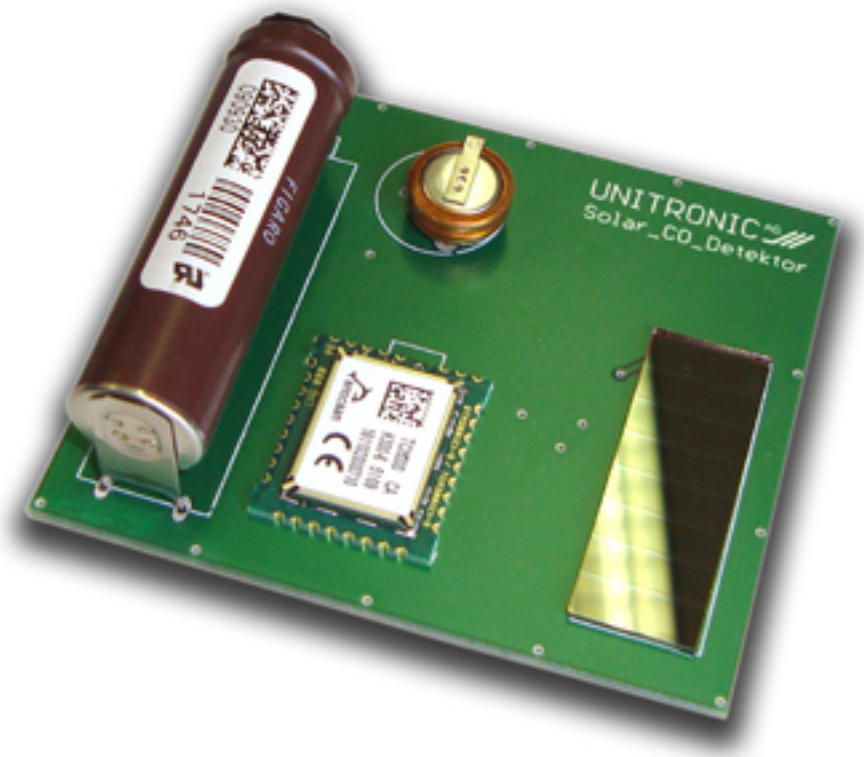
Wireless-based, solar-powered sensor module warns when carbon monoxide concentration in the air is too high

ECN Europe

Unitronic presents a wireless-based, solar-powered sensor module for continuous monitoring of the carbon monoxide (CO) concentration in various buildings and in industrial applications at SENSOR+TEST 2011 [1] in Nuremberg (Germany) at Booth 638 in Hall 12.

The core of the Unitronic Solar CO Sensor Module (USCSM) is an innovative electrochemical carbon monoxide sensor in the shape of a standard AA battery, developed by Figaro – which meets both DIN EN 50 291 (Electrical apparatus for the detection of carbon monoxide in domestic premises) and Association of German Engineers (Verein Deutscher Ingenieure – VDI) guideline VDI 2053 (Air treatment systems for car parks) – and a STM 300 programmable, bidirectional wireless sensor module for 315 MHz or 868 MHz from EnOcean.



[2] ***Picture: Unitronic***

The main sensor element operates without an external voltage supply – its energy supply is provided with the help of an electrochemical process. Thanks to the ultra low power consumption of the EnOcean wireless sensor module and the solar cells integrated on the USCSM module, the carbon monoxide detector can thus be operated anywhere worldwide, fully independently of additional energy sources,

wherever there are adequate light conditions for at least some of the time.

The detection range of the USCSM is from 20 ppm to 1000 ppm. A measurement is carried out every 20 seconds in normal ambient air and the wireless module transmits a presence message every hour with current values of the CO concentration and of the supply voltage. An operating time of up to 60 hours in darkness is achieved with these measurement and transmission cycles. When, during the CO concentration in the ambient air rises, the number of measurement and transmission cycles automatically increases, the current value of the supply voltage enables a continuous analysis of the anticipated remaining operating time. In this case, early visual or audible warning ensures a high level of safety.

In the standard version, the USCSM module measures only 55 mm x 24 mm x 22 mm. Customer-specific adaptations are available upon request.

SOURCE [3]

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http://www.ecnmag.com/blogs/2011/06/wireless-based-solar-powered-sensor-module-warns-when-carbon-monoxide-concentration-air-too-high?qt-most_popular=0

Links:
[1] http://www.sensor-test.de/home-en/
[2] http://ecneurope.files.wordpress.com/2011/06/kl-unitronic-uscsm.jpg
[3] http://ecneurope.wordpress.com/2011/06/07/wireless-based-solar-powered-sensor-module-warns-when-carbon-monoxide-concentration-in-the-air-is-too-high/