# News from SENSONICS LTD

www.sensonics.co.uk

MADE IN UNITED KINGDOM
PROTECTING WORLDWIDE

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*Welcome to our latest newsletter, keeping our customers and partners up-to-date with the latest developments at Sensonics. New projects, new products and case-studies, all helping to protect your critical rotating plant.*


## BOASTEEL CHINA BENEFITS FROM VIBRATION PROTECTION

**A recent project success for the Sensonics DN26G3 is the Boasteel Zhanjing Steel plant in China. Over 90 dual channel modules are utilised with Sensonics sensors to monitor the main exhaust fans in the blast furnace, the vaporising fans in the continuous casting line and de-dusting fans in the steel making and sintering unit.**

Whilst continuous protection and monitoring is essential for critical rotating plant across every industry sector, sophisticated protection systems may be difficult to justify for smaller machinery operating on less critical applications. The solution is cost-effective and compact **machinery protection monitoring** devices like our **DN26 G3 protection monitor.** This provides practical and affordable protection for smaller plant and equipment such as; pumps, fans, motors, centrifuges and turbines.

The high-performance Din Rail mountable DN26 G3 unit is capable of monitoring two channels of bearing vibration, shaft vibration, or shaft position and offers fully programmable signal conditioning with a range of measurement algorithms and sensor options. It also offers a dedicated speed monitor channel which can be utilised as a phase reference for harmonic analysis of the vibration signals.

The unit is extremely flexibility and as a universal module (single hardware platform) it is field upgradable, can be programmed for any of the measurement options detailed earlier and is available with universal mains voltage or +24Vdc power supply options. The sensor interface is programmable to accept IEPE type accelerometers / velomitors, proximity probes (API 670 standard), and active / passive speed probes.

## MONITORING VIBRATION ON LOW SPEED MACHINES

**Slow speed rotating machinery (typically, less than 300 RPM) is commonplace in many industrial applications, such as; cooling towers, hydro-electric turbines and wind power generation and it's essential to measure vibration on this as much as it's a critical requirement for standard speed machinery. In all cases the focus should be; understand the dynamic behaviour, establish a baseline vibration performance, and then detect the early onset of failure in rotating parts. If left un-checked there is the potential for more serious damage affecting overall performance.**

Accelerometers are typically used on standard speed machinery (i.e. 1500 RPM) although this becomes problematic at lower speeds as the absolute accelerations measured are much smaller in value for similar vibration displacements. We recognised the need for a sensor to meet these requirements and developed **VEL/GLF,** our new **LOW FREQUENCY VELOCITY VIBRATION SENSOR.** This electro dynamic sensor offers a superior performance compared to piezo-electric devices by combining high measurement sensitivity with a frequency response down to 0.5 Hz so it's ideal for measuring velocity vibration on equipment with speeds below 300 RPM.

# SEISMIC SWITCH FOR HIGH-INTEGRITY PROTECTION

High integrity seismic protection of critical assets such as oil, gas, nuclear and hydro-electric installations, pharmaceutical and medical facilities is essential and Sensonics are acknowledged as the leading supplier of seismic monitoring protection systems to the UK's nuclear industry.

Accurate detection of structural vibration in conjunction with safe shut-down procedures is crucial and our SA safety seismic switch is a good example of our expertise in developing innovative seismic monitoring and protection systems. The SA-3 seismic safety switch provides triaxial vibration detection and is ideal for protecting vulnerable structures from ground borne vibration events and incorporates a range of safe shutdown options, depending on the application.

The SA-3 model features three high-integrity low-noise piezoelectric seismometers positioned at 90º to each other along with the associated alarm circuitry housed within a robust weatherproof painted steel enclosure. It is seismically qualified to IEEE-344 (Standard for Seismic Qualification of Equipment for Nuclear Power Generating Stations) and utilises technology operationally proven in harsh environments. The switch operates on seismic events and when the signal from any axis exceeds the pre-set alarm level, the alarm relay is activated.

The sensors consist of a unique system of matched piezoelectric elements arranged in a 'reciprocal' configuration providing a functional test capability. Application of a 1Hz signal to the calibration crystal element mechanically excites the measuring elements resulting in a defined signal output which can be used to perform a full loop check of the seismic switch.

Such a facility is essential for applications where the switch is located in a hazardous area and requires full-proof testing on a regular basis. As well as the usual seismic and EMC approvals the SA-3 switch is available for functional safety applications up to SIL-2 and can also be provided in an explosive-proof housing for Ex hazardous area applications.

## New Partner for Central Europe

We are pleased to announce the appointment of Chris Pilder as our representative for Germany and Central Europe. Chris is authorised to deal direct with clients on Sensonics behalf and assist with applications, pricing and technical queries. Chris brings a wealth of experience in instrumentation applications to the Sensonics team in a broad range of markets.

**Visit our website for further details**

# SHAFT VIBRATION AND THRUST POSITION TRANSMITTERS

Following the release of our new Senturion X series of proximity probes the range has been further enhanced to include direct shaft vibration and thrust position transmitters, in line with the Senturion X universal driver concept.

The 4-20mA loop powered modules provide easy integration with either the local machine PLC or a plant wide DCS since it is powered through the measurement loop. All signal processing is carried out within the unit providing an output current proportional to either peak-to-peak shaft vibration or relative position to the probe face. The module permits the adjustment of both gain and offset for ease of calibration to suit the application.

Smaller pumps and compressors will particularly benefit from the DNX series, where if combined with Sensonics range of compact machine mounted housings, the product provides a particularly cost effective solution for critical operational measurements, with a straightforward interface that requires no local power supply.

Ideal for OEM applications, the driver also provides a raw buffered output of the vibration signal that can be utilised through portable analysis equipment for a more detailed picture of the dynamic performance of the machine.

***For more details about Sensonics go to: www.sensonics.co.uk***

Sensonics offer over 40 years of experience as a leading supplier of turbine supervisory and high integrity protection equipment. We provide solutions for vibration, displacement and speed instrumentation applications in the most demanding environments. Our range includes sensors and API 670 compliant measuring and protection equipment, along with design, installation and commissioning services.

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