

131D-01/1

UNIAXIAL ACCELEROMETERS



The uniaxial 131D-01/1 is single-axis $\pm 4g$ full scale accelerometer with a noise performance of $1.2 \mu g/rtHz$. The accelerometer outputs an industry standard $\pm 10V$ full scale output. The 131D-01/1 is best suited for structural engineering applications (building, bridge, dam monitoring) when the project requires accelerometers to be deployed in uniaxial configuration. The Reftek 131B-01/1 housing is made of anodized aluminum and is sealed to meet IP67 standards for watertight integrity. Mounting is accomplished with two bolts on one of two axes, thus the sensor may be oriented in any direction, including in the vertical axis. This feature is an ideal application for structure monitoring, allowing for flexibility of installation.

Reftek model 131D Accelerometers provide excellent dynamic range and low noise performance useful when paired with digitizers like the Reftek 130-MC. These accelerometers use a Micro-Electro-Mechanical System (MEMS) variable capacitance displacement sensor. The accelerometer is inherently stable over temperature, with excellent reliability, exceptional linearity over a broad dynamic range, excellent bias stability, and little hysteresis errors or offset drift problems that are usually associated with other accelerometer designs. The model 131D uniaxial is available in horizontal and vertical model versions.

KEY FEATURES

- » Low Noise.
- » State-of-the-Art MEMS Capacitive Accelerometer
- » Sensitivity & Offset stable over wide temperature range

APPLICATIONS

- » Building Arrays
- » Structural Monitoring
- » Site Response

MODEL	131D
ELECTRICAL	
Full-scale Range	$\pm 4g$
Full-scale Output	$\pm 10V$
Sensitivity	$2.5V/g$
PERFORMANCE - MEMS CAPACITIVE ACCELEROMETER	
Self-Noise	$1.2 \mu g/rtHz$
Dynamic Range	118 db (DC -10 Hz) @ 200sps
Linearity	$\pm 1\%$ of full scale
Frequency Response	DC - 600 Hz (± 3 dB)
Self-test Response	Logic level input will produce 0.5g positive output
Lightning Protection	Built-in surge protection
Cross Axis Sensitivity	$< 0.0005g/g$
Thermal Drift	$< 0.5mg/^\circ C$
Natural Frequency	1300 Hz
POWER	
Supply Voltage	9-18 VDC
Supply Current	60 mA typical
ENVIRONMENTAL	
Operating Temperature	$-4^\circ F$ to $167^\circ F$ ($-20^\circ C$ to $75^\circ C$)
Storage Temperature	$-40^\circ F$ to $185^\circ F$ ($-40^\circ C$ to $85^\circ C$)
Humidity	0 - 100% non-condensing
MECHANICAL - UNIAXIAL PACKAGE - 131D-01/1	
Dimensions	3"H x 3.3"W x 3.2"D (7.6 x 8.4 x 8.1 cms)
Weight	1 lbs (~0.5 kg)
Mounting	Two bolts on one of two axes

CUSTOMER SUPPORT

REF TEK products are installed in locations around the world, from urban settings to rainforests to deserts. The environments are often challenging for electronics and REF TEK Systems is committed to providing reliable, practical support. Our team includes seismologists and seismic installation experts as well as engineers and technicians.

Contact support@reftek.com.