



Sensor Technology Ltd announce their new range of **TORQSENSE™** Rotary Torque Transducers.

Sensor Technology Ltd announces their range of Rayleigh Wave **TORQSENSE™** (RWT) transducers. Their experience of working with this relatively simple patented technology also means that it can now be **embedded into OEM products** where knowledge of torque is critical.

**TORQSENSE™** transducers are now available in 7 sizes measuring torque from *100mNm to 10,000 Nm*, with smaller ranges having speeds up to 30,000 rpm. The *advantages* for using SAW devices in torque transducers are **cost sensitive**, relatively **simple** and require a **minimum shaft length** and relatively high stiffness of shaft. RWT transducers also have **low inertia**, **no physical contact** between housing and shaft and are **non-speed** dependent. **TORQSENSE™** offers **high bandwidth** and excellent **signal immunity**.

Rotary torque has historically been difficult and expensive to measure. The patented method uses SAW devices as 'frequency dependent' strain gauges to measure the change in resonant frequency caused by the applied shaft strain. By using a frequency-based device, the signal bandwidth is increased, and the problem of electronic interference common with other analogue based technologies is eliminated.

In a **TORQSENSE™** transducer, surface waves are produced by passing a high frequency voltage across the terminal of two interleaved comb-shaped arrays that are layered onto one end of piezoelectric substrate. A similar 'receiving' terminal, at the other end of the transducer, converts the wave back in to an electric signal.

The frequency of the wave generated is dependant on the spacing of the 'teeth' in the comb array and as the direction of the wave propagation is at right angles to the teeth, any change in its length alters the spacing of the teeth and hence the operating frequency.

To measure torque in a shaft, two SAW transducers are bonded at 45 degrees to the shaft's axis and connected in a 'half bridge' configuration. When the shaft is strained, the difference in frequency output between the two SAWS relates to the applied torque.

**TORQSENSE™** transducers require no physical connection to the shaft's housing. Instead, the signals are transmitted via a rotor and stator.

The transducers are available with RPM output and IP65 sealing as options, and interface with the E302 Advanced Torque Transducer Display, which features full temperature correction for changes in the modulus of elasticity of the shaft. The E302 can be interfaced with **TORQVIEW™** Virtual Instrumentation Display PC Software to give a self-contained data display and recording system.

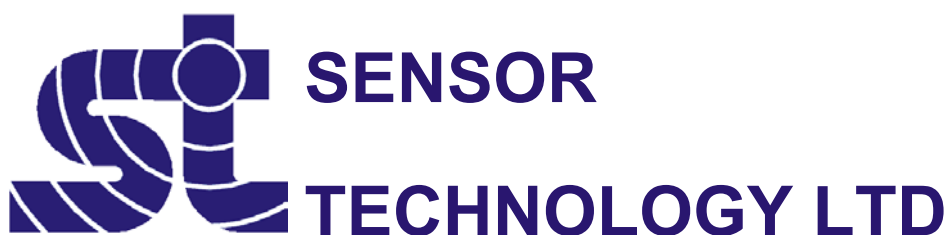
OEM applications, for **TORQSENSE™** include automotive, manufacturing machines, condition monitoring, tightening procedures, and monitoring and control of viscosity during mixing processes.

PRESS RELEASE 4B

FOR FURTHER DETAILS CONTACT TONY INGHAM ON 01295 730746

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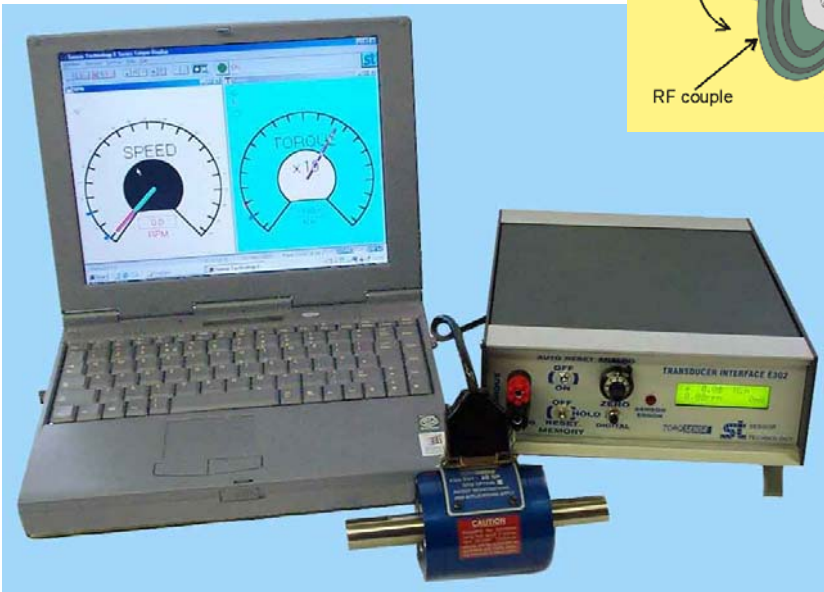
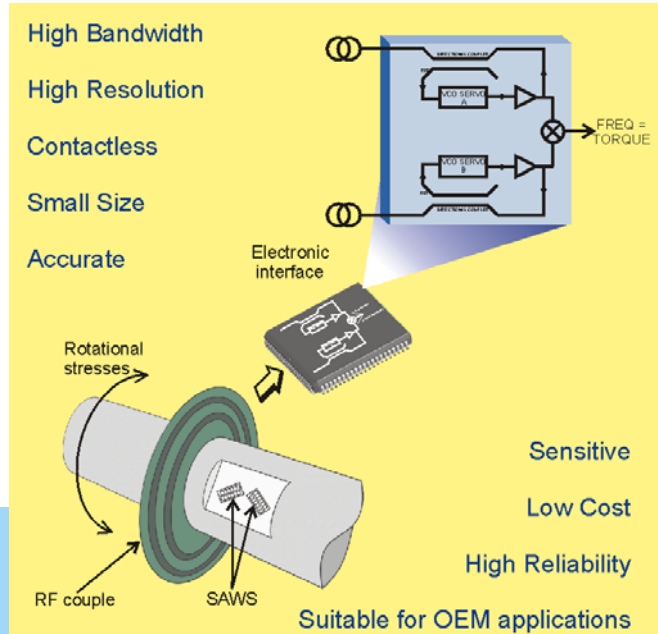
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# TORQSENSE™



RTI Series **TORQSENSE™** transducers.




A portable PC, a Sensor Technology **TORQSENSE™** torque transducer, and an E302 Interface instrument.

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