LK IHC Control®
Quick Guide
English

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by Schneider Electric

Contens

Welcome to LK IHC Control®

This quick guide contains the necessary information to get started with
IHC Control®. You can use the wizard,

- If you install the complete IHC Control software and transfer IHC Visual®
  projects to the controller
- If you want to monitor and manage IHC Control installations.

Contents of the box

1. IHC Visual Controller
2. SD card
3. Ethernet cable
4. IHC Control Quick Guide
5. IHC wiring diagram (Main)
6. IHC wiring diagram (Alarm)
7. IHC wiring diagram (Heat control)
8. Antenna
9. Antenna cable (3 m)
10. Mounting bracket for the antenna
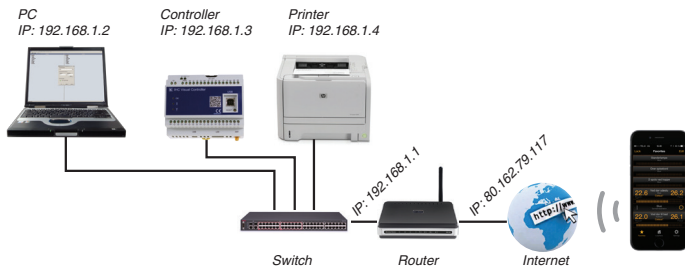
PC system requirements

Hardware
- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)

Software
- Windows® Microsoft® 7 and higher
- Microsoft® Internet Explorer® 8 or later.

System requirements applies for all of the IHC Control programs.

Network connection of the IHC Controller

PC
IP: 192.168.1.2

Controller
IP: 192.168.1.3

Printer
IP: 192.168.1.4

IP: 192.168.1.1

IP: 80.162.79.117

Switch   *Router*   *Internet*

You can connect the IHC Controller to a local network using a router. If the network is connected to the Internet you can access the Controller through the Internet. The setup is explained in the helpfile.

With internet access you can view and control the installations with ServiceView and App's from your smartphone and iPads.

Update the firmware or upload an IHC Visual project to the controller through the USB connection or internet. We always suggest uploading projects and updating firmware through wired connections rather than wireless, see helpfile.

Connection between PC and Controller

You have two ways to connect your PC to the IHC Controller:

• USB connection

• Connection via a Local Area Network (LAN, 10/100/1000 Mbps)[*].

(*) For setting full access to a local network or internet access to IHC Visual, see page 17, bullet 6.

USB connection

Important: Install the software before you connect the PC and controller with the USB cable.
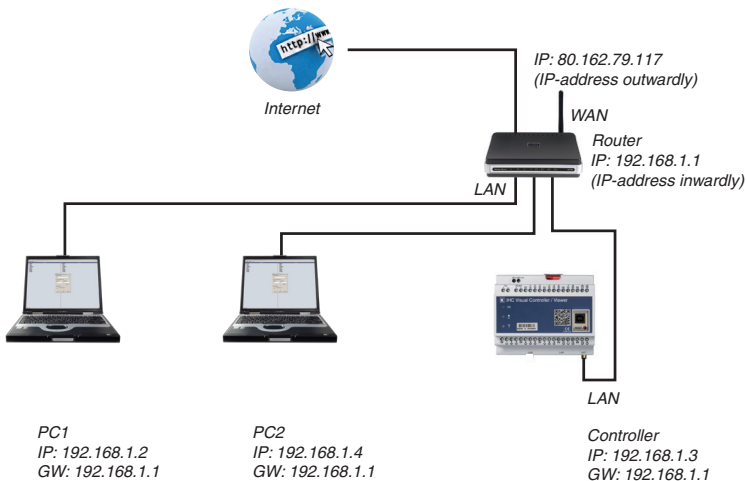

USB-cable

You need:

• A USB cable type A-male to type B-male (max. length 5 m.)

• A PC with a spare USB port.

Connection via the Internet?

