austriamicrosystems launches ambient light sensor for intelligent daylight harvesting

Unterpremstaetten, Austria (16 April, 2012) – austriamicrosystems today introduced the TSL4531 ambient light sensor family at the Light+Building exhibition in Frankfurt, Germany, which enables sophisticated daylight harvesting for intelligent lighting systems and luminaires.

The sensor family – developed by TAOS, the leading global supplier of intelligent light sensors acquired by austriamicrosystems in 2011 – offers a wide sensitivity range from 3 lux to 220,000 lux, preventing saturation even in direct sunlight while implementing a photopic response model that spectrally matches light perception in the human eye.

The TSL4531 ambient light sensor provides a simple, direct lux output and a 16-bit digital interface. Sophisticated filters automatically reject the 50-60 Hz ripple typically produced by a building's fluorescent lighting systems, enabling the sensed light levels to more accurately measure the daylight that is entering the building.

Daylight harvesting is the next major step in the development of integrated lighting systems, enabling luminaires to dim in response to the amount of outside light that is entering a building through windows or skylights. By supplementing the working space with only the amount of light needed to maintain a uniformly lit environment, energy savings of 30% or more can be realized when compared to existing installations, which do not respond to changes in ambient light.

Kirk Laney, Executive Vice-President and General Manager of Optical Sensors and Lighting at austriamicrosystems, said, "This family of ambient light sensors has already proven itself in millions of mobile devices, displays, televisions, and automotive and medical applications across the globe. Now we are bringing these same capabilities to general lighting. The coming wave of Cognitive Lighting™ will demand independent smart sensors that are 'environmentally aware' in order to provide not simply data, but answers. That is what the TSL4531 will deliver."

Being fully aware of the lit environment also allows optimization that extends

beyond energy savings. In integrated building management and control systems, the combination of proximity/motion and light sensing provides an abundance of data concerning the interior environment. Additionally, daylight sensing/harvesting combined with precise control mechanisms enable the lighting system to deliver not just the needed amount of light, but also offers the ability to tune the type of light to suit the activity and users in a particular space. Environmentally aware, decision-directed, multi-sensor networks and optimized light will enhance not only the productivity of the building space, but also worker and group productivity, as well as increasing the health and well-being of individuals.

“This next wave of Cognitive Lighting systems will finally make use of the abundance of data available in the light and autonomously adjust the building environment to enhance comfort, productivity, safety and efficiency at the same time,“ said Sajol Ghoshal, Director of the Sensor Driven Lighting business at austriamicrosystems. “Intelligent sensors will rapidly be recognized as a key driver for all future lighting systems,“ he concluded.

TSL4531 Features

- Direct lux output
- Approximates the human eye’s spectral response in diverse lighting conditions
- Three user-selectable integration times: 400 ms, 200 ms, and 100 ms
- Wide dynamic range: 3 lux to 220,000 lux
- Low active current: 110 µA typical
- Power down mode: 2.2 µA typical
- 16-bit digital output compatible with I^2C interface
- Ultra-small 2 mm x 2 mm ChipLED package
- 2.5 V supply voltage with 1.8 V logic interface
- Rejects 50 Hz/60 Hz lighting ripple

The TSL4531 ambient light sensor IC is available now in volume production. For more information on the device, please visit www.austriamicrosystems.com [1] and www.taosinc.com [2].

Links:
[1] http://www.austriamicrosystems.com/
[2] http://www.taosinc.com/