

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

WIKA 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 |

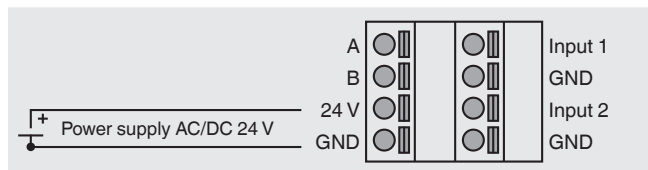
FC05 - Write single coil

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

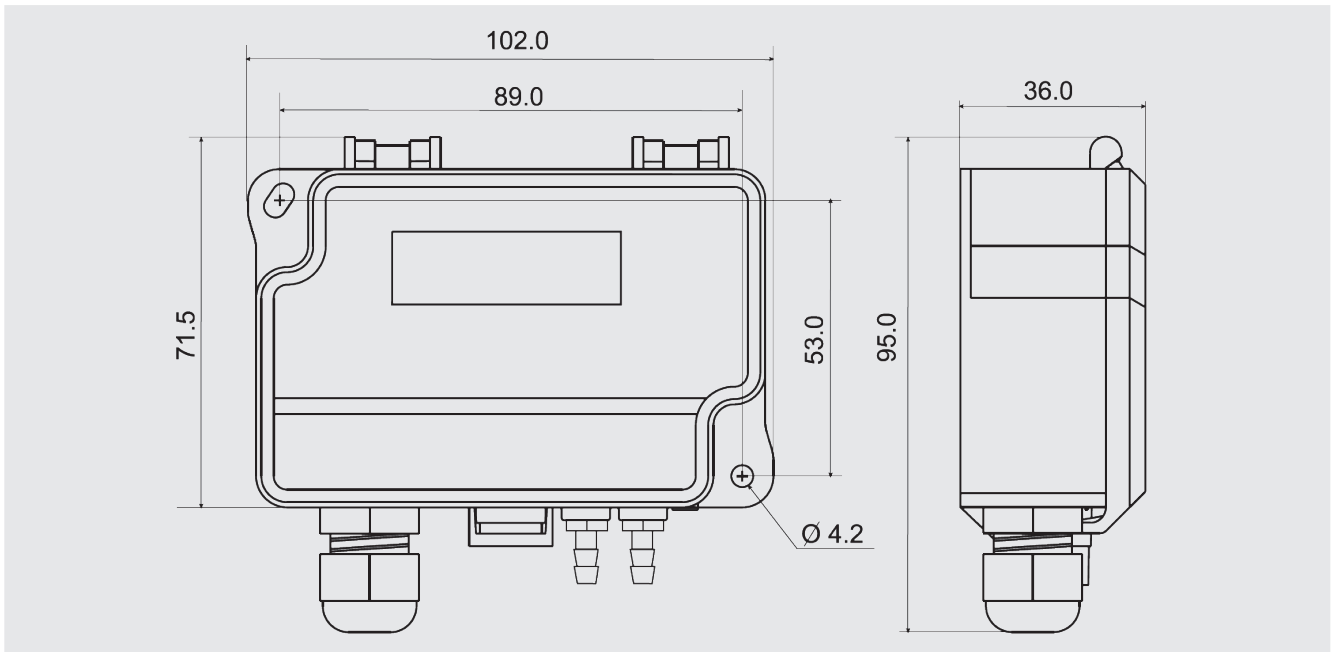
FC06 - Write single register

| 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 |
|  | GOST (option) Metrology, measurement technology | Russia |

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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