A controller can connect to a network the same way as a computer. The controller will then work as a server that you can access via the Internet:

Internet

IP: 80.162.79.117
(IP-address outwardly)

WAN

Router
IP: 192.168.1.1
(IP-address inwardly)

LAN

LAN

PC1
IP: 192.168.1.2
GW: 192.168.1.1

PC2
IP: 192.168.1.4
GW: 192.168.1.1

Controller
IP: 192.168.1.3
GW: 192.168.1.1

IP and Gateway address

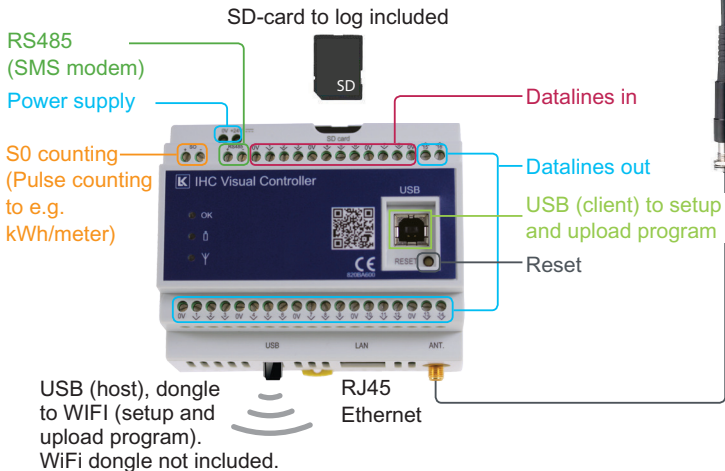The controller must have a fixed IP address (e.g. default IP address "192.168.1.3").

To be able to connect to the controller from the Internet, the router must have a fixed external IP address (e.g., "80.162.79.117") or be compatible with dynamic DNS address servers (e.g., http://www.dyndns.com).
The gateway address (e.g. GW = "192.168.1.1") is the internal IP address of the router.

See "Setup Administrator program" section for more information about how to assign an IP address to the Controller.

The IHC Controller connections

Communication with wireless devices

SD-card to log included

RS485 (SMS modem)

Power supply

Datalines in

S0 counting (Pulse counting to e.g. kWh/meter)

Datalines out

USB (client) to setup and upload program

Reset

USB (host), dongle to WIFI (setup and upload program). WiFi dongle not included.

RJ45 Ethernet

Introduction to the LED indications

🟢 OK **Always ON:** The controller is booting up
1 Hz Flash: Operating OK, no data transmission
(normal operation)
2 Hz Flash: Operating OK, data transmission
5 Hz Flash: Firmware upgrade state
Flash 1 s. ON, 0.25 s. OFF: Error

🔴 **ON:** Low battery on some wireless products
OFF: Battery OK on all wireless products

🔵 **Flashing:** Communicating with wireless products
OFF: Not communicating with wireless products

Mounting the controller and antenna

1. Mount the controller on the DIN rail.
2. If you have any IHC-Wireless products:
   a. Install the bracket outside the switchboard.
   b. Mount the antenna cable onto the angle bracket.
   c. Mount the antenna with the antenna cable.
   d. Mount the antenna cable to the controller.
3. Connect the IHC power supply (24 V DC)

Important: Allways use the bracket when mounting the antenna

Wall

Bracket

Software installation and USB connection

Important: Do not connect the USB cable yet.
You need: The controller, software and a USB cable (type A male to type B male, max. length 5.0 m).

1 You start the software installation by unzipping the ZIP file. Click **Install software** and the main menu should be displayed automatically. If not, open '**My computer**' or Windows® Explorer, then double click on the file Setup.exe. Click on Install IHC Control software **1**.

If the windows security window appears, choose "Install this driver software anyway".

2 Java™ Runtime is automatically installed. A dialog box is then displayed from which you can select one of three installation options:
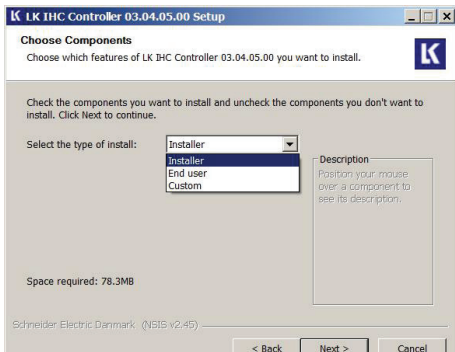
If you select 'Installer', all software will automatically be installed, i.e:

- IHC Visual
- IHC FirmwareLoader
- IHC help files
- USB driver
- Adobe® Reader®.

