Operating instructions:
Hand programming tool
Type: DALI HPT ADVANCED

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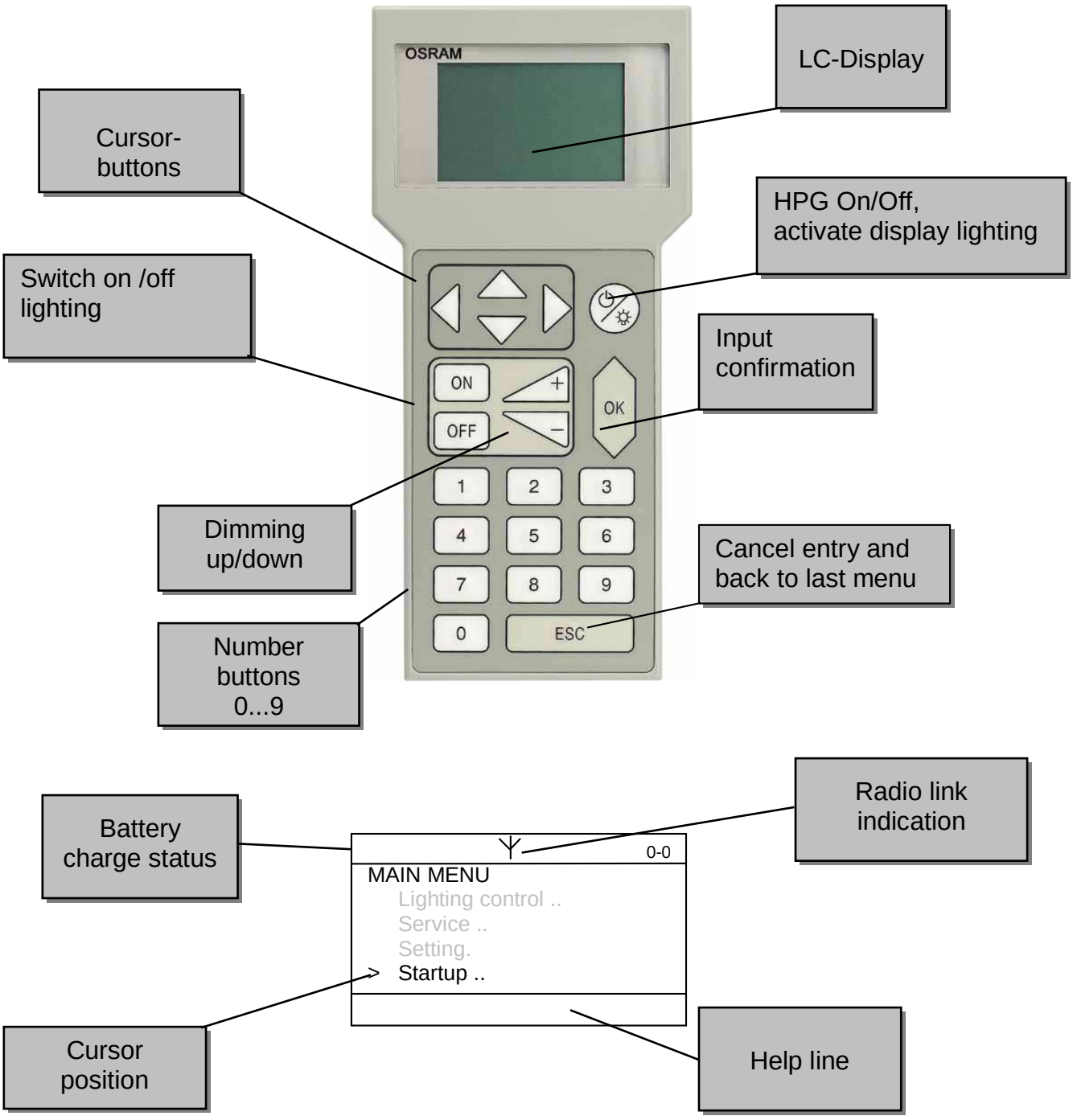
Contents

1 Function of the hand programming tool (HPT)

The battery-operated HPT is necessary for start up, configuration, testing a and modification of a DALI ADVANCED lighting control system.
The HPT is used for configuration of the electronic DALI control gears (=DALI devices) and allows the integration of radio components such as wall transmitters and sensors.

For additional information please take a look at the operating manuals for the central controller type DALI RC ADVANCED CI respectively at the manuals of the corresponding radio components.

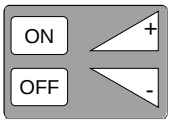
1.1 Overview of displays and controls



1.2 Basic operation of the HPT

The main menu gives you access to all the other menu options.
The basic operating principle is the same in all menus:

Main control panel:



1. All the connected DALI devices can be operated directly from the main menu even without prior addressing or programming (broadcast mode).
2. Operation of the selected device, group or lighting scene.

Cursor control

▲ and ▼ Direction buttons up and down.
1. Moving cursors in the menus
2. Direct selection of device numbers, short- or group addresses and lighting scenes in the value fields

◀ Direction button left: Delete last entry

▶ Direction button right: Cross-reference to the specified menu

OK – button

OK Confirm selection or entry

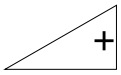
ESC – button

1. Abort the selected function (press short)
2. Return to previous menu (press long)

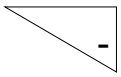
Numeric keypad

0 ... 9 Enter numerical data in the value fields

Dimming buttons



Fade to maximum brightness, if already switched on.



Fade to minimum brightness, if already switched on.

On / Off button / display lighting

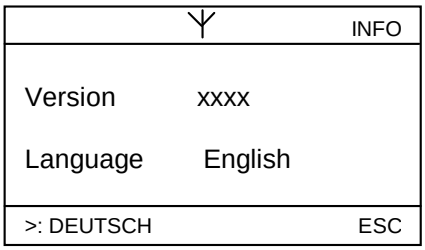
Switch on/off the HPT (hold down button for about 2 seconds). With the HPT switched on, the display lighting can be switched on. If the HPT is not used for about 10 seconds, the display lighting is automatically switched off to preserve the battery.

1.3 Setting up a connection to the central controller

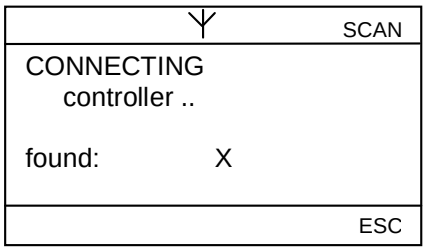
Before a DALI system can be started up or operated with the aid of the HPT, the central controller and the HPT must be connected to one another by a radio link. When it is switched on, the HPT sends a special connection setup signal to all the central controllers within its range. All central controllers within connection distance respond with their identification number. A list of central controllers and their identification numbers will be displayed after some seconds. Then the desired central controller can be selected and controlled or configured.

Steps in connection setup

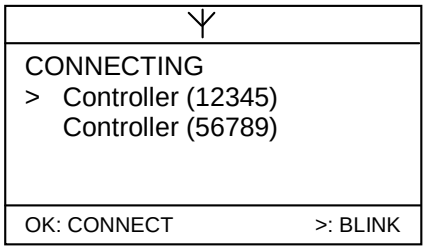
Switch on the HPT.



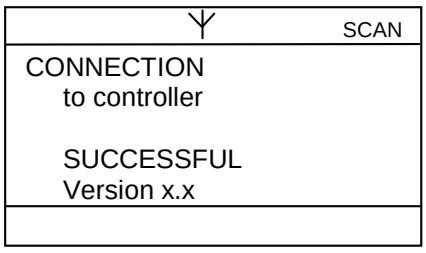
For about 3 seconds a initial screen with the software version and the selected language will be displayed.
As long as the initial screen is displayed, the menu language can be changed with the ▸ button directly between German and English.



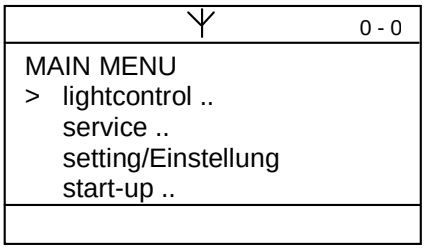
The HPT searches for central controllers within connection distance.
During this process the message *SCAN* will be visible in the upright corner of the display. The number of central controllers that are already found is displayed. If its sure that only one central controller exits the further search process can be terminated by ESC.



Subsequently the display shows a list of central controllers found. With the buttons ▾ ▴ a central can be selected. To check whether the correct central is selected, blinking of all fixtures connected to the selected central can be initiated with the ▸ button. If the desired central is found, confirm selection with OK.



After the connection setup was successfully, a verification message with the software version of the central controller will be displayed for some seconds.



Then the main menu is called up.
The antenna symbol for radio reception is displayed in the header line. If the radio link to the central controller threatens to break down the antenna symbol will flash. If the link is lost the symbol will disappear, the message "n*o RF connection to controller*" will appear and the HPT will switch off.

For possible error messages during connection setup see Section 8

2 Starting up the lighting control system

As already mentioned, the system consists of a DALI side and a radio side.
Before you put the system into operation you should take a little time to think about the functions that the system and the controls are going to perform.
For large rooms we recommend you to make a diagram of the group assignments and enter the individual addresses of the devices.

Considerations on the DALI side

- How should the groups be assigned?
- Which lighting scenes are to be set up in the room?
- Which groups should be controlled by sensors?

