

Differential Pressure Sensor Air

Differential pressure transmitter with 8 selectable ranges and outputs 0...5 V, 0...10 V or 4...20 mA. For monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Monitoring air filters, fans, industrial cooling air cycles, control of air and fire dampers. Options available with LCD display, auto-zero feature. IP65 / NEMA 4X rated enclosure.


Type Overview

| Type | Measuring range pressure | Output signal active pressure | Burst pressure | Display type | Additional features |
|------------|--------------------------|--|----------------|--------------|---------------------|
| 22ADP-184 | 0...2500 Pa | DC 0...10 V, DC 0...5 V, 4...20 mA | 40 kPa | - | - |
| 22ADP-184A | 0...2500 Pa | DC 0...10 V, DC 0...5 V, 4...20 mA | 40 kPa | - | Auto-Zero |
| 22ADP-184B | 0...2500 Pa | DC 0...10 V, DC 0...5 V, 4...20 mA | 40 kPa | LCD | Auto-Zero |
| 22ADP-184L | 0...2500 Pa | DC 0...10 V, DC 0...5 V, 4...20 mA | 40 kPa | LCD | - |

Technical Data

| | | |
|------------------------|---------------------------|--|
| Electrical data | Power supply DC | 15...24 V, $\pm 10\%$, 1.1 W |
| | Power supply AC | 24 V, , $\pm 10\%$, 1.7 VA |
| | Electrical connection | Removable spring loaded terminal block max. 2.5 mm ² |
| Functional data | Cable entry | Cable gland with strain relief $\varnothing 6...8$ mm |
| | Sensor Technology | Piezo measuring element |
| | Multirange | 8 measuring ranges selectable |
| | Output signal active note | Output DC 0...5/10 V selectable with switch Voltage output: min. 10 k Ω load Current output: max. 500 Ω load |
| | Display | LCD, 29x35 mm with backlight Measured values: Pa, inchWC (configurable) |
| | Application | Air |
| | Response time | Adjustable 0.8s or 4.0s |

| | | | | | |
|-----------------------|-----------------------------------|---|------------|-----------------|-----------------|
| Measuring data | Measuring values | Differential pressure | | | |
| | Measuring fluid | Air and non-aggressive gases | | | |
| | Measuring range settings pressure | Setting | range [Pa] | range [inch WC] | Factory setting |
| | | S0 | 0...2500 | 0...10 | ✓ |
| | | S1 | 0...2000 | 0...8 | |
| | | S2 | 0...1500 | 0...6 | |
| | | S3 | 0...1000 | 0...4 | |
| | | S4 | 0...500 | 0...2 | |
| | | S5 | 0...250 | 0...1 | |
| | | S6 | 0...100 | 0...0.4 | |
| | S7 | -100...100 | -0.4...0.4 | | |
| | Accuracy pressure | deviation compared to the reference device measuring range ≤500 Pa: ±5 Pa measuring range >500 Pa: ±10 Pa | | | |
| Materials | Cable gland | PA6, black | | | |
| | Housing | Cover: Lexan, orange Bottom: Lexan, orange Seal: 0467 NBR70, black UV resistant | | | |
| Safety data | Ambient humidity | Max. 95% r.H., non-condensing | | | |
| | Ambient temperature | -10...50°C [15...120°F] | | | |
| | Fluid temperature | -10...50°C [15...120°F] | | | |
| | Protection class IEC/EN | III Safety Extra-Low Voltage (SELV) | | | |
| | Protection class UL | UL Class 2 Supply | | | |
| | EU Conformity | CE Marking | | | |
| | Certification IEC/EN | IEC/EN 60730-1 and IEC/EN 60730-2-6 | | | |
| | Certification UL | cULus acc. to UL60730-1A/-2-6, CAN/CSA E60730-1:02 | | | |
| | Degree of protection IEC/EN | IP65 | | | |
| | Degree of protection NEMA/UL | NEMA 4X | | | |
| Quality Standard | ISO 9001 | | | | |

Safety notes


This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application. Unauthorised modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten humans, animals or assets.

Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.

The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Remarks
Automated Zero-Point calibration (Auto-Zero)

Transmitters equipped with the auto-zero calibration are maintenance-free.

The auto-zero calibration electronically adjusts the transmitter zero every 10 minutes. The function eliminates all output signal drift due to thermal, electronic or mechanical effects. The auto-zero adjustment takes approx. 4 seconds after which the device returns to its normal measuring mode. During the 4 second adjustment period, the output and display values will freeze to the latest measured value.

Manual Zero-Point calibration

In normal operation zero-point calibration should be executed every 12 months.

Attention! For executing zero-point calibration the power supply must be connected one hour before.

