

## 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).

**New:** Measurement of pressure peaks and fast pressure changes or high resolution measurement with digital ALMEMO® D7 measuring plug, see page 10.03.

Options	Order no.	Order no.	Order no.
Linearity 0.1% (for ranges 1 bar to 600 bar)	OR8214G1	KF25	OR8214KF25
Substance temperature -25 to +100°C	OR8214T1	Food compliant version	
Substance temperature -25 to +150°C (version with cooling fins)	OR8214T2	with vegetable oil ASEOL Food	OR8214ML
Process connection, small flange (for FD8214xxA absolute pressure)		Throttle against excess pressure	OR8214DS
KF16	OR8214KF16	Output 0 to 10V	OR8214V
		Output 0 to 20mA	OR8214A
		Output 4 to 20mA	OR8214R4

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

Types	Order no.	Types	Order no.	Order no.
FD 8214:			internal membrane	front flush membrane
Standard version, inside membrane with G $\frac{1}{4}$ " internal thread. External thread G $\frac{1}{2}$ " available on request				
FD 8214 M:				
Membrane (welded with end of thread) flush with front, external thread G $\frac{1}{2}$ ", can be sterilised (important for food and pharmaceutical industry)				
	inside membrane	front flush membrane		
<b>Measuring ranges relative pressure:</b>		<b>Measuring ranges absolute pressure:</b>		
0 to 100 mbar	FD821401R	0 to 1 bar	FD821407A	FD8214M07A
0 to 160 mbar	FD821402R	0 to 1.6 bar	FD821408A	FD8214M08A
0 to 250 mbar	FD821403R	0 to 2.5 bar	FD821409A	FD8214M09A
0 to 400 mbar	FD821404R	0 to 4 bar	FD821410A	FD8214M10A
0 to 600 mbar	FD821405R	0 to 6 bar	FD821411A	FD8214M11A
0 to 800 mbar	FD821406R	0 to 10 bar	FD821412A	FD8214M12A
0 to 1 bar	FD821407R			
0 to 1.6 bar	FD821408R	<b>Measuring ranges overpressure:</b>		
0 to 2.5 bar	FD821409R	0 to 10 bar	FD821412U	FD8214M12U
0 to 4 bar	FD821410R	0 to 16 bar	FD821413U	FD8214M13U
0 to 6 bar	FD821411R	0 to 25 bar	FD821414U	FD8214M14U
0 to 10 bar	FD821412R	0 to 40 bar	FD821415U	FD8214M15U
		0 to 60 bar	FD821416U	FD8214M16U
		0 to 100 bar	FD821417U	FD8214M17U
		0 to 160 bar	FD821418U	FD8214M18U
		0 to 250 bar	FD821419U	FD8214M19U
		0 to 400 bar	FD821420U	FD8214M20U
		0 to 600 bar	FD821421U	FD8214M21U
		0 to 1000 bar	FD821422U	FD8214M22U
		other measuring ranges on request		

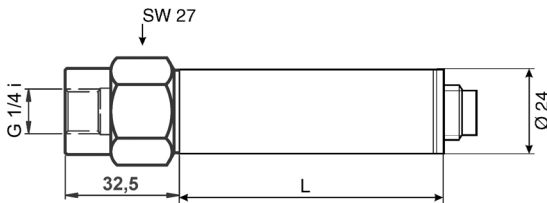
DAkS or factory calibration KD9xxx pressure for sensor or measuring chain (sensor + device) (see chapter Calibration certificates).  
DAkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

# Pressure

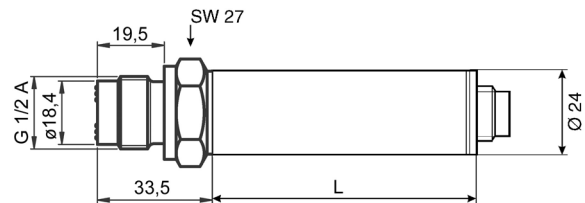
## Technical Data

Measuring cell:	piezo-resistive
Overload	Ranges 600 bar, i.e. 1.5 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, (>18 volts at load 500 ohms), current <25 mA
Response time:	<1.5 ms / 10 to 90 % nominal pressure
Linearity:	Standard $\pm 0.25$ % of final value Option : $\pm 0.1$ % of final value for ranges 1 bar and up to 600 bar
Media temperature:	0 to +80°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 $\leq \pm 0.04$ % of final value / °C for ranges >0.5 bar span $\leq \pm 0.02$ % of final value / °C for all ranges
Nominal temperature:	22°C $\pm 2$ K, 10 to 90% rH non-condensing
Material:	housing, pressure connector, membrane: special steel 1.4435
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 or KF21 Type 8214 M: external thread G1/2", wrench SW 27
Electrical connection	Flush-mounting connector, binder coupling 723, 5-pin
Weight:	approx.. 180 g

06/2018 • We reserve the right to make technical changes.



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

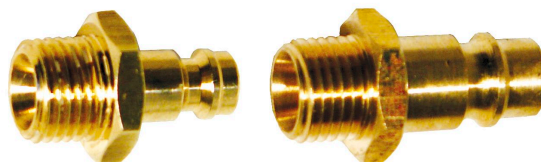
Quick-release coupling, nominal width 5, up to 35 bar  
Connection G1/4" external thread, brass

ZB8214N5

Order no.

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

ZB8214N7



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

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