



theServa: convenient, quick, safe  
The new KNX visualisation from Theben

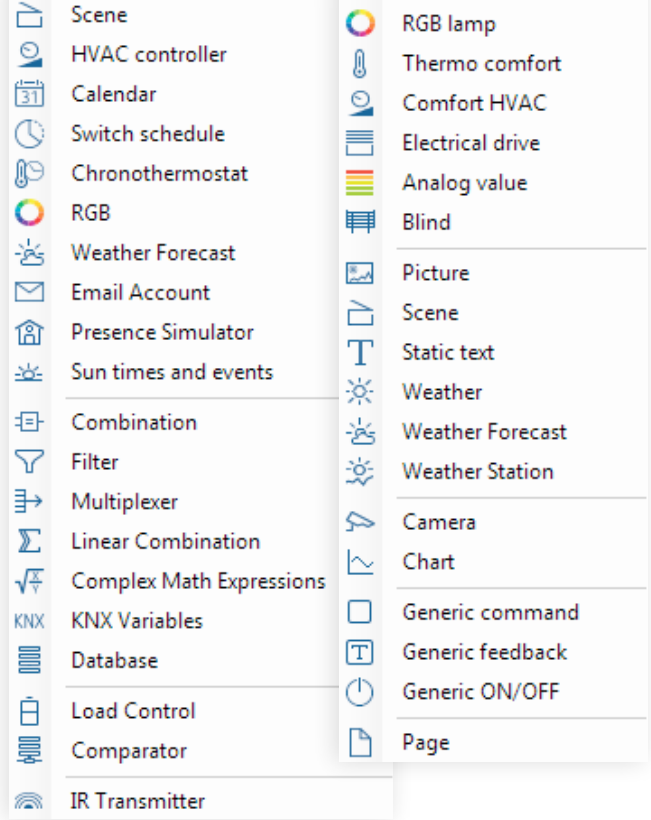


# KNX visualisation theServa for electrical trade

A convenient control using a tablet or smart phone clearly indicates the added value of a KNX installation. Now there is a hardware and software package that also puts electricians without intensive programming knowledge in a position to create an attractive visualisation for mobile end devices. The user is able to enjoy the comfort of lighting scenarios or calendar functions with it. But they still - which designates this solution - have direct access to the switching times and presettings, without having to intervene in the programming of the installer.



# theServa Functions overview



Matching the simple configuration, theServa offers a series of pre-programmed functions that allows electricians to offer their customers a lot of comfort without much effort. The simple RGB lighting control has already been mentioned. Naturally, operating controls for shading or heating / cooling with individual zones are also provided. An adjustable week time control that can be conveniently set per rotary knob and copy function is also included in the scope of services. Several functions are referred to separately.

## Scenarios

A scene initiates several commands at the press of a button, such as individual brightness values of the individual lights in combination with a certain position of the blinds. The object "scene" can be freely positioned on the graphic interface, just as any other object. With the "Record" function, individual commands will be saved on the server and can be directly activated via the icon switch or a KNX group address. Each scene can be called up by means of the time program. If desired, the end user can also setup and change scenes.

## Logic functions and calculations

Comprehensive logic functions and calculation options make theServa to a universal tool. Using this, the person installing can solve many problems in a project, or fulfil special customer requests. Using the solar position calculation, this allows, e.g., the blinds and other shading equipment to be controlled much more accurately than a sole time function. This even allows an adaptation to the exterior lighting for sunrise and sunset. Next to the standard logic functions such as AND, OR, XOR, theServa provides different filter and converter functions. Even complex mathematic calculations are possible.

## Weather prediction

Weather forecasts are also available via the internet, but are difficult to integrate into the KNX installation. It is a lot easier to connect the weather forecast receiver Meteodata 139 KNX from Theben to theServa. The station supplies forecasts (wind strength, air temperature, hours of sunshine, rainfall probability, etc.) for the next three days in 6 hour cycles using only seven group addresses. With the aid of this data, heating and shade can be controlled with foresight. This allows rooms not used in the summer to be provided with shade in order to reduce heating from sun radiation.

## Reports

With this function, KNX analogue values, such as temperature, wind, or power consumption can be recorded and then evaluated in a table or chart.

### theServa at a glance

- Despite the simple operation and configuration, theServa covers a broad range of functions:
- Display and control of lighting, sun protection and indoor climate
  - Logic, sequence and RGB controls
  - Calendar and time switch functions, as well as presence simulation
  - Graphical display of energy consumption, status and analogue values
  - Integration of IP cameras
  - Audio / video control of devices from several leading manufacturers via IR transmitter from IRTrans

### The RGB window offers many functions:

colour mixing with colour wheel, saving of ten favourites, and setting of time-controlled colour sequences.





### theSera Applications

theSera Applications is available free of charge for all conventional mobile end devices

Being a classic installation or a bus system: the electrical installation belongs to the (flush-mounted) concealed values. The sales are correspondingly more difficult. Busses such as KNX however, boosted business for a while. However, disillusion was spread frequently in living areas and with smaller commercial properties. The customers initially enjoyed their lighting scenarios but noticed that in some cases, they have less influencing options in everyday use than with a classic installation. Where turning on an adjustment knob of the ELPA was sufficient for a conventional time correction for the staircase light, with a bus installation, an electrician may have to pay a visit in most unfavourable cases. "One hour work plus arrival costs" for two minutes more light is not acceptable, even

for well situated customers. The stylish small control panels also have their snags: "Now I have switches that I cannot find in the dark", was the comment of an irritated wife, when talking about the eight unlit buttons next to the living room door.

