

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.
- 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).



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.

Options	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		with vegetable oil ASEOL Food	OR8214ML
(version with cooling fins)	OR8214T2	Throttle against excess pressure	OR8214DS
Process connection, small flange		Output 0 to 10V	OR8214V
(for FD8214xxA absolute pressure)		Output 0 to 20mA	OR8214A
KF16	OR8214KF16	Output 4 to 20mA	OR8214R4

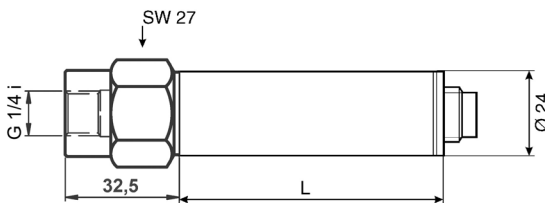
Accessories	Order no.		Order no.
Coupler socket with 2m cable and ALMEMO® connector	ZA8214AK	Coupler socket 6-pin Straight version	ZB9030RB
		Coupler socket 6-pin Angled version	ZB9030RBW

Types	Order no.	Types	Order no.
FD 8214:			
Standard version with G1/4" internal thread			
Other threads available on request			
FD 8214 M:			
Membrane (welded with end of thread) flush with front, external thread G1/2", can be sterilised (important for food and pharmaceutical industry)			
Other threads available on request			
	G1/4" internal thread G1/2" external thread		G1/4" internal thread G1/2" external thread
Measuring ranges relative pressure:		Measuring ranges absolute pressure:	
0 to 100 mbar	FD821401R	FD8214M01R	
0 to 160 mbar	FD821402R	FD8214M02R	
0 to 250 mbar	FD821403R	FD8214M03R	
0 to 400 mbar	FD821404R	FD8214M04R	
0 to 600 mbar	FD821405R	FD8214M05R	
0 to 800 mbar	FD821406R	FD8214M06R	
0 to 1 bar	FD821407R	FD8214M07R	
0 to 1.6 bar	FD821408R	FD8214M08R	
0 to 2.5 bar	FD821409R	FD8214M09R	
0 to 4 bar	FD821410R	FD8214M10R	
0 to 6 bar	FD821411R	FD8214M11R	
0 to 10 bar	FD821412R	FD8214M12R	
		Measuring ranges overpressure:	
		0 to 10 bar	FD821412U
		0 to 16 bar	FD821413U
		0 to 25 bar	FD821414U
		0 to 40 bar	FD821415U
		0 to 60 bar	FD821416U
		0 to 100 bar	FD821417U
		0 to 160 bar	FD821418U
		0 to 250 bar	FD821419U
		0 to 400 bar	FD821420U
		0 to 600 bar	FD821421U
		0 to 1000 bar	FD821422U
		other measuring ranges on request	

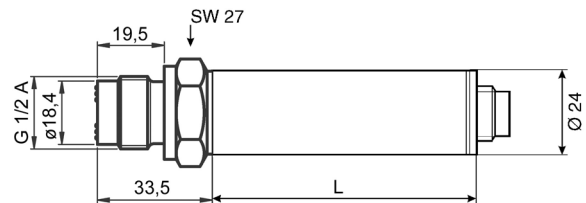
DAkkS or factory calibration KD9xxx pressure for sensor or measuring chain (sensor + device) (see chapter Calibration certificates).
DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

Technical Data

Measuring cell:	piezo-resistive
Overload	Ranges 600 bar, i.e. 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 ± 0.25 % of final value Option : ± 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 ± 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 Other threads are available on request
Electrical connection	Flush-mounting connector, binder coupling 723, 5-pin
Weight:	approx.. 180 g



Type **FD 8214** standard version 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), internal 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	Order no.	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	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"