



780B and 780C

Features

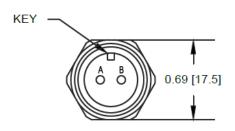
- Lightweight for walkaround programs
- Prevents ground loops in permanent mount applications with proper cabling
- Can be submersed with proper connector
- Hermetically sealed
- ESD protected
- Reverse wiring protection
- Manufactured in an approved ISO 9001 facility



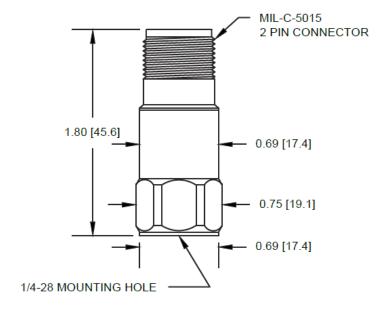




Althen's top-exit 100 mV/g sensors are designed for monitoring areas with limited space. The general purpose accelerometer is ideal for monitoring machine vibration on a wide range of rotating equipment such as motors, pumps, fans, compressors, turbines and generators. A 316L stainless steel casing provides rugged durability for most extreme environments. The sensing element is housed in a case-isolated Faraday shield, providing maximum protection from ground loops and RF interference.



Connections			
Function	Connector pin		
power/signal	Α		
common	В		
ground	shell		



780B | 780C General Purpose Vibration Sensors

General purpose, compact, accelerometers



Specification

Sensitivity, 25° C 7808, 191% 98 mV/m/sec² 7808, 191% 100 mV/g 98 mV/m/sec² Acceleration range 80 g peak 784 m/sec² Amplitude nonlinearity 98 mV/m/sec² Amplitude nonlinearity 180 - 300,000 RPM 784 m/sec² 4 million controlled nonlinearity 180 - 300,000 RPM 3 - 5,000 M² 8 5% 180 - 300,000 RPM 3 - 5,000 M² 1 - 5,000 M² 8 10% 30 - 840,000 RPM 3 - 5,000 M² 1 - 5,000 M² 8 2 3 48 30 - 840,000 RPM 3 - 5,000 M² 1 - 5,000 M² Resonance frequency 180 K CPM 30 H² 30 H² Tameyers benesitivity max 50 of axial 30 H² 30 H² Tameyers benesitivity max 10 0% 40 P² 40 P² Post requirement 10 0% 40 P² 40 P² 1 10 0 0 2 10 m² 50 N° 10° m² 40 P² 1 2 0 0 0 2 10 m² 5 N° 10° m² 20 N° 10° m² Electrical post requirement 10 0 µ 9 N° 10° m² 20 N° 10° m² Broad post requireme			English	Metric
Acceleration range	Sensitivity, 25° C		3	
Amplitude nonlinearity 1% 1% Frequency response: # 55% 180 - 300,000 RPM 3 - 5,000 Hz ± 55% 180 - 300,000 RPM 1 - 5,000 Hz ± 10% 60 - 540,000 RPM 1 - 5,000 Hz ± 3 dB 30 - 840,000 RPM 05 - 16,000 Hz Resonance frequency 180 KCPM 30 Hz Tanseverse sensitivity, max 5% of axial 5% of axial Temperature response: - 10% + 10% + 10% ± 120° C - 10% + 10% + 10% Power requirement: - 10% + 10% 2 - 10 mA Electrical noise, equiv. g: - 10 MA 18 - 30 VDC 2 - 10 mA Broadband 2.5 Hz to 25 kHz 10 µg/Hz 5 8 × 10 m/s 2 10 µg/Hz Broadband 2.5 Hz to 25 kHz 10 µg/Hz 5 8 × 10 m/s 2 10 µg/m m/s 2 Broadband 10 µg/Hz 5 10 µg/Hz 4 9 × 10 m/s 2 10 µg/m m/s 2 Broadband 10 µg/Hz 5 8 × 10 m/s 2 10 µg/m m/s 2 10 µg/m m/s 2 Broadband 10 µg/Hz 1			3	
Frequency response:	Acceleration range		80 g peak	784 m/sec²
# 55%	Amplitude nonlinearity		1%	1%
± 10% 60 - \$4,000 RPM 1 - 9,000 Hz ± 3 dB 60 - \$4,000 RPM 0.5 - 1,000 Hz Resonance frequency 1.80 KCPM 30 kHz Tanseverse sensitivity, max 5% of axial 5% of axial Temperature response: - 25° C 10% 10% 10% + 100% 10% 10% Power requirement: Voltage source 18 - 30 VDC 18 - 30 VDC Current regulating diode 18 - 30 VDC 18 - 30 VDC Current regulating diode 18 - 30 VDC 18 - 30 VDC Electrical noise, equiv.s: Broadbard 2.5 Hz to 25 kHz 700 µg 69 × 10° m/sz Spectral 10 Hz 10 µg/Hz 9.9 x 10° m/sz Spectral 10 Hz 10 µg/Hz 4.9 x 10° m/sz Spectral 10 Hz 10 µg v/Hz 4.9 x 10° m/sz Spectral 10 Q R 4.9 x 10° m/sz Spectral 10 Q R 4.9 x 10° m/sz	Frequency response:			
