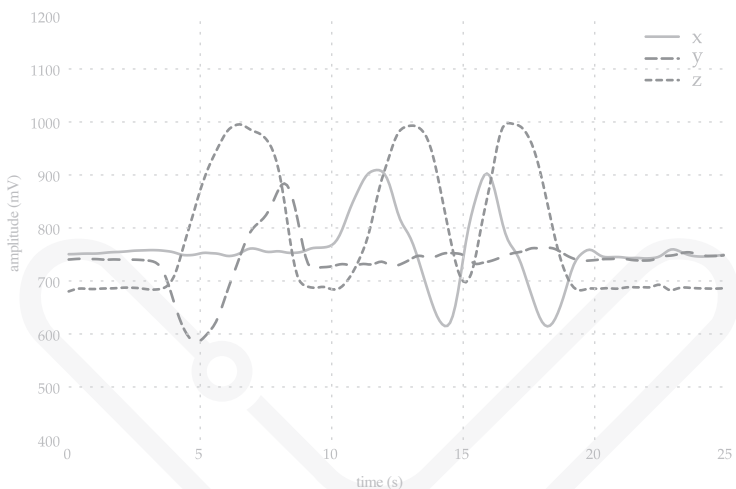


DESCRIPTION

The triaxial accelerometer is based on MEMS® (Micro Electro-Mechanical Systems) technology and has been developed for biomedical applications where cinematic and motion measurements are required. This sensor can measure accelerations relative to free fall and the model available is capable of detecting magnitude and direction of this same acceleration, as a vector quantity. This resulting vector can then be used to sense position, vibration, shock, fall, etc. Attaching the accelerometer to a limb for example, an acceleration can be measured within the dynamic range of the sensor.

The triaxial accelerometer sensor presents itself robust, stable, accurate, low cost, with a dynamic range of $\pm 3g$ and due to its small size, its integration is very easy.



APPLICATIONS

Nowadays accelerometers are widely spread from areas so distinguished as engineering, biology, building monitoring, biomechanics, etc, even cell phones and gaming consoles have them. Vibration measurements, particularly in research applications and studies of bodydynamic and biomechanic analysis are the perfect context candidates to use our compact MEMS® triaxial accelerometers.

Triaxial accelerometer sensors are designed for applications involving continuous or intermittent accelerometry readings in patients. Depending on the application it may require an acquisition system with up to 3 available analog ports in order to use the full measurement functionalities. For biaxial and uniaxial applications this same sensor can be used.

PUBLICATIONS

H. Myklebust, N. Nunes, J. Hallén, H. Gamboa. Morphological Analysis of Acceleration Signals in Cross-Country Skiing - Information Extraction and technique transitions detection, Proceedings of Biosignals - International Conference on Bio-inspired Systems and Signal Processing (BIOSTEC 2011), Rome, Italy, 2011.

J. Beckert, F. Silva, S. Palma, Inter-Rater Reliability of the Visual Estimation of Shoulder Abduction Angles and the Agreement of Measurements with an Accelerometer, Proceedings of ECSS2009, Oslo, Norway, June 2009.