

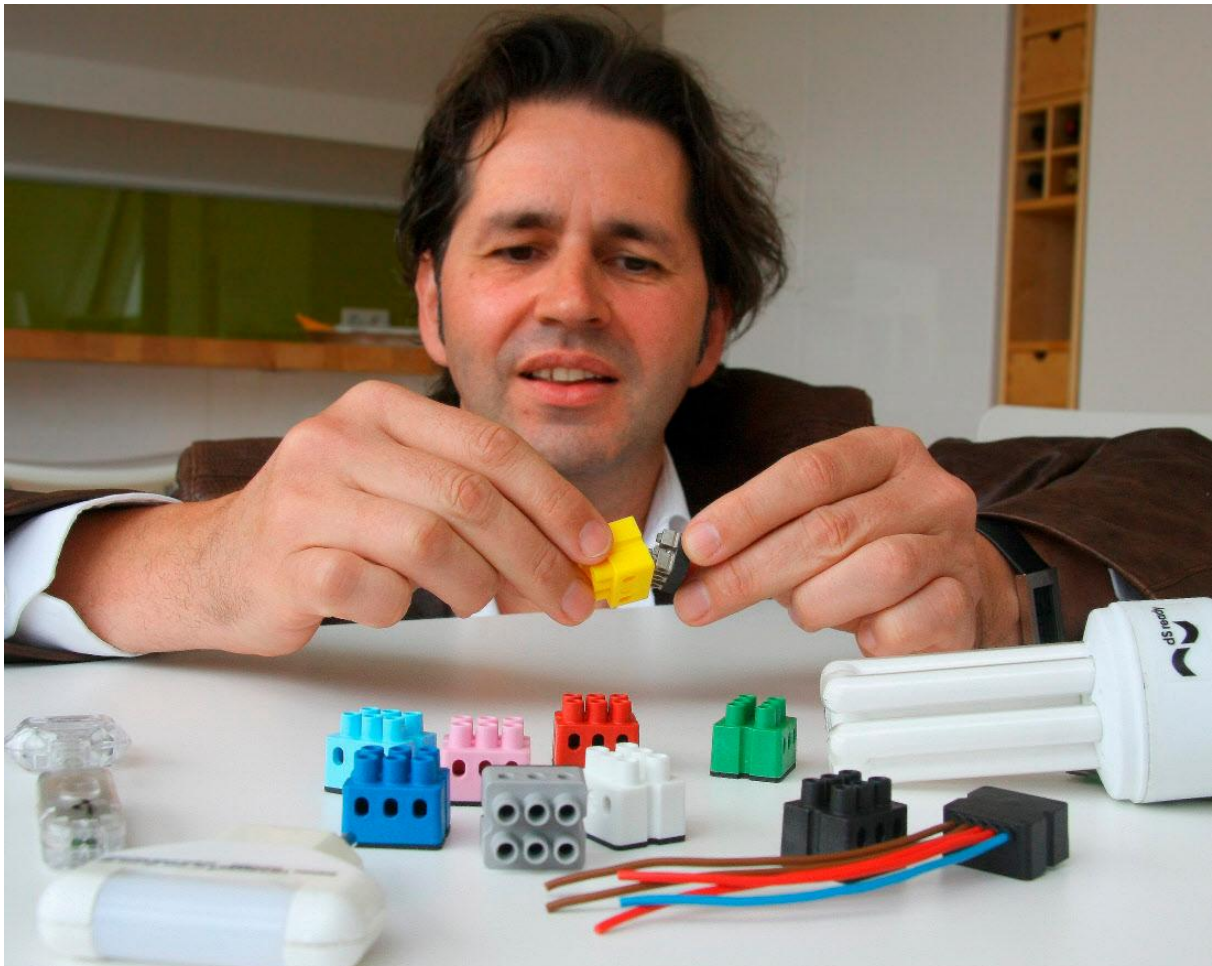
Controlling devices individually

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Intelligent terminal blocks are to revolutionise domestic engineering

At first glance the little bright-coloured plastic bits remind one of lego blocks, and then of terminal blocks. This is intentional in both cases; after all, Wilfred Beck wants to revolutionise domestic engineering worldwide with these "intelligent terminal blocks". The inventor and entrepreneur from Wetzlar has developed a system, which can control all electricity consumers in the building individually, using only the existing power lines.

