Model A2G-52

WIKAI data sheet PE 88.03



for further approvals
see page 5



Applications

- For monitoring air, non-inflammable and non-aggressive gases
- Fan, blower and filter monitoring
- Pressure and flow monitoring
- Monitoring and control of valves and air shutters
- Pressure monitoring in clean rooms

Special features

- Simple mounting
- Two differential pressure sensors in one instrument
- Two inputs for temperature sensors or analogue signal
- With Modbus® interface
- Two-line LC display for the direct reading of both pressure values



Dual differential pressure sensor, model A2G-52

Description

The model A2G-52 dual differential pressure sensor combines two differential pressure sensors in one instrument, so that pressure can be measured from two different control points.

The model A2G-52 has a Modbus[®] interface and an input interface. By using the input interface, up to two passive temperature sensors or an analogue 0 ... 10 V signal can be connected directly to the measuring instrument. Thus, the use of cost-intensive active temperature transmitters can be dispensed with and the costs for material and mounting can be reduced.

Specifications

Dual differential pressure sensor, model A2G-52	
Measuring element	Piezo measuring cell
Units of measure	Pa, mbar, inWC, mmWC, psi
Measuring range	-250 ... +2,500 Pa and -250 ... +7,500 Pa
Accuracy class	-250 ... +2,500 Pa = pressure < 125 Pa = ± 2 Pa + 1 % pressure > 125 Pa = ± 1 Pa + 1 % -250 ... +7,000 Pa = pressure < 125 Pa = ± 2 Pa + 1.5 % pressure > 125 Pa = ± 1 Pa + 1.5 % all data refer to the current measured value (of measured pressure)
Process connection	Connecting nozzle (copper alloy), lower mount, for hoses with inner diameter 4 mm
Power supply U_B	AC 24 V or DC 24 V ± 10 %
Electrical connection	Cable gland M20 2 x 4 spring-clip terminals, max. 1.5 mm ²
Output signal	Modbus [®]
Display	Two-line LC display (12 characters/line) Line 1: Active measurement, input A Line 2: Active measurement, input B
Case	Plastic (ABS) Cover: Polycarbonate (PC)
Permissible temperatures	<ul style="list-style-type: none"> ▪ Ambient temperature -20 ... +70 °C ▪ Medium temperature -10 ... +50 °C
Relative humidity	0 ... 95 % r. h., non-condensing
Ingress protection	IP54
Weight	150 g

Options

- 4 duct connectors
- 4 m PVC hose, inner diameter 4 mm

Modbus[®] version

Modbus [®] communication	
Protocol	Modbus [®] via serial interface
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

Modbus® register

FC04 - Read input register

Register	Parameter description	Data type	Value	Display
3x0001	Program version	16 bit	0 ... 1,000	0.00 ... 99.00
3x0002	Pressure measurement A	16 bit	-250 ... 2,500	-250 ... 2,500 (Pa)
3x0003	Pressure measurement B	16 bit	-250 ... 2,500	-250 ... 2,500 (Pa)
3x0004	Input 1: 0 ... 10 V	16 bit	0 ... 1,000	0 ... 100 %
3x0005	Input 1: Pt1000	16 bit	500 ... 500	-50 ... +50 °C
3x0006	Input 1: Ni1000	16 bit	-500 ... 500	-50 ... +50 °C
3x0007	Input 1: Ni1000-LG	16 bit	-500 ... 500	-50 ... +50 °C
3x0008	Input 1: NTC10k	16 bit	-500 ... 500	-50 ... +50 °C
3x0009	Input 2: 0 ... 10 V	16 bit	0 ... 1,000	0 ... 100 %
3x0010	Input 2: Pt1000	16 bit	-500 ... 500	-50 ... +50 °C
3x0011	Input 2: Ni1000	16 bit	-500 ... 500	-50 ... +50 °C
3x0012	Input 2: Ni1000-L	16 bit	-500 ... 500	-50 ... +50 °C
3x0013	Input 2: NTC10k	16 bit	-500 ... 500	-50 ... +50 °C

FC02 - Read input status

Register	Parameter description	Data type	Value	Display
1x0001	Input 1: BIN IN	Bit 0	0 ... 1	On - Off
1x0002	Input 2: BIN IN	Bit 0	0 ... 1	On - Off

