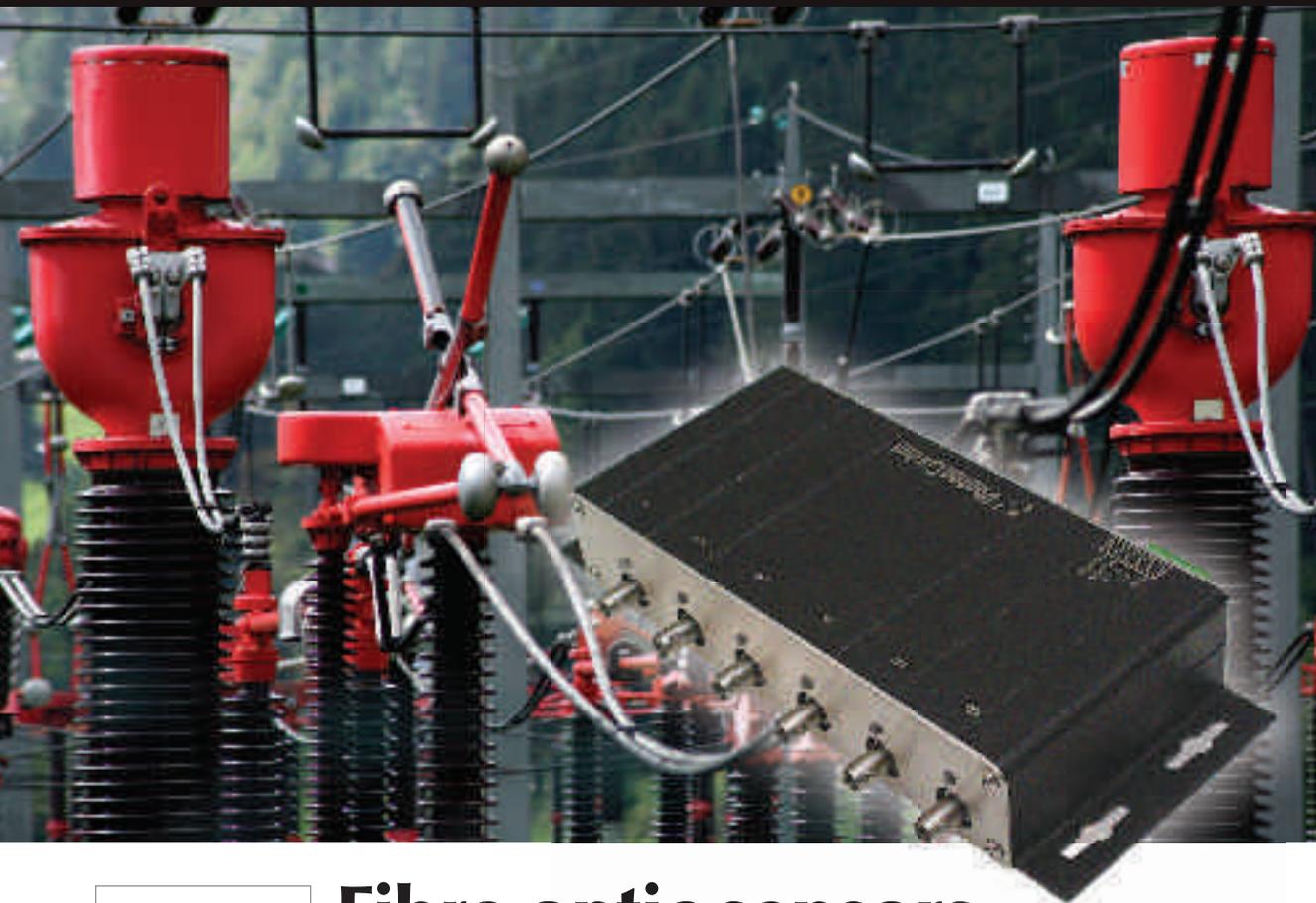


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FEATURED PRODUCTS



Wireless transmitter

The UWXL wireless transmitter from Omega has an IP68-rated enclosure and software that converts a PC into a multi-channel chart recorder or data logger. The unit can capture temperature, RH, flow and pH.

