

DATA SHEET

High Temperature Piezoelectric Dynamic Pressure Transducer

Model 522M17



01 Description

The Meggitt model 522M17 is a precision piezoelectric pressure transducer designed for sensing dynamic pressure fluctuations, even in extreme temperatures and high static pressure. The transducer is manufactured with all welded construction using high temperature Inconel. The model 522M17 operates at temperature extremes of up to 1000°F continuous and up to 1200°F intermittent (5 minutes over 30 minute period)

The integral metal-sheathed cable is of triaxial construction with a 10-32 coax receptacle which features output signal to case isolation. The electrical design is optimized for use with single-ended amplifiers.

Model number definition:
522M17-ZZZ
522M17= basic model number
ZZZ = cable length in inches

02 Key features and benefits

- 1000°F (+538°C) operation
- Sensitive dynamic pressure measurements under high static pressure (not sensitive to static pressure)
- Requires no external power
- Inconel 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 522M17

05 Specifications

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

Dynamic characteristics

	Units	
Charge sensitivity	pC/psi	12.0
Resonance frequency	kHz	45
Temperature response		typically ±10%
Vibration sensitivity	pC/g	0.05

Electrical characteristics

Output polarity	Pressure directed into diaphragm of unit produces positive output	
Internal resistance	GΩ	≥ 1
Insulation resistance	MΩ	≥ 100
Transducer capacitance	pF	100
Cable capacitance	pF/ft.	120

Environmental characteristics

Operating temperature (max)	Transducer	+1000°F (+538°C) continuous +1200°F (+649°C) intermittent [1]
	Connector	+351°F (+177°C) continuous +450°F (+232°C) intermittent [1]
Humidity	Transducer	hermetically sealed
	Connector	epoxy sealed, non-hermetic
Operating pressure (maximum)		2500 psi static with 500 psi normal dynamic range

Physical characteristics

Dimensions		See outline details
Weight, sensor, less cable	gm (oz)	25 (0.88)
Case material		Inconel
Connector		Coaxial receptacle with 10-32 UNF threads
Integral cable		Triax, .091 diameter, mineral insulated hardline

Calibration Supplied:

Charge sensitivity	pC/psi	
Internal resistance	Ω	
Insulation resistance	Ω	
Capacitance	pF	

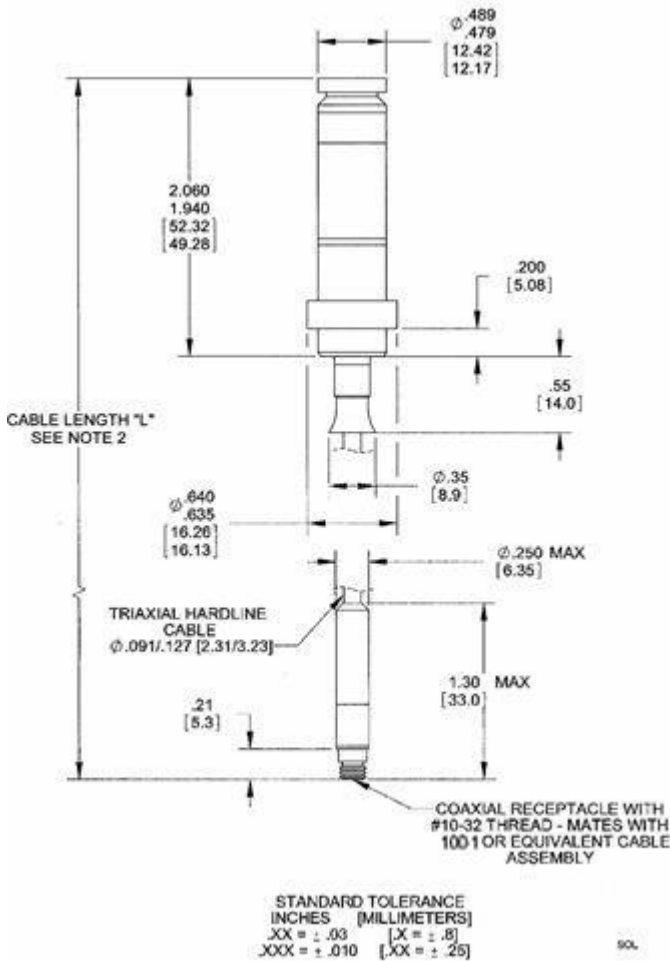
Accessories:

OPTIONAL: Model 1001-XXX Cable assembly, for under +550°F (288°C)

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06 Outline details



Note:

1. Intermittent exposure is defined as 5 minutes over a 30 minute period.



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