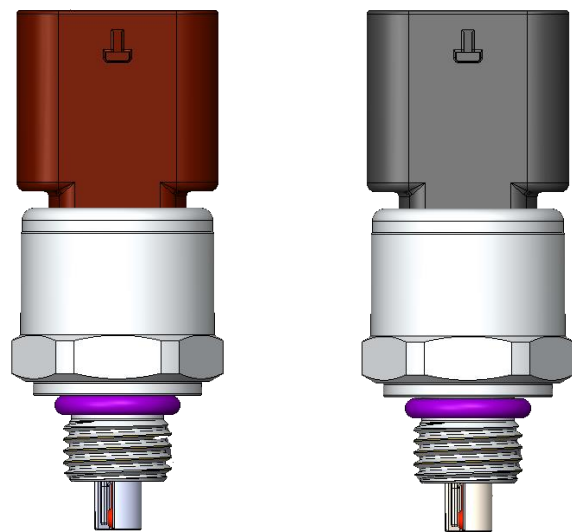




Mounting instructions
Pressure and Temperature sensor
HIGH SIDE/LOW SIDE

EN



Index

1. Safety instructions	3
2. Intended use	3
Field of use	3
3. Assembly	4
4. Electrical connection.....	4
5. Drawing	6
6. Technical data	7

1. Safety instructions

- Before operating the sensor, read this manual. To make sure that the product is suitable, without limitation, for the applications in question.
- Failure to follow the instructions for use or the technical data can cause damage materials and / or people.
- Check the compatibility of the product materials in all applications (see Technical data) with the fluids to be measured.

2. Intended use

The pressure sensor detects the system pressure and turns it into a signal analog output.

- 0 ... 5 V

The temperature sensor detects the system temperature and turns it into a signal analog output.

- 333,562 kΩ ... 184Ω

Field of use

- Type of pressure: absolute pressure

Art. Code	Measuring range		Over pressure ⁽¹⁾		Burst pressure ⁽²⁾	
	bar	PSI	bar	PSI	bar	PSI
Low Side	0...10,859	0...157,496	30	435	85	1233
High Side	0,599...37,266	8,688...540,498	45	653	85	1233

$$\text{MPa} = \text{bar} \div 10 / \text{kPa} = \text{bar} \times 100$$

- (1) Overpressure: The absolute maximum rating for pressure which may be safely applied to the product for it to remain in specification once pressure is returned to the operating pressure range. Exposure to higher pressure may cause permanent damage to the product.
- (2) Burst Pressure: The maximum pressure that may be applied to the product without causing escape of the pressure media. The product should not be expected to function after exposure to any pressure beyond the rated burst pressure. This rating is also the case burst rating of the product.



Appropriate measures must be taken to avoid static and dynamic overpressures above the indicated overload pressure.

The indicated burst pressure must not be exceeded.

The sensor can be destroyed even if the burst pressure value is exceeded for a short time. ATTENTION: risk of injury!

3. Assembly



Before assembling and disassembling the sensor, make sure that the system is depressurized.

- ▶ Use the sensor in a M12x1,25 process connection.
- ▶ Tighten the sensor. Recommended tightening torque range: 5,5...12 Nm.

