

DATA SHEET

High Temperature Piezoelectric Dynamic Pressure Transducer

Model 522M35A



01 Description

Meggitt model 522M35A is a high quality piezoelectric pressure sensor designed to measure small dynamic pressure fluctuations, even in the presence of high static pressure. The sensor can also operate at very high temperatures; up to +938°F continuously and up to +1040°F intermittently.

Model 522M35A features an all welded, Inconel and stainless steel construction with a 24 inch metal-sheathed, mineral-insulated integral hardline cable. Output is via an integral three-pin (one pin not used) receptacle. The output signal is a balanced, differential signal. A differential input charge amplifier is appropriate for use with this sensor.

Common applications include: gas turbine combustion monitoring, high pressure steam and propulsion system testing. The unit with its mating cable is certified EExnA II T1-20°C <Tamb<399°C for use in explosive environments.

02 Key features and benefits

- 986°F (+530°C) operation
- 1040°F (+560°C) intermittent operation
- Sensitive dynamic pressure measurements under high static pressure (not sensitive to static pressure)
- Balanced differential output
- Hermetically sealed, Inconel/SST construction
- Integral hardline cable

03 Applications

- Combustion Monitoring
- High Pressure Steam
- Turbine exhaust pressure measurements

04 Contact

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HIGH TEMPERATURE PE DYNAMIC PRESSURE TRANSDUCER, Model 522M35A

05 Specifications

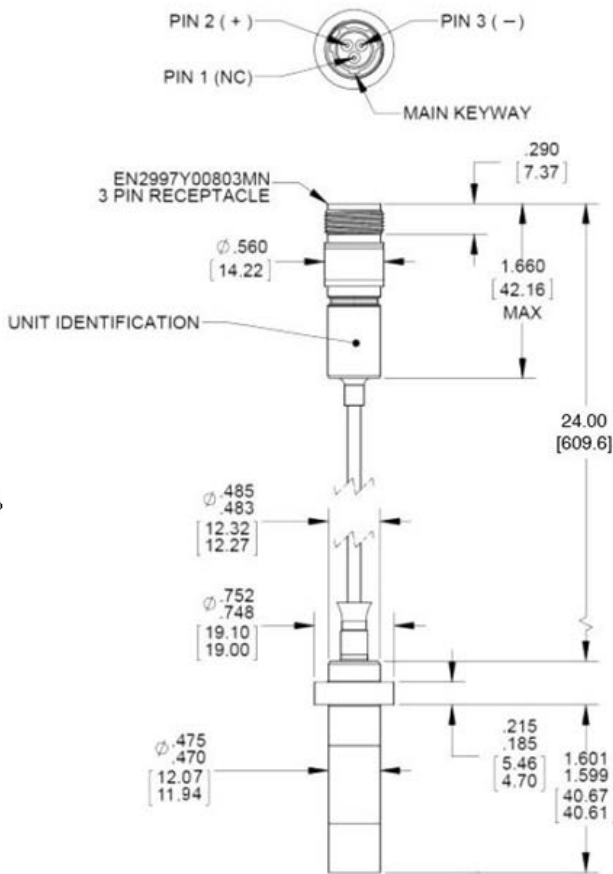
The following performance specifications are typical values, referenced at +75°F (+24°C) unless otherwise noted.

Dynamic characteristics	Units	522M35A
Measurement range	psi	± 500
Sensitivity	pC/psi	17 ± 20%
Resonance frequency, minimum	kHz	20
Sensitivity deviation over temperature -67°F to +986°F (-55°C to +530°C)	%	± 10 typical
Vibration sensitivity	pC/g	0.05 typical
Electrical characteristics		
Output signal type		Balanced differential
Resistance		
Room temperature, +75°F (+24°C)		
Internal (between pins 2 and 3)	Ω	1 G minimum
Insulation (between pins 2 or 3 and case)	Ω	100 M minimum
Maximum temperature, +986°F (+530°C)		
Internal	Ω	50 k minimum
Insulation	Ω	10 k minimum
Capacitance (between pins 2 and 3)	pF	165 + 65 pF/ft
Environmental characteristics		
Temperature range, operating		
Transducer and hardline cable		
Continuous	°F (°C)	-67 to +986 (-55 to +530)
Maximum intermittent exposure [1]	°F (°C)	+1040 (+560)
Receptacle [2]	°F (°C)	-67 to +500 (-55 to +260)
Humidity		Hermetically sealed
Maximum static pressure	psi	400
Minimum bend radius of hardline cable	inch	0.3
Physical characteristics		
Dimensions		See drawing detail
Weight	grams (oz)	250 (8.8)
Material		
Transducer		Inconel alloy
Hardline cable and receptacle		Stainless steel
Calibration Supplied		
Sensitivity	pC/psi	
Internal resistance	Ω	
Insulation resistance	Ω	
Capacitance	pF	

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06 Outline details



Notes:

1. Intermittent exposure is defined as 5 minutes over a 30 minute period.
2. Compatible cables are the 6917M169-ZZZ, 6917M170-ZZZ and 6917M171-ZZZ or equivalent (ZZZ designates cable length in inches) which are low noise, twisted pair cable assemblies terminating to pigtail, BNC and PC06A-8-2P connector respectively.



Continued product improvement necessitates that MEGGITT reserve the right to modify these specifications without notice. MEGGITT maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. 010121