- Release both connection tubes from the pressure terminals + and -
- Press the button until the LED lights permanently
- Wait until the LED flashes again and reinstall the connection tubes to the pressure ports (note + and -)

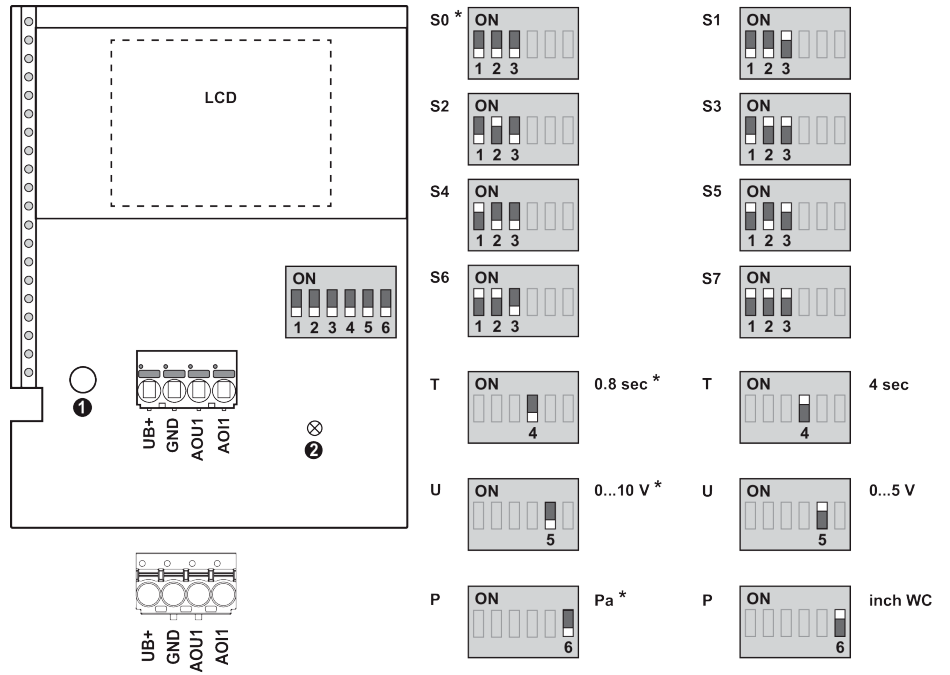
Scope of delivery

| Scope of delivery | Description | Type |
|-------------------|--|------------|
| | Mounting plate L housing | A-22D-A10 |
| | Duct connector kit, PVC tube 2 m, 2 connection elements (Plastic) for 22ADP-.. | A-22AP-A08 |
| | Dowel | |
| | Screws | |

Accessories

| Optional accessories | Description | Type |
|----------------------|--|-------------|
| | Duct connector, Metal, L 40 mm, Tube connection 5 mm | A-22AP-A02 |
| | Duct connector, Metal, L 100 mm, Tube connection 5 mm | A-22AP-A04 |
| | Connection adapter, M20, for cable 1 x 6 mm, Multipack 10 pcs. | A-22G-A01.1 |

Wiring diagram

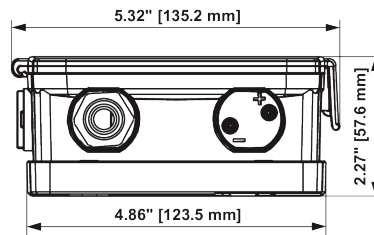
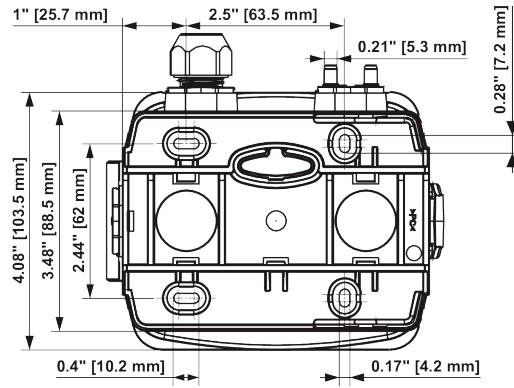


- ① Button
- ② Status LED
- * Factory setting
- P Pressure unit
- T Response time
- U Output signal

| Setting | range [Pa] | range [inch WC] | Factory setting |
|---------|------------|-----------------|-----------------|
| S0 | 0...2500 | 0...10 | ✓ |
| S1 | 0...2000 | 0...8 | |
| S2 | 0...1500 | 0...6 | |
| S3 | 0...1000 | 0...4 | |
| S4 | 0...500 | 0...2 | |
| S5 | 0...250 | 0...1 | |
| S6 | 0...100 | 0...0.4 | |
| S7 | -100...100 | -0.4...0.4 | |

Dimensions

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| Type | Weight |
|------------|---------|
| 22ADP-184 | 0.29 kg |
| 22ADP-184A | 0.29 kg |
| 22ADP-184B | 0.29 kg |
| 22ADP-184L | 0.30 kg |