4. Electrical connection



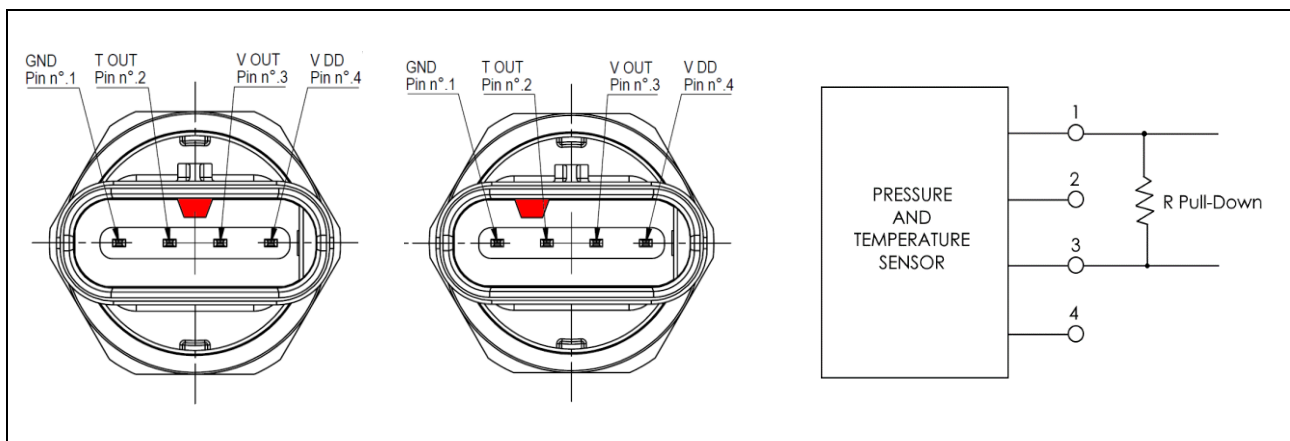
The sensor should only be installed by an electronic technician.

National and international installation regulations must be observed.

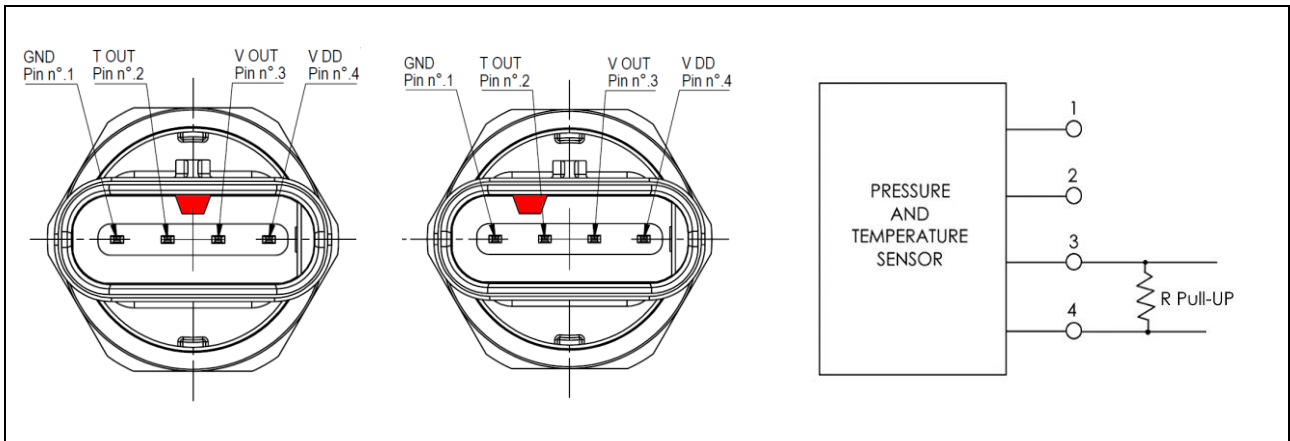
Supply voltage according to the technical sheet.

- ▶ Disconnect the voltage from the system.
- ▶ Connect the sensor as shown below:

High Side/Low Side (Analog output 0...5 V – **Pressure Signal**) – PULL DOWN configuration



