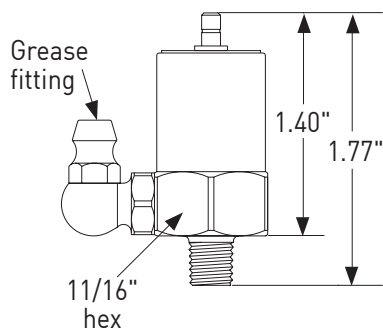




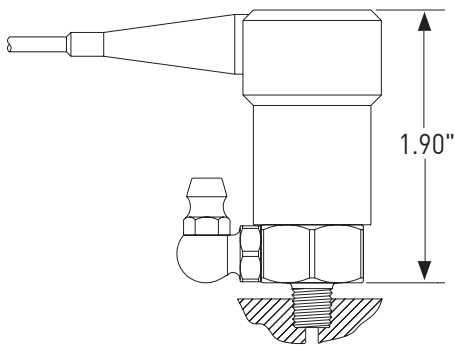
# Zerkometer™ model 221A Accelerometer with grease mounting

### Features

- Rugged design
- Corrosion resistant
- Hermetic seal
- ESD protection
- Reverse wiring protection
- Grease channel through sensor body



Model 221A



Model 221A with  
mating connector and cable

### Dynamic

Sensitivity, ±20%, 25°C.....	100 mV/g
Acceleration range .....	80 g peak
Amplitude nonlinearity.....	1%
Frequency response, nominal <sup>1</sup> :	
± 3 dB .....	0.5 - 7,000 Hz
Resonance frequency, nominal .....	13 kHz
Transverse sensitivity, max.....	5% of axial
Temperature response .....	-50°C    -7%
	+80°C    +5%

### Electrical

Power requirement: voltage source .....	18 - 30 VDC
current regulating diode .....	2 - 10 mA
Electrical noise, equiv. g:	
Broadband 2.5 Hz to 25 kHz.....	700 µg
Spectral	
10 Hz.....	10 µg/√Hz
100 Hz.....	5 µg/√Hz
1000 Hz.....	5 µg/√Hz
Output impedance, max. ....	100 Ω
Bias output voltage.....	12 VDC
Grounding.....	case isolated

### Environmental

Temperature range .....	-50 to 80°C
Vibration limit.....	500 g peak
Shock limit .....	5,000 g peak
Sealing .....	hermetic
Base strain sensitivity, max. ....	0.00002 g/µstrain

### Physical

Sensing element design.....	PZT ceramic / shear
Weight .....	53 grams
Case material.....	316L stainless steel
Mounting .....	1/4 - 28 taper stud
Zerk grease fitting.....	Steel, 90° angle
	1/4-28 taper

Mating connector .....	R35
Recommended cabling.....	J96

Connector pin	Function	Cable conductor
Shell	common	shield
Pin	power/ signal	center
Housing	isolated	N/C

Notes: <sup>1</sup> At 50 lbs. inch torque

Accessories supplied: Model GF90: 90° steel 1/4-28 Zerk grease fitting; calibration data (level 2)

Available accessories: GFA18 - Grease fitting adapter, 1/4-28 taper - 1/8 female; Hex thread mounting adapters; (call factory customer service)

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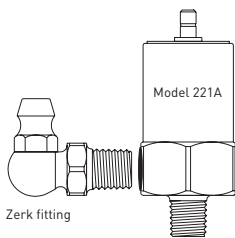
## Installation

Prior to installation, thoroughly clean the area on the machine around the existing Zerk fitting without removing it. All dirt, grease, loose paint, and foreign material must be removed before attempting to install the Zerkometer.

Remove the existing Zerk fitting from the machine using the appropriate wrench.

Hand thread new 90° Zerk fitting into the body of the Zerkometer. Using the appropriate wrench, tighten the new Zerk fitting into position using 25/50 inch-pounds torque. Inject grease through the Zerk fitting until grease exits the center bored channel in the base of the mounting thread. Allow some additional grease to flow through the Zerkometer body and examine the grease to ensure that no foreign particles are present in the grease. This will ensure that the Zerkometer body has no foreign contamination that will enter the bearing after installation.

If it is necessary to remove the 90° Zerk fitting in order to install the Zerkometer body, use an appropriate sized wrench to remove the 90° Zerk fitting now.



Hand thread the Zerkometer into the machine housing, being careful not to cross-thread the Zerkometer. Using an 11/16" wrench, tighten the Zerk base into position using no more than 50 inch-pounds torque.

If the 90° Zerk fitting was removed for installation of the Zerkometer body, hand thread the Zerk fitting into the body of the Zerkometer. Using the appropriate wrench, torque the new Zerk fitting into position using 25/50 inch-pounds torque.

Additional grease may be applied to the fitting at this time, if desired.

## Adapters

A 1/4- 28 UNS external thread to 1/8 - 27 NPT internal thread adapter is available. (GFA 18)

## Greasing

Grease is applied to the bearing through the Zerkometer in the same manner that grease would be applied using any other bearing grease. The grease for the bearing is applied through the extended grease channel that passes through the base of the Zerkometer mounting.

## Changing Zerk fittings

The side of the Zerkometer is tapped for a 1/4-28 Tapered Zerk fitting. The standard Zerkometer is supplied with a steel 1/4-28 Tapered 90° Zerk fitting. Any Stainless Steel or Steel 1/4-28 Tapered Zerk fitting may be installed.

**WARNING – Use only Steel fittings. The body of the Zerkometer is manufactured from stainless steel. DO NOT USE BRASS fittings. Only Steel or Stainless steel fittings should be used. Brass is not compatible with Stainless steel. Using brass will result in galvanic corrosion of the accelerometer body.**

**NOTE: it may be easier to replace Zerk fittings on the Zerkometer when it is not installed in-place on a machine.**

If the Zerkometer is installed on a machine thoroughly clean the area on the machine around the Zerkometer. All dirt, grease, loose paint, and foreign material must be removed.

Using the appropriate wrench, loosen the Zerkometer and unscrew it from the machinery.

Using the appropriate wrench, remove the Zerk fitting installed in the Zerkometer.

Hand thread the new Zerk fitting into the body of the Zerk Base. Using the appropriate wrench, tighten the new Zerk fitting into position using 25/50 inch-pounds torque.

Inject grease through the Zerkometer's Zerk fitting until grease exits the center bored channel in the base of the mounting thread. Allow some additional grease to flow through the Zerkometer body and examine the grease to insure that no foreign particles are present in the grease. This will help to assure that the Zerkometer body has no foreign contamination that will enter the bearing after installation.

Hand thread the Zerkometer into the machine housing, being careful not to cross-thread the Zerkometer. Using an 11/16" wrench, tighten the Zerk base into position using no more than 50 inch-pounds torque.

Additional grease may be applied to the fitting at this time, if desired.