Considerations on the radio side

- How many controls should be provided?
- What functions should be assigned to the individual controls?
- Where should the controls and sensors be positioned?
- Is the radio link of all components secure?

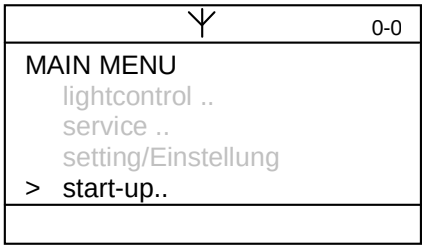
(**Further information you'll find in the manuals of the corresponding products**)

2.1 Starting up the DALI side

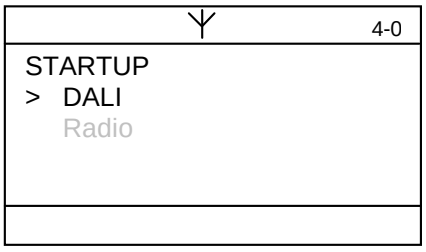
If the radio connection to the central controller is established, it is best to check whether all the connected DALI devices can be switched with the **ON/OFF** buttons and can be faded with the **+ / –** buttons of the HPT. By testing the installation this way, possible faults of the wiring can be determined.

When a DALI system is put into operation for the first time, all the connected DALI devices have to be initialised and assigned to groups.

Initiate a DALI start up



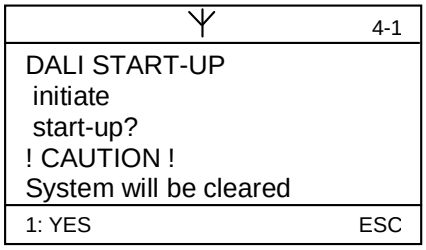
Select *Startup* with the buttons ▼ resp. ▲ and confirm selection with the OK button.



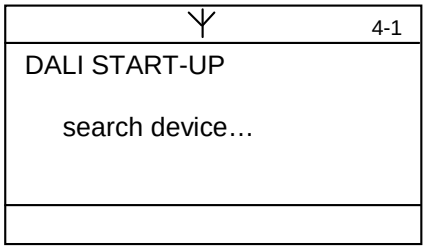
Select *DALI* with the buttons ▼ resp. ▲ and confirm selection with the OK button.

!Attention!

When DALI is started up, all settings already made are deleted. This also applies to any devices already programmed. If you only want to do some changes in an existing installation it is better to proceed as described in chapter 4.3. If possible, the startup process should always be carried out to the very end. You can abort startup by holding down ESC at any time. An aborted DALI start up can be resumed by the menu point *New device* described in chapter 4.3.3. The DALI side of the lighting control system is independent of the radio side, so radio components that have already been "learned" are not deleted.

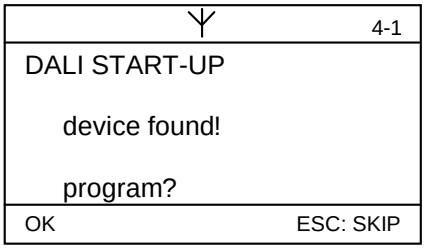


Button 1 initiates the start up process.

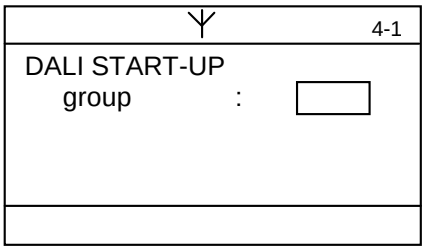


All the connected DALI devices are faded to the minimum lighting level.

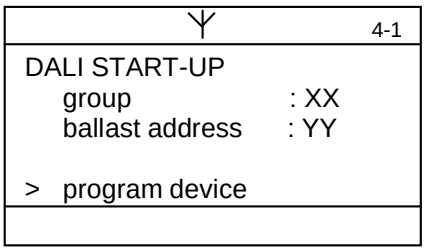
The system is searching for the first DALI device



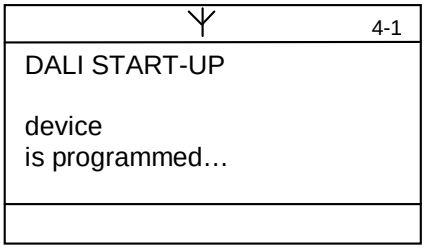
When the device is found the lamp connected to it flashes. Press OK to start the programming of this device. Should the fixtures be programmed in a special order (e.g. corresponding to the mounting place), the actual blinking device can be skipped with the ESC –button and programmed later on.



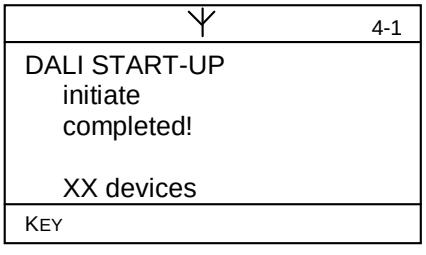
Should the programming be proceeded, a value field appears for entering the group address the fixture should belong to.
Enter number of group (1 to 16) and confirm entry with OK.



The group number entered *XX* and an automatically generated ballast address *YY* are displayed. Desired group number and ballast address can by selected and edited with the cursor control. Programming is started with the OK button (it is urgently recommended to note the group resp. ballast address of every device for documentation of the installation.)



If programming is successful the device is switched to maximum level.
Subsequently a search for the next device is carried out.
After the last device has been programmed, the lighting will flash briefly and then switch to the minimum dimmer setting.

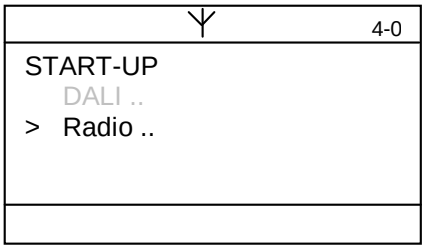


At the end of the startup routine a message appears giving the number *XX* of programmed devices.

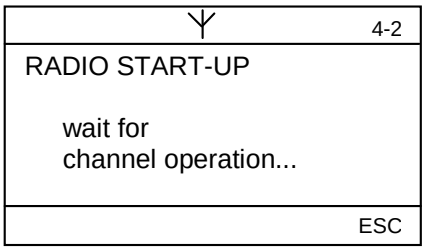
2.2 Start up the radio side

During the start up of the radio side all buttons or rocker switches of the control elements are individually learned and assigned a function. Also the sensors a learned to the system and assigned to a group.

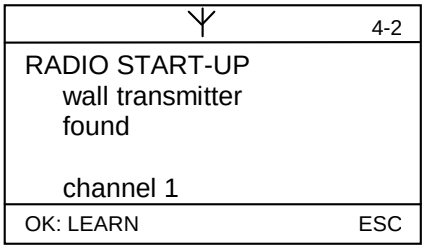
Initiate the radio start up



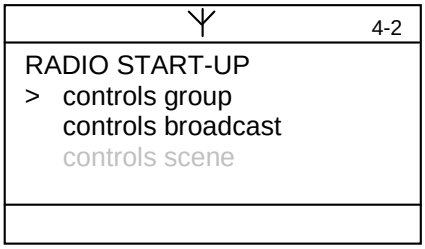
Use the cursor to select the *Radio* option and confirm with the OK button.



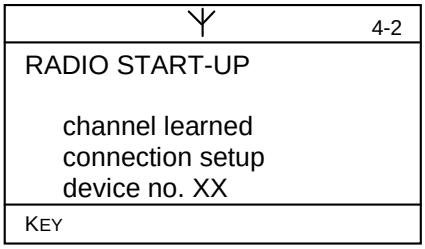
The central controller now waits for a radio telegram from a radio transmitter. This is sent by pressing the button that should be learned for a longer time or by inserting the batteries in a sensor. (For further details please have a look at the instruction manuals of the corresponding transmitters)



After successful reception of radio telegrams the transmitter type (here: *Wall transmitter*) and the functional type (here: *channel 1*) is displayed. Press OK to learn this transmitter or reject it and wait for next transmitter with a short press on ESC.
(Radio start up can be aborted at any time pressing ESC for a longer time)



Dependent of the transmitter type or of the radio telegram type a menu choice is displayed. Here a selection is made whether group-, broadcast- or scene-control is linked with the corresponding radio telegram. The according menu point is selected with the cursors and confirmed with OK. At *controls group* and *controls scene* the desired group or scene number has to be entered and confirmed with OK on the next screen

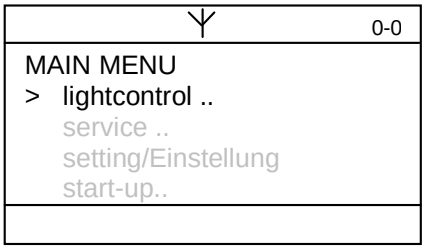


Finally, a confirmation window appears.
***XX* indicates the system-internal assignment number of the radio transmitter. (it is urgently recommended to note the number of each radio device that it can be unlearnt in case it is damaged or lost.)**

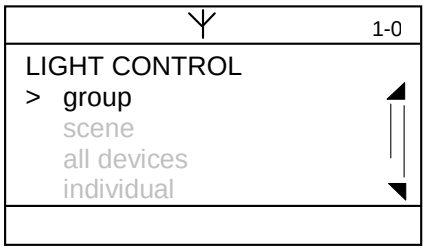
For possible error messages during connection setup see Section 8

3 Light control with the HPT

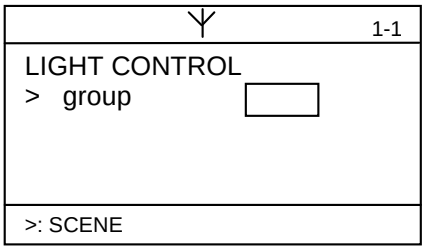
The lighting can be controlled centrally (all devices) or groupwise with the HPT, as it is possible with other control elements (e.g. a remote control). In addition the light level of every luminaire can be adjusted individually. A lighting situation achieved in this way can be stored and recalled as so called light scenes.



