


# PRESSURE

## Temperature-Compensated Pressure Sensors Type FD8214



- ▶ 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.

### Option:

Linearity 0.1%	Order No. OR8214G1
Linearity 0.25%	Order No. OR8214G
Substance temperature -25 to +100°C	Order No. OR8214T1
Substance temperature -25 to +150°C (version with cooling fins)	Order No. OR8214T2
Food compliant version with vegetable oil ASEOL Food HF 16-684	Order No. OR8214ML
Throttle against excess pressure	Order No. OR8214DS
Output 0 to 10V	Order No. OR8214V
Output 0 to 20mA	Order No. OR8214A

### Types:

FD 8214:  
Standard version with G $\frac{1}{4}$ " internal thread  
Other threads 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)  
Other threads available on request

### Measuring ranges relative pressure:

0 to 100 mbar	<b>Order No. FD8214(M)01R</b>
0 to 160 mbar	<b>Order No. FD8214(M)02R</b>
0 to 250 mbar	<b>Order No. FD8214(M)03R</b>
0 to 400 mbar	<b>Order No. FD8214(M)04R</b>
0 to 600 mbar	<b>Order No. FD8214(M)05R</b>
0 to 800 mbar	<b>Order No. FD8214(M)06R</b>
0 to 1 bar	<b>Order No. FD8214(M)07R</b>
0 to 1.6 bar	<b>Order No. FD8214(M)08R</b>
0 to 2.5 bar	<b>Order No. FD8214(M)09R</b>
0 to 4 bar	<b>Order No. FD8214(M)10R</b>
0 to 6 bar	<b>Order No. FD8214(M)11R</b>
0 to 10 bar	<b>Order No. FD8214(M)12R</b>

### Measuring ranges absolute pressure:

0 to 1 bar	<b>Order No. FD8214(M)07A</b>
0 to 1.6 bar	<b>Order No. FD8214(M)08A</b>
0 to 2.5 bar	<b>Order No. FD8214(M)09A</b>
0 to 4 bar	<b>Order No. FD8214(M)10A</b>
0 to 6 bar	<b>Order No. FD8214(M)11A</b>
0 to 10 bar	<b>Order No. FD8214(M)12A</b>

### Measuring ranges overpressure:

0 to 10 bar	<b>Order No. FD8214(M)12U</b>
0 to 16 bar	<b>Order No. FD8214(M)13U</b>
0 to 25 bar	<b>Order No. FD8214(M)14U</b>
0 to 40 bar	<b>Order No. FD8214(M)15U</b>
0 to 60 bar	<b>Order No. FD8214(M)16U</b>
0 to 100 bar	<b>Order No. FD8214(M)17U</b>
0 to 160 bar	<b>Order No. FD8214(M)18U</b>
0 to 250 bar	<b>Order No. FD8214(M)19U</b>
0 to 400 bar	<b>Order No. FD8214(M)20U</b>
0 to 600 bar	<b>Order No. FD8214(M)21U</b>
0 to 1000 bar	<b>Order No. FD8214(M)22U</b>

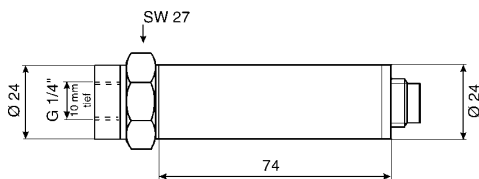
other measuring ranges on request

### Accessories:

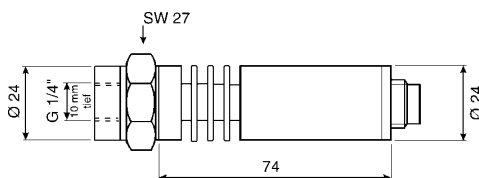
Coupler socket with 2m cable and ALMEMO® connector	Order No. ZA8214AK
Longer cable, Please specify length (L)	Order No. ZB8214K(L)
Coupler socket 6-pin Straight version	Order No. ZB9030RB
Coupler socket 6-pin Angled version	Order No. ZB9030RBW

## Technical Data:

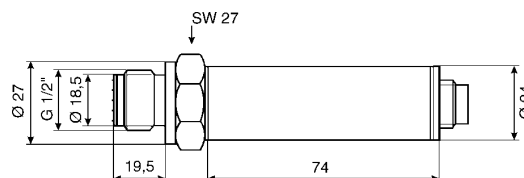
Max. permissible excess pressure:	ranges < 400 bar: the 1.5-fold of the final value ranges > 400 bar: the 1.3-fold of the final value
Output signal:	0 to 2V ALMEMO® standard, power supply through device (optional: 0 to 10V or 0 to 20mA)
Response time:	<2ms
Linearity:	±0.5% of final value (opt.: ±0.25% of fin. val. or ±0.1% of fin. val.)
Hysteresis:	±0.1%
Temperature of test substance:	standard: 0 to +80°C, temperature compensation: 0 to 70°C optional: -25 to +100°C, temperature compensation: -25 to +85°C -25 to +150°C, temperature compensation: -25 to +85°C
Temperature drift:	zero point: <0.015%/°C, steepness: <0.015%/°C
Nominal conditions:	22°C ±2K, 10 to 90% rH non-condensing
Power supply:	8 to 24VDC, consumption <4mA
Material:	housing <25 bar special steel 1.4301, >25 bar special steel 1.4571 pressure transducer membrane special steel 1.4435
Protection system:	IP 65
Dimensions:	FD 8214: 24mm Ø, L = 82mm, FD 8214 M: 24mm Ø, L = 95mm, thread reach 19.5mm
Connecting thread:	FD 8214: internal thread G <sup>1</sup> / <sub>4</sub> " , jaw size/wrench span width SW 27 (SW27) FD 8214 M: external thread G <sup>1</sup> / <sub>2</sub> " , jaw size/wrench span width SW 27 (SW27) Other threads available on request
Weight:	approx. 180g
Option electr. output 0–10V:	power supply 18–33VDC, burden (load) >10kΩ
Option electr. output 0–20mA:	power supply 18–33VDC, burden (load) <250Ω, current consumption 25mA



Standard Version FD8214...



Option: Version with Cooling Fins OR8214T...



Version with Flush With Front Membrane FD8214M...