

Dual differential pressure transmitter Model A2G-52, with Modbus® interface

WIKA data sheet SP 69.09



Applications

- Dual differential pressure transmitter 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
- Reliable and cost-effective



Dual differential pressure transmitter, model A2G-52

Description

The model A2G-52 dual differential pressure transmitter combines two differential pressure transmitters 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. When using the input interface, temperature transmitters can be saved by directly connecting temperature sensors. As a result, costs can be reduced considerably.

Description

Design

- EMC directive 2004/108/EC
- RoHS directive 2002/95/EC

Accuracy (total pressure)

±1.5 % +1 Pa

(including general accuracy, temperature drift, linearity, hysteresis, long-term stability and repeat accuracy)

Measuring ranges

-250 ... 2,500 Pa and -250 ... 7,000 Pa

Units of measure selectable on the display in the menu (Pa, mbar, inch WC, mm WC, psi)

Response time

1 ... 20 s selectable via menu

Maximum pressure

400 kPa

Permissible temperature

Operation: -10 ... +50 °C

Storage: -20 ... +70 °C

Humidity: 0 to 95 % rH

Ingress protection

IP 54 per EN 60529 / IEC 60529

Weight

150 g

Communication

Protocol: Modbus® via serial interface

Transfer mode: RTU

Interface: RS-485

Byte format (11 bit):

Coding system: 8-bit binary

Bits per byte:

1 start bit, 8 data bits (the lowest data bit first), 1 parity bit,

1 stop bit

Baud rate: Selectable in the menu

Address range: 1 ... 247 selectable in the menu

Standard version

Process connection

Connecting nozzle (copper alloy), lower mount, for hoses with inner diameter 4 mm

Measuring element

Piezo measuring cell

Case

Plastic (ABS), cover PC

LCD display

2-line display (12 characters/line)

Line 1: Active measurement, inlet A

Line 2: Active measurement, inlet B

Electrical connection

Cable gland M20

2 x 4 spring-clip terminals, max. 1.5 mm²

Output signal

Modbus®

Power supply

AC 24 V or DC 24 V ±10 %

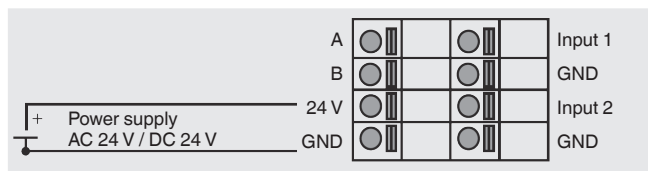
Standard accessories

2 mounting screws

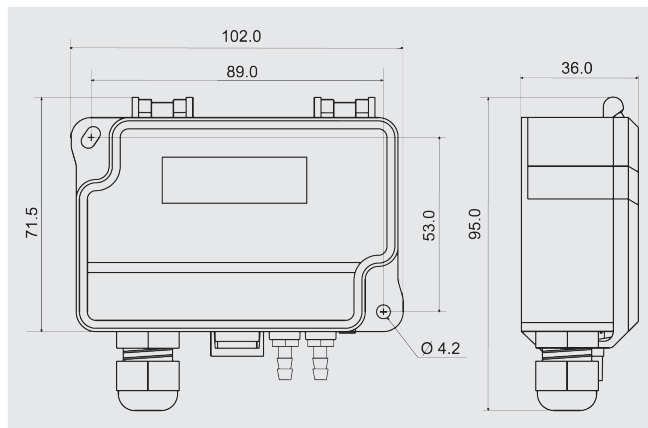
Options

- 4 duct connectors
- 2 x 2 m PVC hose, inner diameter 4 mm

Connection diagram



Dimensions in mm

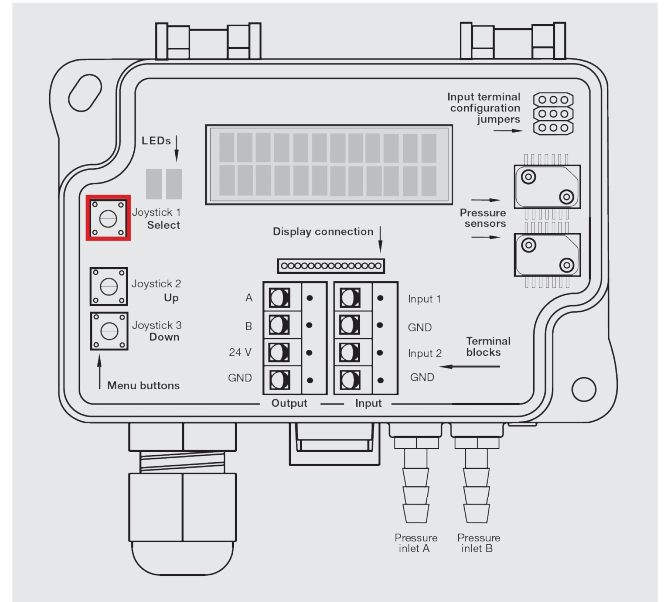


Zero point adjustment

- Manual push button
- With Modbus® function code

Response time: 0.8, 2 or 10 s selectable in the menu

1. Remove both hoses from the pressure connections \oplus and \ominus .
2. Press the SELECT button briefly (marked in red).
3. Wait until the LED turns off.
4. Reconnect the \oplus and \ominus hoses.
5. In normal operation, carry out a zero adjustment every 12 months.



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 A	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 4220)

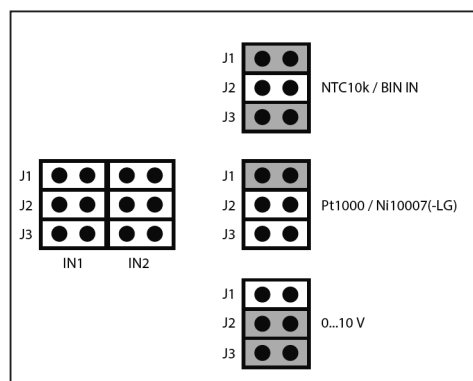
Menu selection and configuration

Press the SELECT button for 2 seconds to open the menu.

Select the address for Modbus®: 1 ... 247	ADDRESS 99	SELECT UP DOWN
Select the baud rate: 9600/19200/38400	BAUD RATE 9600	SELECT UP DOWN
Select the parity bit: None/Even/Odd	PARITY BIT NONE	SELECT UP DOWN
Select the pressure unit: Pa/inchWC/mmWC/psi/mbar	PRESS. UNIT Pa	SELECT UP DOWN
Select response times: 1 ... 20 seconds	RESPONSETIME 20 s	SELECT UP DOWN
Push the SELECT button: Exit the menu	SELECT EXIT MENU	SELECT

Input signal configuration

The input signals can be read over Modbus® via DPT MOD RS-485 interface.



Set the jumpers according to the adjacent instructions. Read the value from the correct register. Both inputs can be configured independently.

Signal	Accuracy	Resolution
0 ... 10 V	< 0.5 %	0.1 %
NTC10K	< 0.5 %	0.1 %
Pt1000	< 0.5 %	0.1 %
Ni1000/(-LG)	< 0.5 %	0.1 %
BIN IN (potential-free contact)		

Ordering information

Model / Measuring range / Input signal / Options

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