

## Pressure Sensors FD 8214



- Compact pressure sensors for liquid and gaseous substances.
- Piezo-resistive measuring cell with temperature compensation.
- Pressure membrane and enclosure made from special steel.
- As the pressure is transmitted to the pressure membrane through a small hole in the thread part, the liquids should not be prone to crystallise and gases should not be heavily contaminated with dust. There are sensors with front-flush membranes for critical applications
- Available with three calibrations. Relative pressure: Pressure related to the environmental pressure, Absolute pressure: Pressure related to vacuum (0bar). Overpressure: Pressure related to atm. pressure at manufacturing (approx. 1bar).

**Other version:**  
**Pressure transducer with digital ALMEMO® D7 measuring plug**, see page 10.03.

Digital sensor, can be calibrated without measuring device.  
 High measured value resolution or measurement of rapid pressure changes (pressure peaks).

Options	Order no.	Order no.
Linearity 0.1% (for ranges 0.6 bar to 600 bar)	OR8214G1	Food compliant version
Substance temperature -25 to +100°C	OR8214T1	with Oil filling Anderol Food
Substance temperature -25 to +150°C (version with cooling fins)	OR8214T2	Throttle against excess pressure
Process connection, small flange (for FD8214xxA absolute pressure)		Output 0 to 10V
KF16	OR8214KF16	Output 0 to 20mA
		Output 4 to 20mA
		OR8214ML
		OR8214DS
		OR8214V
		OR8214A
		OR8214R4

Accessories	Order no.	Order no.
Coupler socket with 2m cable and ALMEMO® connector	ZA8214AK	Coupler socket 6-pin Straight version
		Coupler socket 6-pin Angled version
		ZB9030RB
		ZB9030RBW

**Types**                      **Order no.**  
 FD 8214:  
 Standard version, inside membrane with G¼" internal thread.  
 External thread G½" available on request

FD 8214 M:  
 Membrane (welded with end of thread) flush with front, external thread G½", can be sterilised (important for food and pharmaceutical industry)

	inside membrane	front flush membrane
<b>Measuring ranges relative pressure:</b>		
100 mbar	FD821401R	FD8214M01R
160 mbar	FD821402R	FD8214M02R
250 mbar	FD821403R	FD8214M03R
400 mbar	FD821404R	FD8214M04R
600 mbar	FD821405R	FD8214M05R
800 mbar	FD821406R	FD8214M06R
1 bar	FD821407R	FD8214M07R
1.6 bar	FD821408R	FD8214M08R
2.5 bar	FD821409R	FD8214M09R
4 bar	FD821410R	FD8214M10R
6 bar	FD821411R	FD8214M11R
10 bar	FD821412R	FD8214M12R

Types	Order no.	
	internal membrane	front flush membrane
<b>Measuring ranges absolute pressure:</b>		
Option: Process connection. small flange (see under Options)		
1 bar	FD821407A	FD8214M07A
1.6 bar	FD821408A	FD8214M08A
2.5 bar	FD821409A	FD8214M09A
4 bar	FD821410A	FD8214M10A
6 bar	FD821411A	FD8214M11A
10 bar	FD821412A	FD8214M12A

<b>Measuring ranges overpressure:</b>		
10 bar	FD821412U	FD8214M12U
16 bar	FD821413U	FD8214M13U
25 bar	FD821414U	FD8214M14U
40 bar	FD821415U	FD8214M15U
60 bar	FD821416U	FD8214M16U
100 bar	FD821417U	FD8214M17U
160 bar	FD821418U	FD8214M18U
250 bar	FD821419U	FD8214M19U
400 bar	FD821420U	FD8214M20U
600 bar	FD821421U	FD8214M21U
1000 bar	FD821422U	FD8214M22U

