

Pressure

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 219
 Digital sensor, can be calibrated without measuring device.
 High measured value resolution.

02/2024 • We reserve the right to make technical changes.

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

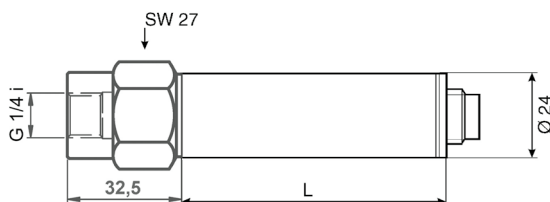
Accessories	Order no.	Order no.
Coupler socket with 2m cable and ALMEMO® connector	ZA8214AK	Coupler socket 6-pin Straight version
		Coupler socket 6-pin Angled version
		ZB9030RB
		ZB9030RBW

Types	Order no.	Types	Order no.
FD 8214:		internal membrane	
Standard version, inside membrane with G¼" internal thread.		front flush membrane	
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		
Measuring ranges relative pressure:	On request!	Measuring ranges absolute pressure:	On request!
100 mbar	FD821401R	Option: Process connection. small flange (see under Options)	
160 mbar	FD821402R	1 bar	FD821407A
250 mbar	FD821403R	1.6 bar	FD821408A
400 mbar	FD821404R	2.5 bar	FD821409A
600 mbar	FD821405R	4 bar	FD821410A
800 mbar	FD821406R	6 bar	FD821411A
1 bar	FD821407R	10 bar	FD821412A
1.6 bar	FD821408R	Measuring ranges overpressure:	On request!
2.5 bar	FD821409R	10 bar	FD821412U
4 bar	FD821410R	16 bar	FD821413U
6 bar	FD821411R	25 bar	FD821414U
10 bar	FD821412R	40 bar	FD821415U
		60 bar	FD821416U
		100 bar	FD821417U
		160 bar	FD821418U
		250 bar	FD821419U
		400 bar	FD821420U
		600 bar	FD821421U
		1000 bar	FD821422U
		other measuring ranges on request	

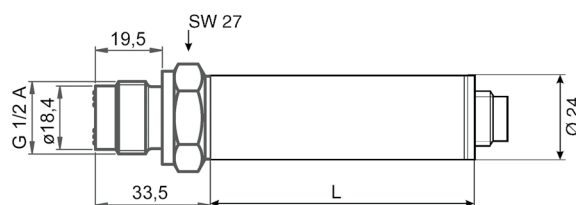
DAkkS or factory calibration KD9xxx pressure for sensor or measuring chain (sensor + device), see chapter „Calibration certificates“. DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

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 ±0.25 % of final value Option : ±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 <±0.08 % of final value / °C for ranges >0.5 bar span <±0.02 % of final value / °C for all ranges
Nominal temperature:	22°C ±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)



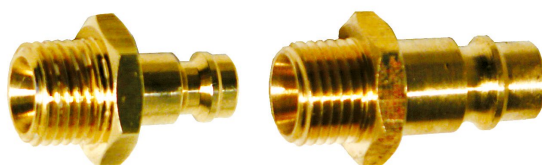
Type **FD8214M** membrane flush with front (welded with end of thread), external thread G1/2" can be easily sterilized
L = 45mm
(L = 72 mm with option of medium temperature up to 150 °C with cooling ribs)

Accessories

Accessories	Order no.
PTFE sealing tape, -200 to +260 °C, width 10 mm, thickness 0.1 mm, roll of 12 meters	ZB9000TB
Quick-release coupling, nominal width 5, up to 35 bar Connection G1/4" external thread, brass	ZB8214N5

Accessories	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"