

Differential Pressure Sensor (Air)

Differential pressure transmitter with 8 selectable ranges and Modbus functionality. NEMA 4X / IP65 rated enclosure. 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.


Type Overview

Type	Measuring Range Pressure	Output Signal Active Pressure	Overpressure Limit	Display Type
22ADP-184	-	DC 0...10 V, DC 0...5 V, 4...20 mA	40 kPa / 160 inch WC	-
22ADP-184L	-	DC 0...10 V, DC 0...5 V, 4...20 mA	40 kPa / 160 inch WC	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
	Cable Entry	cable gland PG11 $\varnothing 6$ to 10 mm, with strain relief $\varnothing 6$ to 8 mm, 1/2" conduit adapter included
Functional Data	Sensor Technology	piezo measuring element
	Multirange	8 fields selectable
	Output Signal Active Note	output DC 0 to 5/10 V selectable with switch voltage output: min. 10 k Ω load current output: max. 500 Ω load
	Display	LCD, 1.14" x 1.38" [29 x 35 mm] with backlight measured values: Pa, inchWC (configurable)
	Media	air

Measuring Data	Measured Values	differential pressure			
	Measuring media	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 ≤2 inch WC (500 Pa): ±0.02 inch WC (±5 Pa) measuring range >2 inch WC (500 Pa): ±0.04 inch WC (±10 Pa)			
Materials	Cable Gland	PA6, black			
	Housing	cover: lexan, Belimo orange NCS S0580-Y6OR			
		base: lexan, Belimo orange NCS S0580-Y6OR seal: 0467 NBR70, black			
Safety Data	Ambient Humidity	max. 95% RH non-condensing			
	Ambient Temperature	15°F to 120°F [-10°C to 50°C]			
	Medium Temperature	15°F to 120°F [-10°C to 50°C]			
	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, CE acc. to 2004/108/EC and 2006/95/EC, NEMA 4X, IP65, UL Enclosure Type 4X			
	Degree of Protection IEC/EN	IP65			
	Degree of Protection NEMA/ UL	NEMA 4X			
	Quality Standard	ISO 9001			
Weight	0.29 lbs				

Safety Notes


The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorized modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

Remarks

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 S1 until the LED lights permanently
 • Wait until the LED flashes again and reinstall the connection tubes to the pressure ports (note + and -)

Accessories

Scope of Delivery	mounting plate dowel screws	
Optional Accessories	Description	Type
	Metal Duct Connectors 1.57" [40 mm]	A-22AP-A02
	Metal Duct Connectors 4" [100 mm]	A-22AP-A04

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	

DC 4...20 mA
 DC 0...5/10 V
 AC/DC 24 V

Dimensions

