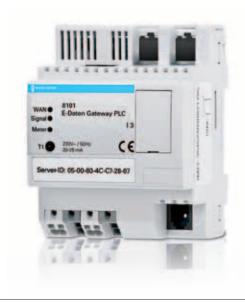# Energy control at your fingertips

Award-winning technology delivers an unprecedented insight into energy usage

MICHAEL WASILETSCHKO – Few would disagree that an individual who takes responsibility for, and is fully aware of, his own energy consumption consequently improves his usage behavior. And even small improvements, when aggregated over many such individuals, can have a significant, positive impact on resource conservation and greenhouse gas reduction. Yet how many can state with any degree of accuracy how much water, gas, oil or electricity they used yesterday? Very few, and that is because the relevant data is difficult for the individual to get at and meaningfully collate. A new range of products from Busch-Jaeger now changes all that. The Busch-EnergyControl®, Busch-EnergyDisplay® and Busch-ComfortPanel®, in combination with the energy data gateway, present individual consumers with an unprecedented insight into their usage behavior and allow them to personally optimize their energy budget.

I n recent years, there has been a massive increase in the power generated by renewable sources, and all the signs indicate that this trend will continue unabated. The infrastructural and attitudinal changes accompanying this shift almost demand a corresponding modification of consumer behavior. The energy user should no longer be blind to how much energy he consumes, when it is consumed and at what price. Currently, very few people can say how much water, gas, oil or electricity they are using, or if it is being consumed at on- or off-peak rates. The reason for this is that the relevant data are not easy for the individual to access.

This all changes with the new Busch-EnergyControl, Busch-EnergyDisplay and Busch-ComfortPanel, in combination with the energy data gateway (MUC-C).

Thoroughly modern metering
The days of traditional water and electricity meters are coming to an end. Smart metering is now the preferred means of capturing energy consumption data in a building. Smart meters compile consumption values and forward them directly to the supplier, for billing purposes, and to displays in the building, for informational and control purposes.

The energy data gateway MUC-C (multi-utility-communication controller), with its classic modular MDRC (modular DIN rail components) design, can compile all consumption data such as electricity, gas, water and heating and is available in four versions, each adapted to a different method of communication with the energy supplier → 1. Power and mobile networks, as well as radio, can be used as communication media. The gateway is set up on-site to individual circumstances, for example the number of oil, gas, water and electricity meters, and is optimally configured to suit the customer's requirements.

The MUC-C works with each of the new displays: the Busch-EnergyControl; the Busch-EnergyDisplay; or the multiple prize-winning Busch-ComfortPanel. In this way, four configurations may be realized, each of which ensures energy transparency and opens up all the possibilities of modern energy management.

Busch-EnergyDisplay – everything accounted for
The compact Busch-EnergyDisplay fits in every standard flush-mount box and is available for almost all ranges of Busch-Jaeger switches. On the back-lit 3.81 cm (1.5 inch) display, information about all the primary forms of energy relevant to the household, as well as the latest costs and rate estimations, insofar as the energy supplier provides this service, can be displayed → 2. The cur-

Currently, few can say how much energy they are using, how much it is costing, or if it is on- or off-peak.

rent rate and on- or off-peak can be indicated by the red and green background colors, respectively. Furthermore, the Busch-EnergyDisplay can also be used as a light switch or dimmer.

Due to its harmonic integration into the Busch-Jaeger switch range design concept, the Busch-EnergyDisplay can be optimally adapted to particular equipment and configurations. The floating rocker switch feature, similar to that used in the Busch-DigitalRadio, room thermostat and Busch-Timer®, ensures intuitive control.

Title picture
Fingertip control: The high-resolution, 22.86 cm (9 inch) wide TFT touch screen of the Busch-ComfortPanel controls and displays building system data. It also hosts Internet and home entertainment applications.

The current rate and on- or off-peak can be indicated by the red/green background colors, respectively.