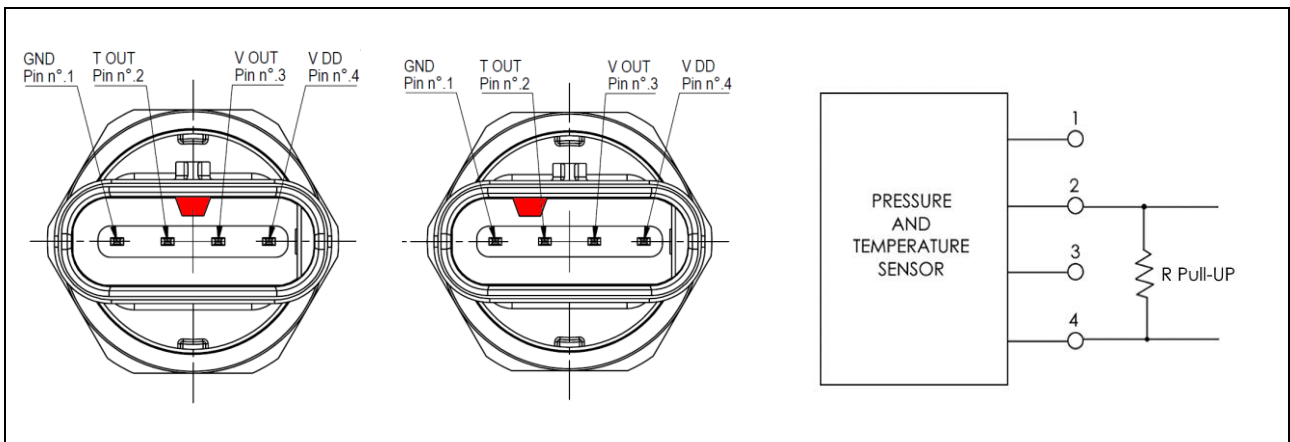
High Side/Low Side (Analog output 0...5 V – **Pressure Signal**) – PULL UP configuration



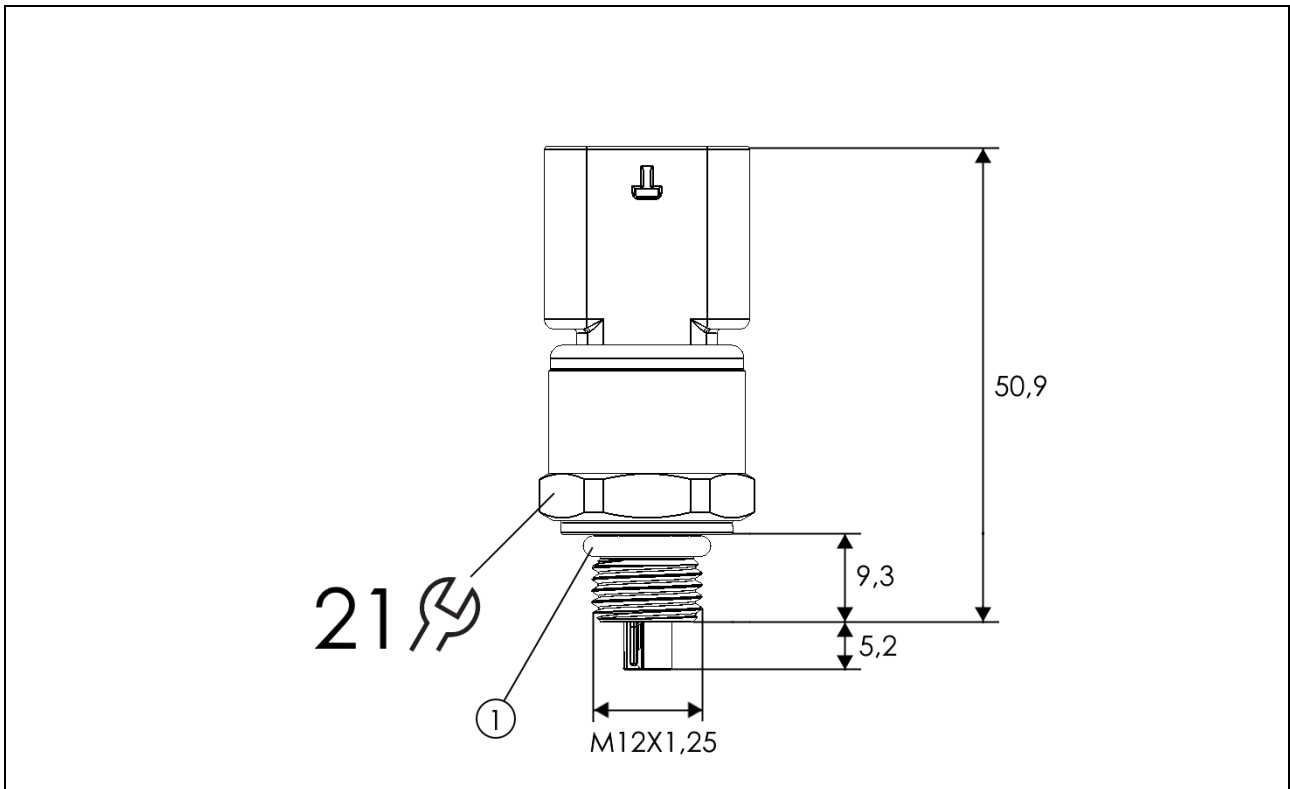
! For R Pull-Down & R Pull-UP values see the table in chap 6. Technical data in the row Output load (Pressure signal)

