MODEL 4810A ACCELEROMETER

SPECIFICATIONS

- **MEMS DC Accelerometer**
- **Ultra-Stable, DC to 2000Hz Response**
- **Hermetically Sealed**
- **<2.0% Total Error Band**
- **<0.1% Linearity Accuracy**
- **Self-test Function Included**

FEATURES

- ±2g to ±200g Dynamic Range
- Self-test Enabled
- Amplified Output, Signal Conditioned
- Gas Damped MEMS Sensors
- Hermetically Sealed, Detachable Cable
- 4 to 30Vdc Excitation Voltage
- 6000g Shock Protection

APPLICATIONS

- Flight Testing
- Flutter and Nacelle Vibrations
- Road Vehicle Testing
- Structural Testing
- Test and Instrumentation
- Transportation Applications

The Model 4810A is an ultra-stable MEMS accelerometer packaged in a rugged, low-profile stainless steel housing. The accelerometer is available in ranges from ±2 to ±200g with a wide bandwidth from DC to 2000Hz. The model 4810A accelerometers incorporate gas damped variable capacitance MEMS sensing elements that provide exceptional performance over a full operating temperature range of -55°C to +125°C. The accelerometers are designed for 4 to 30Vdc excitation voltage and include a self-test option.

For a triaxial version, TE Connectivity also offers the model 4835A accelerometer.

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

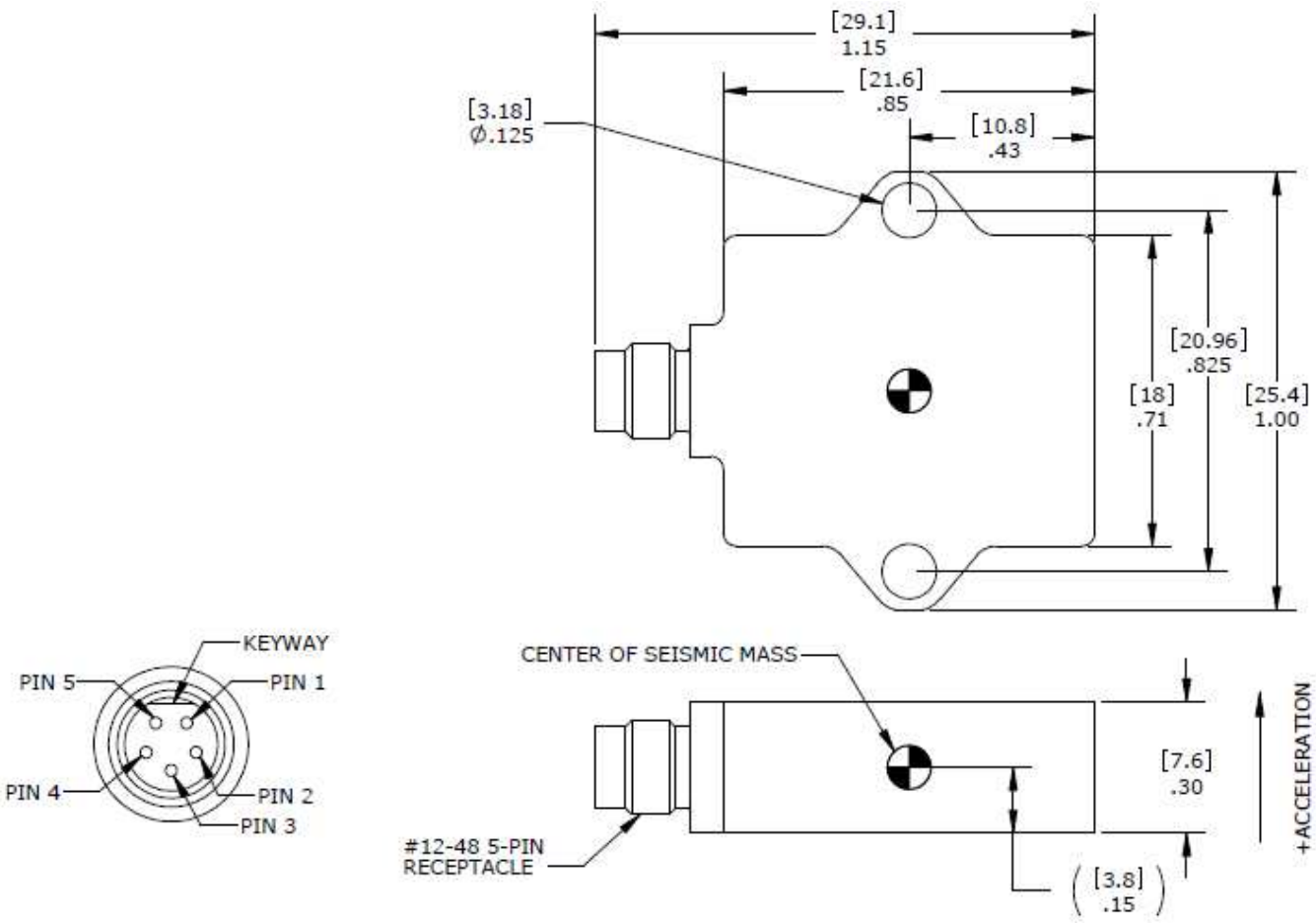
Parameters								
DYNAMIC								**Notes**
Range (g)	±2	±5	±10	±30	±50	±100	±200	
Sensitivity, Differential (mV/g)	1000	400	200	67	40	20	10	±5%
Frequency Response (Hz)	0-250	0-700	0-1000	0-1500	0-1500	0-1500	0-1500	±5%
Frequency Response (Hz)	0-500	0-1000	0-1500	0-2000	0-2000	0-2000	0-2000	±1dB
Non-Linearity (%FSO)	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	
Transverse Sensitivity (%)	<2	<2	<2	<2	<2	<2	<2	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.7	
Shock Limit (g)	6000	6000	6000	6000	6000	6000	6000	
Residual Noise (µV RMS)	360	380	400	440	480	500	500	Passband
Spectral Noise (µg/√Hz)	14	28	45	137	231	464	920	Passband

