

Patient safety and sense of well being in the hospital Optimized link between DALI and KNX



Lighting in hospitals is a complex topic. Optimum lighting conditions are important for hospital personnel to be able to concentrate on their work. Good lighting not only helps seeing better and improving safety, it also increases the patients' feelgood factor. Furthermore, the right choice of lighting allows for a significant increase in work efficiency and reduction in operating costs.

The St. Vincenz hospital is the largest provider of hospital services in the Paderborn area, Germany. In ten specialized departments with a total of 534 beds, a multi-professional team of doctors, as well as colleagues from nursing, physiotherapy, psychology, pastoral care, social services and other areas, serves around 30,000 inpatients annually. In order to meet current medical standards, continued further development is necessary – not only in relation to expert knowledge but also to infrastructure.

In November 2013 the four-storey expansion building with 186 beds in 104 rooms came into operation. Above all, this meant a significant improvement for neurology in treatment situations, because now all areas are under one roof and there is a proximity to the other specialist disciplines.

Norbert Linnebank, technical manager at St. Vincenz stressed "when designing the expansion building, emphasis was placed on a harmonious color concept for a health-enhancing 'sense of well being,' as well as ultramodern furnishings, patient safety and medical supervision."

ABB has delivered a tailored solution to fulfill the customer's wish, with the aid of the ABB i-bus® KNX and DALI-link.



The appropriate lighting in every situation - even in emergencies

ABB's solution for a safe and optimized energy supply and lighting control

The DALI Gateway with Emergency Lighting Control DGN/S 1.16.1 has proven itself as an intelligent component between DALI world (Digital Addressable Lighting Interface) and KNX building system technology as well as general lighting and emergency lighting. This means specifically:

- Previous setting of (lighting) scenarios in case of a power failure
- Lighting switching and passing on of fault messages to the visualization system in the reception area, via the KNX system
- Optimum and energy-efficient dimming of the general and stair lighting: operated by a tableau at the nurses' station or with a motion sensor
- Additional functions of the ABB ABB i-bus® KNX: automatic shading start-up via the Weather Unit's wind monitor WZ/S1.1 and Shutter Actuators JRA/S 230.2.1

These points are important criteria as the entire electrical planning



The heart of intelligent building technology by ABB

was designed for the special demands of the hospital. In particular, the standard DIN VDE 0100-710:2012-10 "Low-voltage electrical installations – Part 7-710: Requirements for special installations or locations – Medical locations" was considered.

According to Klaus Pellmann, Key Account Manager of the North-West region at ABB STOTZ-KONTAKT GmbH, the DGN/S fulfills the exact definitions in the standard DIN EN 62386 "Digital addressable lighting interface – Part 101: General requirements – System."

Up to 64 DALI participants

With the DGN/S either exclusively 64 DALI emergency lighting devices for single battery systems, in accordance with DIN EN 62386 part 202, can be controlled, or also, a mixture of "normal" lights and battery-operated emergency lights. Of the 64 DALI participants which can be connected to the gateway, 16 lighting groups can be assembled randomly; these can be controlled via KNX.