

Differential pressure sensor Air

Differential pressure transmitter with 8 selectable ranges and Modbus funtionality. For monitoring over-, under or 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 and Auto-Zero function. NEMA 4X / IP65 rated enclosure.

Technical data sheet





22ADP-15Q.



Type Measuring range pressure (Pa] Communication Output signal active pressure Display type Additional features	Type Overview									
22ADP-15QA	Туре		Communicat	tion			Burst pressure	Display	type Additiona	l features
22ADP-15Q8	22ADP-15Q	-150250	Modbus RT	ГU	05 V, 010 V	05 V, 010 V	40 kPa	-	-	
Technical Data	22ADP-15QA	-150250	Modbus RT	ГU	05 V, 010 V	05 V, 010 V	40 kPa	-	Auto-	Zero
Piectrical data Nominal voltage AC/DC 24 V Nominal voltage range AC 1929 V / DC 1535 V Power consumption AC 2 VA Power consumption DC 1.4 W Electrical connection Pluggable spring loaded terminal block max. 2.5 mm² Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Plezo measuring element Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Plezo measuring element Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Plezo measuring element Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Plezo measuring element Cable gland with strain relief 2 x Ø6 mm Pluggable spring loaded terminal block max. 2.5 mm² Plug	22ADP-15QB	-150250	Modbus RT	ГU	05 V, 010 V	05 V, 010 V	40 kPa	LCD	Auto-	-Zero
Functional data Nominal voltage AC/DC 24 V	22ADP-15QL	-150250	Modbus RT	ГU	05 V, 010 V	05 V, 010 V	40 kPa	LCD	-	
Nominal voltage range	Technical Data									
Power consumption AC Power consumption DC Pluggable spring loaded terminal block max. 2.5 mm² Cable entry Cable gland with strain relief 2 x Ø6 mm Functional data Sensor Technology Piezo measuring element Communicative control Modbus RTU Multirange 8 measuring ranges selectable Voltage output 2x 05 V, 010 V, min. load 10 kΩ Output signal active note Output 05/10 V selectable with switch Display LCD, 29x35 mm with backlight Measured values pressure: Pa, inchWC (parametrisable) Measured values underside one (parametrisable) Measured values volumetric flow: m³/h, cfm (parametrisable) Application Air Response time Adjustable 0.8 s or 4.0 s Measuring data Measuring range settings pressure Setting range [Pa] range [inch WC] Factory setting SO 0250 So 01 S1 0100 So 00.4 S2 050 So 00.2 S3 055 So 00.1 S1 0100 So 00.1 S1 001 S1 001 S2 00.1 S3 055 So 00.1		El	lectrical data	Non	ninal voltage		AC/DC 24	V		
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S3 025 00.1 S4 -2525 -0.10.1										
S4 -2525 -0.10.1										
							S5	-5050	-0.10.1	

S6

S7

-100...100

-150...150

-0.4...0.4

-0.6...0.6



	Technical data sheet	22ADP-15Q		
	Accuracy pressure	deviation compared to the reference device ±1 Pa at range <250 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	-1050°C [15120°F]		
	Fluid temperature	-1050°C [15120°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	Туре
	Duct connector kit, PVC tube 2 m, 2 connection elements (Plastic) for 22ADP	A-22AP-A08
	Mounting plate L housing	A-22D-A10
	Cable Gland with strain relief Ø68 mm	
	Dowel	
	Screws	



Accessories

Optional accessories	Description	Туре	
	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	
	Connection adapter, M20, for cable 2 x 6 mm, Multipack 10 pcs.	A-22G-A02.1	

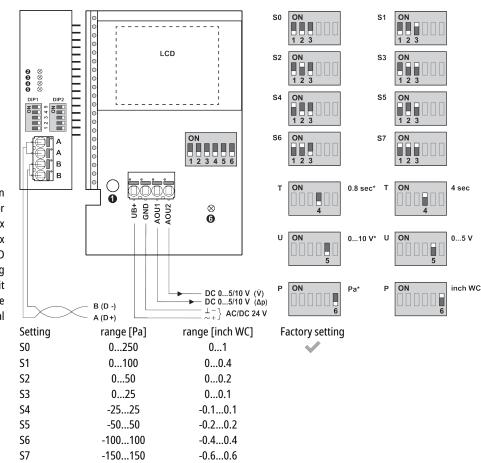
Wiring diagram

Notes Supply from isolating transformer.



The wiring of Modbus RTU (RS485) is to be carried out in accordance with applicable regulations (www.modbus.org). The device has switchable resistors for bus termination.

Modbus-GND: Supply and communication are not galvanically isolated. Connect earth signal of the devices with one another.



① Button
② red: Error
③ yellow: Tx
④ yellow: Rx
⑤ and ⑥ Status LED
* Factory setting
P Pressure unit
T Response time
U Output signal

Detailed documentation

The separate document Sensor Modbus-Register informs about Modbus register, addressing, parity and bus termination (DIP1: address, DIP2: baud rate, parity, bus termination)

In addition to the information on the bus, the following analogue outputs are available:

AOU1: differential pressure

AOU2: volumetric flow

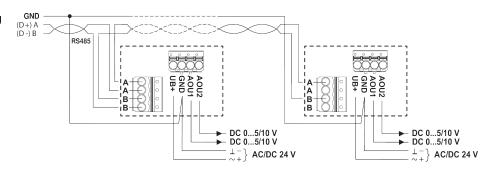
The volumetric flow is calculated from the differential pressure, the k-factor and the height above sea level.

Factory setting for the k-factor is 1.00 and for the height above sea level 330 metres.

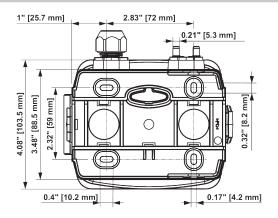
The values of the k-factor and the height can be changed via bus system.

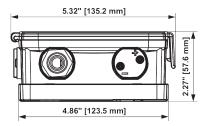


Wiring RS485 Modbus RTU



Dimensions





Туре	Weight
22ADP-15Q	0.40 kg
22ADP-15QA	0.41 kg
22ADP-15QB	-
22ADP-15QL	0.42 kg