If you select '**End user**', the following software will be automatically installed:
- IHC help files
- USB driver
- Adobe® Reader®.

In other words, the following programs are NOT installed:
- IHC FirmwareLoader
- IHC Visual.

If you select '**Custom**', you can manually select which programs are to be installed. However, it is not possible to deselect Java™ Runtime as this program is mandatory to run any IHC software.

IHC Help files

When you have installed the software, you can find the help file in the IHC Control section of your PC Start menu.

```
Start > Programs > LK IHC Control > Documentation > LK
IHC Control helpfile
```

3 Connect your computer to th controller using a USB cable:

Setup Administrator program

1 Connect your computer to the controller using a USB cable (as described in the previous section). Open your Internet browser and enter **USB** **1** in the browser. This will give you access to the controller's home page, just as if you were connected to any Internet website. If you are having trouble connecting by typing usb, type in the IP address 10.18.93.2.
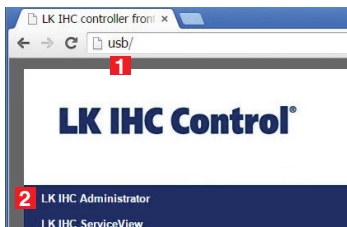
2 Click on **Administrator** **2**. Log into the IHC Administrator software selecting **USB** as the **Host address**. . . When you log in via **USB** **3**, you do not need to supply a username or 'password'. If you login via LAN/Internet, use the default username **admin** as **username** **4** and also **admin** as **password** **5**. You can select **Auto Login** **6** , if you want the system to remember your username and password[1]. Click on **Login** **7**.

[1]: From security reasons we do not recommend to use **Auto Login**

3 The main menu of the administrator program includes all communication and access control configuration options. Start by clicking on **Network** .

4 **IP-address** : Enter the address you have chosen for your controller.

Web port (http-traffic): You only have to change the default setting (port 80) if you have other servers using this number.

Secure port (https-traffic): You normally do not need to change the default setting (port 443).

Subnet mask : You normally do not need to change the default setting.**Gateway address** : Enter your router's internal address.
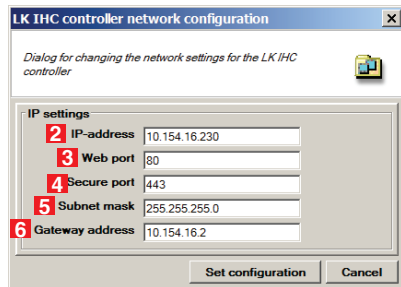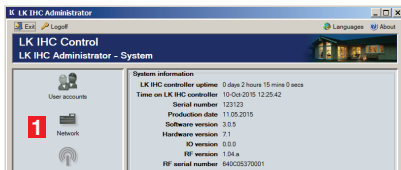
5 From the main menu of the IHC Administrator, scroll down the left window and click on **Access control** 1 .
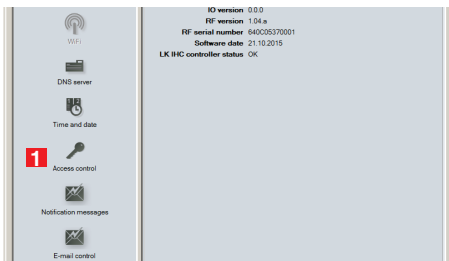
6 This menu allows you to select the progams which are accessible from a USB connection, from a local network, and from the Internet. Select the programs that you wish to grant access to. For example, if you want to use IHC Visual via LAN/Internet, check fields 2 and 3 . Click on **OK** 4 , when you are finished.
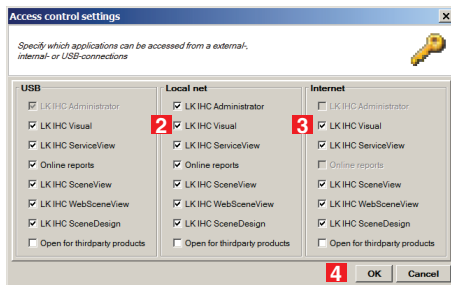
7 Click on **User accounts** **1** in the IHC Administrator main menu.
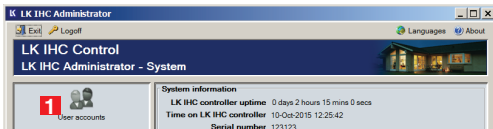
8 You must create a user account for yourself. Click on **Add user** **2**
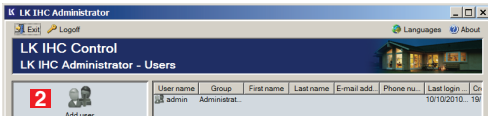
9 Enter the username and password in the **Login profile** section **3** (NB! Case sensitive). This information is used when you communicate with the controller via the Internet. Under **Group** **4**: Select **Administrators** **5**.
This grants access to all programs. Fill out the rest of the personal information fields. Click on **Add user** **6**.

