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Press release

Kistler accelerometer features 27 percent lower noise threshold

Piezoelectric sensor measures tiny micro-vibrations

Winterthur, October 2021

The most successful triaxial accelerometer 8763B050 from Kistler is now more sensitive than ever: Its measuring threshold has improved from 0.0004 to 0.00029 g – a significant enhancement in the field of vibration monitoring, where this sensor is primarily used.

Measuring micro-vibrations is necessary in many engineering applications: accurate GPS data depends on stable space crafts and satellites just like automobile developers need NVH testing (noise, vibration and harshness) to optimize vehicle performance, durability and reliability. Because micro-vibrations occur in the micro g range, a highly sensitive measuring chain with very low noise is required for such applications.

The IEPE (Integrated Electronics Piezoelectric) triaxial accelerometer 8763B050 is the most common Kistler sensor used for these measurements and permits vibration monitoring in three mutually perpendicular axes. The measuring threshold determines the smallest possible level of vibrations that can be reliably picked up by the sensor. Thanks to improved electronics, the 8763B050 has a threshold of only 0.00029 g, compared to previously 0.0004 g.

Type 8763B sensors provide wide frequency response in each orthogonal axis, making it well suited for dynamic vibration measurements, especially on lightweight structures. Other features include the sensors' lightweight hermetic Titanium housing and high immunity to base strain thanks to shear element technology. Additionally, a miniature 4-pin ceramic-insulated connector provides long-term stability over a large operating-temperature range. An integral silicone cable variant is available for application of underwater vibration testing at up to 10 bars. Sensors of the 8763B family can be installed on test objects by either adhesive mounting or by flexible studs thanks to three 5–40 threaded holes. This allows for fully utilizing each mounting side of the cube design and provides reliable mounting for the calibration of each axis.

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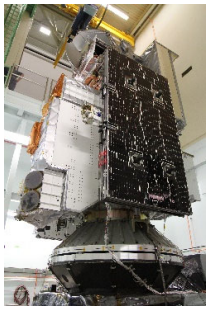
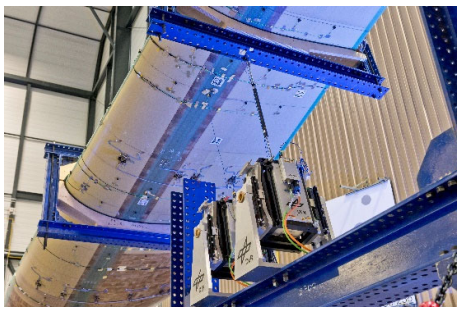
Image material (please name the Kistler group as picture source)

The IEPE triaxial accelerometer 8763B050 features 27 percent lower noise threshold for measuring micro-vibrations.



Space engineers measure micro-vibrations to improve satellite technology.



Full body modal analysis in aircraft engineering to manage vibrations of the wings

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About the Kistler Group

Kistler is the global market leader for dynamic pressure, force, torque and acceleration measurement technology. Cutting-edge technologies provide the basis for Kistler's modular solutions. Customers in industry and scientific research benefit from Kistler's experience as a development partner, enabling them to optimize their products and processes so as to secure sustainable competitive edge. Unique sensor technology from this owner-managed Swiss corporation helps to shape future innovations not only in automotive development and industrial automation but also in many newly emerging sectors. Drawing on our extensive application expertise, and always with an absolute commitment to quality, Kistler plays a key part in the ongoing development of the latest megatrends. The focus is on issues such as electrified drive technology, autonomous driving, emission reduction and Industry 4.0. Some 2,050 employees at more than 60 facilities across the globe are dedicated to the development of new solutions, and they offer application-specific services at the local level. Ever since it was founded in 1959, the Kistler Group has grown hand-in-hand with its customers and in 2020, it posted sales of CHF 361 million. About 9% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.