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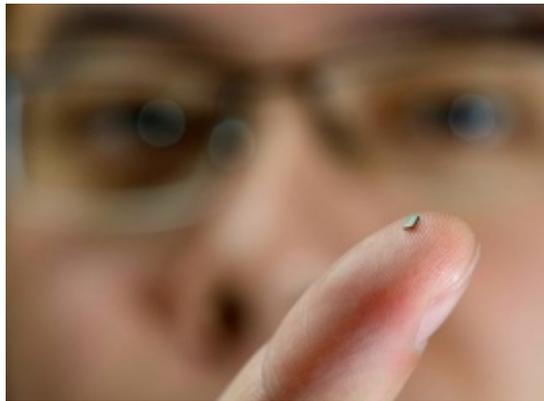
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Radio powers autonomous temperature sensor

electronics-eeetimes | Posted: 25 Dec 2015, 09:09

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Researchers at the Technical University of Eindhoven have developed a wireless temperature [sensor](#) that is powered by millimeter wavelength radio waves that are also used for communications.

Eindhoven student Hao Gao was due to receive a Ph.D. earlier this month for his thesis in which he discusses his development of the [sensor](#) that has an area of 2 square millimeters and weighs 1.6mg. The [sensor](#) is made using a 65nm CMOS manufacturing process.

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A specially developed wireless router communicates with the sensor, which has an antenna on chip and picks up both energy and information from the millimeter wave signals. The current version of the sensor has a range of 2.5cm but researchers hope to extend this to a meter within a year.

The autonomous nature of the temperature sensor means it can be put behind plasterboard or included in a screed of concrete or paint

The sensor stores the energy received and once there is enough switches on, measures the temperature and sends a signal to the router. Each temperature is indicated by a slightly different frequency at which the return signal can be sent. The router determines the temperature by the distinctive frequency.

The same technology could be used with other sensor types, such as motion, light and humidity. The tiny size of the silicon chip is expected to keep sensor costs down to around 20 cents in volume.

The title of Hao Gao's thesis is Fully Integrated Ultra-Low Power mm-Wave Wireless Sensor Design Methods. The IC research was done in the Mixed-Signal Microelectronics group and also involved university groups specialised in electromagnetics and signal processing systems as well as the Center of Wireless Technology.

Automation



Konica Minolta Sensing Americas Inc. has announced Luminance Meters

Konica Minolta Sensing Americas Inc. has announced the LS-150/160 and CS-150/160 luminance and chromaticity meters, replacements for the LS-100/110 and CS-100A devices.



Six-Axis Piezo Hexapod

PI (Physik Instrumente) LP has announced the P-915KWEF six-axis piezo hexapod for dynamic active error compensation.

News

China's GoerTek, Intel back



NextInput Inc. (San Jose, Calif.) has completed an \$8.0 million Series A funding round...

Cooking Up a Food Safety Plan



Protecting the public and protecting business is the top priority for food processors...

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Having emerged as the most readily applicable Industrial Internet of Things...

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Trying to make sense of the data that abounds throughout industry, a wide variety of...

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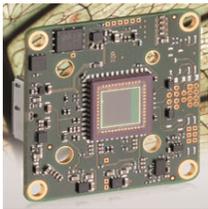
Break the limitation of non-K CPU & experience overclocking

Overclocking has been reserved mostly for high-end unlocked CPUs including the latest Skylake K series processors and many overclockers and high-performance gamers want this processors because of their easy overclocking capabilities via their unlocked multiplier.



A Tale of Four Cabinets – The FANUC R-30iB

Their most recent controller, the FANUC R-30iB, is the most advanced controller yet, with four different size and shape options to save space and improve productivity.



Board-Level Camera

The UI-359xLE USB3 board-level camera from IDS Imaging Development Systems GmbH uses Aptina's 18-MP AR1820HS sensor, ensuring detailed images for high-resolution visualization applications, such as microscopy, barcode reading, optical character recognition and medical engineering.



3S Smart Software offers Beckhoff and Wago runtime systems

December 21, 2015 - 3S Smart Software Solutions is now providing customized CODESYS runtime systems for established device platforms, such as industrial PCs from Beckhoff and programmable fieldbus controllers from WAGO.



ABB Robotics: High Payload Robot

The IRB 8700 offers high performance with low total cost of ownership.



HTU21D



Automatic



China Supplier



10.4 Inch All In



Atos PFG-1,PFG-2



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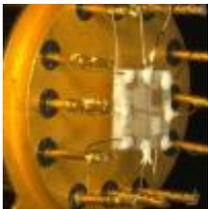
GE: Enhanced Input/Output Device

The RSTi-EP I/O device combines performance and maintainability in a minimal footprint.



Santa's terrifying little helpers: The military robots transformed into sleigh-pulling reindeer

American engineering firm Boston Dynamics has created a group of robot reindeer that are capable of dragging Santa's sled, as revealed in its Christmas message.



