

Differential pressure sensor Water

Active sensor (4...20 mA / 0...5 V / 0...10 V) for differential pressure measurement in HVAC systems. The sensor is suitable for water and water-glycol mixtures. NEMA 4X / IP65 rated enclosure and with LCD display.



5-year warranty


Type Overview

Type	Measuring range pressure [psi]	Output signal active pressure	Overpressure	Overpressure note	Burst pressure
22PDP-585	0...100	4...20 mA, 0...5 V, 0...10 V	200 psi	Single-sided	2000 psi
22PDP-588	0...250	4...20 mA, 0...5 V, 0...10 V	500 psi	Single-sided	5000 psi

Technical data

Electrical Data	Nominal voltage	AC/DC 24 V
	Nominal voltage range	AC 21.6...26.4 V / DC 21.6...26.4 V
	Power consumption AC	3.1 VA
	Power consumption DC	1.4 W
	Electrical connection	Pluggable spring loaded terminal block max. 2.5 mm ²
	Cable entry	Cable gland with strain relief ø6...8 mm
Functional Data	Application	water Water-glycol mixture
	Multirange	4 measuring ranges selectable
	Voltage output	1 x 0...5 V, 0...10 V, min. resistance 10 kΩ
	Current output	1x 4...20 mA, max. resistance 500 Ω
	Output signal active note	0...5/10 V or 4...20 mA output, selectable with switch
	Mechanical connection	pressure connector: G 1/4"
	Display	LCD, 16 x 38 mm
	Response time	<0.5 s
Measuring Data	Measured values	Differential pressure
	Measuring range pressure settings	Type 22PDP-585 Ranges [psi] 0...100 (factory setting), 0...10, 0...20, 0...50 22PDP-588 0...250 (factory setting), 0...25, 0...50, 0...125
	Accuracy pressure	measuring range >2 inch WC: ±0.04 inch WC measuring range ≤2 inch WC: ±0.02 inch WC measuring range >8 inch WC: ±0.1 inch WC measuring range ≤8 inch WC: ±0.04 inch WC ±0.5% FS (Full scale) @ 25°C [77°F]
	Long-term stability	±0.25% FS p.a. and per pressure transmitter
	Materials	Cable gland PA6, black

Materials	Housing	Cover: PC, transparent Bottom: PC, orange Cable: PVC, grey Seal: NBR
	Fluid wetted parts	Stainless steel 17-4 PH
Safety Data	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Degree of protection IEC/EN	IP65
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	EU Conformity	CE Marking
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-6
	Quality Standard	ISO 9001
	UL Approval	cULus acc. to UL60730-1/-2-6, CAN/CSA E60730-1/-2
	Type of action	Type 1
	Rated impulse voltage supply	0.8 kV
	Installation method	Independently mounted control
	Pollution degree	4
	Ambient humidity	Max. 95% RH, non-condensing
Ambient temperature	0...50°C [32...122°F]	
Fluid temperature	-40...220°F [-40...105°C] At a fluid temperature of < 2°C [< 36°F], frost protection must be guaranteed	

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

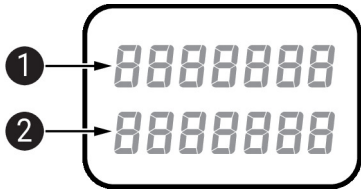
The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Remarks

Manual zero-point calibration In normal operation zero-point calibration should be executed every 12 months. A sensor zeroing can be initiated by pressing and holding the internal ZERO switch for at least 3 seconds. If both pressure ports are close to zero pressure, the device will calibrate with a new zero point. The zeroing can also be initiated by pressing the optionally connected remote switch, and thus by holding the ZERO terminal low for 3 seconds. Please make sure on the system side that the same pressure conditions exist at both remote sensors as precondition of a correct zeroing.

Indicators and Operation

Indicators The display has 2 lines with 8 characters each.
 The software version, model pressure range and output signal type are displayed during booting.
 The display is menu-guided and used for programming during installation as well as for display of pressure read from sensors.
 The menu allows to set parameters such as output signal, pressure range, pressure scale, pressure port, damping and backlight.
 For a convenient reading of the display, an upright wall mounting of the sensor housing with the display at the top, electrical connections on the right and at the bottom is recommended.