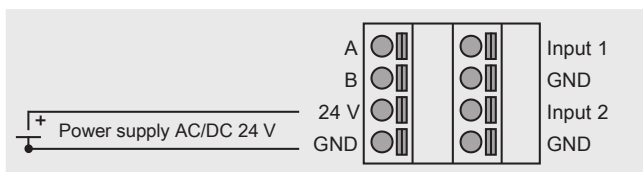
FC05 - Write single coil

Register	Parameter description	Data type	Value	Display
0x0001	Zeroing	Bit 0	0 ... 1	On - Off

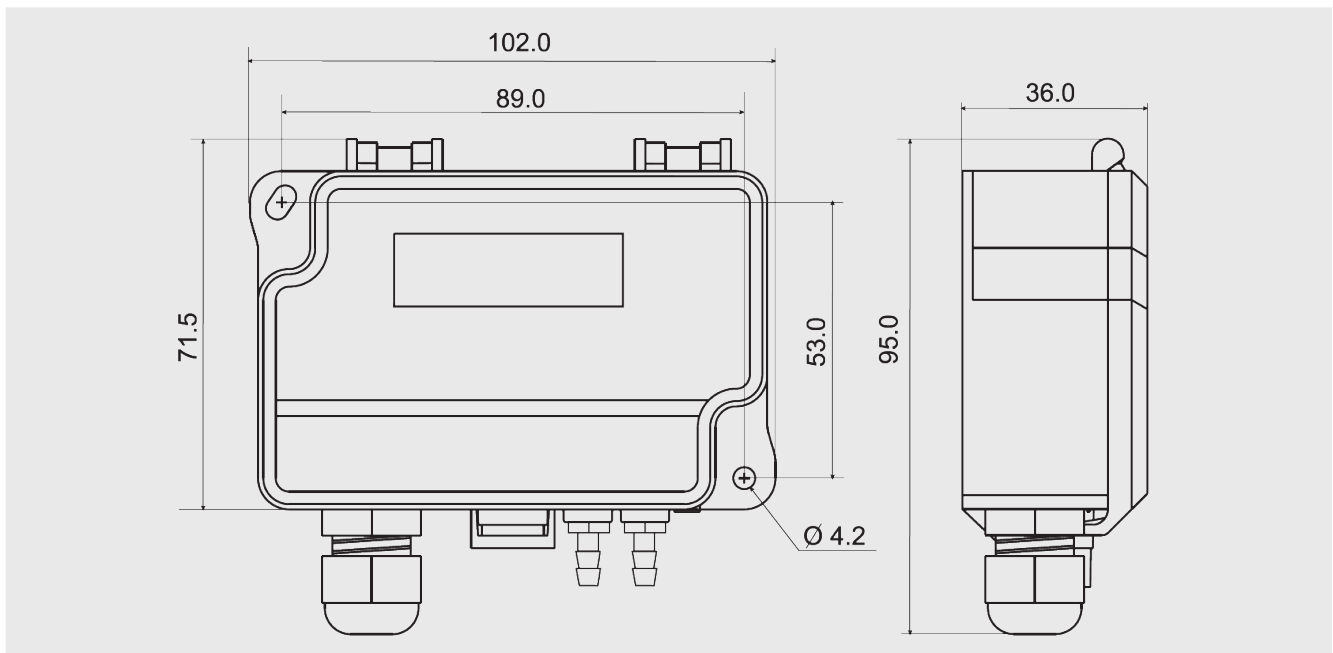
FC06 - Write single register

Register	Parameter description	Data type	Value	Display
4x0001	Beta value of NTC resistor	16 bit	0 ... 30,000	0 ... 30,000 (standard 4,220)


Electrical connection



Dimensions in mm



Accessories

Description	Order number
Measuring hoses	
 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
 Duct connector for hose 4 and 6 mm	40217507

Approvals

Logo	Description	Country
	EU declaration of conformity <ul style="list-style-type: none"> ▪ EMC directive ▪ RoHS conformity ▪ WEEE directive 	European Union
	EAC (option) Import certificate	Eurasian Economic Community

Certificates (option)

- 2.2 test report

Approvals and certificates, see website

Scope of delivery

- Dual differential pressure sensor
- 2 mounting screws

Ordering information

Model / Measuring range / Input signal / Options

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