

# EXTREME+ HIGH TEMPERATURE PIEZOELECTRIC DYNAMIC PRESSURE TRANSDUCER (E+HTPE) Model 522M40



## Product description

The Parker 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

## 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

## Applications

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



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## Specifications

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

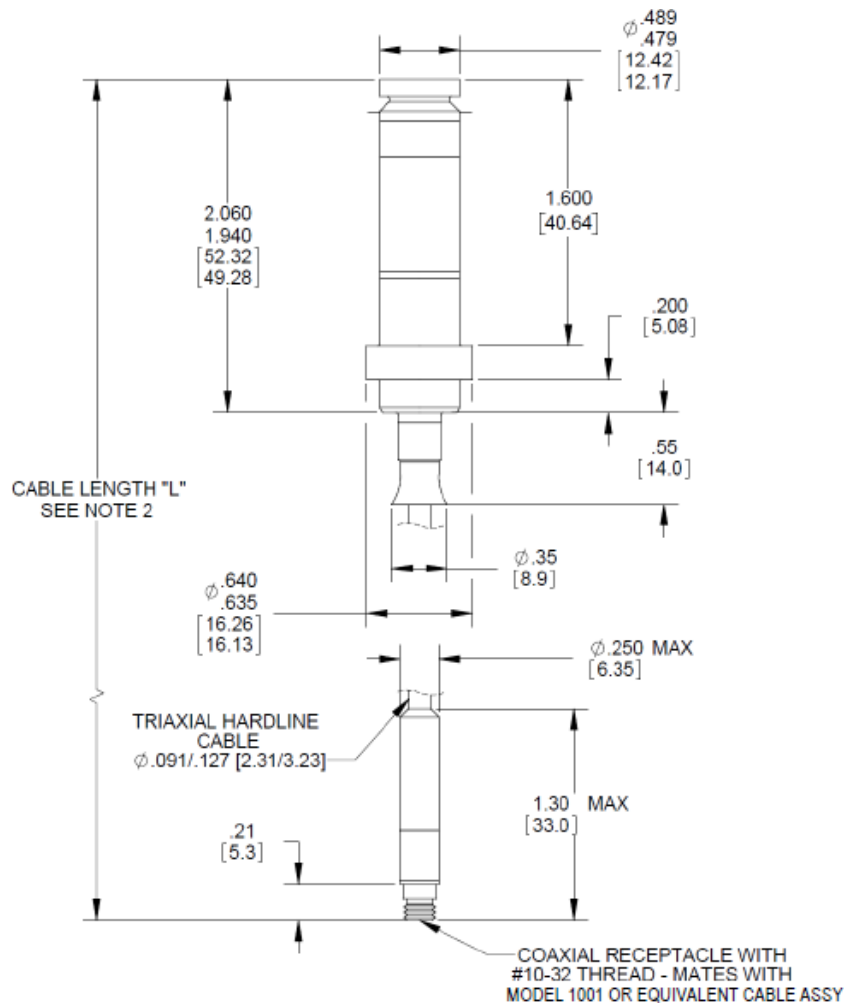
<b>Dynamic characteristics</b>		<b>Units</b>	
Charge sensitivity	pC/psi	12.0	
Resonance frequency	kHz	45	
Temperature response		typically ±10%	
Vibration sensitivity	pC/g	0.05	
<b>Electrical characteristics</b>		Pressure directed into diaphragm of unit produces positive output	
Output polarity			
Internal resistance	GΩ	≥ 1	
Insulation resistance	MΩ	≥ 100	
Transducer capacitance	pF	100	
Cable capacitance	pF/ft.	120	
<b>Environmental characteristics</b>			
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	
Operating pressure (maximum)	Connector [2]	epoxy sealed, non-hermetic	
		2500 psi static with 500 psi normal dynamic range	
<b>Physical characteristics</b>			
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	
<b>Calibration Supplied</b>			
Charge sensitivity	pC/psi		
Internal resistance	Ω		
Insulation resistance	Ω		
Capacitance	pF		
<b>Accessories:</b>			
Optional:		Model 1001-XXX Cable assembly, for under +550°F (288°C) Model 1772-X Remote charge converter (TRS)	

### Notes

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

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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



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