

# LED LIGHTING BY KNX IoT

## KNX emphasizes the features of tomorrow's LED lighting

### Task

LED lamps replace conventional illuminants. They consume 80 % less energy than the incandescent lamps, which have been progressively withdrawn since 2009 by the EU. Thus the installation of LED lighting is an important step towards the envisaged 20 % reduction of greenhouse gas emissions until 2020. The filigree lamps are very versatile, shine in cold and warm white or even in any colour and provide focused or isotropic light. They are the ideal solution for modern lighting concepts in private houses, commercial rooms and outdoors. Peter Sperlich shows how LEDs can be comfortably controlled by KNX IoT.

### Solution

In residential and commercial buildings several LED lamps are used: For instance, in the form of incandescent lamps or halogen spots, as LED strips or flat LED ceiling panels. Various KNX solutions are possible: Universal dimming actuators detect the load automatically and provide the relevant parameter settings for dimming the LEDs. DALI, which is an industry standard for lighting is used in residential buildings for ceilings spots and coloured light applications. DMX originates from stage technology and is popular amongst the lighting specialists. Furthermore, the direct control via KNX LED dimming actuators becomes more and more popular.

### Realisation

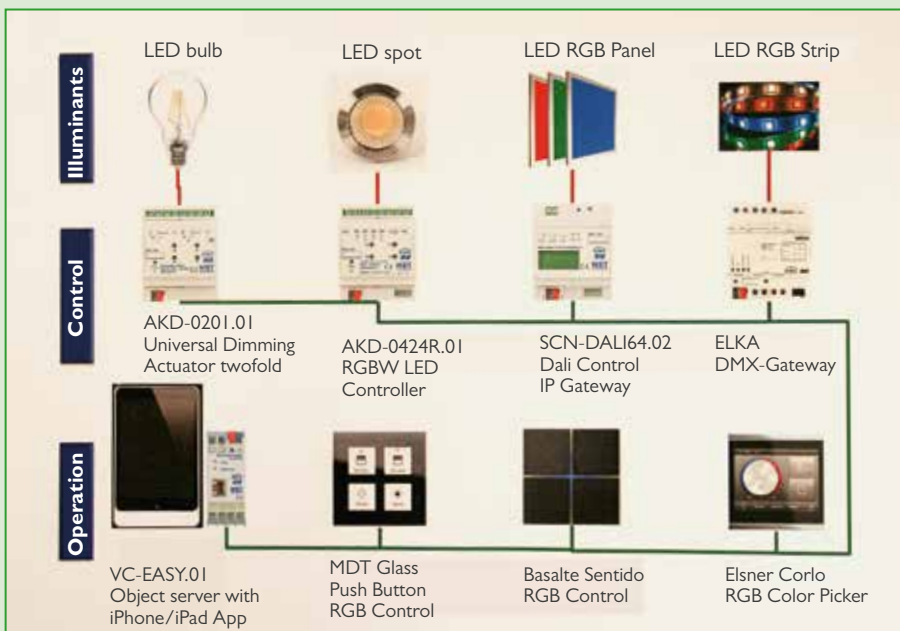
For the implementation, a Universal Dimming Actuator 230 V, an RGBW LED Controller 24 V, a KNX/DALI Gateway and a KNX/DMX Gateway are used. As example for comfortable operating concepts an MDT Glass Button, a Basalte Multitouch Sensor as well as an Elsner RGB Colour Picker are installed. The secured connection for mobile controls is realised by a VC Easy Object server with an iOS App. Thus, KNX is already able to perform today what will be possible in the future by KNX Web Services IoT under the term of "Internet of Things".

### Functions

Besides a simple white dimming, LED controls provide colour schemes. By touching the appropriate buttons of the multitouch sensor and with the help of a display, the desired colours can be set. The colour picker's colour wheel provides the choice of the whole spectrum. The advantage of DALI is besides a simple planning, the direct dimming of the ballast with feedback and failure control.

### Advantages

- Intelligent control of LED lighting.
- Versatile design options with light and colour.
- High energy efficiency in comparison to conventional illuminants.
- Mobile operating concepts.



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