Transverse sensitivity, max 5% of axial 5% of axial Temperature response: −10% −10% +120°C −10% +10% +120°C 10% +10% Power requirement: Usual consequence 18 - 30 VDC 2 - 10 mA Electrical noise, equiv. g: Electrical noise, equiv. g: Usual consequence 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 Spectral 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 10 Ug Spectral 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 Spectral 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 Spectral 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 Spectral 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 Spectral 10 Hz 10 Ug/Vlz 9.8 x 10³ m/s2 Spectral 10 Ug 10 Ug 10 Ug 10 Ug Spectral 10 Ug	± 10%		60 - 540,000 RPM	1 - 9,000 Hz
Temperature response: -25° C	Resonance frequency		1.80 kCPM	30 kHz
−25° C	Transverse sensitivity, max		5% of axial	5% of axial
+120° C +10% +10% Power requirement: Voltage source Current regulating diode 18 - 30 VDC 18 - 30 VDC Current regulating diode 18 - 30 VDC 18 - 30 VDC Electrical noise, equiv. g: Broadband Specifics 2.5 Hz to 25 kHz 700 μg 700 μg 6.9 x 10 ³ m/s2 Spectral 10 Hz 100 Hz 100 μg 5 μg//Hz 4.9 x 10 ² m/s2 100 μg 100 μg 4.9 x 10 ² m/s2 100 μg 100 μg 4.9 x 10 ² m/s2 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg 100 μg	Temperature response:			
Voltage source 18 - 30 VDC 18 - 30 VDC Current regulating diode 2 - 10 mA 2 - 10 mA Electrical noise, equiv. g: Broadband				
Current regulating diode 2 - 10 mA 2 - 10 mA Electrical noise, equiv. g: Broadband Spectral 2.5 Hz to 25 kHz 10 Hz 10 μg/VHz 10 μg/VHz 29.8 x 10 3 m/s2 4.9 x 10 3	Power requirement:			
Broadband Spectral 2.5 Hz to 25 kHz 10 Hz 100 Hz 1,000 Hz 700 μg 5 μg//Hz 5 μg//Hz 6.9 x 10-3 m/s2 9.8 x 10-5 m/s2 4.9 x 10-5 m/s2 4.9 x 10-5 m/s2 Output impedance, max 100 Ω 100 Ω Bias output voltage 12 VDC 12 VDC Grounding case isolated, internally shielded Temperature range −58 to +248° F −50 to +120° C Vibration limit 500 g peak 4,900 m/sec² peak Shock limit 5,000 g peak 49,000 m/sec² peak Electromagnetic sensitivity, equiv g, max 70 μg/gauss 6.8 x 10-4 m/s²/gauss Sealing hermetic Base strain sensitivity, max 0.0002 g/μstrain 1.9 x 10-3 m/s2/μstrain Sensing element design P2T, shear Weight 2.19 oz 62 grams Case material 316L stainless steel Mounting 1/4-28 UNF tapped hole Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	_			
Spectral 10 Hz 10 μg//Hz 5 μg//Hz 4.9 x 105 m/s2	Electrical noise, equiv. g:			
Bias output voltage12 VDC12 VDCGroundingcase isolated, internally shieldedTemperature range−58 to +248° F−50 to +120° CVibration limit500 g peak4,900 m/sec² peakShock limit5,000 g peak49,000 m/sec² peakElectromagnetic sensitivity, equiv g, max70 μg/gauss6.8 x 10⁴ m/s²/gaussSealinghermeticBase strain sensitivity, max0.0002 g/μstrain1.9 x 10-3 m/s2/μstrainSensing element designPZT, shearWeight2.19 oz62 gramsCase material1/4-28 UNF tapped holeOutput connector2-pin, MIL-C-5015 styleMating connectorR6 type		10 Hz 100 Hz	10 μg/√Hz 5 μg/√Hz	9.8 x 10 ⁻⁵ m/s2 4.9 x 10 ⁻⁵ m/s2
Grounding case isolated, internally shielded Temperature range -58 to +248° F -50 to +120° C Vibration limit 500 g peak 4,900 m/sec² peak Shock limit 5,000 g peak 49,000 m/sec² peak Electromagnetic sensitivity, equiv g, max 70 μg/gauss 6.8 x 10-4 m/s²/gauss Sealing hermetic Base strain sensitivity, max 0.0002 g/μstrain 1.9 x 10-3 m/s2/μstrain Sensing element design PZT, shear Weight 2.19 oz 62 grams Case material 316L stainless steel Mounting 1/4-28 UNF tapped hole Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	Output impedance, max		100 Ω	100 Ω
