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

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

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 ⊗ and ⊖.
2. Press the SELECT button briefly (marked in red).
3. Wait until the LED turns off.
4. Reconnect the ⊗ and ⊖ hoses.
5. In normal operation, carry out a zero adjustment every 12 months.

Modbus® register

FC04 - Read input register

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

FC02 - Read input status

<table>
<thead>
<tr>
<th>Register</th>
<th>Parameter description</th>
<th>Data type</th>
<th>Value</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x0001</td>
<td>Input 1: BIN IN</td>
<td>Bit 0</td>
<td>0 ... 1</td>
<td>On - Off</td>
</tr>
<tr>
<td>1x0002</td>
<td>Input 2: BIN IN</td>
<td>Bit 0</td>
<td>0 ... 1</td>
<td>On - Off</td>
</tr>
</tbody>
</table>

FC05 - Write single coil

<table>
<thead>
<tr>
<th>Register</th>
<th>Parameter description</th>
<th>Data type</th>
<th>Value</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x0001</td>
<td>Zeroing</td>
<td>Bit 0</td>
<td>0 ... 1</td>
<td>On - Off</td>
</tr>
</tbody>
</table>

FC06 - Write single register

<table>
<thead>
<tr>
<th>Register</th>
<th>Parameter description</th>
<th>Data type</th>
<th>Value</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x0001</td>
<td>Beta value of NTC resistor</td>
<td>16 bit</td>
<td>0 ... 30,000</td>
<td>0 ... 30,000 (standard 4220)</td>
</tr>
</tbody>
</table>
Menu selection and configuration

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

![Menu Selection Table]

Input signal configuration

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

![Input Signal Configuration Diagram]

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

<table>
<thead>
<tr>
<th>Signal</th>
<th>Accuracy</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 10 V</td>
<td>&lt; 0.5 %</td>
<td>0.1 %</td>
</tr>
<tr>
<td>NTC10K</td>
<td>&lt; 0.5 %</td>
<td>0.1 %</td>
</tr>
<tr>
<td>Pt1000</td>
<td>&lt; 0.5 %</td>
<td>0.1 %</td>
</tr>
<tr>
<td>Ni1000/(-LG)</td>
<td>&lt; 0.5 %</td>
<td>0.1 %</td>
</tr>
</tbody>
</table>

BIN IN (potential-free contact)

Ordering information

Model / Measuring range / Input signal / Options

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