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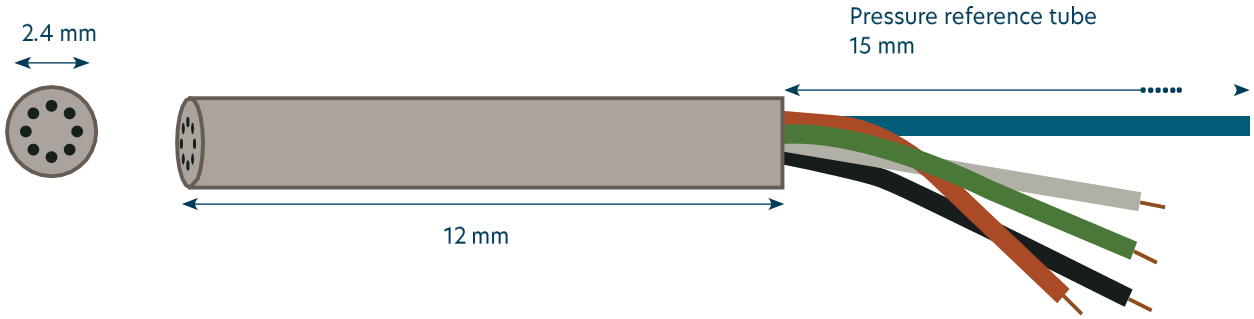
MP-2.40 MINIATURISED DIFFERENTIAL PRESSURE SENSOR

2,40 mm up to 100C°

SENSORADE
Miniaturized aerodynamic flow measurement



MODEL DEFINITION

TIG: Inconel tube with grid is the standard product
YYY: pressure range in psig (005, 015,030,080, 150)
D: differential pressure measurement
ST: standard temperature up to 100C°
Options: special tubes (sensor and reference) length, material and grid shape also available on request.

Wire color code

Black	Input -
Red	Input +
White	Output -
Green	Output +

FEATURES

- Reduced size: Ø 2.4 mm
- Integrated field shield
- Temperature range : up to 100°C
- Full scale range of 5 to 150 PSI
- Customized solution possible mVolt output
- Highest resonance frequency on the market
- Amplification can be done for a special request

Ideal for dynamic pressure measurement

APPLICATIONS

MEDICAL
- Patient monitor
- Oxygen Concentrators
- Fluid Evacuation

INDUSTRIAL
- Industrial Controls
- Compressors & Pumps
- Oil-Filled Package

AEROSPACE
- Ideal for Wind Tunnel aerodynamic measurement

AUTOMOTIVE
- Diesel Particulate Filter Exhaust Gas Recirculation Automotive Systems

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RESONANCE FREQUENCY

- Highest resonance frequency of 310 KHz of the market
- The tests have been done on a Polytec MSA-500 using Scanning laser-Doppler vibrometry

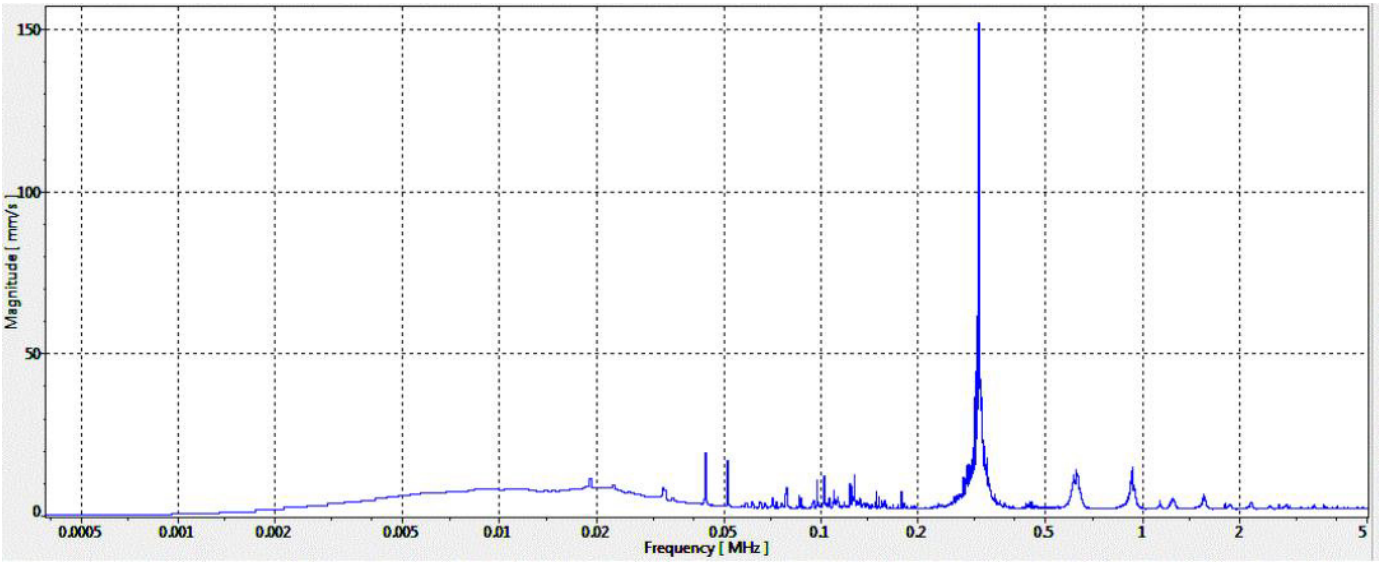

Figure 1: Result for the 30 PSI MEMS differential pressure sensors

SPECIFICATIONS

PART NUMBER	MP-2.40-TIG-YYY-D-ST	
Pressure Range	**Proof Pressure**	**Burst Pressure**
0 → 5 PSIG	25 PSI	40 PSI
0 → 15 PSIG	45 PSI	75 PSI
0 → 30 PSIG	90 PSI	150 PSI
0 → 80 PSIG	240 PSI	320 PSI
0 → 150 PSIG	300 PSI	450 PSI

Characteristic		Minimum	Typical	Maximum	Unit
Span[4]	0 → 5 PSIG	60	90	120	mV
	0 → 15 PSIG	55	80	105	
Zero Offset		-45	-10	25	mV
Bridge Resistance (RB)		4	5	6	kΩ
Pressure Hysteresis (d)[1]		-	<±0.1	-	% / FS
Thermal Hysteresis (d, f)		-	<±0.2	-	% / FS
Operating Temperature[2]		-		+100	°C
Max Excitation Voltage		-	-	10	V
TC Span[3]		-0.24	-0.19	-0.155	% / °C
TC Zero Offset[3]		-75	-	75	µV / °C
TC Zero Resistance[3]		0.24	0.275	0.33	% / °C
Linearity - Topside[1]		-0.15	<±0.10	0.15	% / FS
Linearity - Backside	5 PSI	-0.3	<±0.2	0.3	% / FS
	15, 30, 80, 150 PSI	-0.15	<±0.10	0.15	

REMARK

- All sensors are provided with a control sheet given pressure level versus mVolt @25C° under a supply voltage of 5 Volt.
- Temperature compensation by measuring the bridge resistance and using it in the corresponding polynomial equation.
- Conditioning system on request.
- Frequency > 300 KHz under vacuum condition.
- High robustness: specific protection on wire bonding @MEMS level (protection against particles, dust, condensation...) without impact on frequency measuring range.

1. Accuracy @25 Celsius
2. TMCL qualification tests - JEDEC JESD22-A104 « temperature cycling » @ Tmax
3. @MEMS level
4. Amplification can be done for a special request

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