10 You should now be able to see your new user profile in the list of users **1**.
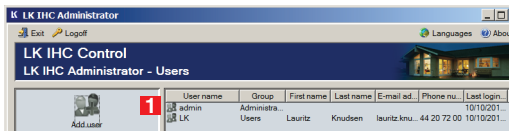
11 If you wish to remove a user, select the user from the list and click on **Remove user** **2**. You will be asked to confirm your request. **NB!** You should ensure that the standard login profile (admin) is removed, especially if the controller can be accessed via the Internet. If you have logged in using the default login profile, you should:

a. Create a new administration profile (points 8-9) with your own username and password.
b. Log off from IHC Administrator.
c. Log in using your new administrator profile.
d. You can now delete the default login profile.
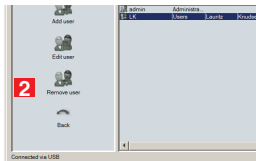
12 You can also create further users from the user menu, and you can edit the various user profiles by clicking on **Edit user** **3**.

13 If you want to use WIFI you have to use USB dongle **4**. Click on **WiFi** **5**. The wifi dongle is not included - has to be bought separately.
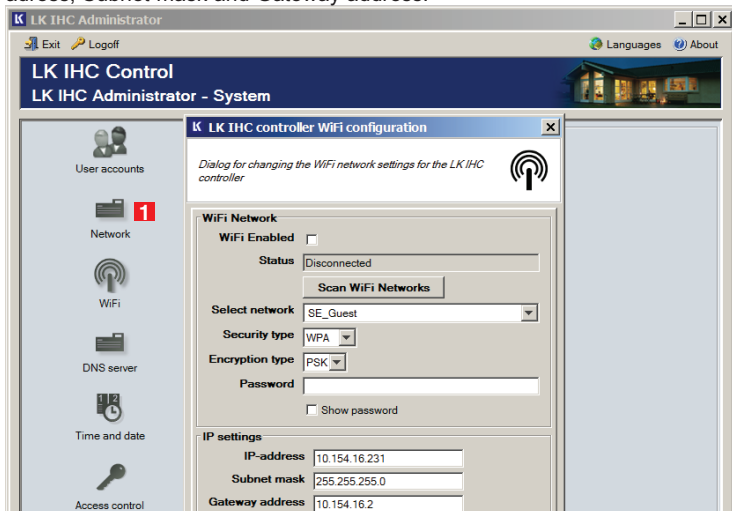
Configuration of WiFi

1 Open web browser and write USB in address box. Select administrator.

2 Select "WiFi enabled" and click on the Scan button and select network **1**.
After selecting the network select the security type and encryption type
used by network and then enter a **password**. Under "IP settings" fill in the IP
adress, Subnet mask and Gateway address.