EN

High Side/Low Side (Analog output 333,562 kΩ ... 184Ω - **Temperature Signal**) - PULL UP configuration ONLY



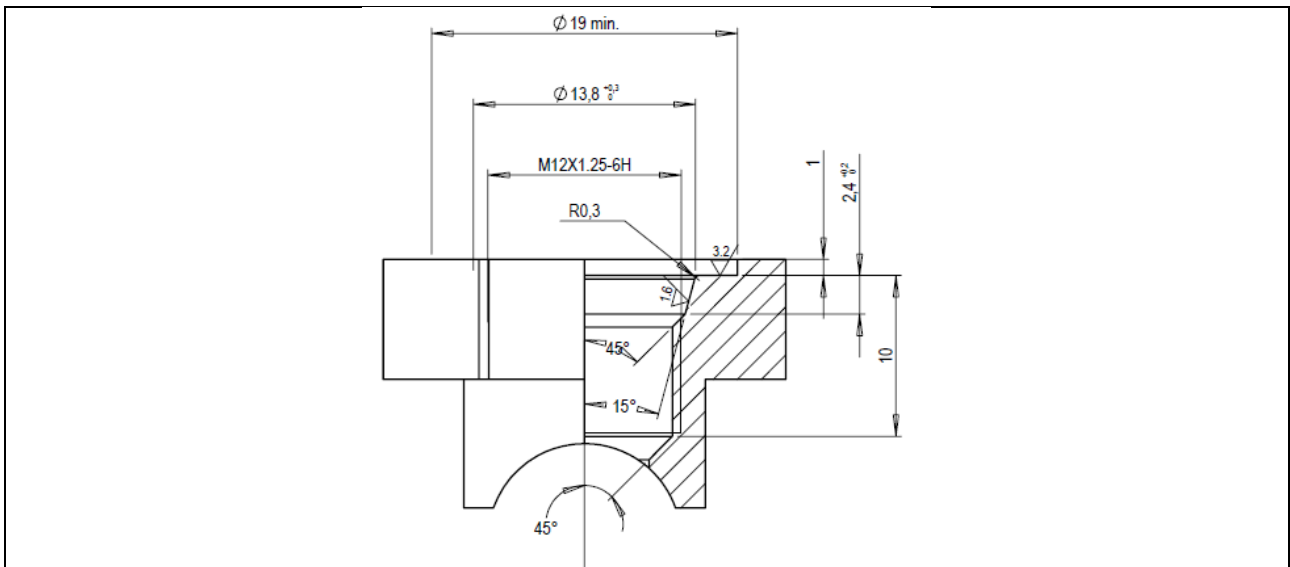
5. Drawings



Dimensions in mm

1: O-Ring 9.4X2.1 → we recommend use of synthetic polyol ester (POE) lubricant

we recommended transducer seat:



