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

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 mm²
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 ■ Ambient temperature ■ Medium temperature	 -20 ... +70 °C -10 ... +50 °C
Relative humidity	0 … 95 % r. h., non-condensing
Ingress protection	IP54
Weight	150 g

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

Options

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

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

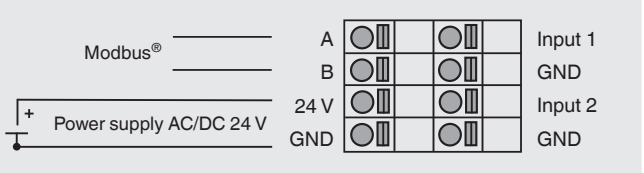
Register	Parameter description	Data type	Value	Display
0x0001	Zeroing	Bit 0	0 ... 1	On - Off

FC06 - Write single register

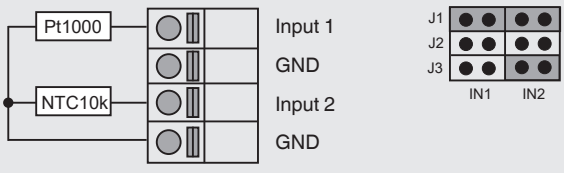
Register	Parameter description	Data type	Value	Display
4x0001	Beta value of NTC resistor	16 bit	0 ... 30,000	0 ... 30,000 (standard 4,220)

Electrical connection

Connection diagram

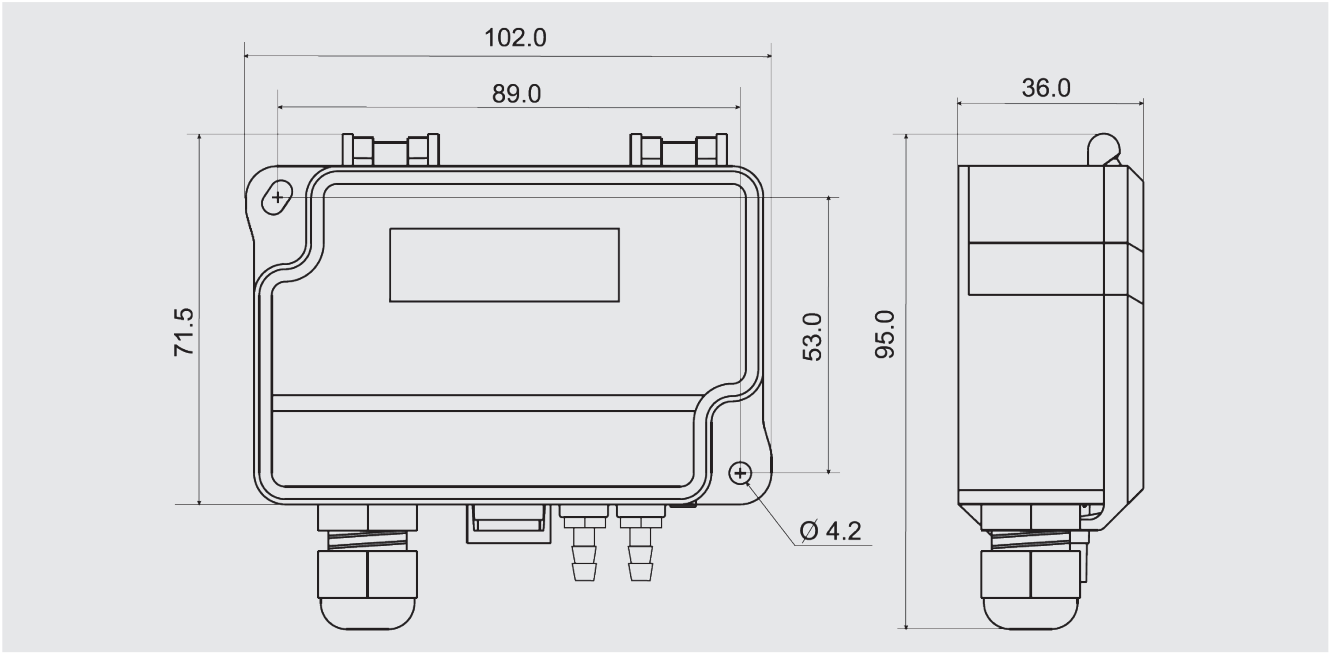


Connection diagram for input signals



Input 1: Pt1000 temperature sensor
Function 04: Read input value for register 3x0005
Input 2: NTC10k temperature sensor
Function 04: Read input value for register 3x0008

Dimensions in mm



Description	Order number
A2G-52 with measuring range -250 ... +2,500 Pa	40399907
A2G-52 with measuring range -250 ... +7,000 Pa	40399920

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
CE	**EU declaration of conformity** ■ EMC directive ■ RoHS conformity ■ WEEE directive	European Union
EAC	**EAC (option)** ■ EMC directive ■ Import certificate	Eurasian Economic Community
	GOST (option) Metrology, measurement technology	Russia
-	**MTSCHS (option)** Permission for commissioning	Kazakhstan

Certificates (option)

2.2 test report

Approvals and certificates, see website

Scope of delivery

- Dual differential pressure sensor
- 2 mounting screws

Ordering information
To order the described product the order number is sufficient.
or
Model / Measuring range / Input signal / Accessories / Options

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