

Start here

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 or 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.

1

230 V

230 V

Connect all receivers and combi products to the mains voltage and load.

2

Perform programming with the components in the immediate vicinity of one another and verify the effect. Finally, fasten the components.

3

1

A

B

Max. 5 sec.

When programming, WAIT for the LEDs to light in the manner indicated.

4

?

Programming sequence:

1) Scenario Links

2) Control Links

If combi products are included, note that Scenario Links must be programmed BEFORE Control Links. Remember that combi products are both transmitters and receivers and can therefore be included in both the transmitter and receiver programming. Read "Combi products" section.

Control Link

The name "Control Link" refers to the fact that with this connection, you obtain complete control of the receiver. To control the receiver, use both pushbuttons on a rocker. Both pushbuttons are programmed in one operation.

Turned off

Turned on

The function of the pushbutton for Control Link depends on the type of receiver used.

A Relay: Left button = turn on and Right button = turn off.

A Dimmer or motor control: Left button = turn on and Right button = turn off.

Scenario Link

The name "Scenario Link" refers to the fact that this type of connections used to bring up a previously saved combination of the light sources' light levels, called a "scenario". When a Scenario Link is activated, the receivers are turned on at the light level they are set to in the programming. When there are several receivers activated by a button, it is possible for combinations of the individual receivers' light levels to be programmed.

Scenario 1

Scenario 2

How to program the Control Link

Transmitters

For each transmitter that activates the link, perform steps 1 and 2:

1

Press 1 time on the A button. Now the LED lights red.

2

Within 5 seconds, press on 1 or 2 to select the upper rocker (it is not important whether you select 1 or 2), 3 or 4 to select the lower rocker etc. Now the LED flashes red.

Receivers

For each receiver, perform step 3:

3

Press the A button. Wait until the LED flashes red (may take up to 5 sec.).

Finish

Press the A button on one of the products to complete the programming. Now all LEDs on the transmitters and receivers are turned off.

Lauritz Knudsen

by Schneider Electric

LK IHC® Wireless system

Application

LK IHC® Wireless system is used for wireless remote control of lights and other electrical equipment. The system consists of transmitters, receivers and combi products containing both transmitters and receivers. A receiver may contain a relay outlet, dimmer or motor control. Programming can be used to specify which products are to transmit and receive signals to/from each other. The system can be used both as "stand alone", i.e. without IHC Controller, or in conjunction with an IHC Controller. This means the system is suitable for the introduction of a gradual intelligent home management system. This guide covers programming of the stand-alone system. In addition to this guide, there is also a specific guide for each product. IHC Wireless and the IHC Control system are described in the IHC Control manual.

Range

Generally, the following ranges apply: Outdoors up to 300 metres and indoors usually 10-50 m. Damming, reflections and interference affect the range. The used frame can also affect the range of the wireless system. Particularly metal frames have a negative impact on the range, typically by up to 30% reduction, and in some cases up to 70% reduction. Imagine that the transmitter is a lamp, and the floors, walls and objects in the house are translucent materials with different degrees of transparency. Wooden walls are nearly transparent, while steel-reinforced walls are almost opaque (use the table). Then imagine whether you can see the light at the places where you wish to receive the wireless signals.

Material	Dimming	Examples
Air	Very low	Outdoor areas, courtyard
Wood	Low	Doors, floors, partitions
Plastic	Low	Partitions
Glass	Low	Untinted windows
Metal	Very high	Reinforced concrete, metal cabinet
Water	Medium	Aquariums, fountains
Persons	Medium	Animals, humans, plants
Bricks	Medium	Walls
Plaster	Medium	Partitions
Ceramics	High	Tiles, bricks
Concrete	High	Walls, floors, pillars
Soil	Very high	Basements, embankments,

Problem solving

If problems arise with IHC Wireless, please note the following:

- Each IHC Wireless product can be included in a maximum of 32 links.
- Dimming the signal: Depends on what material the signal passes through and its thickness. Reinforced walls and large metal parts may reduce the range dramatically. Refer to the table.
- Reflective signals may either amplify or decrease the original signal, depending on where the signal is received. In particularly unfavourable situations, you may find that the original signal is decreased so much that an area is perceived as "dead", while a perfect reception is received a few centimetres away.
- Interference: Avoid placing products and antennas from different wireless systems close to each other.

