BELIMO

Technical data sheet 22ADP-184..

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. Typical application in HVAC systems for monitoring air filters, fans V-belts as well as the use in pressure differential systems. Options available with LCD display, auto-zero feature. IP65 / NEMA 4X rated enclosure.

5 YEAR WARRANTY

Type Overview

Type	Measuring range pressure [Pa]	Output signal active pressure	Burst pressure	Display type	Additional features
22ADP-184	-100...2500	0...5 V, 0...10 V, 4...20 mA	40 kPa	-	-
22ADP-184A	-100...2500	0...5 V, 0...10 V, 4...20 mA	40 kPa	-	Auto-Zero
22ADP-184B	-100...2500	0...5 V, 0...10 V, 4...20 mA	40 kPa	LCD	Auto-Zero
22ADP-184L	-100...2500	0...5 V, 0...10 V, 4...20 mA	40 kPa	LCD	-

Technical Data

Electrical data

Nominal voltage	AC/DC 24 V
Nominal voltage range	AC 19...29 V / DC 15...35 V
Power consumption AC	1.7 VA
Power consumption DC	1.1 W
Electrical connection	Pluggable spring loaded terminal block max. 2.5 mm²
Cable entry	Cable gland with strain relief Ø6...8 mm

Functional data

Sensor Technology	Piezo measuring element
Multirange	8 measuring ranges selectable
Voltage output	1x 0...5 V, 0...10 V, min. load 10 kΩ
Current output	1x 4...20 mA, max. load 500 Ω
Output signal active note	Output 0...5/10 V selectable with switch
Display	LCD, 29x35 mm with backlight Measured values: Pa, inchWC (parametrisable)
Application	Air
Response time	Adjustable 0.8 s or 4.0 s

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
Long-term stability	±2.5% FSO (Full Scale Output) / 4 yr.

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

Accessories

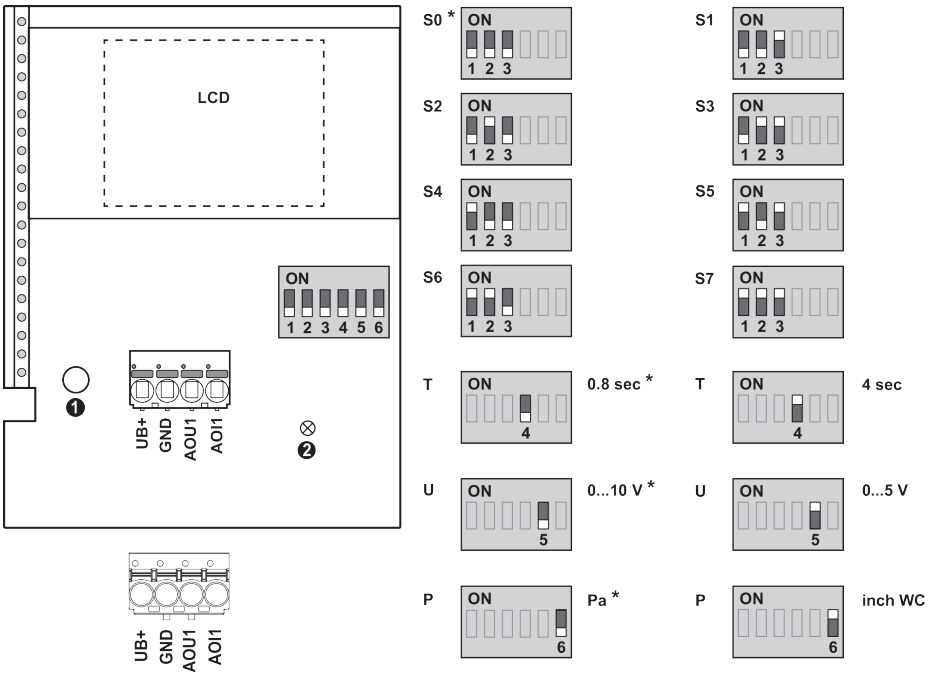
Optional accessories

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, M20x1.5, for cable 1x6 mm, Multipack 10 pcs.	A-22G-A01.1

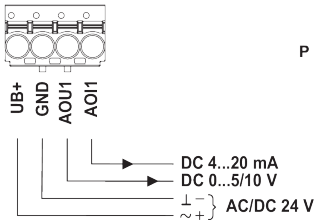
Wiring diagram

Notes

When switching from 0...10 V to 0...5 V output voltage also the current will be adjusted from 4...20 mA to 4...12 mA.



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

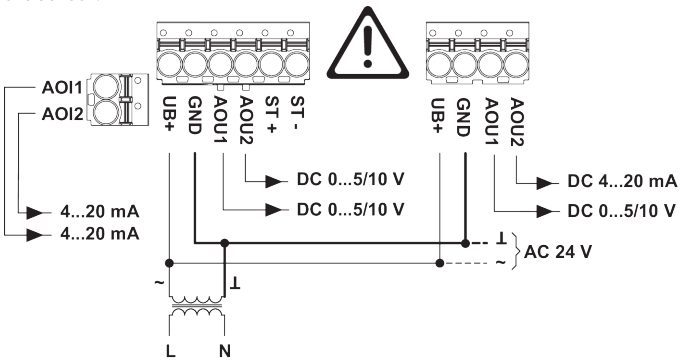


Setting	range [Pa]	range [inch WC]	Factory setting
S0	0...2500	0...10	✓
S1	0...2000	0...8	
S2	0...1500	0...6	
S3	0...1000	0...4	
S4	0...500	0...2	
S5	0...250	0...1	
S6	0...100	0...0.4	
S7	-100...100	-0.4...0.4	

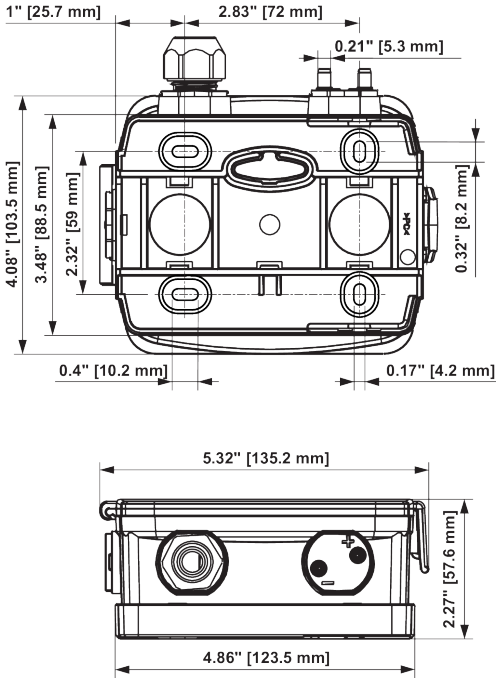
Wiring note power supply AC

For the sensor to function properly, polarity must be observed with a DC supply as well as an AC supply.

If the AC supply is connected incorrectly, i.e. if the wires are reversed, this can lead to the destruction of the sensor.



Dimensions



Type	Weight
22ADP-184	0.38 kg
22ADP-184A	0.38 kg
22ADP-184B	0.41 kg
22ADP-184L	0.40 kg