

# Piezoelectric Miniature Pressure Sensor

- ✓ Miniature Design
- ✓ Pressure range up to 500 bar (7250 psi)
- ✓ High temperature stability up to 400°C (750°F)
- ✓ Virtually constant sensitivity over the entire lifetime

R&D measurements in modern, highly integrated and compact apparatus are among the most challenging applications for sensors. The mechanical integration is the bottleneck for many available sensors due to the size. Adverse physical influences such as temperature, heat flux or mechanical stresses are subject to great variation due to experimental character of R&D. The T-Series is developed for these complex conditions which is reflected in its miniature housing and design features.

The T-Series is a new generation of sensors which incorporates the Piezocryst technology portfolio in the smallest package so far. With the robustness of the S-Series, only 3.5 mm mounting diameter and the exceptional signal quality of GaPO<sub>4</sub> crystal elements, the sensors of the T-series allow to study previously not accessible components. The sensors endure high temperature and pressure gradients and still produce a reliable, stable output.



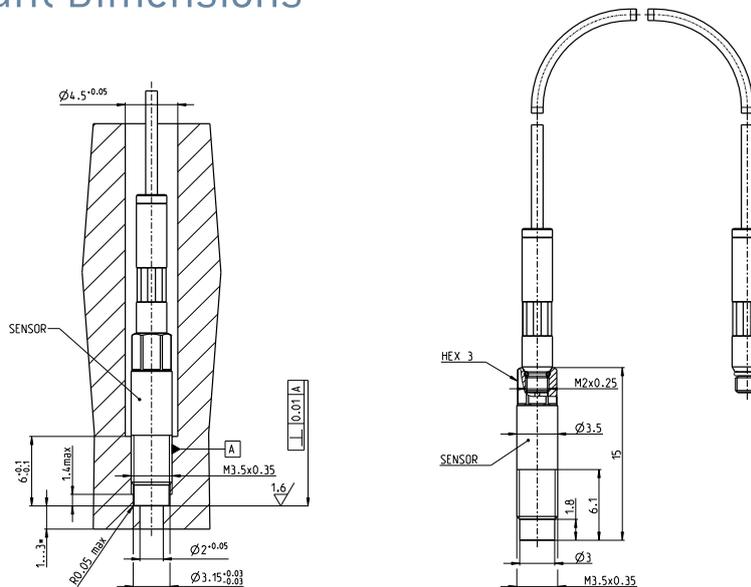
# Specifications

Name	T1-A1	T1-K1*
<b>Operating principle</b>	Piezoelectric based on GaPO <sub>4</sub> (gallium phosphate) sensing elements, charge output	
<b>Dynamic measuring range</b>	0 ... 300 bar (0 ... 4350 psi)	0 ... 500 bar (0 ... 7250 psi)
<b>Overload pressure</b>	350 bar (5075 psi)	550 bar (8000 psi)
<b>Sensitivity (nominal)</b>	5.3 pC/bar (0.37 pC/psi)	
<b>Linearity</b>	≤ ± 0.5% FSO	
<b>Operating temperature (continuous)</b>	-55°C ... +400°C (-67°F ... +750°F)	-55°C ... +120°C (-67°F ... +250°F)
<b>Internal insulation resistance</b>	> 10 <sup>13</sup> Ω (25°C / 77°F), > 10 <sup>9</sup> Ω (400°C / 750°F)	
<b>Shock resistance</b>	> 2000 g	
<b>Natural Frequency</b>	170 kHz	
<b>Capacitance (nominal)</b>	3.5 pF pole/ground	
<b>Mounting torque</b>	0.5 Nm	
<b>Scope of Supply</b>		
Sensor	✓	
Cable	1m Teflon™ cable M2x0.25 to M2x0.25 incl. BNC coupling	
Accessory kit	Protection cap and 2 spare o-rings	
Test record, Documentation	✓	
<b>Accessories</b>		
Cables	1 ... 5m Teflon™ coated cable with M2x0.25 connector	
Machining tool	Step drill, tap drill	
Mounting tools	Socket to mount sensor with attached cable in bore, torque wrench, cable mounting tool	

\* Preliminary values

Piezocryst reserves the right to change specifications and accessories without notice.

## Sensor & Mount Dimensions



All dimensions are in mm.

## Customer support

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