Relay or dimmer?

If you are unsure whether a component contains a relay or a dimmer, you can see this on the icon at the outlet:

Dimmer

Relay

Engraved rockers

You can provide the rocker with text or symbols that indicate their function. You can use LK's website to design and buy laser engraved rockers with our Tangent Designer. The address is: <http://bestil.lk.dk>

Advanced settings

It is possible to adjust settings such as min./max. values, ramp times and leading edge and trailing edge dimming for Wireless components with dimmers. To do this, you must have access to an IHC Controller and IHC Visual. Note: When advanced settings are programmed via the IHC controller, they will be preserved even if the dimmer is used in the stand-alone system afterwards.

See the Instruction Video

<http://www.lk.dk/wirelessguide>

Combi products

A combi product consists of both a transmitter and receiver, which are programmed independently of each other. Combi products are programmed in the same way as other components, unless the combi product is to be linked to itself (which is only relevant for scenarios).

1

Adjust the light in combi product on button 1 and 2

4

Enter receiver

2

Press 2 times

5

End

3

Select press

Programming of internal Scenario Link in combi products. Note that in step 4, you must press the 1-button.

Moving a pre-programmed link

At delivery, the upper rocker on the combi products are programmed to control the outlet with Control Link. If you want to change the operation to the lower rocker, press on the 1 button and hold it down while pressing on the A button. Note that you cannot delete the Control Link in a combi product.

Change programming

Delete Control Link

Transmitters

For each transmitter, perform steps 1 and 2

1

One press on **A**. The LED lights **RED**.

2

Select a rocker within **5 seconds**. The LED flashes **RED**.

Receivers

3

Hold in **A** until the LED blinks **RED**.

4

Press **A** once to exit. The LED turns off.

Delete Scenario Link

Transmitters

For each transmitter, perform steps 1 and 2

1

Two presses on **A**. The LED lights **GREEN**.

2

Select a rocker within **5 seconds**. The LED flashes **GREEN**.

Receivers

3

The LED flashes **GREEN**. Hold in **A** for 5 seconds.

4

Press **A** once to exit. The LED turns off.

Add a receiver to the scenario

Enable the scenario with a link on one of the scenario buttons. Configure the new receiver to the desired value. Repeat steps 2 and 3 from the scenario programming on **all** transmitters that call the scenario. Repeat steps 4 and 5 on the new receiver.

Add transmitter to the scenario

Enable the scenario with a link on one of the scenario buttons. Repeat steps 2 and 3 from the scenario programming on the new transmitter. Repeat step 4 on **all** receivers in the scenario. To exit, press the A button.

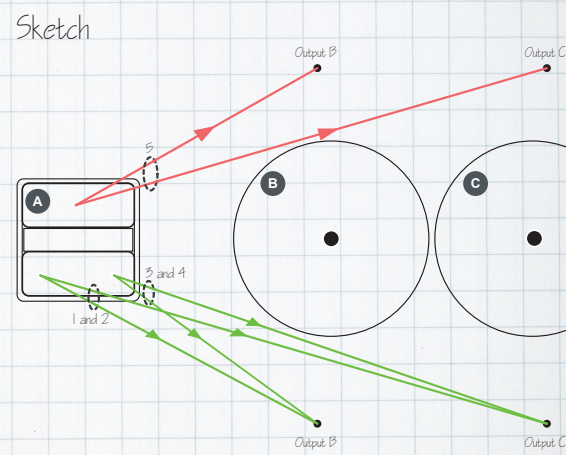
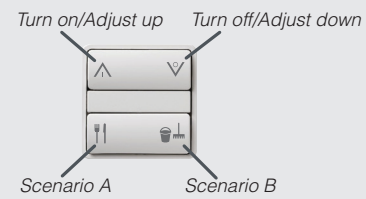
Delete all programming in a product

Hold down the programming button A for 5 seconds. When the LED flashes alternately red and green, the programming of the product is deleted. If it is a receiver, note that the link in transmitters must also be deleted, or else the transmitter will still affect the receiver.



