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.

Recommended 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.
Piezoelectric dynamic pressure sensor
Model 522M35A

Specifications
The following performance specifications conform to ISA-RP-37.2 and are typical values, referenced at +75°F (+24°C), 4 mA, and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

### Dynamic characteristics

<table>
<thead>
<tr>
<th>Units</th>
<th>522M35A</th>
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</thead>
<tbody>
<tr>
<td>Measurement range psi</td>
<td>± 500</td>
</tr>
<tr>
<td>Sensitivity pC/psi</td>
<td>17 ± 20%</td>
</tr>
<tr>
<td>Resonance frequency, minimum kHz</td>
<td>20</td>
</tr>
<tr>
<td>Sensitivity deviation over temperature -67°F to +986°F (-55°C to +530°C) %</td>
<td>± 10 typical</td>
</tr>
<tr>
<td>Vibration sensitivity pC/g</td>
<td>0.05 typical</td>
</tr>
</tbody>
</table>

### Electrical characteristics

- **Output signal type**: Balanced differential
- **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)
  - Humidity Hermetically sealed
  - Maximum static pressure psi: 400
  - Minimum bend radius of hardline cable inch: 0.3

### Physical characteristics

- **Dimensions**: See outline drawing
- **Weight**: grams (oz) 250 (8.8)
- **Material**
  - Transducer: Inconel alloy
  - Hardline cable and receptacle: Stainless steel

### Calibration data supplied

- Sensitivity pC/psi
- Internal resistance Ω
- Insulation resistance Ω
- Capacitance pF

### Notes

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