

# Class I, Div 2 certified accelerometer

## 786A-M12-D2

### SPECIFICATIONS

|                                                   |                  |                                    |
|---------------------------------------------------|------------------|------------------------------------|
| <b>Sensitivity, <math>\pm 5\%</math>, 25°C</b>    |                  | 100 mV/g                           |
| <b>Acceleration range, VDC &gt; 25 V</b>          |                  | 80 g peak                          |
| <b>Amplitude nonlinearity</b>                     |                  | 1%                                 |
| <b>Frequency response:</b>                        | $\pm 5\%$        | 3 - 5,000 Hz                       |
|                                                   | $\pm 10\%$       | 1 - 9,000 Hz                       |
|                                                   | $\pm 3$ dB       | 0.5 - 14,000 Hz                    |
| <b>Resonance frequency</b>                        |                  | 30 kHz                             |
| <b>Transverse sensitivity, max</b>                |                  | 5% of axial                        |
| <b>Temperature response:</b>                      | -55°C            | -20%                               |
|                                                   | +120°C           | +10%                               |
| <b>Power requirement:</b>                         |                  |                                    |
| Voltage source                                    |                  | 18 - 30 VDC                        |
| Current regulating diode                          |                  | 2 - 10 mA                          |
| <b>Electrical noise, equiv. g:</b>                |                  |                                    |
| Broadband                                         | 2.5 Hz to 25 kHz | 700 $\mu$ g                        |
|                                                   | 10 Hz            | 10 $\mu$ g/ $\sqrt{\text{Hz}}$     |
|                                                   | 100 Hz           | 5 $\mu$ g/ $\sqrt{\text{Hz}}$      |
|                                                   | 1,000 Hz         | 5 $\mu$ g/ $\sqrt{\text{Hz}}$      |
| <b>Output impedance, max</b>                      |                  | 100 $\Omega$                       |
| <b>Bias output voltage</b>                        |                  | 12 VDC                             |
| <b>Grounding</b>                                  |                  | case isolated, internally shielded |
| <b>Temperature range</b>                          |                  | -55° 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 $\mu$ g/gauss                   |
| <b>Sealing</b>                                    |                  | hermetic                           |
| <b>Base strain sensitivity, max</b>               |                  | 0.0002 g/ $\mu$ strain             |
| <b>Sensing element design</b>                     |                  | PZT, shear                         |
| <b>Weight</b>                                     |                  | 90 grams                           |
| <b>Case material</b>                              |                  | 316L stainless steel               |
| <b>Mounting</b>                                   |                  | M6 captive screw                   |
| <b>Mating connector</b>                           |                  | M12 style, 4 or 5 pin              |
| <b>Recommended cabling</b>                        |                  | J10 / J9T2A                        |

**Accessories supplied:** M6 captive screw; calibration data (level 2)

### Certifications

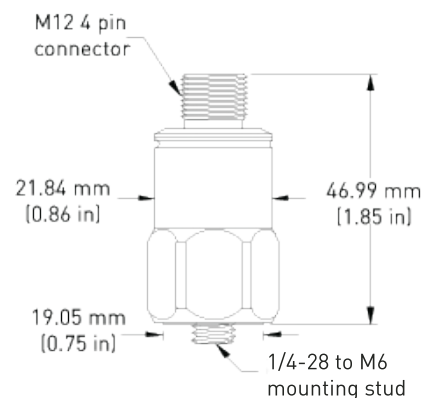
|                                                                                    |                                                           |                                                                                     |                 |                                                                                     |
|------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|
|  | Class I, Div 2 Groups A, B, C, D                          |  | II 3 G          |  |
|                                                                                    | Class I, Zone 2<br>AEx/Ex nA II T4<br>Ta = -50°C to 120°C |                                                                                     | Ex nA IIC T4 Gc |                                                                                     |

Must be installed per 13029. • Ambient temperature range depends on the type cable used during installation. • Cable with FEP jacket, Ta = -50°C to +120°C. • Cable with Santoprene jacket, Ta = -45°C to +115°C.



### Key features

- Class I, Div 2 (Zone 2) certified - non-incendive
- API 670 compliant
- Manufactured in ISO 9001 facility



| Connections  |               |
|--------------|---------------|
| Function     | Connector pin |
| power/signal | 1             |
| common       | 2             |
| N/C          | 3             |
| N/C          | 4             |
| ground       | shell         |

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