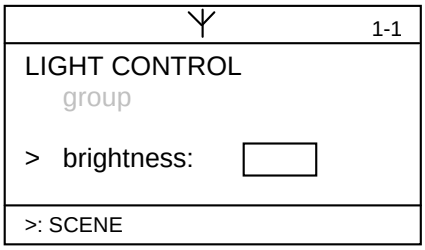
Select menu point *lightcontrol* in the *MAIN MENU* with the ▼ ▲ buttons and confirm selection with OK.



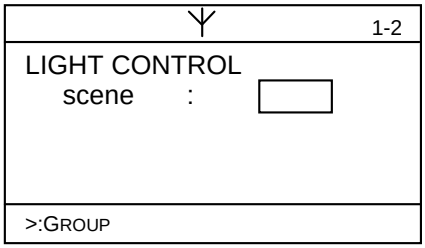
For controlling a group select *group* with the ▼ ▲ buttons and press OK.



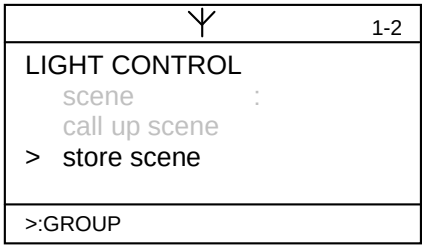
The desired group is seleced by entering the group number and confirmation with OK.



Subsquently the cursor jumps to the point *brightness*. Now the brightness level (0–100%) for this group can be entered. After confirmation with OK the group changes to the corresponding brightness. With the ▼ ▲ buttons menu line *group* can be accessed again and next group can be adjusted as described. With the button ▶ the scene menu can be accessed directly

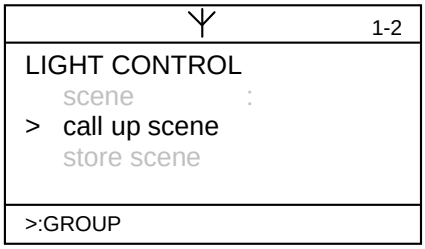


Should the actual lighting situation be stored as scene, the desired scene number (1-15) is entered here and confirmed with OK.



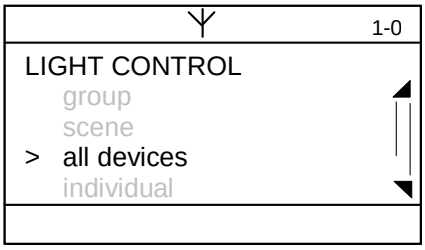
Select the entry *store scene* with the cursor buttons ▲ ▼ and confirm storage with OK.

With the ▶ button it is possible to go back to Group control menu directly.

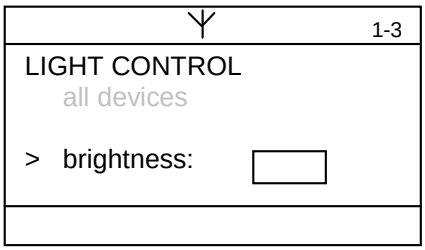


By the menu point c*all up scene* previously stored scenes can be recalled.

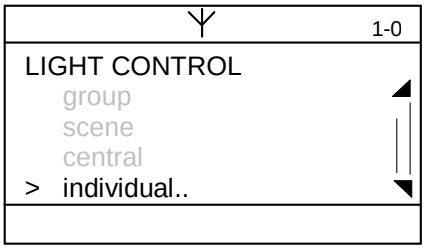
<u>Note :</u>
The fading time between scenes can be adjusted as described in section 6.1.



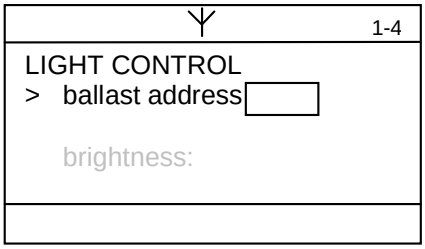
With menu point *all devices* in the lighting control menu, the whole installation can be controlled . Please select the corresponding line with the cursors ▲ ▼ and confirm selection with OK.



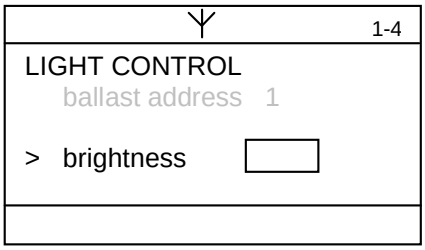
The cursor jumps to the *brightness* entry automatically Now the brightness value (0 – 100 %) can be entered and confirmed with OK.
The whole lighting will change to the entered level.



With the menu point *individual* in the LIGHT CONTROL menu individual fixtures can be controlled. For this select the corresponding entry with the cursor buttons ▲ ▼ and press OK.



For selection of the desired luminaire the ballast address is entered and confirmed with OK.



Following the cursor changes to the menu point *brightness* automatically. Now the brightness level (0 – 100 %) can be entered and confirmed with OK.

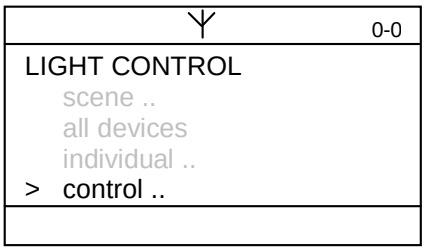
The luminaire will change to the entered brightness.

Beside the described central, groupwise and individual percental demand, brightness can -in each case- also be directly adjusted by the + / - fading buttons or On/Off buttons of the HPT.

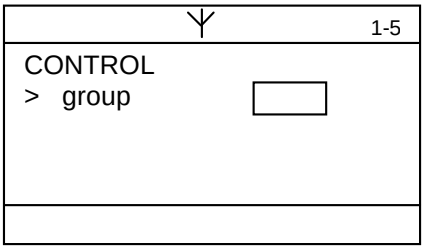
4 Additional functions and menu options

4.1 Control and motion detection

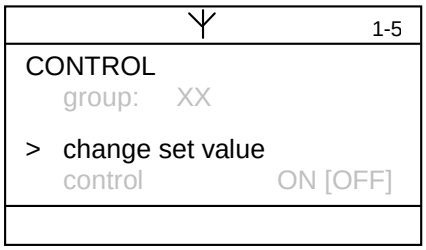
If a combined light and motion sensor or a light sensor is linked for to a group (see chapter 2.2), the control of brightness can be enabled or disabled as well as a set value for the corresponding group can be programmed with the ***control*** menu



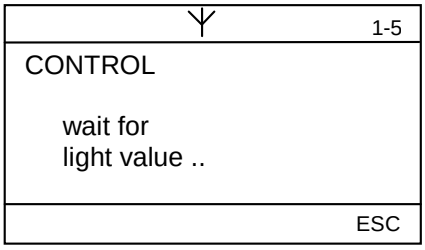
Call up the *control* submenu from the main menu and press OK to confirm.



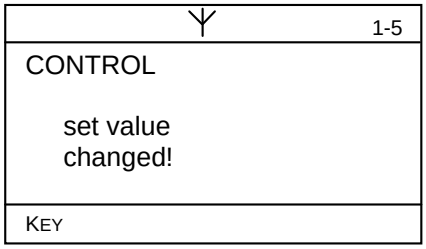
Enter the number of the group (1 to 16), that should be regulated and confirm with OK.



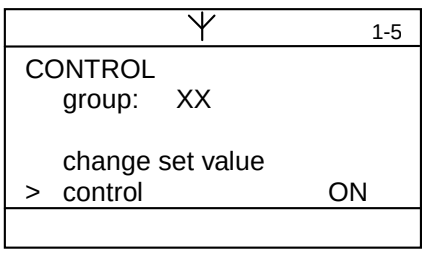
The actual brightness level can be stored as set value for the corresponding group by selection of the depicted menu entry and confirmation with OK.



The next transmitted brightness value measured by the sensor will be stored as new set value.
Note:
This procedure can take up to 90 seconds.



The successful acquisition of a new set value is displayed. You can press any button to return to the CONTROL menu.



The actual setting (ON/OFF)of the regulation is displayed. To change the current setting, select menu point *control* and enable the regulation of the corresponding group with the buttons 1, ▲ or ON or disable it with 0, ▼ or OFF

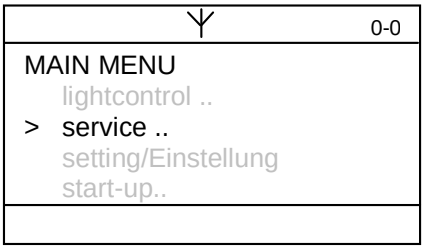
Return to *LIGHT CONTROL* menu by pressing ESC.

For further information concerning light regulation please take a look at the instruction manuals of the combined light and movement sensor type DALI LS/PD ADVANCED or the light sensor type DALI LS ADVANCED.