Communication setup in IHC Visual®

1 If you have installed IHC Visual: Start the program and click on **Controller** ▮1 in the menu bar. Select **Communication setup** ▮2 .
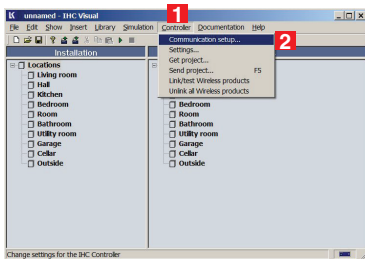

2 Default settings: USB is used when communicating via USB cable, the IP address is used when communicating via a network cable. The default address is 192.168.1.3, and the port number is 443 (can be changed in IHC Administrator). **Select USB or Enter IP address** ▮3 .
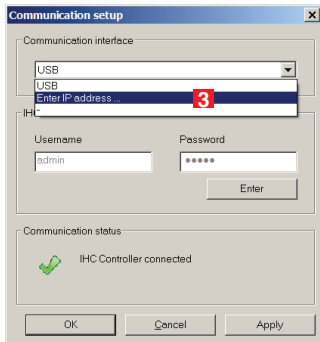
3 Enter the IP address and port number **1** , you have assigned to the controller in IHC Administrator. Click on **OK** **2** to return to the previous menu.
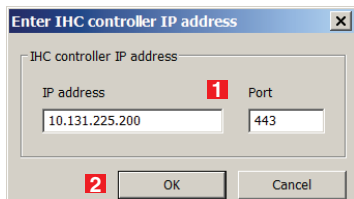
4 Select the IP setting with the new address and port **3**. Check that the **Communication status** is OK **4**, and click on **OK** to finish **5**.
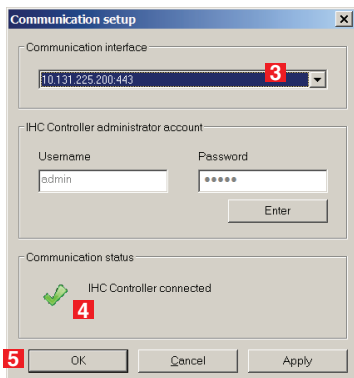
# Access the IHC Controller from the browser

Via USB cable: Enter USB (alternatively type in: 10.18.93.2)
Via your Intranet: Enter the controller's IP address, e.g. 192.168.1.3
**Via the Internet:** To make the controller accesible, make sure that your router setup is correct. Port 80 and port 443 should be by default forwarded to the controller IP address. To setup your router accordingly,
please contact your network administrator.
Once the router has been configured: enter your router's external IP address, e.g. 80.162.79.117.
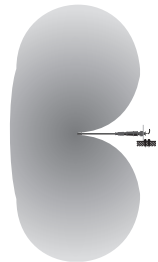
If you do not use the default port number (80), you must type 'http://' in front of the IP address, and the port number after the IP address, e.g. 'http://192.168.1.1:8080' (where 8080 is the new port number).
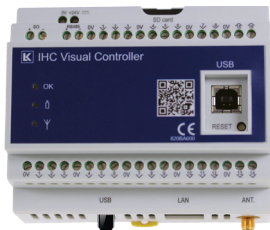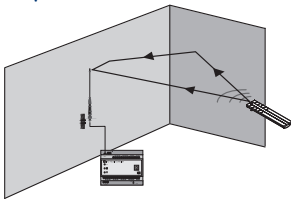
Placing the antenna
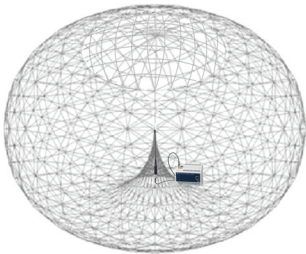
Vertical mounting   *Horisontal mounting*

The signal sent from the controller's antenna spread in a symmetrical field as a "donut" around the antenna. You will experience the difference in the antenna's reach, depending on whether you mount it vertically or horizontally.