Wilfried Beck has named his system "DigitalSTROM", the fine details of which have been under development at aizo on Garbenheimer Straße in Wetzlar for the past four years. The 27 employees - mainly engineers and product developers - have meanwhile worked out a complete modular system for domestic automation.



Each colour stands for a separate function. Yellow means „light“, blue stands for „heating and air conditioning“. Inventor Wilfried Beck shows what is inside the terminal blocks: A high voltage chip which can be connected to the power grid.

The central element of the technology is a high volt chip, which can be directly connected to the power socket. This chip can, for example, switch a light source on and off, or dim it. It works together with a small electronic unit, which electricians can easily

mount in existing fuse boxes, to control each power consumer directly and exactly determine the current consumption of each power circuit.

This means that a whole variety of different lamps in a room can be controlled from a single light switch without having to be connected with each other by special cables. If one likes, per switch up to four different "light moods" can be programmed with the participation of different lamps with individually defined degrees of brightness. Each lamp can nevertheless still be operated directly and separately.

And this is just the beginning: Wilfried Beck and his colleagues have allocated the colour yellow to the "light" sector and they have defined further sectors such as "heating/air conditioning" (blue), "audio" (pink), "video" (pale blue) or "sunblinds/shades" (grey) and at the same time classified the chips for these different purposes in the same groups, packing them into terminal blocks of the same colours.

The system can distinguish up to 200 different devices. An additional minicomputer with Internet access is capable of feeding in information from the outside, for example incorporating the daily weather report in the heating control.

A single switch by the door is pressed on leaving the apartment and it signalises to the system that everyone has left. Then all the consumers no longer required are automatically switched off, including the light left on in the bathroom or the radio in the kitchen. The sunblinds come down. If the stove has inadvertently been left on, it is switched off. Other consumers, like the refrigerator, remain connected to the mains and, of course, the pump in the aquarium ensures that the fish do not suffocate if their lord and master is out of the house for an extended period.

When the resident leaves the room the light goes out

This option prevents energy from being wasted. The effect is even greater if additional noise sensors are connected in the rooms. They switch the light off ten minutes after the person leaves the room. If they are linked to the heating system the night-time reduction can be set for much earlier because if any persons are still in the kitchen or living room the temperature will not be lowered there yet.

It is aizo's objective for as many device manufacturers to equip their radios, toasters, coffee machines, TVs and refrigerators with the little chips in the factory, bearing the "digitalSTROM-ready" logo. anyone who buys a lamp of this type only has to plug it into the mains plug at home and can immediately control and even dim it by means of the system.

And, since all power consumers can be linked with each other, the system can also reduce the volume on the radio or switch off the hairdryer if someone rings the doorbell or calls on the phone. If a fire alarm is triggered, all the lights are switched off and the roller blinds are opened to offer the residents better escape options.

Aizo intends to officially present its system at the International Radio Exhibition in Berlin next year. The sales launch is planned for the end of 2009. Customers will then be able to buy, for example, a starter package with three lamp chips/dimmers, one light switch and a power sensor for the meter box. Apart from the benefit of not having to lay any

additional cables, the price will also be tempting. "I am assuming that a set of this type will be available for less than 200 euros", says Wilfried Beck.

Dictionary

A new alliance has been founded at the Swiss Federal Institute of Technology at the university of Zurich (ETH) under the name of "digitalSTROM.org" to develop a new global standard for electrical intelligence. Its basis is a new type of chip, which has been developed in collaboration with ETH Professor Ludger Hovestadt in the Architecture Department of the Institute of Building Technology, and which has the potential to save electricity.

Key word: digitalSTROM

The innovative method known as "digitalSTROM" is to enable digital information to be transmitted via existing power lines with the aid of a single integrated high volt chip. The so-called dSID chip, measuring only six by four millimetres, is so small that it can be built into any electrical appliance as a mass product.

According to ETH, for the chip to be able to be built into new and existing electrical devices worldwide, a new standard is needed for electrical intelligence. This was what prompted the foundation of the "digitalSTROM.org" alliance at the University in Zurich. The Germany power supply company, Yello Strom GmbH, has joined the alliance as its first major partner. "In a first phase we want to primarily recruit select device manufacturers and energy supply companies for our cause", Ludger Hovestadt tells us. The first devices with an integrated chip are to reach the specialist trade next year.

(www.digitalstrom.org)