Busch-EnergyControl – trend spotter

The 8.89 cm (3.5 inch) screen of the Busch-EnergyControl provides a clear display of consumption information in the form of graphs and diagrams ➜ 3. One glance is enough to see, for example, in which direction the current electricity consumption in the building is trending. The consumption values, costs and rate estimations – if supplied by the energy provider – can be displayed for all the relevant basic types of energy. The current trends can be marked in color.

High consumption rates can be responded to straight away, by switching off some of the consumers, for example. This can also be set up to happen automatically. In addition, the functions on the touch screen offer the option of switching off several consumers at the same time by pressing one button – for example, when leaving the building.

A normal flush-mount box is sufficient for installing the Busch-EnergyControl. This facilitates quick and simple retrofitting.

Busch-ComfortPanel – the complete solution

The Busch-ComfortPanel does away with the barriers between building system technology, home-entertainment and IP-based communication: Users now experience completely new perspectives in living comfort and quality, as the device is not only a convenient facility for building control but is, at the same time, an information and entertainment center. And all this on top of comprehensive functions that provide complete energy usage transparency.

The high-resolution, 22.86 cm (9 inch) wide, color screen of the Busch-Comfort-Panel enables the clear, large-format presentation of consumption information in the form of graphs and diagrams. One glance is sufficient to see the building's current electricity consumption trend. As before, the consumption values, costs and – in the case of electricity, and if the utility provides it – the rate estimations and current trends, can be displayed for all the main basic types of energy. As in the Busch-EnergyControl, Busch-ComfortPanel users can respond straight away to high consumption values.

The Busch-ComfortPanel's color-oriented operating system was awarded the prestigious "Red Dot: Best of the Best 2008" prize.

The Busch-ComfortPanel also hosts home entertainment and IP-based communication applications. Users will, thus, not only have a control center for the entire building system, but, at the same time, a communication center with intuitive controls for calling up the current weather forecast or stock market data on the Internet, receiving emails, playing favorite music on the integrated MP3

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player, listening to Web radio via the integrated loudspeaker or external active speakers, or watching video clips. The Internet connection can be implemented via a LAN cable connection, or by wireless via WLAN. The device can also be used for VoIP Internet communication. Internal communication with other Busch-ComfortPanels is possible via video telephone using the integrated video camera. The camera facilitates room monitoring and can even be used as a baby monitor.

Remote control

Mobile communication with the Busch-ComfortPanel is possible by using a VNC (Virtual Network Computing) server. A mobile telephone, laptop or webpad can be employed for remote control. All the functions that are on the panel can now be conveniently controlled via the usual user interface. All VNC-compatible smartphones and PCs with an Ethernet port are suitable for this.

Selection box

The range of functions supported by the Busch-ComfortPanel can be individually customized. In the area of building con-trol, this range includes all the "smart home" features, from heating and air-conditioning, through lighting regulation and sun-shading, to fault and alarm messaging. The room plan of a house, with mimic displays of rooms, incorporating integrated operating switches, can be displayed on the touch screen, as can video signals from external monitoring systems (eg, external cameras).

Noble prize winner

It is not only in the technical sense that the Busch-ComfortPanel distinguishes itself: Its color-oriented operating system was awarded the prestigious "Red Dot: Best of the Best 2008" prize. All the control elements are part of an intuitive color operating concept. It is based on a consistent color-orienting concept where a color is assigned to a functional area – eg, lighting, blinds, heating, or the lighting scenarios. All functions in the area of lighting are assigned the color yellow (representing the sun and brightness); heating is orange (for warmth and well-being); and blind control is blue (for coolness and the color of the sky). Violet or magenta (the colors of extravagance and

the theater) are associated with lighting scenarios. It is a labeling code that is understood internationally and that does not rely on language.

In harmony with the growing movement toward more conscientious energy use, this range of products enfranchise the modern energy user and allow him to monitor and take control of his energy usage. Armed with this new insight, he will be able to optimize his energy costs, lessen his resource consumption and decrease his carbon footprint.

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