Signal paths

Reflections, diffusion and refraction means that the signal from the sender to

the recipient will flow in different directions. The resulting signal at the receiver will therefore be the sum of a number of signals which can both strengthen or reduce the original signal, depending on the place to observe the signal. In particular unfavorable situations we may find that the original signal is reduced so much that an area is perceived as "dead", but a few centimeters next to it the signal is well received.

Reflections
Occurs when a radio wave reaches a different material, for example. walls, furniture and persons (~ mirror) (*).

Spreading
Occurs with sharp corners and small particles. The signal splits into new signals with their dissemination point (~ diffuse light).

Reduction
Materials have different ability to reduce signals (~ sunglasses).
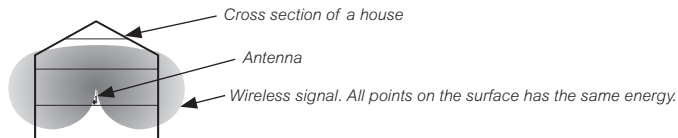
Refractive
When a signal passes from one material to another material using a non-perpendicularly way, the signal will refract, i.e., the signal will change direction (~ light in the lenses).

(*) The parentheses indicate a known phenomenon from the telescope's world.

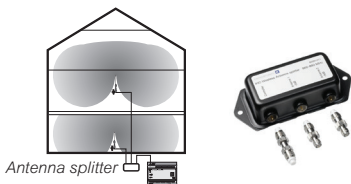## Example of the ideal location

Cross section of a house

Antenna

Wireless signal. All points on the surface has the same energy.

Central location, giving the least distance to the most distant components.

# There is no benefit with multiple antennas

Antenna splitter

When using the antenna splitter you can use multiple antennas to increase coverage. However, please note that the signal is reduced by half in the filter and reduced signal in cables, which can sometimes mean that there is no benefit with multiple antennas. This is shown by reducing the individual fields reach.

With attenuation
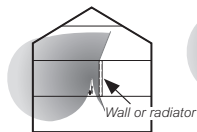
A powerful damping wall or radiator makes a central location not optimal.
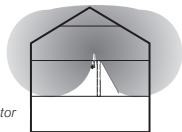
Wall or radiator

This is better placing the antenna on the wall or radiator.

Material	Attenuation	Examples
Air	Very low	Open space, courtyard
Wood	Low	Doors, flooring, partitions
Plastic	Low	Partition walls
Glass	Low	Non-tinted windows
Tinted glass	Medium	Tinted windows
Water	Medium	Aquariums, fountains
Living creatures	Medium	Animals, humans, plants
Brick	Medium	Walls
Plaster	Medium	Partition wall
Ceramics	High	Tiles, bricks
Concrete	High	High-bearing walls, floors, pillars
Soil	Very high	Cellars, embankments, window boxes
Metal	Very high	Reinforced concrete, metal cabinet

IHCRemote® a smart remote control

With the app IHCRemote you can control and monitor your IHC
Installation with an Apple or Android based smartphone.
Make the following changes in the controller settings.
Regardless of what smartphone you use.

1 Open Administrator with an internet browser.   Check that
the IP address is configured in "Network", see page 17
Section 2.

2 Back in the Administrator pro-
gram's main menu, click **Access
control** 1.

In the menu **Access control** select
fields 2 and 3 to ensure that Scene
View is available from both local net-
works and over the Internet.
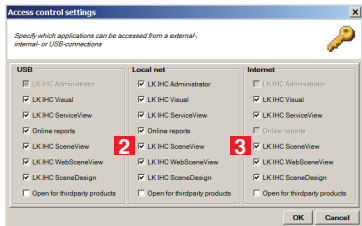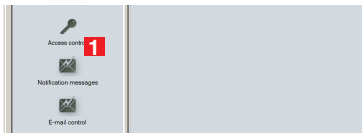
Installation on iOS and Android™

1 On the iPhone, iPad or iPod Touch tap 😊 to open "App Store" (Google Play™ ▶ on Android).

IHCRemote

2 Search **IHCRemote**.

3 Press IHCRemote icon 🅺 to download application.

4 Set up the application easily by entering the controller's IP address, and username and password to the controller. The IHCRemote app now downloads all relevant information from the controller and stores it in the application.

