

Radio Pressure Transmitter RF1-P



- Pressure sensor with integrated radio interface for the HONSBERG RF1 system
- Flush stainless steel membrane or ceramic cell (Al_2O_3)
- Energy-saving battery operation
- Ingress protection IP 67
- Robust stainless steel housing
- Operation without registration or fees (ISM band 868 MHz)

Characteristics

The RF1-P pressure transmitter measures pressures in fluids and gases. The measured value is polled using a radio connection. If set limit values are exceeded, this can be actively notified by the sensor. To operate one or more sensors, at least one send/receive station (access point RF1-ETH or RF1-USB) is required.

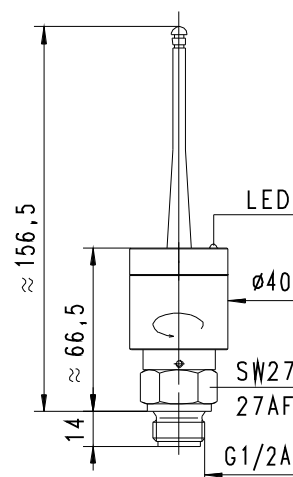
A sensor with a flush-front stainless steel membrane is used as the transformer. The stainless steel membrane transmits the applied pressure via an oil filling to a mono-silicon membrane with a sputtered piezo-resistant measuring bridge made from polysilicon. Because the membrane fits flush, there is a minimal risk of contamination. The robust full metal construction makes the sensors suitable for universal industrial use.

Technical data

Sensor	thin film pressure measurement bridge on silicon membrane																				
Process connection	male thread G 1/2 A																				
Metering ranges	(relative pressure, differential pressure compared with environment) in bar <table> <tr> <th>Range</th><th>Overload pressure</th></tr> <tr><td>0.. 1.0</td><td>4</td></tr> <tr><td>0.. 2.5</td><td>10</td></tr> <tr><td>0.. 6.0</td><td>24</td></tr> <tr><td>0.. 10.0</td><td>40</td></tr> <tr><td>0.. 25.0</td><td>100</td></tr> <tr><td>0.. 60.0</td><td>240</td></tr> <tr><td>0..100.0</td><td>400</td></tr> <tr><td>0..250.0</td><td>600</td></tr> <tr><td>0..400.0</td><td>600</td></tr> </table> other metering ranges, absolute pressure measurement (not less than 10 mbar abs.) available on request	Range	Overload pressure	0.. 1.0	4	0.. 2.5	10	0.. 6.0	24	0.. 10.0	40	0.. 25.0	100	0.. 60.0	240	0..100.0	400	0..250.0	600	0..400.0	600
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0..400.0	600																				
Measurement accuracy	±1 % of full scale value from 60 °C plus 0.02 %/K																				
Repeatability	±0.5 % of full scale value																				
Pressure	corresponds to metering range																				

resistance	
Media temperature	-20..+70 °C (with gooseneck option max. 100 °C)
Ambient temperature	-20..+70 °C
Storage temperature	-20..+80 °C
Media	fluids and gases
Materials medium-contact	1.4301
Materials, non-medium-contact	CW614N, PP, NBR
Voltage supply	lithium battery 1/2 AA 3.6 V (e.g. Tadiran SL-750/S)
Battery life	depends on parameter settings, generally > 1 year
Radio frequency	868.9 MHz; < 10 mW (ISM band, no registration or fees)
Vibration resistance	max. 20 g
Ingress protection	IP 67
Conformity	CE (FTEG and directive 1999 / 5 / EC)

Dimensions



Product Information

Handling and Operation

Installation

The protective plastic cap is to be removed from the pressure membrane. Attention! The pressure membrane is very sensitive; a deformed membrane has a negative effect on the accuracy or causes damage to the sensor.

The pressure sensors are screwed into a nozzle or a T-piece in the pipework, using a suitable sealing material (e.g. Klingerit). The installation of the pressure sensor should result in no significant reduction of the cross-section of the pipework. When tightening the pressure sensor, use only the hexagonal spanner (SW27) specifically provided.

Avoid installation locations with high pressure surges (see overload limits).

In the high temperature model with flexible gooseneck, the pressure transducer can be operated up to a media temperature of 100 °C.

Changing battery

The sensor's battery can be changed by the user himself. For this, unscrew the lid of the housing. Take care when removing the lid: Do not tear off the wiring! Remove the battery from the battery holder, and replace it with a suitable battery (3.6 V type C, e.g. Tadiran Lithium SL-750/S).

Programming

All parameters, e.g. the setting of limit values, are programmed via the radio interface. The RF1-Control software is available for this purpose. Alternatively, software modules provided by HONSBERG can be integrated into the customer's own applications; these allow the use of the whole range of functionality.

Ordering code

RF1-P - 1. 2. 3. 4. 5. 6.

○ = Option

1. Metering range	
001	0.. 1.0 bar
002	0.. 2.5 bar
006	0.. 6.0 bar
010	0.. 10.0 bar
025	0.. 25.0 bar
060	0.. 60.0 bar
100	0.. 100.0 bar
250	○ 0.. 250.0 bar
400	○ 0.. 400.0 bar
2. Pressure type	
R	relative pressure
A	absolute pressure
3. Connection material	
K	stainless steel
4. Connection size	
015	male thread G 1/2 A
5. Voltage Supply	
S	external for round plug connector M12x1, 4-pole
B	internal battery
6. Option	
H	○ model with gooseneck

Accessories

- Ethernet Access Point RF1-ETH
- USB Access Point RF1-USB
- Software RF1 Control
- Battery pack with round plug connector RF1-BAT