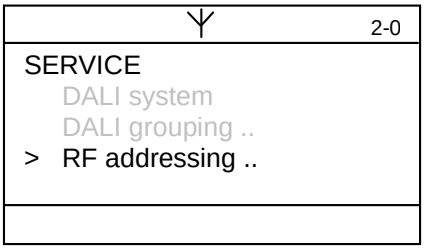
4.2 Deleting radio components / changing radio functions

If functions of channels are to be changed, these channels must first be deleted with the Service menu and then "reprogrammed" with the new functions as described in chapter 2. 2.

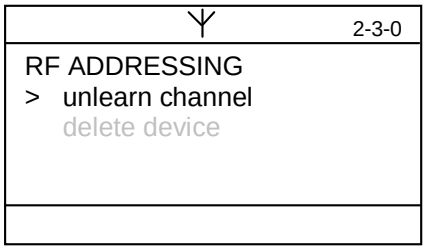
4.2.1 Deleting channels / changing single radio functions.



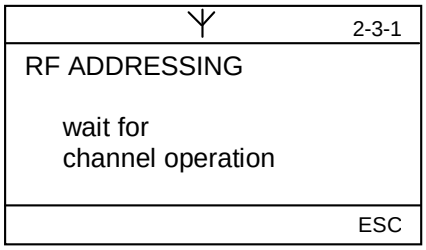
Call up the *service* submenu from the main menu and press OK to confirm.



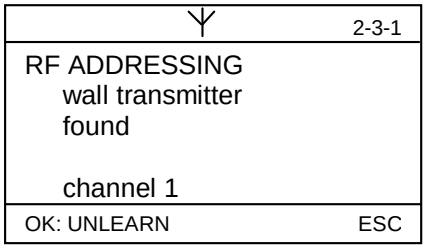
Select submenu *RF addressing* and press OK to confirm.



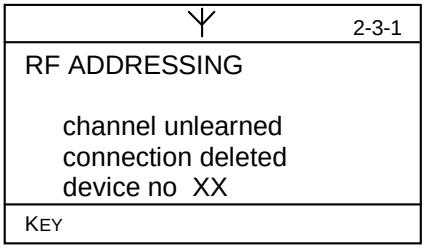
To delete a function of a radio transmitter, select menu option *unlearn channel* and press OK to confirm.



The central controller now waits for a radio telegram from a transmitter that indicates the function to be unprogrammed. Now press the corresponding button of the handheld or wall transmitter or remove the batteries of a sensor and replug it after approx. 10s..



The telegram reception is displayed with the transmitter type and channel number as in the example depicted here. Confirm with OK to unlearn and the channel and the assigned function or otherwise cancel process with ESC.

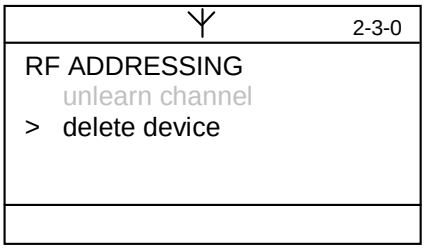


The completion of the unlearn is indicated by the following screen.

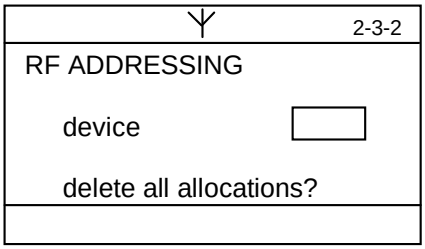
Press any button to continue.

4.2.2 Deleting radio transmitters completely

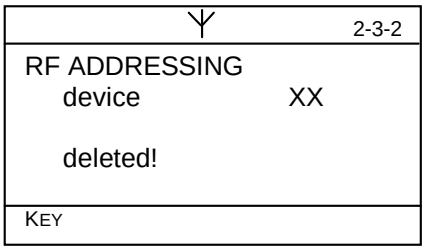
With the device number of a transmitter all channels and functions can be deleted. If the device number is unknown it is recommend to unlearn one channel first, as described in the previous chapter, where the device number is displayed automatically.



To delete a radio transmitter and all its channels from the central controller, select menu option *Delete Device* and press OK to confirm .



Next, enter the device number and press OK to confirm.
Press any button to continue
Confirm security inquiry with OK or cancel process with ESC.



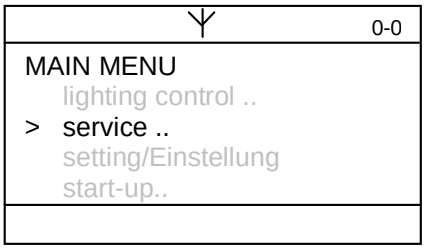
If the process is successfully finished, the depicted message is displayed .

For possible error messages during connection setup see Section 8

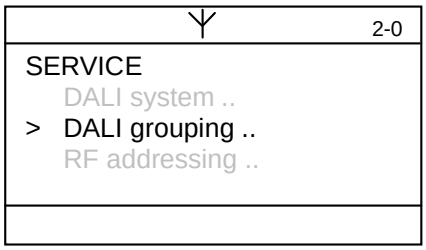
4.3 Changes in the DALI system

4.3.1 Change grouping

In a DALI system that has already been put into operation, further devices can be added to or removed from the other groups via the **Service ..** menu..

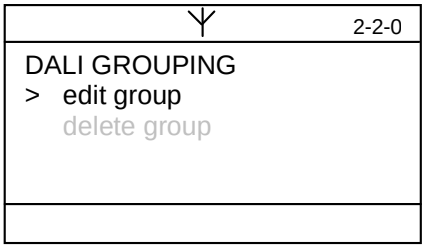


Select submenu *service...* in the MAIN MENU with the ▼ ▲ buttons and confirm selection with OK.

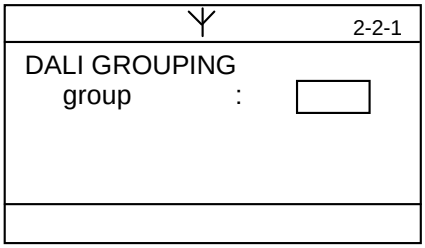


Select *DALI grouping* and press OK.

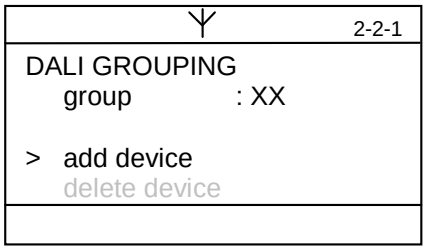
Remove / add single group members



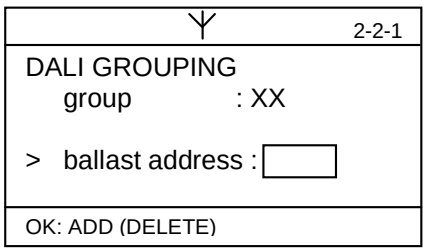
Select menu point e*dit group* and confirm with OK.



Enter the relevant group (1-16) and confirm with OK.
The selected group is switched to maximum lighting level; all other groups dim down to the minimum lighting level.

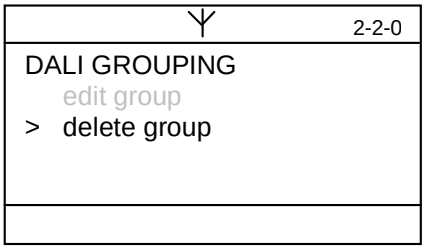


If a further device is to be added to the group, select the *add device* menu option . If a device should be deleted from the group select entry *delete device*.
Confirm selection with OK.

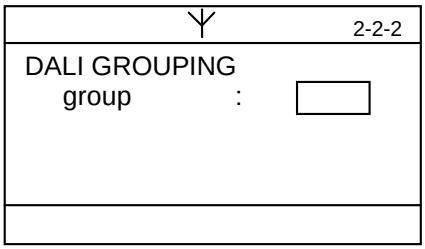


The first assigned ballast address is automatically displayed and can be accepted by pressing OK.
After a short delay the device with the displayed ballast address will flash. If a different device is to be accessed, use the ▲ ▼ buttons to call up the next assigned ballast address.
With OK the device is added to or deleted from the group.

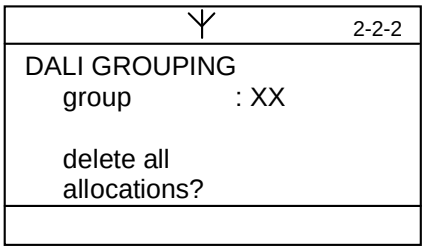
Deleting a whole group



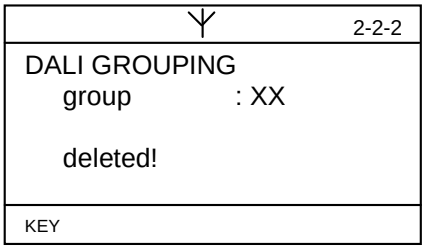
If a complete group is to be deleted, select the option *delete group* and confirm with OK.



Enter the number of the group that should be deleted and press OK.
The selected group fades to maximum all other devices fade to minimum.



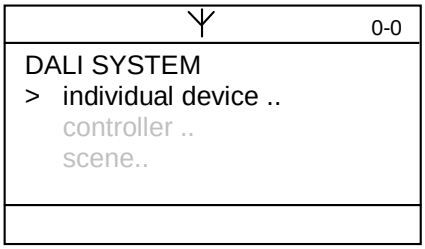
Confirm security inquiry with OK or cancel process with ESC.



