ACCELERATION NEWS

KISTLER
measure. analyze. innovate.

Important news for customers involved in Research, Testing, Evaluation, Development and Instrumentation.

1/06

PiezoStar® Crystal Accelerometer

A New Dimension in Sensor Technology

For more than 50 years, Kistler has been developing and manufacturing piezoelectric sensors that are used to measure pressure, force and acceleration, – especially under extreme conditions.

Today, some of the needs on accelerometer designs are miniaturization, higher temperature stability and higher operating temperatures. Consequently new types of piezoelectric crystals satisfying this demand are being used in our accelerometer design.

To this end, research was conducted for over ten years to investigate new crystal compounds and develop growing processes at Kistler. The fruit of this research is a family of crystals, called PiezoStar , with outstanding properties for piezoelectric sensors. Since 1998, PiezoStar crystals measuring up to 65 mm in diameter and weighing up to 2,5 kg, have been grown and processed by Kistler to form sensor elements, thus creating a new group of pressure, force and acceleration sensors with superior properties.

The Outstanding Properties of Kistler's PiezoStar Crystals Include:

- High piezoelectric sensitivity (up to 5x higher than quartz)
- Very low temperature dependence, especially in the voltage mode
- High stability
- Can be used at temperatures of up to more than 600 °C
- No phase transition up to the melting point (above 1300 °C)
- No twin formation
- Growing process is produced on an industrial scale
- Tested and successfully used in high quality piezoelectric sensors

K-Beam Capacitive Accelerometers

K-Beams capacitive accelerometers now have Extended Input Power Supply Operation providing greater flexibility and compatibility for structural vibration applications including bridge, automotive, truck and aviation testing. Kistler capacitive accelerometers provide true DC response to measure static and dynamic events. The new types include:

- 8305B…M…sp, 8305B2/ B2sp/B10/B10sp,
- 8310B…M…sp,
- 8312B…
- 8393B…

New K-Beam "B"

Version Products	New Power Supply Volt-age Specification
8305B...sp	+7 ... +32 VDC
8310B…	+3,8 ... +32 VDC
8310B25… / 8310B50…	+6 ... +32 VDC
8312B…	+3,8 ... +32 VDC
8393B…	+3,8 ... +32 VDC

Servo K-Beam® Accelerometer, Type 8330A3

The 8330A3 is a 3g, 1200 mV/g, servo MEMS accelerometer with an industry standard 4-pin microtech connector, weighing 28,5 grams.

The 8330A3 accelerometer is a high performance, closed loop servo accelerometer that has extremely low noise with a threshold of less than 1,3 µgrms. The 8330A3 also has an enhanced frequency response range of 0 … 500 Hz (±5% min.) and 0 … 2700 Hz (±3dB typ.) as well as an operating temperature range of -40°C to +125°C . The 8330A3 is ground isolated to eliminate ground loops that cause unwanted noise. The sensor is powered with a bipolar supply with wide input voltage range of ±6 to ±15V with a low supply current of 8,5 mA typ. In addition to adhesive mounting, the 8330A3 can be mounted with four 4-40 or M3 bolts that are supplied.

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