5 You can create your own favorite list with the most used functions in the desired order. In addition, the application can be adapted to 140 different IHC symbols from the accompanying symbols.
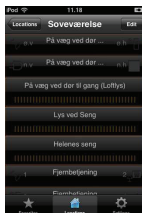
Control your IHC installation from IHCTablet®

- Simple user interface
- Make your own control panel with minimal setup
- Personalize the interface with your own photos or floor plans
- Icons with feedback on the user interface - displaying the status of the IHC installation
- Active fields for texts and viewing websites such as Web Camera
- Control multiple IHC controllers
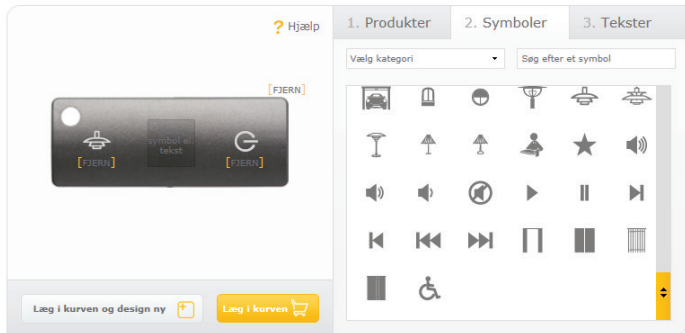- Purchased through the App Store

Using symbols in your IHC installation

You can achieving a beautiful and functional user interface in your IHC installation, using symbols on your rockers. Symbols make it visually and easily identified individual touch function. The rockers you order in Tangent Designer on the Internet.

Tangent Designer
On our website you can design your own rockers with text and symbols. The address bestil.lk.dk.

Register your IHC installation

If you register your IHC installation, we send you a ring binder that you can pass on to your customer. The ring binder contains material which is targeted to end users: documentation and USB memory stick for storing IHC project etc. To register your IHC installation visit http://www.lk.dk/ihcreg.

IHC training

Educationcenter
Find the right training on:
www.schneider-electric.com/kurser/dk
or scan the QR kode

Security

Schneider Electric Denmark A / S can not be liable for the consequences of hacking or virus attacks on the controller. Data traffic between client and server use SSL encryption technology.

The technically qualified person who prepares the user interface (using Viewer programs), must ensure to minimize the risk of accidents (unintentional on / off of output). This is achieved by considering possible errors in the proposed interface and making appropriate settings in the Administrator program (access control and user accounts).

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For your safety

⚠ DANGER

Risk of serious damage to property and personal injury, e.g. from fire or electric shock, due to incorrect electrical installation.

Safe electrical installation can only be ensured if the person in question can prove basic knowledge in the following areas:

• Connecting to electrical installations

• Connecting several electrical devices

• Laying electric cables

These skills and experience are normally only possessed by skilled professionals who are trained in the field of electrical installation technology.

If these minimum requirements are not met or are disregarded in any way, you will be solely liable for any damage to property or personal injury.
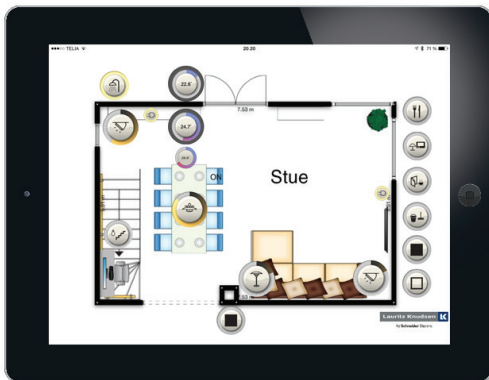
⚠ DANGER

Risk of death from electric shock.

The outputs may carry an electrical current even when the device is switched off. Always disconnect the fuse in the incoming circuit from the supply before working on connected loads.

⚠ CAUTION

The device may be damaged!

• Always operate the device according to the technical data provided.

For more technical information, please contact the Technical support on +45 88 30 20 00. For technical information go to our vores website www.lk.dk.

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