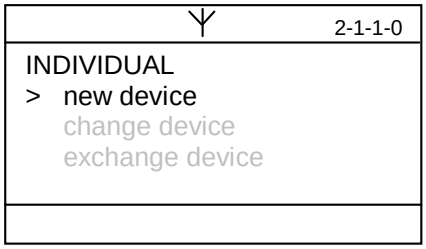
The depicted message is displayed after the group was deleted. Press any button to continue.

4.3.2 Adding a new DALI device to the system

If a new device has been connected to the controller it can searched, programmed with a ballast address and assigned to a group separately.

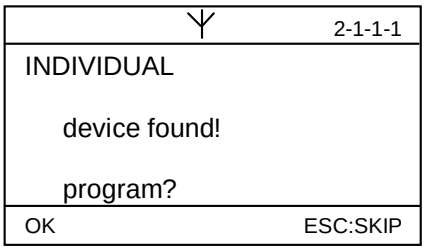


Select menu point *DALI System* at the *Service* menu and subsequently *the submenu individual device* and confirm selection with OK.

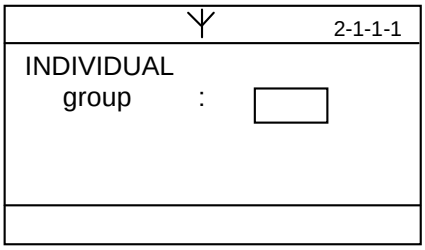


Next Select submenu *new device* and press OK to confirm.

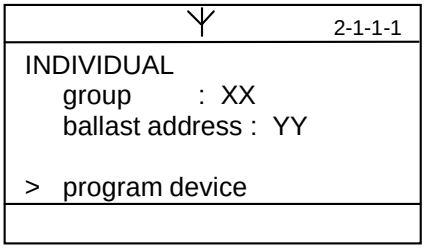
The new device will be searched…

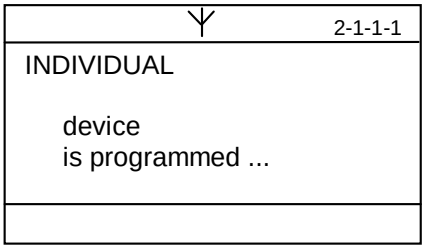


If the new device is found the lamp(s) connected to it flashes. The programming of this new device can be started with OK.
Note: if more than one new device was added and should the new devices be programmed in a special order the actual flashing one can be skipped and programmed later on.



Enter the number of the group (1..16) where this new device should be assigned to and confirm entry with OK.





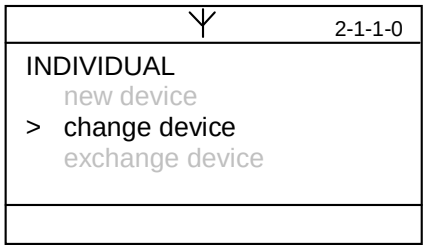
The group address *XX* and the automatically generated ballast address *YY* are displayed.
Programming can be started by pressing OK.
If the automatically proposed ballast address is to be changed, select *ballast address* and press OK.
Enter a different *ballast address* or select it with the ▲ ▼ buttons and press OK to confirm.

The new device is programmed. After successful programming the device fades to maximum.

If no new device is found please check if it is correctly connected to the controller and the line voltage and if it reacts to the central On/Off/Dimming functions of the HPT.
Is the connection correct, but the device is still not found, it was obviously programmed before. In this case please follow the instructions on next page.

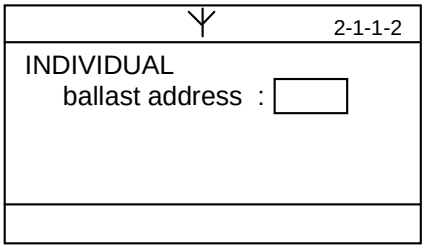
4.3.3 Changing the ballast address and group assignment of a DALI device

The existing ballast addresses can be changed without influence to other settings (e.g. group assignment). Ballast addresses can be allocated several times, e.g. by connecting of previously installed devices. Nevertheless it is important for simplification of service that all ballast addresses are used only once and are therefore unique in the system. A ballast address that was a assign to different devices can be changed as follows.

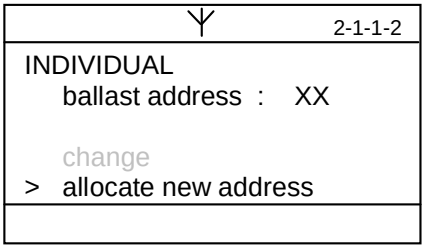


Coming from the MAIN MENU select submenu *service .. / DALI System .. / individual device* and confirm with the OK button.

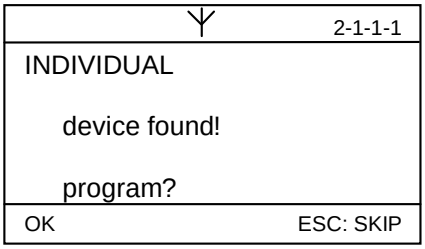
Select menu point *change device* and press OK.



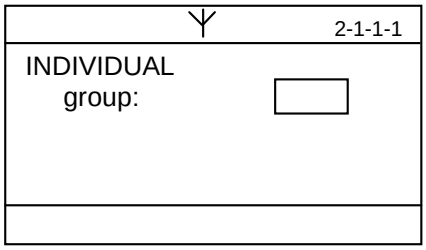
If known, enter ballast address of the corresponding device and confirm entry with OK . Otherwise select devices with the ▲ ▼ buttons one after another until the lamp(s) connected to the desired device flashes, confirm final selection with OK.



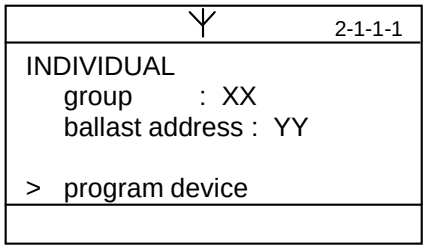
Select menu point *allocate new address* and press OK.



The system searches for the devices with ballast address *XX*.
The lamps of the first device with this address flash. The address of this device can now be changed by pressing OK or skipped by ESC.



Enter desired group number (1 to 16) and confirm with OK.



Check displayed group number and ballast address, if necessary select entry and change it with the arrow buttons. Start programming with the OK button.
After the programming of this device is finished, the next device with the same ballast address is searched automatically. The change process is terminated when the last device with this ballast address was edited.

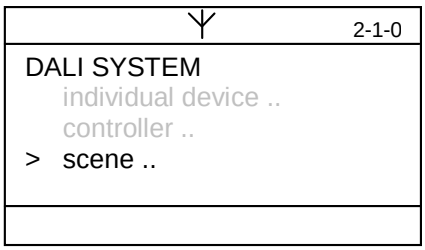
5 Special functions

5.1 Controlling several rooms with one central controller

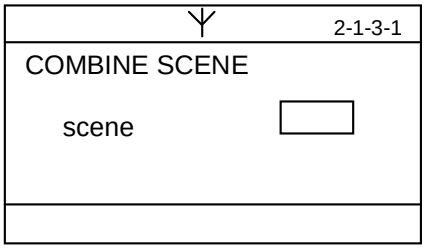
A lighting scene normally effects all the DALI devices and therefore all the groups of the system. However there is the possibility of having a lighting scene, which affects only one particular group (e.g. the fixtures of a particular room).

Example: Room no. 1 contains group 1, room no. 2 contains group 2. Lighting scenes 1 and 2 are to apply to Room 1; scenes 3 and 4 are to apply to Room 2. Scenes 1 and 2 are therefore assigned to Group 1 (= Room 1) and scenes 3 and 4 to Group 2 (= Room 2). This ensures that when the lighting scenes are stored the lighting situation in the next room is not stored at the same time and is not affected when the lighting scene is called up.

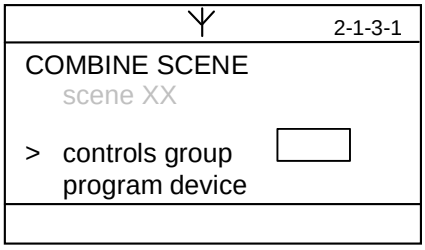
Each lighting scene can be assigned only to one group. If a room contains more than one group, a superordinate group has to be created that contains all the devices from the other groups in the room. The lighting scenes can then be assigned to these superordinate -groups.



Coming from the Main Menu select submenu s*ervice .. / DALI system .. / scene .. / combine scene* and confirm selection with OK.
In this menu each scenes can be assigned/linked to one particular group.



Enter scene number that should be assigned to a particular group and confirm entry with OK.



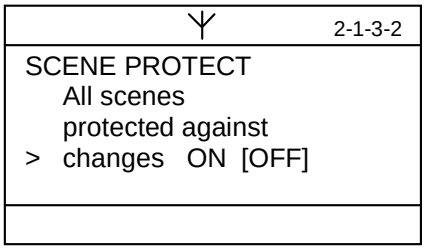
Enter desired number of desired group that should be linked with the selected scene and press OK.
Next start programming process by pressing OK again.

Remove Scene- / Group link:

After Entry of „000“ at value field „*Controls Group*“ it appears „ – – – “. Set cursor to line *Program* and press OK to remove existing link.

5.2 Protect lighting scenes

Normally lighting scenes can be changed by the HPT, by a handheld- and a wall transmitter. If it is desired light scenes can be protected against all changes derived from operation of wall-and handheld transmitters.

