

# Intrinsically safe low-frequency accelerometer

## 786-500-IS






### SPECIFICATIONS

|   |                         |  |
|---|-------------------------|--|
| <b>Sensitivity, ±5%, 25°C</b>                     |                         | 500 mV/g   |
| <b>Acceleration range, VDC &gt; 22 V</b>          |                         | 10 g peak  |
| <b>Amplitude nonlinearity</b>                     |                         | 1%   |
| <b>Frequency response<sup>1</sup>:</b>            | <b>±5%</b>              | 0.7 - 5,000 Hz   |
|   | <b>±10%</b>             | 0.5 - 9,000 Hz   |
|   | <b>±3 dB</b>            | 0.2 - 14,000 Hz  |
| <b>Resonance frequency</b>                        |                         | 30 kHz   |
| <b>Transverse sensitivity, max</b>                |                         | 5% of axial  |
| <b>Temperature response:</b>                      | <b>-20°C</b>            | -10%   |
|   | <b>+120°C</b>           | +10%   |
| <b>Power requirement:</b>                         |                         |  |
| <b>Voltage source</b>                             |                         | 18 - 30 VDC  |
| <b>Current regulating diode</b>                   |                         | 2 - 10 mA  |
| <b>Electrical noise, equiv. g:</b>                |                         |  |
| <b>Broadband</b>                                  | <b>2.5 Hz to 25 kHz</b> | 250 µg   |
| <b>Spectral</b>                                   | <b>10 Hz</b>            | 2.5 µg/√Hz   |
|   | <b>100 Hz</b>           | 1.5 µg/√Hz   |
|   | <b>1,000 Hz</b>         | 1.5 µg/√Hz   |
| <b>Output impedance, max</b>                      |                         | 100 Ω  |
| <b>Bias output voltage</b>                        |                         | 12 VDC   |
| <b>Grounding</b>                                  |                         | case isolated, internally shielded                                 |
| <b>Temperature range</b>                          |                         | -50° to +120°C   |
| <b>Vibration limit</b>                            |                         | 500 g peak   |
| <b>Shock limit</b>                                |                         | 5,000 g peak   |
| <b>Electromagnetic sensitivity, equiv. g, max</b> |                         | 70 µg/gauss  |
| <b>Sealing</b>                                    |                         | hermetic   |
| <b>Base strain sensitivity, max</b>               |                         | 0.0002 g/µstrain   |
| <b>Sensing element design</b>                     |                         | PZT, shear   |
| <b>Weight</b>                                     |                         | 90 grams   |
| <b>Case material</b>                              |                         | 316L stainless steel   |
| <b>Mounting</b>                                   |                         | 1/4-28 captive hex head screw,<br>0.046" diameter safety wire hole |
| <b>Output connector</b>                           |                         | 2 pin, MIL-5015 style  |
| <b>Mating connector</b>                           |                         | R6 type  |
| <b>Recommended cabling</b>                        |                         | J10 / J9T2A, <100 ft.  |

**Notes:** <sup>1</sup> Frequency response limits, spectral and noise values are typical.

**Accessories supplied:** 1/4-28 captive hex head screw; calibration data (level 2)

### Certifications

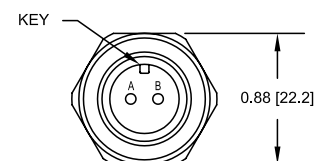
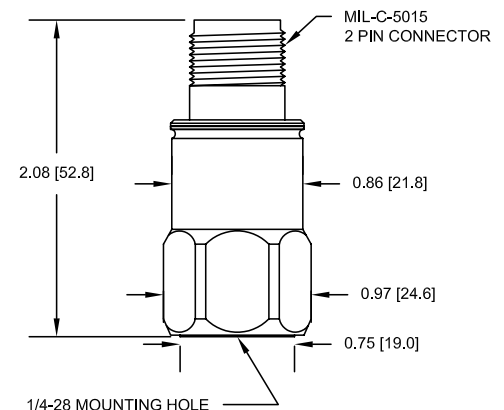
|  |                                  |   |                     |   |
|--|----------------------------------|---|---------------------|---|
|  | Class I, Div 1 Groups A, B, C, D |    | II 1 G              |  |
|  | Class II, Div 1 Groups E, F, G   |   | Ex ia IIC T4 Ga     |   |
|  | Class III                        |   | Ta = -50°C to 120°C |   |
|  | Class I Zone 0 AEx/Ex ia IIC T4  |   |                     |   |
|  | Ta = -50°C to 120°C              |   |                     |   |

Must be installed per document 12879. For application in explosive atmospheres caused by gases, vapours or mists and where the use of apparatus of category 1G is required, electrostatic charges on the cable and non-metallic parts of the enclosure shall be avoided. The ambient temperature range for these applications is -40°C to +80°C.



### Key features

- Class I, Div 1/Zone 0/1 certified intrinsically safe
- High sensitivity
- Extended low frequency response
- Manufactured in ISO 9001 facility



| Connections  |               |
|--------------|---------------|
| Function     | Connector pin |
| power/signal | A             |
| common       | B             |
| ground       | shell         |

Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.