Temperature range-58 to +248° F-50 to +120° CVibration limit500 g peak4,900 m/sec² peakShock limit5,000 g peak49,000 m/sec² peakElectromagnetic sensitivity, equiv g, max70 µg/gauss6.8 x 10⁴ m/s²/gaussSealinghermeticBase strain sensitivity, max0.0002 g/µstrain1.9 x 10-3 m/s2/µstrainSensing element designPZT, shearWeight2.19 oz62 gramsCase material316L stainless steelMounting1/4-28 UNF tapped holeOutput connector2-pin, MIL-C-5015 styleMating connectorR6 type	Bias output voltage		12 VDC	12 VDC
Vibration limit500 g peak4,900 m/sec² peakShock limit5,000 g peak49,000 m/sec² peakElectromagnetic sensitivity, equiv g, max70 μg/gauss6.8 x 10-4 m/s²/gaussSealinghermeticBase strain sensitivity, max0.0002 g/μstrain1.9 x 10-3 m/s2/μstrainSensing element designPZT, shearWeight2.19 oz62 gramsCase material316L stainless steelMounting1/4-28 UNF tapped holeOutput connector2-pin, MIL-C-5015 styleMating connectorR6 type	Grounding		case isolated, internally shielded	
Shock limit5,000 g peak49,000 m/sec² peakElectromagnetic sensitivity, equiv g, max70 μg/ gauss6.8 x 10-4 m/s²/ gaussSealinghermeticBase strain sensitivity, max0.0002 g/μstrain1.9 x 10-3 m/s2/μstrainSensing element designPZT, shearWeight2.19 oz62 gramsCase material316L stainless steelMounting1/4-28 UNF tapped holeOutput connector2-pin, MIL-C-5015 styleMating connectorR6 type	Temperature range		−58 to +248° F	−50 to +120° C
Electromagnetic sensitivity, equiv g, max 70 μg/gauss 6.8 x 10-4 m/s²/gauss Sealing hermetic Base strain sensitivity, max 0.0002 g/μstrain 0.0002 g/μstrain 1.9 x 10-3 m/s2/μstrain Sensing element design PZT, shear Weight 2.19 oz 62 grams Case material Mounting 1/4-28 UNF tapped hole Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	Vibration limit		500 g peak	4,900 m/sec² peak
SealinghermeticBase strain sensitivity, max0.0002 g/µstrain1.9 x 10-3 m/s2/µstrainSensing element designPZT, shearWeight2.19 oz62 gramsCase material316L stainless steelMounting1/4-28 UNF tapped holeOutput connector2-pin, MIL-C-5015 styleMating connectorR6 type	Shock limit		5,000 g peak	49,000 m/sec² peak
Base strain sensitivity, max O.0002 g/µstrain PZT, shear PZT, shear Weight 2.19 oz 62 grams Case material Mounting 1/4-28 UNF tapped hole Output connector Mating connector R6 type	Electromagnetic sensitivity, equiv g, max		70 μg/gauss	6.8 x 10 ⁻⁴ m/s²/gauss
Sensing element designPZT, shearWeight2.19 oz62 gramsCase material316L stainless steelMounting1/4-28 UNF tapped holeOutput connector2-pin, MIL-C-5015 styleMating connectorR6 type	Sealing		hermetic	
Weight 2.19 oz 62 grams Case material 316L stainless steel Mounting 1/4-28 UNF tapped hole Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	Base strain sensitivity, max		0.0002 g/µstrain	1.9 x 10-3 m/s2/µstrain
Case material 316L stainless steel Mounting 1/4-28 UNF tapped hole Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	Sensing element design		PZT, shear	
Mounting 1/4-28 UNF tapped hole Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	Weight		2.19 oz	62 grams
Output connector 2-pin, MIL-C-5015 style Mating connector R6 type	Case material		316L stainless steel	
Mating connector R6 type	Mounting		1/4-28 UNF tapped hole	
	Output connector		2-pin, MIL-C-5015 style	
Recommended cabling J10 / J9T2A	Mating connector		R6 type	
	Recommended cabling		J10 / J9T2A	

Accessories supplied:

- Calibration data (level 2)
- SF6 mounting stud (metric mounting available on request)

Note: Frequency response and spectral noise values are typical.

Note: Due to continuous process improvement, specifications are subject to change without notice.

Page 2/2