www.omega.ca



PC board fasteners

PEM surface mount and broaching fasteners for PC boards from PennEngineering are designed to satisfy component-to-board, board-to-board, and board-to-chassis attachment requirements. All types install permanently, reduce the need for loose hardware and eliminate secondary operations.

www.pemnet.com



Automated in-circuit reports

The N1194A Agilent Test Coverage Consultant is a test coverage prediction software tool. It measures the test coverage of a product after the tests have been developed and predicts the test coverage of a product based only on the CAD layout files.

www.agilent.com/find/atcc

Fibre optic sensors tackle premium applications

Technology sees the light By Peter Caulfield

Photon Control Inc. of Burnaby, BC, makes a wide variety of sensing devices, including spectrometers, flow meters, analytical instruments, temperature sensors, positional sensors, pressure sensors and displacement sensors.

Sold through distributors and OEMs, there are several thousand Photon Control (www.photon-control.com) sensors in use around the world. Companies that use the company's sensors include Siemens, ABB, Shell, Conoco-Phillips, Luk Oil, Spectra and Canadian Natural Resources Ltd.

What makes Photon Control's sensors different is that they are based on fibre optics that use light, instead of an electric current, to transmit energy. Unlike their electric counterparts, fibre optic sensors are not affected by electromagnetic interference. EMI is produced in abundance by the equipment used in such industries as oil and gas production, semiconductor manufacturing and power utilities, all of which are markets for Photon Control.

Fibre optic sensors are a niche product,

Continued on page 10

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Continued from page 1

Niche sensor tech ignores EMI

representing less than 5% of all sensors. They are also more expensive than electrical sensors: Photon Control's sensors range in price from \$200 up to as much as \$40,000.

Although glass is best for the long-

distance transmission of signals, such as telecommunications, plastic fibre is preferable for the short distances that are typical of industrial control applications.

Fibre optic sensors have many advantages over electrical sensors. They

eliminate shocks, sparks and short circuits; they can put many controls on a single fibre; they are not affected by fluids and dust and their contacts don't corrode; they can operate at very high temperatures; they have reduced environmental impact; and they don't cross signals.

Traditional electrical sensors and wires, on the other hand, can interfere with the electromagnetic and radio

waves produced by some equipment. Medical researchers, for example, cannot risk electrical interference with their sensitive tests. And the risk to both patients and equipment precludes the use of metal components.

Working closely with Photon Control R&D Ltd., a separately-owned technology and product development company that occupies space in the same building, Photon Control produces at least 120 sensors. The company recently launched the PowerTemp series (inset cover photo), a new multi-channel temperature sensor and transmitter for the power and utility industry

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The PowerTemp series is a new multichannel temperature sensor and transmitter for the power and utility industry.

(above). The PowerTemp series FTC-PTM-ST-XXCH enables temperature measurement in high-voltage, high-RF and high-EMI environments. Applications include high-voltage transformers, generators, switch gear and wind turbines. The sensors can track changes in generator temperatures and measure real-time bearing temperature to help predict maintenance schedules.

One of Photon Control's best-selling products is the SPM-002-XT.CCD Spectrometer. Donna Hohertz, a PhD student in Physics at Simon Fraser University, has been using the spectrometer to measure the surface plasmon resonance of molecules on gold. Hohertz, who is part of a lab with two graduate students and one post-doctoral fellow, is trying to build a new type of antibody sensor that will measure antibodies from a single cell.

"The spectrometer measures small shifts in the wavelength of plasmon resonance on the surface of gold," she said. "The optical transmission is extraordinary."

"In the future, we believe oil and gas flow meters and OEMs have a lot of growth opportunity for us," Weston said. "In addition, there will be new niche markets for our sensors, such as renewable energy."

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