In most households, the answer is in your hand: smart phones are turning into universal devices more and more. Even for catering and in shop, a tablet is a good replacement for the dimmer batteries next to the counter. However, the virtual KNX pendant has to find its way to the interface of the Apple or Android worlds first.

## The three classes of the KNX controls

The connection between KNX and the IT world is actually obvious. When using the respective software, KNX ID data can be read from the devices per WLAN, overwritten. Naturally this connection is not very fast as one has to read out the entire network. This method is feasible in order to change parameters for service purposes, but is less feasible for simply switching on the light in the corridor. Moreover, one can only query instantaneous values; calendar functions can therefore not be implemented with it. The so-called object servers go one step further. These small modules can find space on the top-hat rail in the distribution box without problem. They "eavesdrop" the entire KNX data transmission and save the current value of each object. On command, they translate the KNX telegrams into an IP capable data structure. That speeds up reading out significantly, but there is still no control logic or calendar.

This is provided by data servers, small computers with their own logic for calculating, linking and processing current and archived data. All high-quality KNX controllers operate according to this principle. They are the standard tools of system integrators, which are used to develop these customer-specific controls and design individual interfaces. Manufacturers are offering libraries that are growing continuous-

ly along with control modules. A huge database that however, requires profound programming knowledge. Getting into this world is even difficult for electricians that have experience with KNX. Moreover, one can easily need a week or more for programming time for a large project. This is acceptable for a large office building, but is frequently a great burden for the budget of a detached house or a restaurant.

### KNX visualisation – a science only for system integrators?

The handicap of KNX in smaller buildings is obviously less the technology itself. If the customer has more demanding wishes for energy saving and comfort, the lean bus wiring is economically quicker than a dozen of NYM cables and control lines. A modern and affordable visualisation is missing whose costs are within a realistic relation to the overall price of the system. Theben AG closes this gap with their product theSera S110. This conceals a data server with configuration software and applications for all conventional mobile end devices. In the first instance, theSera should address electricians that occasionally round up their portfolio with a KNX project. The electrician can visualise a project in about two days with theSera, and thus offer their customer an extended access to their

installation. With a limited budget, this could also be an interesting approach for system integrators as they save a lot of time in advance thanks to Theben. The focus of the Theben visualisation is much more in the comfort and simple operation as in the complete freedom of programming. In this way, the software provides a comprehensive library with about 250 icons (switching elements) that can also be enhanced. However, the user cannot create their own control elements. The user can edit elements without function, such as background pictures with floor plans or building photos. In practical use, this limiting does not play a role; the system leaves nothing to be desired.

The fanless mini server with a compact flash mass memory in industrial quality is dimensioned for continuous use; its power consumption is only approx. 1 W. In addition to a KNX interface with plug-on screw terminal, the compact device is also equipped with an Ethernet port. theSera offers an attractive price / performance ration. Software and applications can be downloaded free of charge; the number of clients per project is not limited. Using the applications, the end user can call up individual functions or scenes, but also switching times and thresholds address. Reprogramming or intervention in the group addressing are however, ruled out. Typical applications are premium motorhomes, restaurants, boutiques, smaller office buildings etc.



### A scene has evolved:

With the „Record“ function, individual commands will be saved on the server and can be directly activated via the icon switch or a KNX group

### Versatile:

the software provides a comprehensive library of about 250 icons (switching elements) that can also be extended in the future.

## Configuration software for practitioners

You can learn the configuration of the visualisation within a short period and does not represent a serious obstacle for an electrician with KNX experience. theSera can manage any standardise KNX buildings. After programming the participants and allocating the group addresses with the KNX software ETS, the group addresses can be conveniently imported into theSera with name and comments as CSV file. Then the configuration can begin: the graphic icon switches are positioned on the freely selectable background and linked with the corresponding group addresses. In particular with complex functions, such as RGB colour mixing, you are shown how simple the operation has been kept: Only three KNX group addresses have to be linked in order to generate a colour mixture using the colour wheel, saving of ten favourites and setting of time controlled colour sequences. theSera makes it as easy as possible for the installer to design an equally functional as well as visually attractive visualisation: professional designers have developed the graphical interface and have thought of everything down to the smallest detail. This allows icons to be displayed with and without neutral background, depending on how detailed the picture is it is positioned on. The configuration takes place via the local network or online. If necessary, future service

work can also be carried out online without having to travel to the customer.

## Maximum functionality thanks to minimum data traffic

A visualisation in the building must always be fast and reliable. A few seconds waiting for the screen layout can be tolerated for calling up energy data. If one wants to switch on the light when entering the room, such a time frame cannot be communicated. As mobile communications and WLAN do not always offer optimum reception conditions, the data traffic is minimised with theSera: the entire graphic is installed on the clients - smart phones and tablets - when setting up the applications. During running operation, only switch commands, data, group addresses or similar are transmitted to and from the server. One special function still has to be mentioned: the so-called Push-Notification, that Apple has intended in their operating system. This permits messages to be displayed even though the application itself has not been started. This function can be used in order to reliably display alarm messages on the screen, such as risk of frost or the failure of a device.



### theSera:

The fanless mini server with KNX interface and Ethernet port finds space anywhere.

Theben is member of:



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