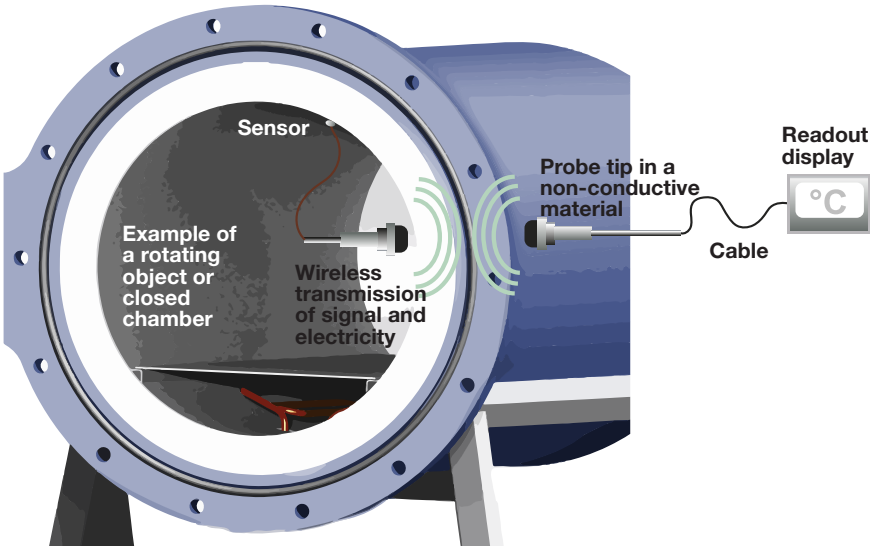
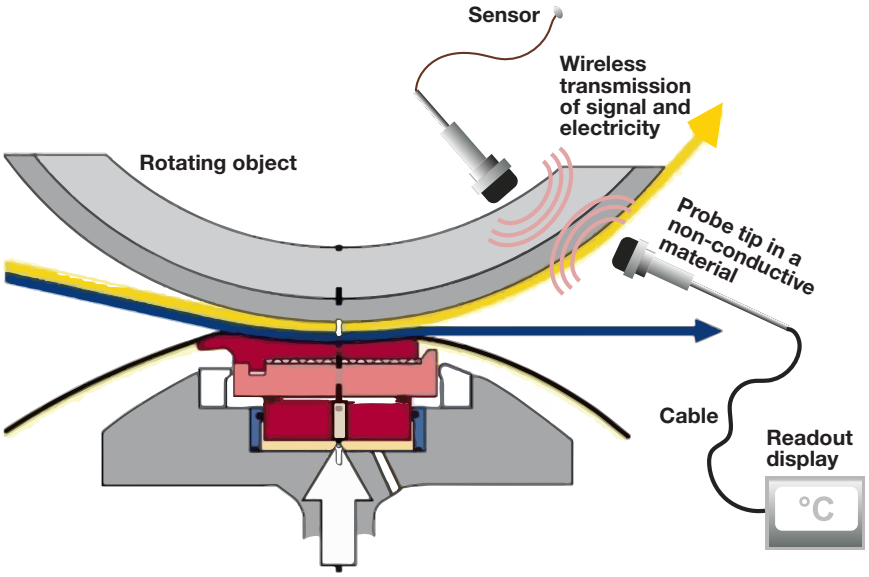
PENTRONIC'S SENSORS GO WIRELESS

New technology is developing faster and faster, leading to new solutions to previously identified problems. Pentronic has been working for a number of years on developing "smart" sensors, which can use modern electronics to transform discrete signals from thermocouples and platinum resistors into standardised analogue and digital signals transmitted to measuring and control equipment. Signal transformation at the sensor has advantages such as diagnostics and signal output, so that the same model of sensor always produces the same signal regardless of the individual unit.





Using digital technology also makes it possible to connect the sensors to a bus system in order to reduce the need for laying cables in multi-sensor applications. Digital signal transmission eliminates measurement errors in the signal chain by digitally transmitting the sensor signal all the way from the sensor to the measuring or control system. A number of Pentronic's customer have chosen this type of technology for their applications.

The latest product development at Pentronic involves the ability to communicate with sensors wirelessly. A number of examples already exist of sensors with wireless signal transmission, but most of them require a battery or mains electricity supply in order to work.

"We can now offer a solution whereby both the signal and the electricity supply are transmitted wirelessly," explains Emil Ritzén, head of electronics development at Pentronic. "The technology is based on signal transmission with standardised communication plus energy that is transferred by induction."

Pentronic's Managing Director Rikard Larsson describes the applications where it can be appropriate to use this type of product. It might be when you want to place a sensor on a rotating object such as a drive shaft or roller. Another example is when the sensor has to be put inside a closed chamber, where it is difficult to create a seal because of cable lead-throughs or connectors. Or where it must be easy to install and remove sensors.

The first product to be available is built for resistance thermometers. It can transmit signals and power for a distance of up to 40 mm. The product is hermetic and can handle an ambient temperature of up to 85 degrees C. It is designed to meet the requirements for extreme environments. The signal output is 4-20 mA.

"We consider other sensor types such as thermocouples plus digital signal output to be a natural development of this product family," Emil says.

"If you're facing a problem where you think our wireless technology can be the solution, don't hesitate to contact Pentronic and we'll tell you more about how the technology works," Rikard Larsson concludes.