Hybrid sensor spots cable fires before they start burning

Scientists of KIT and Karlsruhe University of Applied Sciences have developed hybrid sensors that can detect smoldering cable fires at an early stage by analyzing the plastic vapors released by overheated insulating cables.



250mW automotive linear regulator integrates diagnostics and protection

Featuring a 50V load dump rating with short-to-battery protection, the A4481 from Allegro MicroSystems Europe is an AEC-Q100 qualified linear voltage regulator IC with built-in control, diagnostics and protection features that address the requirements of automotive applications.



360° programmable magnetic angle position sensor

A1335 from Allegro MicroSystems Europe is a 360° contactless high-resolution programmable magnetic angle position sensor IC.



MEMS atmospheric pressure sensor offers 0.1% accuracy, in distribution

Mouser Electronics has the ZPA Series MEMS pressure sensor from Murata, a 2.3 × 2.6 mm micro-electro-mechanical systems (MEMS) sensor that provides highly accurate pressure readings from 300 to 1,100 hPa, down to 0.016 Pa resolution.



AC charging cables/controllers help keep cars on the move

Now available in Europe through TTI is Phoenix Contact's highly reliable range of AC charging cables and AC charging controllers for E-mobility applications.



Embedded board & tiny embedded system feature I/O support

Avalue Technology is introducing the Intel Pentium/Celeron processor N3000 family Embedded Board –ECM-BSW and tiny embedded system – EPC-BSW.



High power resistors feature low Ω

KOA Speer Electronics introduces the WU73, a 1W wide terminal low ohm chip resistor available in an 0612 package.



Precision chip resistor has extremely tight tolerances

Ultra-tight tolerances down to $\pm 0.01\%$ have been achieved by using advanced thin film technology in ARCOL's APC Precision Chip resistor.



Digital Panel-Mount Piezo Drive for Coordinated Motion between Piezo



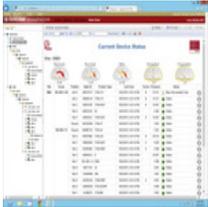
Stages/Servo Axes

The Ndrive QLe by Aerotech is a family of digital, panel-mount, nanopositioning piezo drives for use with the Aerotech Automation 3200 (A3200) motion controller, a controller conceptualized for semiconductor, data storage, medical device manufacturing, laser processing and metrology applications.



Software upgrade turns VSD into a servo rival

Danfoss has added an optional software function to its VLT AutomationDrive FC 302 that, it says, will deliver the precise positioning and synchronisation of a servodrive -- without the cost and complexity.



Rockwell Automation releases Diagnostic Reliability Service

Rockwell Automation releases Diagnostic Reliability Service that helps manufacturers and industrial producers drive a streamlined maintenance strategy on mission-critical, integrated equipment lines.



Pentair: Modular Enclosure System

The Schroff AdvancedTCA ECO Modular System offers 14 slots and is based on a modular concept with a cost-optimized scope of features.



Rockwell: Automation Development Software Enhanced

Three new applications have been added to Rockwell Software Studio 5000 development environment to help engineers speed development of automation systems as they design a connected enterprise.



MTE: Single-Phase Harmonic Filters

The Matrix ONE family is offered in 240 V and 480 V for applications spanning between 3 and 150 hp.



Siemens: Operator Interfaces for Special Environments

Monitors and panel PCs are suitable for use in hygienic production areas, such as in the food industry, and also meet the requirements of the chemical, oil and gas industries.



AAEON introduces EPIC-BT07 single board computer

AAEON introduces EPIC-BT07 single board computer with choice of processors.



Servomotor-gearboxes are 'half the length'

Sumitomo (SHI) Cyclo Drive has collaborated with the Swedish motor manufacturer HDD Servo Motors to develop a compact, precision, hollow-shaft motor-gearbox that, they claim, is half the length of conventional rotary drives with comparable performance.



Servomotors act as sensors for more precise control

Bosch Rexroth has developed a range of synchronous servomotors which provide data on their temperature and saturation to the company's IndraDrive controllers.



Texas Instruments: Low Latency, High ESD Industrial Gigabit Ethernet PHYs



The DP83867 is billed as the first industrial gigabit PHY for Industry 4.0 applications.



Sierra Wireless: Low-Power LTE Industrial Gateway

AirLink Raven RV50 gateway provides mission-critical LTE communication and remote monitoring for industrial IoT applications, including utilities, oil and gas, and infrastructure.



Siemens: Operator Interfaces for Special Environments

Monitors and panel PCs are suitable for use in hygienic production areas, such as in the food industry, and also meet the requirements of the chemical, oil and gas industries.

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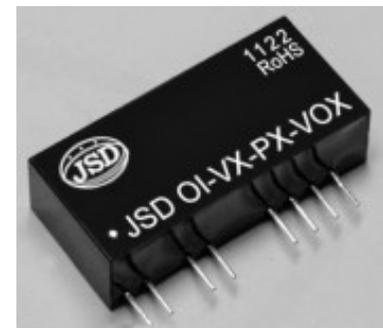
9.7 Inch Tablet PC In Windows System



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