Dimensions in mm

6. Technical data

GENERAL FEATURES		
	LOW SIDE	HIGH SIDE
Over pressure ⁽¹⁾	30 bar abs	45 bar abs
Burst pressure ⁽²⁾	85 bar abs	85 bar abs
Pressure connection	M12 x 1,25 (Male)	
Pressure connection materials	Aluminum	
Electrical connection	120-S-004-1 (Key Option G)	120-S-004-1 (Key Option F)
Electrical connection material	PPS GF40 – NATURAL (BROWN)	PPS GF40 - BLACK
ELECTRICAL FEATURES		
Power supply (Vdd)	5 Vdc ± 10%	
Supply current (Idd)	15mA max	
Output voltage (Vout)	5% Vdd to 95% Vdd	7% Vdd to 95% Vdd
Output load (Pressure signal)	≥ 7,5KΩ Pull UP or Pull DOWN	
Output response time	< 10ms (typical)	
Overvoltage protection	+18 Vdc	
Reverse voltage protection	-14 Vdc	
Short circuit protected	Yes	
TEMPERATURE SENSOR		
R (25°C)	10KΩ	
B25/85°C	3977K ± 0,75%	
NTC response time	< 2,4 s typical (0 to 63,2%)	
Output load (Temperature signal)	5,9KΩ Pull UP – Reference value	

PERFORMANCE FEATURES	
Operating temperature range	-25°C to 120°C
Storage temperature range	-40°C to 150°C
Accuracy (Linearity, Hysteresis, Repeatability, Calibration. Static error band @25°C)	± 0,9% Vdd
Total error band ⁽³⁾ (Over Operating Temperature range)	± 3,5% Vdd (-25...120°C)
IP Code	IP67
Fluids compatibility	Compressor oil either PAG or POE, R134a and/or 1234yf refrigerants
Vacuum pressure (referred to refrigerant circuit)	0 bar (abs)

EN

- (3) Overpressure: The absolute maximum rating for pressure which may be safely applied to the product for it to remain in specification once pressure is returned to the operating pressure range. Exposure to higher pressure may cause permanent damage to the product.
- (4) Burst Pressure: The maximum pressure that may be applied to the product without causing escape of the pressure media. The product should not be expected to function after exposure to any pressure beyond the rated burst pressure. This rating is also the case burst rating of the product.
- (5) Total Error Band: The maximum deviation from the ideal transfer function over the entire compensated temperature and pressure range. Includes all errors due to offset, pressure non-linearity, pressure hysteresis, repeatability, thermal effect on offset, and thermal hysteresis. See Figure 1.

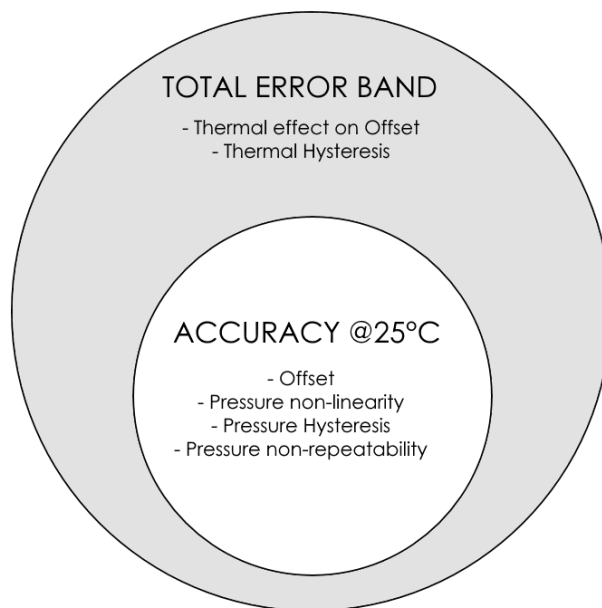


Figure 1.