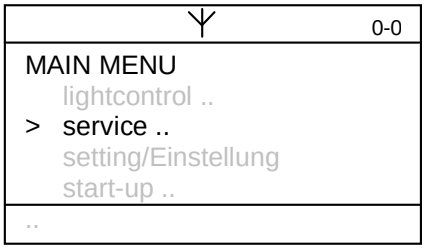


Coming from the Main Menu call up submenu *service .. / DALI system .. / scene .. / Scene protect*.
The actual setting will be displayed.
Select entry with OK, enable (ON) /disable (OFF) scene protect with the buttons ▲ and ▼ or 1 and 0 .

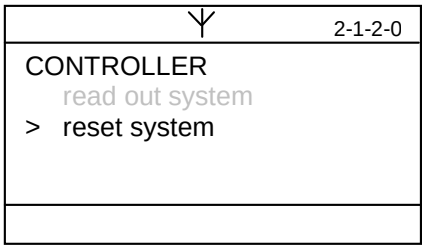
Changing scenes with the HPT is always possible.

5.3 System Reset

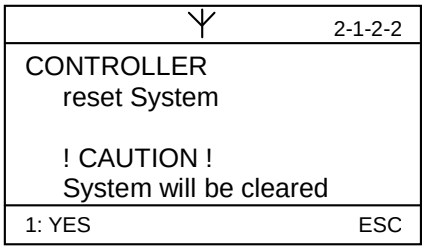
If you want to delete a DALI SYSTEM completely you can do this in the ***Reset System*** menu option. All the data of the connected system will be irretrievably deleted. This applies both to DALI devices and to linked radio components.



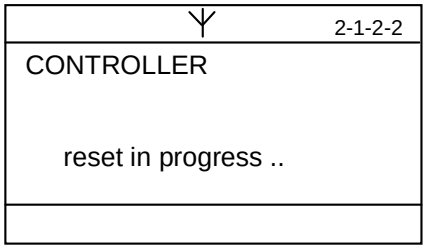
Coming from the *Main Menu* select submenu *service.. / DALI system .. / controller ..* and confirm selection with OK.



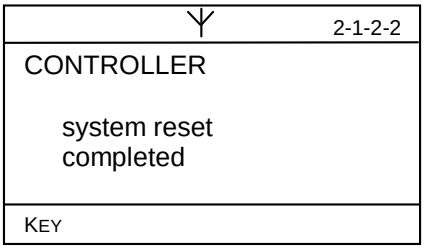
Select menu point *reset system* and press OK.



Confirm security prompt with button 1.



The system is deleted...

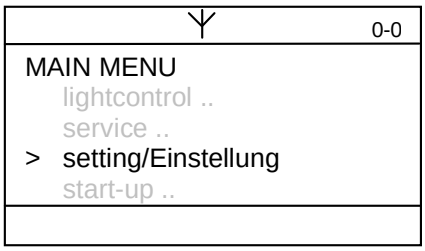


After the system reset was completed the depicted message is displayed.
Press any button to continue.

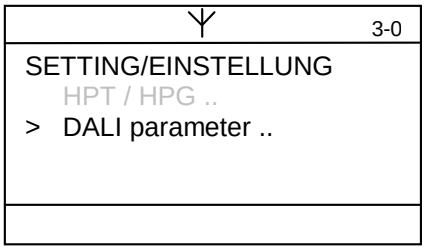
To reprogram the central controller, the HPT must now be switched off and the connection to the central controller re-established.

6 System settings

The DALI ADVANCED system provides a possibility of configuration of important system parameters by the user, which allow an individual adaptation of the system behavior to the requirements of the user.

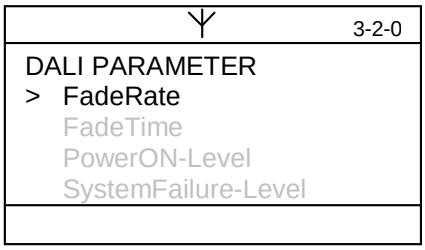


Coming from the Main Menu select menu *setting* and press OK.



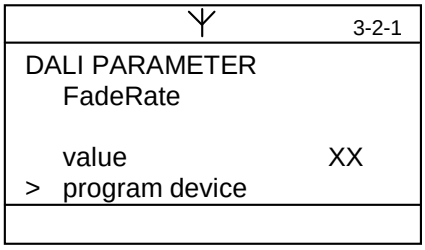
Select submenu *DALI – parameter* and press OK.

6.1.1 Manual dimming speed (FadeRate)



The dimming speed for manual operation dimming is given by the *‚FadeRate'* value.

Select menu point *‚FadeRate'* and press OK.



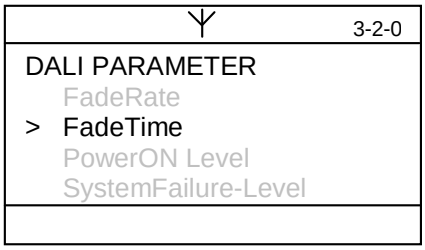
Enter *‚FadeRate'* value between 1 (fastest) and 15 (slowest) and confirm entry with OK.

Apply setting by programming with the OK button.

FADE RATE setting	(dimming steps/sec)
0	not applicable
1	357.8
2	253.0
3	178.9
4	126.5
5	89.5
6	63.3
7	44.7
8	31.6
9	22.4
10	15.8
11	11.2
12	7.9
13	5.6
14	3.9
15	2.8

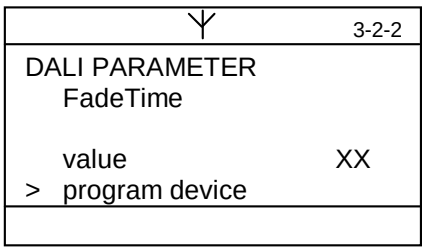
Overview : Settings for manual dinmming speed

6.1.2 Fade time between lighting scenes and light values (FadeTime)



The fading time is given by the *‚FadeTime'* value.

Select menu point *‚FadeTime'* and press OK.



Enter *‚FadeTime'* value between 0 (fastest) and 15 (slowest) and confirm entry with OK.

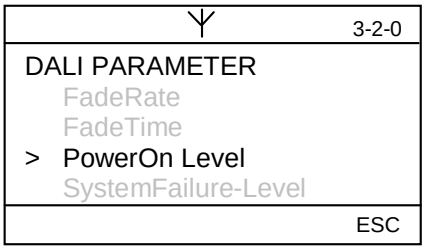
Apply setting by programming with the OK button.

FADE TIME setting	Fade time in sec
0	<0,7
1	0.7
2	1.0
3	1.4
4	2.0
5	2.8
6	4.0
7	5.7
8	8.0
9	11.3
10	16.0
11	22.6
12	32.0
13	45.3
14	64.0
15	90.5

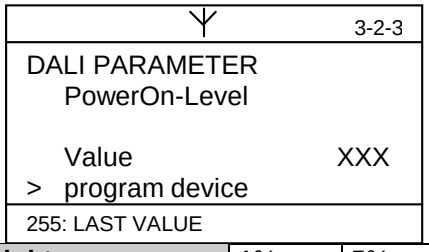
Overview : Fade time settings

6.1.3 Behavior after return of mains voltage (PowerOn-Level)

The brightness after a power failure is given by the *‚PowerOn-Level'* value.



Select menu point *‚PowerOn-Level'* and press OK.



Enter ‚PowerOn-Level' value between 1 (minimal brightness) and 254 (maximal brightness) or 255 (last state before power failure is reestablished) and confirm entry with OK.

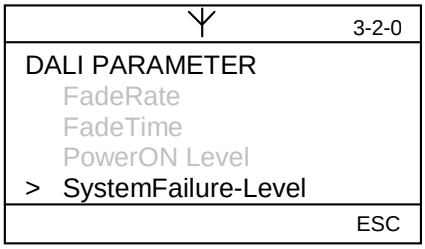
Apply setting by programming with the OK button.

Brightness	1%	5%	10%	20%	50%	80%	100%	Last state
PowerOn-Level value	85	145	170	196	229	246	254	255

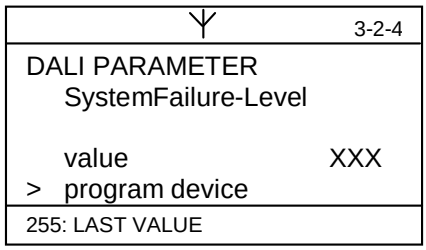
Overview : Selected brightness settings after power failure

6.1.4 Behavior on loss of DALI control voltage (System Failure-Level)

The brightness after a loss of the DALI control voltage (e.g. when the control wires are cut) is given by the *‚System Failure-Level'* value.



Select menu point*, System Failure-Level'* **and press OK.**



Enter ‚*System Failure -Level*' value between 0 (lighting switches off) and 254 (maximal brightness) or 255 (Last state before loss of control voltage is retained) and confirm entry with OK.

Apply setting by programming with the OK button.

Brightness	0% (Off)	1%	5%	10%	20%	50%	80%	100%	Last state
System Failure-Level value	0	85	145	170	196	229	246	254	255

Overview : Selected brightness settings after power failure

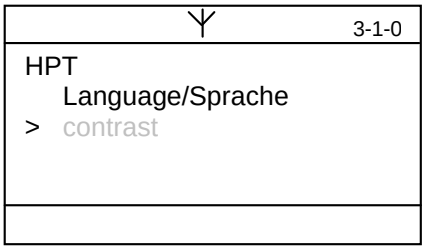
6.2 Configuration of the HPT

To improve the ergonomic handling of the hand programming tool some settings of the HPT can be adjusted individually.

