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What are Smart Sensors?

A smart sensor detects environmental signals, processes them and outputs the resulting information. Some are complete, self-contained systems which include logging and display capabilities. The data acquisition component of the sensor can convert the signal from analogue to digital, [condition the signal](#), calibrate and compensate before transmitting the resulting information.

The Internet of Things comprises a network of smart sensors. The sensors can communicate with a central gateway or with each other. Each has a unique identifier.

Several sensing elements can be combined in one smart sensor. For example, in the smart city vehicle counters may be integrated with air pollution detectors to provide real-time information about traffic levels and air quality.

In agriculture, smart sensors can monitor water content of the soil and deploy irrigation when needed.

Smart sensors are being used to optimise heating grids. In Europe, around 20% of heat is lost in the distribution grid. Smart sensors can precisely monitor the grid and provide important information about the entire system and enable district heating plants to save enormous sums on monitoring, maintenance and heat loss. Very small sensors placed inside the insulation material around the district heating pipes that automatically harvest energy from their surroundings.



Find out More

For more information [get in touch](#).

Your Data Acquisition Questions Answered: Measuring from LVDT and Strain Gauge

Question

I am preparing some experiments which will use some strain gauges and LVDT. In that case, I would like to know which equipments to buy from your company, including the data logger and software. In one experiment, I need to test four stain gauges at one time. If you can highlight the price and the name of the equipment, I would be appreciated for your help!



Answer

You can use the Microlink 751-SG package. This will log up to 16 strain gauge, or voltage input circuits. The LVDT could need to have a DC voltage output which would be suitable as an input to the ML751. You would need to check the type of LVDT you are going to use. We would also need to know the type of strain gauge to be used eg 120 ohm or 350 ohm, in quarter, half or full bridge configuration.

The cost of the Microlink 751-SG package is £475.

For more details see [Microlink 751-SG: Strain Gauge Measurement, Digital I/O and Counters](#) and [Understanding Strain Measurement with Strain Gauge Bridges](#)

DAQ News Round-up

Welcome to our round-up of the data acquisition and control news. If you would like to receive more timely DAQ news updates then follow us on [Twitter - @DataAcquisition](#) - or grab our [rss feed](#).

Elastic ice could be used to measure pollution

Researchers have developed thin strands of ice that can be bent and curled like wires. The scientists said the tech could eventually be used to create tiny sensors capable of detecting air pollution.

Source: Business Insider

<https://www.businessinsider.com/>

Bees find refuge from perilous world in robotic hive

Robotic arm scans honeycombs for disease and pesticides and reports in real time any hazards that threaten the colony

Source: Beewise

<https://www.ynetnews.com/>

Making sensors visible could build civic trust

Most technology projects are deployed with the aim of making life in cities better: cleaner, greener, less congested. Showing sensors will make people trust them more.

Source: Cities Today

<https://cities-today.com/>

Common Solar Tech can charge sensors with indoor light

Any time you turn on a light at home or in the office, you are expending energy. But what if flipping the light switch meant producing energy too?

Source: NIST

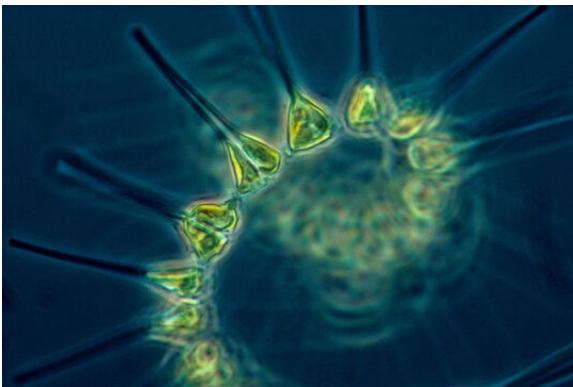
<https://www.nist.gov/>

Floating robots give new look at ocean health

A fleet of robotic floats could revolutionize our understanding of the productivity of phytoplankton in the ocean, shedding new light on the global carbon cycle.

Source: SCUBA News

<https://news.scubatavel.co.uk/>



Microscopic phytoplankton are integral to the health of the ocean and our planet. Just like plants on land, they consume carbon dioxide and convert it to organic carbon and oxygen

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