

DATA SHEET

Extreme+ High Temperature Piezoelectric Dynamic Pressure Transducer (E+HTPE)

Model 522M40



01 Description

The Meggitt model 522M40 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 522M40 operates at temperature extremes of up to 1300°F continuous and up to 1500°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. The integral hardline cable brings the connector end of the assembly into cooler environments.

Patented remote charge converter (Model 1772-X) makes it possible to use the sensor at almost twice the frequency band of the typical piezoelectric sensor.

Model number definition:
522M40-ZZZ (ZZZ= cable length in inches)
522M40= basic model number

02 Key features and benefits

- 1300°F(+704°C) operation- continuous
- 1500°F(+815°C) operation -intermittent
- Sensitive dynamic pressure measurements under high static pressure (not sensitive to static pressure)
- Requires no external power
- Inconel construction
- Integral hardline cable
- RoHS complaint
- Extended frequency range with 1772-X RCC

03 Applications

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

04 Contact

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Note: Due to continuous process improvement, specifications are subject to change without notice. TCO Review # 340

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HIGH TEMPERATURE PE DYNAMIC PRESSURE TRANSDUCER, Model 522M40

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 $\pm 10\%$
Vibration sensitivity	pC/g		0.05
Electrical characteristics			
Output polarity		Pressure directed into diaphragm of unit produces positive output	
Internal resistance	G Ω		≥ 1
Insulation resistance	M Ω		≥ 100
Transducer capacitance	pF		100
Cable capacitance	pF/ft.		120
Environmental characteristics			
Operating temperature (max)	Transducer		+1300°F (+704°C) continuous +1500°F (+815°C) intermittent [1]
	Connector [2]		+351°F (+177°C) continuous +450°F (+232°C) intermittent [1]
Humidity	Transducer		hermetically sealed
	Connector [2]		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:

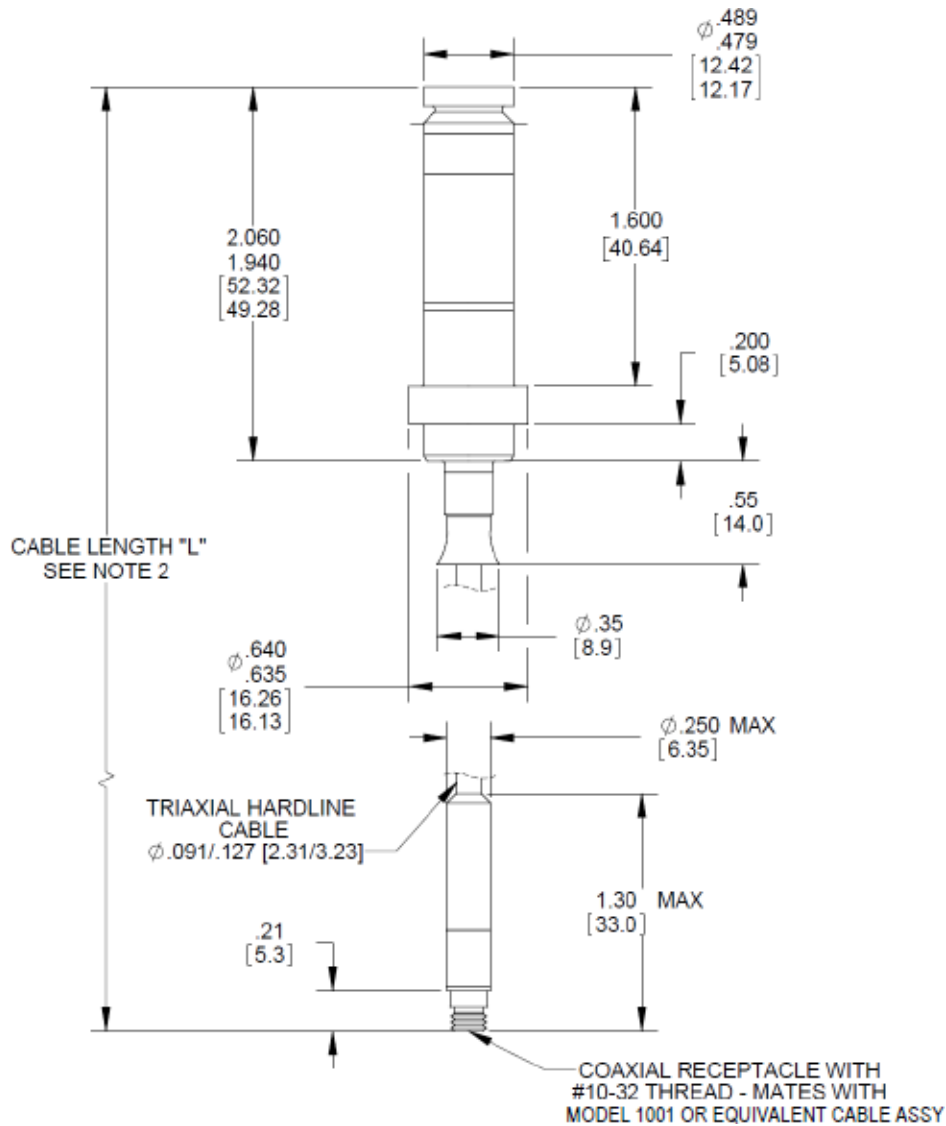
Model 1001-XXX Cable assembly, for under +550°F (288°C)

Model 1772-X Remote charge converter (TRS)

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06 Outline details



Notes:

1. Intermittent exposure is defined as 5 minutes over a 30 minute period.
2. Hermetic Connector rated to 900°F is available is available for use with Meggitt 3075M6-XXX 900°F cable.



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