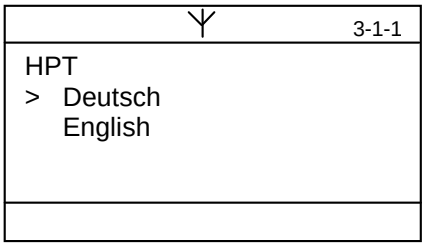
6.2.1 Language setting

Coming from the *Main Menu* select menu *setting/Einstellung* and press OK.

Then select submenu *HPT* / *HPG* and press OK.

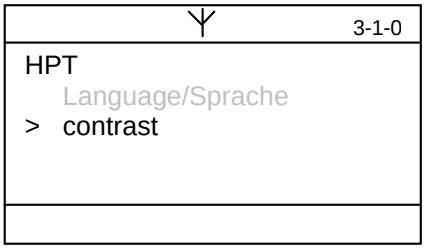


Select submenu Language/*Sprache* and press OK.



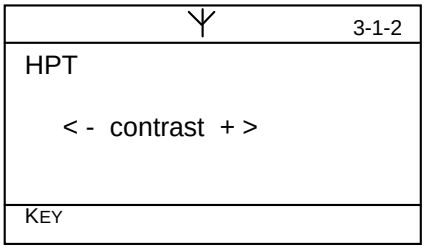
Use the ▲ ▼ buttons to change the menu language of HPT and press OK.

6.2.2 Setting of display contrast



Coming from the Main Menu select menu *Einstellungen* / *Setting* and press OK.

Select submenu *Contrast* and press OK.



Change display contrast with the ◄ ► buttons.

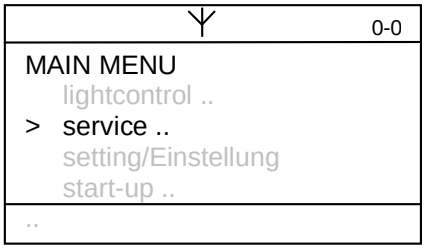
7 Failure of system components

The DALI ADVANCED system offers extensive service functions to simplify the replacement of defect components.

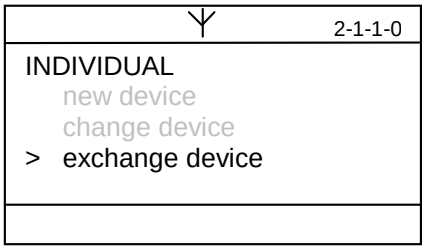
7.1 Replacement of a defect DALI device

If devices have to be replaced in a DALI system, all the data of the replaced devices can be transferred. If there is more than one device to be replaced the ballast addresses and associated mounting locations must be known. Start the replacement process with the lowest ballast address.

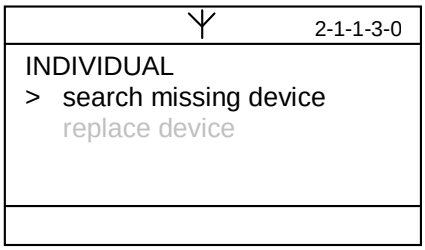
Disconnect system from mains voltage, demount device and subsequently reconnect mains again.



Coming from the Main Menu select submenu *service .. / DALI system .. / individual device ..* and press OK.

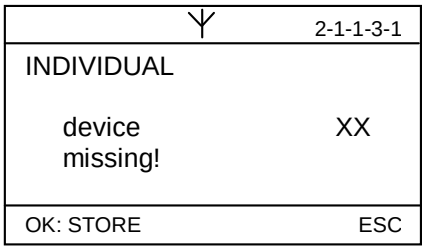


Select menu point *exchange device* and confirm with OK.



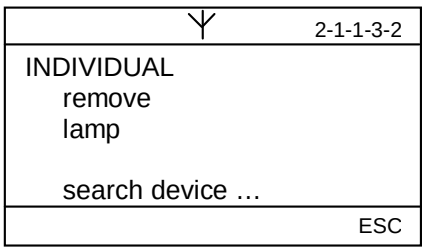
Select menu point *search missing* device and confirm with OK.

The system now searches for the missing device..



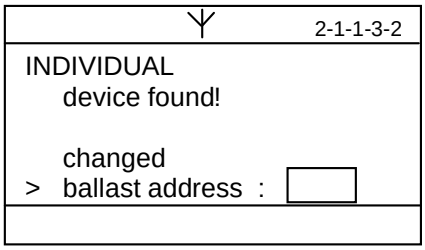
When the ballast address of the missing device is determined, press OK to transfer its backup data to memory for further processing.

Switch of HPT, disconnect system from mains voltage, install new DALI device and subsequently restore mains. Switch on the HPT and reestablish the radio connection to the central controller.

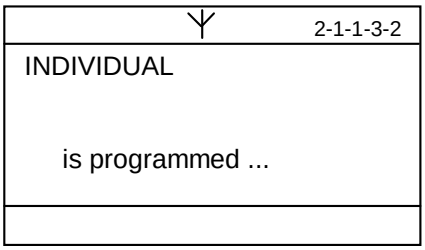


Select the *exchange device* option again, then use the ▼ ▲ buttons to select *replace device* and press OK to confirm.

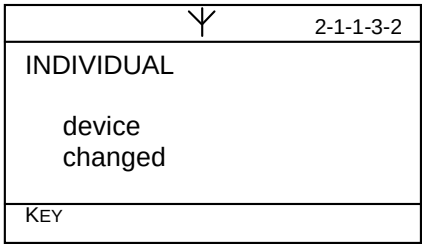
The system now searches for the new device.
To enable the device to be found, remove the lamp from the newly installed device.



After successfully searching, the system suggests the ballast address of the previously demounted faulty as the replacement.
Confirm with OK.



The data of the replaced device is transferred to the new one.



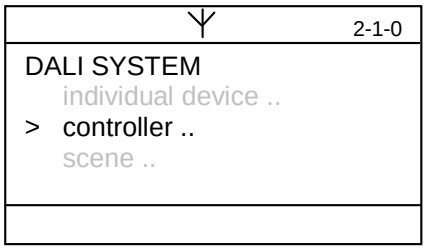
The device has been successfully programmed.

Insert the lamp(s) of the new device.

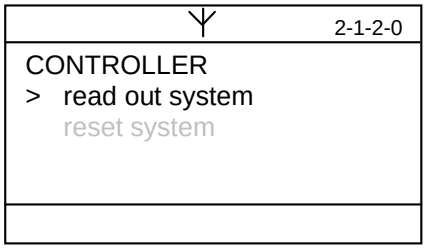
7.2 Replacement of defect central controller

If the central controller has to be replaced because of a fault, the configuration of the DALI side can be read in from the devices with the aid of the HPT without performing a new start-up procedure.
All the radio devices must be reprogrammed (see Section 2.2). Sensors for lighting regulation/motion detection must be also reprogrammed and activated (see Section 4.1).

Disconnect faulty central controller from mains voltage, install new central controller and reconnect mains. Subsequently establish radio link between HPT and new central controller and perform the following steps.

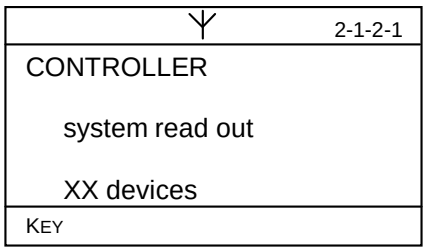


Coming from the *Main Menu* choose submenu *service .. / DALI system ..* and select entry *controller* and press OK.



Select *read out system* and confirm with OK.

Data of all connected DALI devices are read out and copied to the controller.

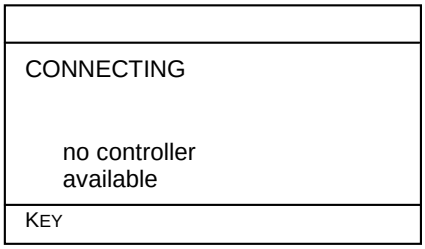


The depicted message is displayed to confirm successful data transfer to the controller.

Press any button to continue

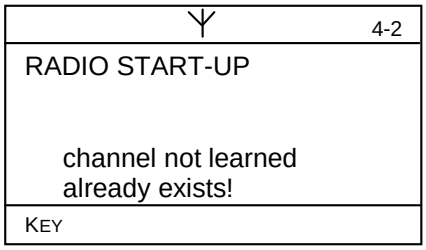
8 Possible error messages

8.1 Error messages in setting up a link between HPT and central controller



The HPT could not establish a radio link to a central controller.

- **Reduce distance between HPT and central controller and repeat connection setup by pressing OK, if necessary replace weak batteries in the HPT.**
- **If the connection setup fails, check supply voltage at the central controller.**

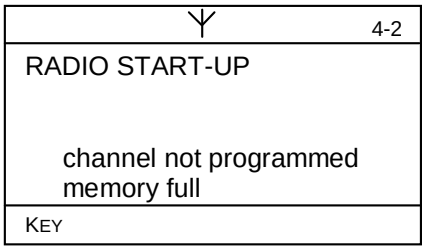


8.2 Error messages at radio startup

The transmitter channel just activated exists already as a connection in the central controller.

Press any button to continue

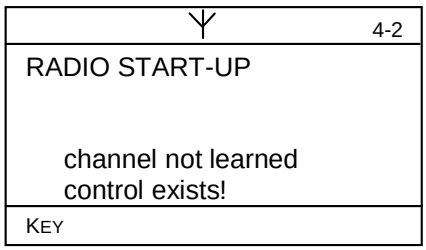
- **If you want to change the function of a transmitter channel, it has to be 'unlearned' first as described in chapter 4.2.1 and programmed again with the new function.**



If all 200 channels that could be stored in a central controller are occupied the depicted error message is displayed.

