



- continuous level measurement through hydrostatic pressure
- without moving parts for adhesive or viscous media
- application-specific designs
- thread G1A

**Standard**

HR-027111  
HR-027121  
HR-027112

**Variations**

see opposite code

**Function principle**

The pressure sensor is using a piezoresistive measurement cell. The hydrostatic pressure of the medium is transmitted to the measurement cell by a stainless steel membrane. The deformation of the measurement cell results in a resistance change which is detected by an electronic device. With PLM output the transducer generates pulse length modulated current impulses. Those pulses are transmitted via a 2-wire-lead to a suitable signal conditioner. This signal conditioner decodes the PLM-signal and generates a current signal proportional to the level.

**Hydrostatic pressure sensor**

HR-027□□□

**Electrical output**

4 ... 20 mA  
PLM

HR-□□□1□□  
HR-□□□2□□

**Measuring range**

0 ... 250 mbar  
0 ... 600 mbar  
0 ... 1600 mbar  
0 ... 4 bar  
0 ... 10 bar

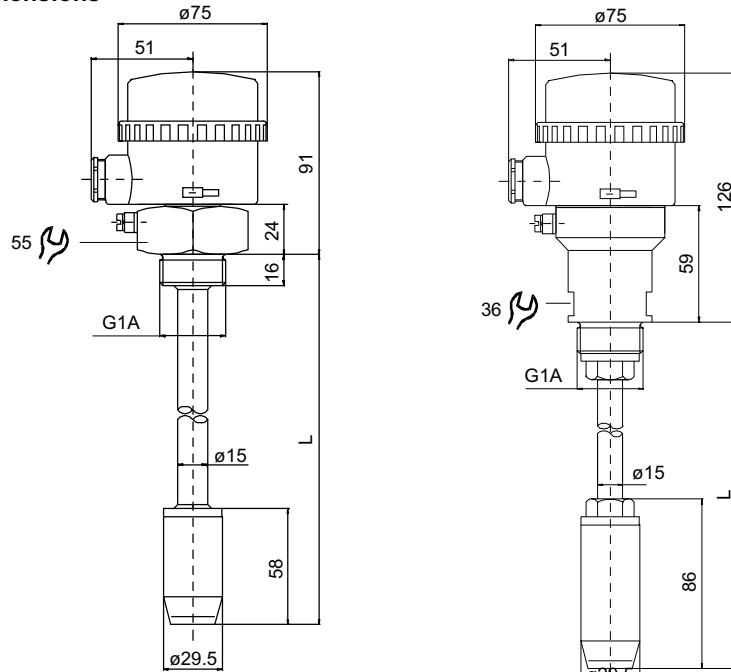
HR-□□□□1□  
HR-□□□□2□  
HR-□□□□3□  
HR-□□□□4□  
HR-□□□□5□

**Version**

Externally mounted  
Rod  
Suspension (stainless steel tube)

HR-□□□□□1  
HR-□□□□□2  
HR-□□□□□3

**Dimensions**



Rod type

Suspension type

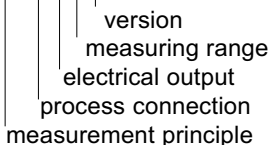
Externally mounted type



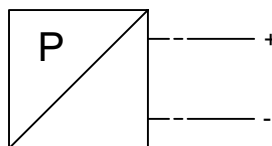
Please specify the length (L) of the rod resp. the suspension cable when ordering.

**Types**

HR-027□□□



**Connection**



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<b>Technical data</b>																			
<b>Measuring ranges</b>	Independently of the version and the electrical output, the pressure sensors have to be ordered for different levels with different piezoresistive load cells.																		
HR-027□1□ HR-027□2□ HR-027□3□ HR-027□4□ HR-027□5□	<table border="1"> <thead> <tr> <th>Measuring ranges</th> <th>max. allowed over-pressure</th> <th>min. measuring ranges</th> </tr> </thead> <tbody> <tr> <td>0...250 mbar</td> <td>2 bar</td> <td>0...50 mbar</td> </tr> <tr> <td>0...600 mbar</td> <td>6 bar</td> <td>0...120 mbar</td> </tr> <tr> <td>0...1600 mbar</td> <td>10 bar</td> <td>0...0.6 bar</td> </tr> <tr> <td>0...4 bar</td> <td>16 bar</td> <td>0...1.6 bar</td> </tr> <tr> <td>0...10 bar</td> <td>30 bar</td> <td>0...4 bar</td> </tr> </tbody> </table>	Measuring ranges	max. allowed over-pressure	min. measuring ranges	0...250 mbar	2 bar	0...50 mbar	0...600 mbar	6 bar	0...120 mbar	0...1600 mbar	10 bar	0...0.6 bar	0...4 bar	16 bar	0...1.6 bar	0...10 bar	30 bar	0...4 bar
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<b>Accuracy</b> Linearity Temperature	typical $\pm 0.15\%$ max. $\pm 0.3\%$ from the full scale < 0.3% from the full scale / 10 K																		
<b>Supply</b>	with DC 12 ... 30 V from a supply, e.g. PLC resp. by a suitable signal conditioner (PLM - version)																		
<b>Electrical output</b>	2-wire 4 ... 20 mA (load influence < 0.1% full scale reading) or PLM - current impulses																		
<b>Environmental conditions</b> Temperature	-25 °C ... +70 °C (248 K ... 343 K)																		
<b>Process conditions</b> Medium temperature with heat insulation tube HR-910900	-25 °C ... +85 °C (248 K ... 358 K) -25 °C ... +110 °C (248 K ... 383 K)																		
<b>Housing material</b> Terminal box	PBT																		
<b>Process connection</b> Thread Membrane Membrane seal Cable	G1A, stainless steel 316 Ti / 320 S 18 Stainless steel 316 / 316 S 16 Viton PTFE (stainless steel tube 304 / 304 S 15)																		
<b>Protection class acc. to DIN 40 050</b>	IP 54																		
<b>Accessories</b> HR-910900	Heat insulation tube																		
<b>Compensation of the measuring range</b>	the hydrostatic pressure sensor has to be compensated after mounting																		

A measuring system consists out of:

- a hydrostatic pressure sensor HR-0271□□ with direct output 4 ... 20 mA in 2-wire-technique, e.g. for PLC connection, display DA4-B8L or transmitter repeater units KF□□ - ST□3
- a hydrostatic pressure sensor HR-0272□□ with signal conditioner KFU8-PWC

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