## Example 1, remote controlled lamp outlet

We will program a lighting scenario with two Wireless lamp outlets with dimmers. The lamp outlets must be operated from a control switch as shown below:



**Symbol list:**  
 1x Press 1 time on the button  
 2x Press 2 times on the button  
 ● LED turned off  
 ● LED lights green  
 ● LED flashes green  
 ● LED lights red  
 ● LED flashes red  
 ⌘ WAIT until the LED flashes (may take 5 sec.)

### Planning

1. Draw a sketch of the installation's components.
2. On the components, plot a mark for each Control Link and a mark for each Scenario Link.
3. On the components that have an outlet, draw 2 marks for each outlet, above and below the components respectively. This is done to avoid drawing lines through the components in step 4.
4. Draw a line from all "link-marks" to all outlets that they are to control. Select the nearest mark that represents an outlet for the component.
5. If multiple links come from a component to other component's outlet, the link can be gathered in one operation. This is shown on the drawing a dashed ellipse.
6. All links are now provided with numbers in the order you want to program them. Number the Scenario Links first and then the Control Links, as shown in the example.

### Scenario A

1

First we set the light levels for scenario A on the lamp outlets (buttons 1 and 2).

2

Now link both lamp outlets doing the steps 1 - 5

### Scenario B

3

Set the light levels for scenario B on the lamp outlets (buttons 1 and 2).

4

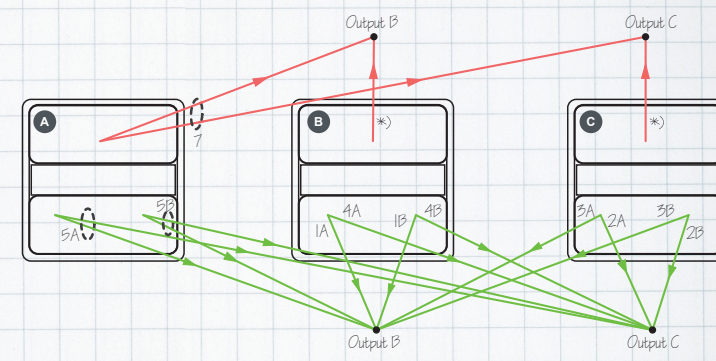
The control switch is linked to both lamp outlets in one operation steps 1 - 5

### Control Link

5

Make Control Link to both lamp outlets in one operation doing the step 1 - 5

Sketch



\*) Do not program - programmed from the factory.

We will program the lighting in a kitchen with a control switch button, a combi relay and a combi dimmer. We want to achieve the following functionality: The top rocker on the control switch button must control all outlets with Control Link. The combi product's upper rocker only controls the room outlet (Control Link). All lower rockers must be pushed for activation of two lighting scenarios, A (food preparation lighting) and B (all off).

**Control Link**  
 Combi products: Controls connected light source  
 Control switch press: Controls all light sources.

**Bring up Scenario A**  
 (food preparation lighting)

**Bring up Scenario B**  
 (All off)

### Planning

1. Draw a sketch of the installation's components (see the drawing).
2. On the components, plot a mark for each Control Link and a mark for each Scenario Link. In the example, a mark is set for a Control Link on all the upper rockers, and two marks for Scenario Links on all the lower rockers.
3. On the components that have an outlet, draw 2 marks for each outlet, above and below the components respectively. This is done to avoid drawing lines through the components in mark 4.
4. Draw a line from all "link-marks" to all outlets that they are to control. Select the nearest mark that represents an outlet for the component.
5. If multiple links come from a component to other components' outlets, the link can be combined in one operation. This is shown in the figure by a dashed ellipse.
6. All links are now provided with numbers in the order you want to program them. Number the Scenario Links first and then the Control Links. Scenario Links are numbered with the prefix A and B, which correspond to the first and second pass of the marks 1-5 to the right.

## Example 2, kitchen lighting with scenarios



### Scenario A

A



Set the light levels for scenario A on the combi products (buttons 1 and 2).

Food preparation lighting

1

B to be linked to itself:

2

C to be linked to itself:

3

C linked to B :

4

B to be linked to C :

5

A links to B and C :

### Scenario B

B



Turn off the lights on both combi products (All off scenario) and repeat steps 1-5. It applies to all steps, however, that in step 2, button 4 bottom right is used instead of button 3 bottom left.

All off

6



This is the factory setting for combi products, so nothing needs to be programmed.  
 The control switch controls both combi products with Control Links. For this, make two Control Links A to B and A to C :