ELECTRICAL		
Zero Acceleration Output (mV)	±50	Differential
Excitation Voltage (Vdc)	4 to 30	
Excitation Current (mA)	<7	
Common Mode Voltage (Vdc)	1.22	
Full Scale Output (differential)	±2 Vpk (FSO=2V)	
Full Scale Output (single-ended)	+0.22 to 2.22 Vpk (FSO=1V)	
Output Resistance (Ω)	<100	
Insulation Resistance (MΩ)	>100	@100Vdc
Turn On Time (msec)	<100	
Ground Isolation	Isolated from Mounting Surface	
ENVIRONMENTAL		
Thermal Zero Shift (%FSO/°C)	±0.004	Typical
Thermal Sensitivity Shift (%/°C)	±0.008	Typical
Operating Temperature (°C)	-55 to 125	
Storage Temperature (°C)	-55 to 125	
Humidity	Hermetically Sealed, IP67 [1]	
Total Error Band	<2% (RSS of Non-Linearity, Thermal Zero Shift, and Thermal Sensitivity Shift)	
PHYSICAL		
Case Material	Stainless Steel	
Weight (grams)	16	
Mounting	2x #4 or M3 Screws	
Mounting Torque	6 lb-in (0.7 N-m)	

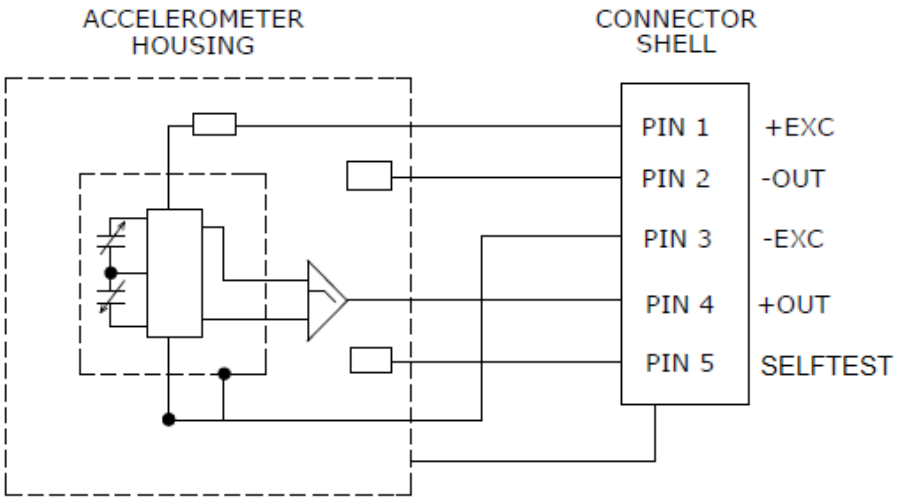
[1] Mating cable needs to also have minimum IP67 rating and be properly sealed to accel connector in accordance with IEC 60529.

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit
Supplied accessories:	AC-A02285	2x #4-40 (7/16 length) Socket Head Cap Screw and Washer
Optional accessories:	AC-D02669	Triaxial Mounting Block
	341A-120	Cable Assembly, #30 AWG, -54 to +121°C (5ft standard)
	121	3-Channel Precision Low Noise DC Amplifier

DIMENSIONS



SCHEMATIC



ORDERING INFORMATION

4810A	GGG	D
Range 002 = 2g 005 = 5g 010 = 10g 030 = 30g 050 = 50g 100 = 100g 200 = 200g		

Example; 4810A-030-D
Model 4810A, 30g range

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