1 Start and programming

Line 1: Parameter
 Line 2: Value

2 Operation

Line 1: Differential pressure value
 Line 2: Differential pressure unit


Parts included

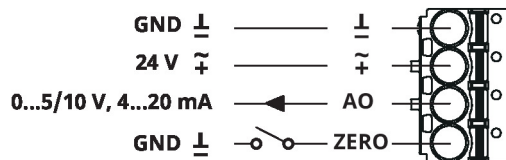
Parts included	Description	Type
	Mounting plate L housing	A-22D-A10
	Cable Gland with strain relief ø6...8 mm	
	Dowels	
	Screws	

Accessories

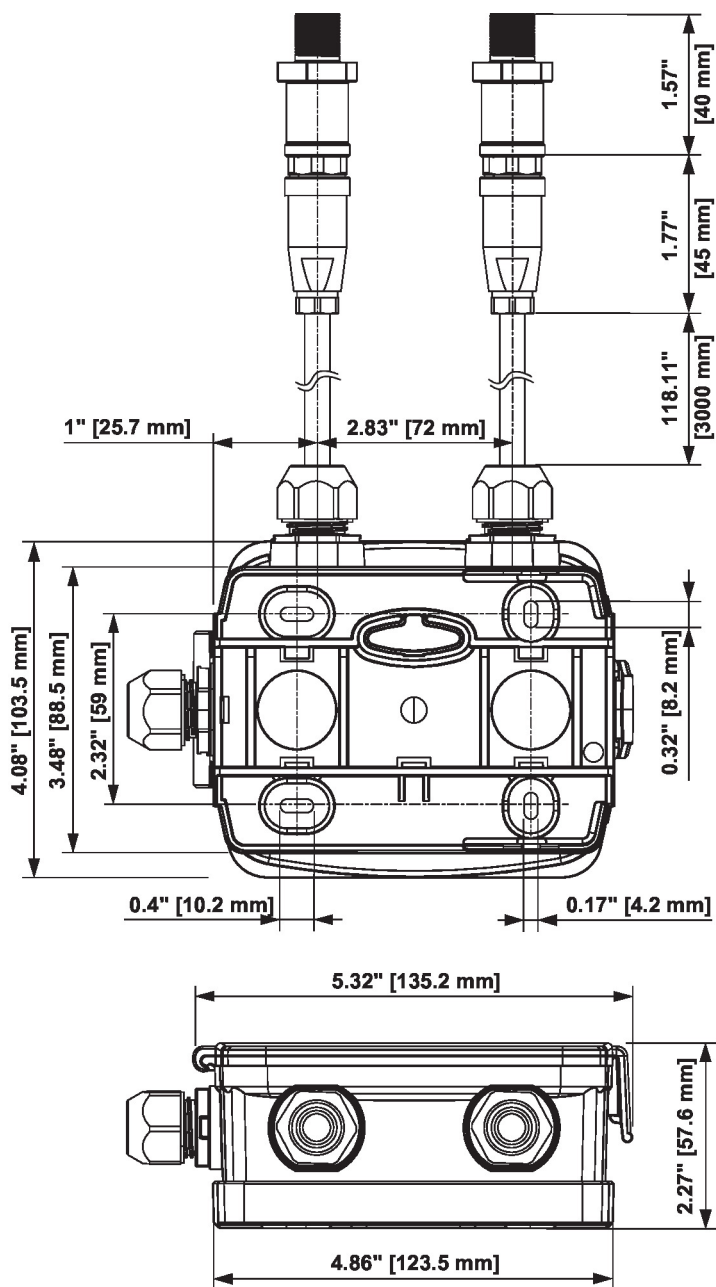
Optional accessories	Description	Type
	3-valve manifold with bracket	EXT-GS-3WM
	Reduction adapter, G 1/4" (internal thread) to G 1/2" (external thread)	A-22WP-A02
	Connection adapter flex conduit, M20x1.5, for cable gland 1 x 6 mm, Multipack 10 pcs.	A-22G-A01.1

Wiring Diagram

Notes  The external switch at terminal ZERO is optional. It can be used in case remote zeroing is required. Otherwise, ZERO terminal can be left open. Zeroing can be initialized by pressing the internal ZERO key in this case.
 See also details under chapter manual zero-point calibration.



Dimensions



Further documentation

- Installation instructions
- Operating instructions