

Piezotron® Quartz Pressure Sensor for Engine Diagnostics

Type 7613C

Industrial sensor for measuring cylinder pressures in internal combustion engines. Sensor and cable together form an oil- and splash-proof unit.

Suitable for long-time measurements and arduous duties. Impedance converter with low impedance voltage output.

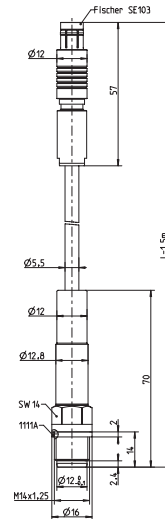
- Viton® cable, rugged
- Linearity excellent

Description

The use of polystable quartz elements assures security from twinning even under high mechanical stressing. As a result, the sensitivity remains largely constant between -50 ... 350 °C.

Application

Measuring in combustion chambers under severe conditions of fouling, moisture etc. Special design makes the sensor largely insensitive to combustion residues, and therefore suitable for arduous duties as well as longtime measurements.



Technical Data

Range	bar	0 ... 250
Overload	bar	300
Sensitivity	mV/bar	-20
Natural frequency	kHz	≈70
Linearity, all ranges	%FSO	≤±0,5
Acceleration sensitivity		
axial	bar/g	<0,002
transverse	bar/g	<0,001
Operating temperature range		
Front part of sensor	°C	-50 ... 350
Hex-nut to connector	°C	-50 ... 150
Electronics in plug	°C	-50 ... 90
Sensitivity shift		
200 ... ±150 °C	%	≤±3
200±50 °C	%	≈1
Thermal shock		
at 1 500 1/min, IMEP = 9 bar		
Δp	bar	≤±0,3
ΔIMEP	%	≤±2
Supply current	mA	4
Output bias	VDC	9 ... 14
Time constant at 20 °C	s	1 800
Output impedance	Ω	<100
Shock resistance	g	2 000
Tightening torque	N·m	25
Weight	g	160
Plug	Type	Fischer SE 103 pos.

Mounting

Can be fitted without adapter into an indicator hole (ø18 mm, thread M14x1,25). Due to its low impedance voltage output the sensor is insensitive to interferences and can be used with economical electronics.

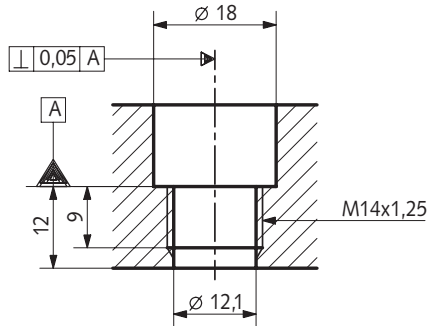


Fig. 1: Fitted into combustion chamber with hole ø18 mm, seal Type 1111A, diaphragm flush mounted with the combustion chamber

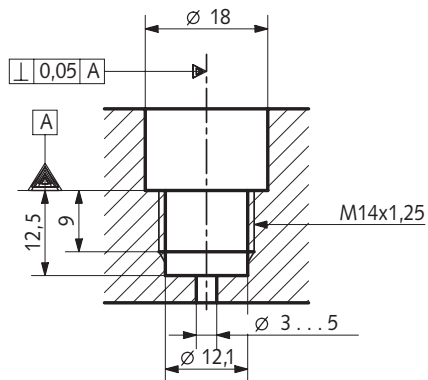


Fig. 2: As fig.1, with set-back diaphragm

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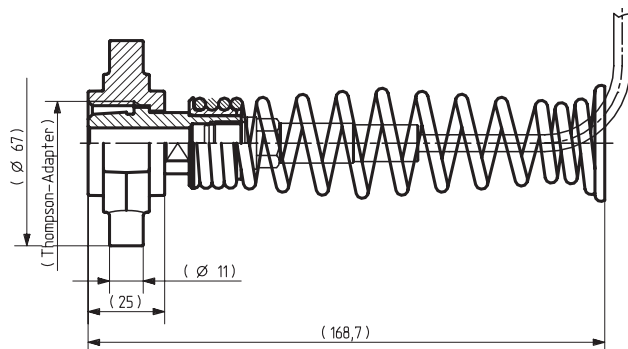


Fig. 3: Fitted in Thompson adapter Type 7513A on indicator valve

Accessories

- | | |
|--|------------|
| • Nickel seal | Type 1111A |
| • Thompson adapter | 7513A |
| • Connecting cable Fischer KE103 neg. – BNC pos. | 1673A2/A5 |
| • Engine Peak Meter | 2516A... |

Mounting Accessories

- | | |
|--|--------------|
| • Torque wrench 8 ... 40 N·m | Type 1300A11 |
| • Fork wrench hex. 18 mm for torque wrench | 1300A15 |
| • Tubular socket wrench hex. 14 mm for ø18 mm fitting hole | 1377 |
| • Special key for Thompson adapter 7513A | 1300A1 |

Ordering Key

Type 7613C	
Pressure sensor	-
Pressure sensor mounted in Thompson adapter Type 7513A	A

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