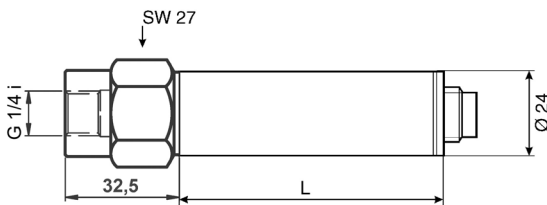
other measuring ranges on request



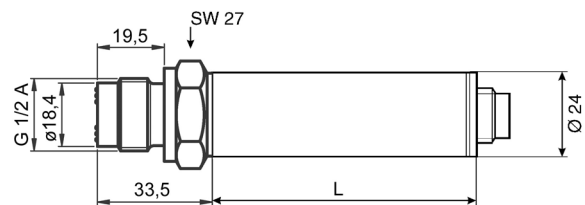
# Pressure

## Technical Data

Measuring cell:	piezo-resistive
Overload	Ranges 600 bar, i.e. 3 times the final value (minimum 3 bar, maximum 850 bar) Ranges >600 bar, 1500 bar
Output signal, power supply :	Standard 0 to 2 volts, feed 6.5 to 13 volts (from ALMEMO® device), current <4 mA Option : 0 to 10 volts, feed 15 to 30 volts, load >10 kilohms, current <4 mA Option : 0 to 20 mA, feed 9 to 33 volts, (>18 volts at load 500 ohms), current <25 mA Option : 4 to 20 mA, 2 conductors, feed 9 to 33 volts, (>20 volts at load 500 ohms), current <25 mA
Response time:	typical 1 ms / 10 to 90 % nominal pressure
Linearity:	Standard $\pm 0.25$ % of final value Option : $\pm 0.1$ % of final value for ranges 0.6 bar and up to 600 bar
Media temperature:	-25 to +100°C, temperature comp.: 0 to +70°C option: -25 to +100°C, temperature comp.: -25 to +85°C -25 to +150°C, temperature comp.: -25 to +85°C
Temperature drift:	Zero-point $<\pm 0.08$ % of final value / °C for ranges >0.5 bar span $<\pm 0.02$ % of final value / °C for all ranges
Nominal temperature:	22°C $\pm 2$ K, 10 to 90% rH non-condensing
Operating temperature:	Electronics: -25 to +85 °C
Material:	housing, pressure connector: special steel 1.4404, membrane: special steel 1.4435, seal: Viton.
Operat. environment/Sealing:	IP 67
Dimensions:	see drawing
Connecting threads:	Type 8214: internal thread G1/4", wrench SW 27 Option for absolute pressure: small flange KF16 Type 8214 M: external thread G1/2", wrench SW 27
Electrical connection	Flush-mounting connector, binder coupling 723, 5-pin
Weight:	approx.. 180 g



Type **FD 8214** standard version, inside membrane with internal thread G1/4"  
L = 45 mm (L = 72 mm with option of medium temperature up to 150 °C with cooling ribs)



Type **FD8214M** membrane flush with front (welded with end of thread), external thread G1/2" can be easily sterilized  
L = 45mm  
(L = 72 mm with option of medium temperature up to 150 °C with cooling ribs)

## Accessories

PTFE sealing tape, -200 to +260 °C, width 10 mm, thickness 0.1 mm, roll of 12 meters

Order no.

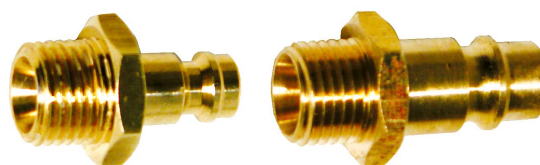
ZB9000TB

Quick-release coupling, nominal width 5, up to 35 bar  
Connection G1/4" external thread, brass

Order no.  
ZB8214N5

Quick-release coupling, nominal width 7.2, up to 35 bar  
Connection 1/4" external thread, brass

Order no.  
ZB8214N7



Quick-release coupling nominal width 5 external thread G1/4"

Quick-release coupling nominal width 7.2 external thread G1/4"