Press any button to continue.

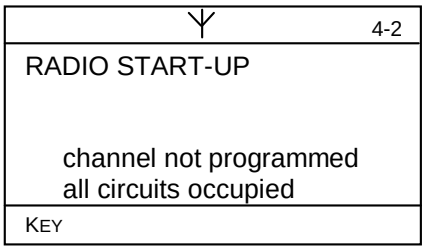
- **Please delete all unnecessary radio components as described in section 4.2**



If a light sensor or presence detector is to be assigned to a group that is already being regulated by another light sensor or presence detector, the depicted message will appear.

Press any button to continue.

- **Only one sensor can be assigned to each group.**

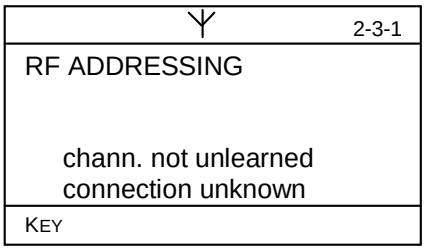


If eight light sensors or presence detectors have already been programmed and an attempt is made to train a further light sensor or presence detector, this error message is displayed.

Press any button to continue.

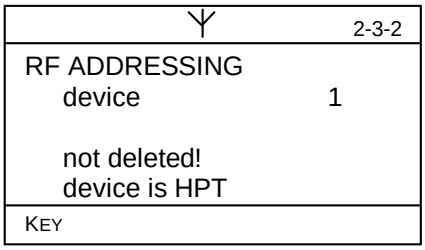
- **A maximum of 8 sensors can be linked to one central controller.**

8.3 Error messages in radio-addressing



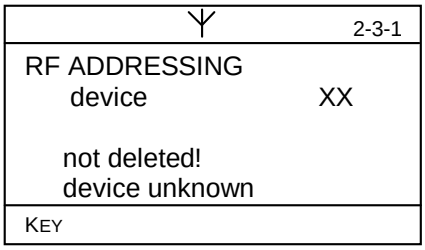
If a channel is to be unprogrammed that has not been programmed in the central controller, the depicted message will be displayed.

Press any button to continue.



If an attempt is made to delete the HPT currently connected to the central controller, the message alongside will appear. You cannot delete an HPT.

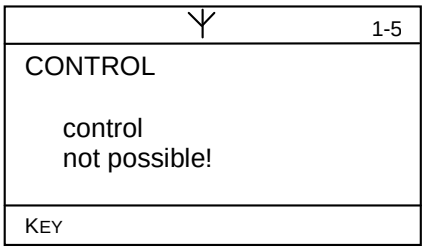
Press any button to continue.



If an attempt is made to delete a transmitter that has not yet been programmed, the message alongside will appear.

Press any button to continue.

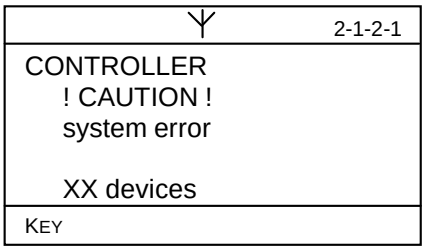
8.4 Error messages for lighting regulation



A sensor has not yet been assigned to this group.

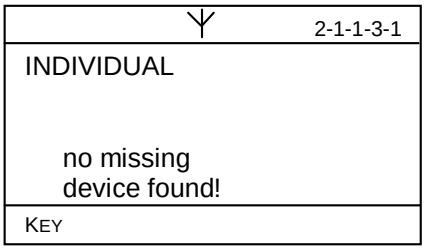
Press any button to continue.

8.5 Error messages in reading DALI devices information



If the transmission routine detects an error in the DALI SYSTEM, a new startup process must be carried out.

Press any button to continue.



A missing device could not be found when searching for a missing device in the *exchange device* menu option.

Press any button to continue.

- **Ensure the device that should be replaced isn't still connected to the central controller.**

9 Notes

10 Overview of the menu structure

Main menu

1 – 0 lightcontrol
- 1 – 1 group
- 1 – 2 scene
- 1 – 3 all devices
- 1 – 4 individual
- 1 – 5 control

2 – 0 service
- 2 – 1 – 0 DALI system
  - 2 – 1 – 1 – 0 individual device
    - 2 – 1 – 1 – 1 new device
    - 2 – 1 – 1 – 2 change device
    - 2 – 1 – 1 – 3 exchange device
  - 2 – 1 – 2 – 0 controller
    - 2 – 1 – 2 – 1 read out system
    - 2 – 1 – 2 – 2 reset system
  - 2 – 1 – 3 – 0 scene
    - 2 – 1 – 3 – 1 combine scene
    - 2 – 1 – 3 – 2 scene protect
- 2 – 2 – 0 DALI grouping
  - 2 – 2 – 1 edit group
  - 2 – 2 – 2 delete group
- 2 – 3 – 0 RF Addressing
  - 2 – 3 – 1 unlearn channel
  - 2 – 3 – 2 delete device

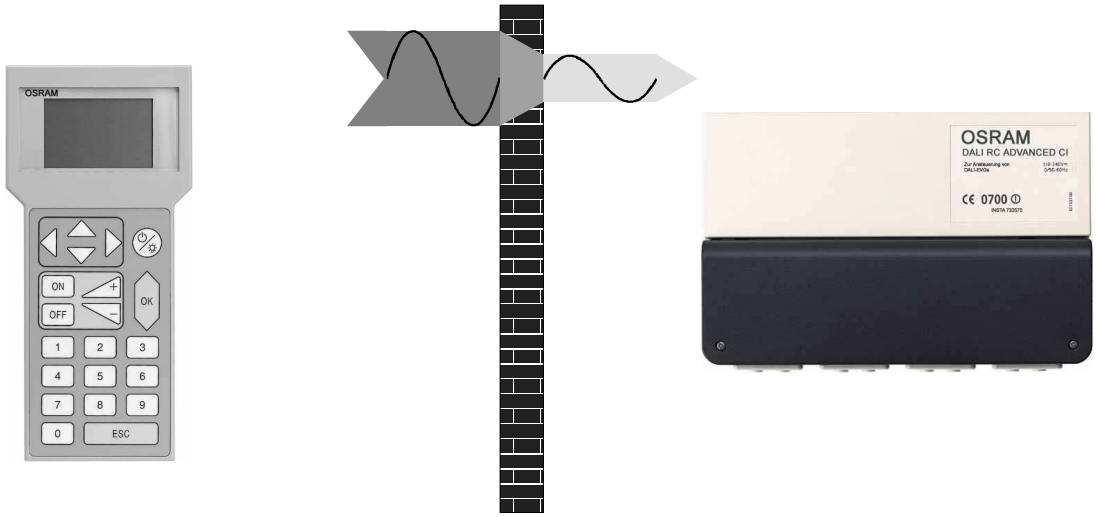
3 – 0 Setting
- 3 – 1 – 0 HPT
  - 3 – 1 – 1 Language
  - 3 – 1 – 2 contrast
- 3 – 2 – 0 DALI Parameter
  - 3 – 2 – 1 Fade Rate
  - 3 – 2 – 2 Fade Time
  - 3 – 2 – 3 Power On Level
  - 3 – 2 – 4 System Failure Level

4 – 0 Startup
- 4 – 1 DALI
- 4 – 2 radio

11 Notes on radio operation

The central controller is partly operated by radio signals. A non-exclusive transmission path is used for radio transmission, which means that interference cannot be ruled out. Radio transmission is not suitable for safety applications, such as emergency shutdown or calls to the emergency services. The range of a transmitter depends on the nature of the building :

Dry material	**Penetration**
Wood, plaster, plasterboard	approx. 90 %
Brick, MDF	approx. 70 %
Reinforced concrete	approx. 30 %
Metal, metal grating, aluminium cladding	approx. 10 %



- This radio system may only be connected to other communication networks if this does not infringe the relevant telecommunication laws.
- This radio system may not be used for communicating beyond property boundaries.
- If operated in Germany, the regulations contained in Official Bulletin Vfg 73/2000 must be met.
- The central controller may be operated in all EU and EFTA states.

12 Technical data

General

Power supply:	6 V DC
Batteries:	4 x Mignon, Alkaline (LR 6, AA)
Operating time:	Approx. 24 hours, without illumination; automatic shutdown after approx. 30 minutes of idle time
Display:	LCD with 128 x 64 pixels with display lighting; automatic shutdown of the display lighting after approx. 10 seconds of idle time
Dimensions (W x H x D):	(81 / 100 x 211 x 26 / 45) mm
Weight:	282 g
Temperature range:	5℃ to +55℃
Per central controller the HPT handles:	16 lighting groups 15 lighting scenes 64 DALI devices max. of 200 radio channels of which max. of 8 light sensors or presence detectors

Radio system

Transmission frequency:	433.42 MHz, ASK
Range:	
Normal operation	max. 100 m (in the open)
Programming mode	max. 5 m
PTT approval:	LPD – D (SRD = short range device)

Digital **A**ddressable **L**ighting **I**nterface
The international digital interface standard for the lighting industry

Edition 08/2004 / ADVANCED Hand Programming Tool version 2.0

LMS 04091003gb

Subject to change without notice. Errors and omission excepted