
HUMAN CENTRIC LIGHTING BIOLUX G2

INSTALLATION GUIDE

Troubleshooting / Q&A

New Functions

Lights-OFF function

After rotation of the CU down to the lowest level of RELAX, the rotary can be rotated further (counter-clockwise) below RELAX) and all the lights will be turned off, by going in standby mode. Any rotation clockwise toward higher levels will turn the lights on again. Lights will also be turned on, when the sensor detects a motion.

100% light output function

Rotation of the CU clockwise beyond BOOST for 10 clicks or more will set the lights to an intensity of 100%, no matter of the time of day. The limitation of the HCL curve is not effective for the intensity output. CCT will remain at the maximum level which is defined by the BOOST+3 curve in the BIOLUX curve definitions. Any click counter-clockwise will end this 100% output and continue with the then selected mode.

This function is helpful in some special cases: for emergencies or cleaning, when max. light output is required. It can also be used during the installation and setup phase of the system to have a defined light output for documentation.

Troubleshooting / Q&A

New Functions

Demo Mode

From the app it is possible to select a demo mode. This mode runs a 2-minutes demo of color and intensity changes of the CU. It starts with low CCT and low intensity, ramps up to high CCT and high intensity and goes down to low CCT and low intensity. This mode is intended to demonstrate the function of the system. It can also be used to check if all CCT-levels can be achieved. The demo can be run at any time of the day and goes to high CCT, even when run at a time, when high CCT would not be possible in the standard modes.

The demo will end automatically after one run. It can be stopped manually by any rotation of the CU. It can also be stopped by tapping the „back“-button (<) on the screen where the demo is started in the app.

Timetable functions (part 1 of 2)

The timetable allows to switch from one selected mode to a different mode at a defined time of the day.

Normally, the HCL-curve runs automatically in the mode selected on the CU by rotation. A change to a different mode requires to rotate the CU to the desired mode manually. The timetable replaces manual interaction and repeats defined settings every week. The timetable can be defined on a weekly base with max. 48 entries per day in a time difference of min. 1 minute per entry. The last entry for a specific day will also determine the start of the following day. The setting will persist across midnight. The CU has 5 main operation modes, plus the software-off mode, when all lights are off in standby mode. (OFF, RELAX, CREATE, NATURAL, FOCUS, BOOST).

Troubleshooting / Q&A

Timetable function (part 2 of 2)

Each of the five main operation modes has seven submodes characterized by numbers (-3, -2, -1, 0, +1, +2, +3).

This gives 35 operation modes from RELAX -3 to BOOST +3 and in addition the OFF mode. In standard input mode, only the five Main modes, corresponding to submode 0, plus OFF are addressed. In expert input mode, all 35 modes plus OFF can be addressed.

A timetable entry is characterized by the day of the week, the time, the mode and the submode. E. g. Fri, 13:15, Focus -2

Timetables can be saved as template on the app and used on the same CU or a different CU with the same mobile device.

Timetables can be exported as csv-file and they can be imported from csv-files. This allows to use timetables across several different installations with different mobile devices and on different Control Units. The csv-file can be edited on a computer to make multiple entries easier. The format is obvious from the exported csv-file.

At the day and time defined in the active timetable entry, the CU will set the lights to the mode defined in this entry.

This mode will persist until the next time table entry will set the system to a different mode or until the defined mode is overruled by a manual user interaction. Manual rotation of the CU after a timetable event happend has always priority. The manually selected mode will persist until either a next timetable entry will set a new mode or the user rotates again. The prior set mode cannot be recalled.

If an application requires a specific mode to be ensured for a longer period, even in case of user interaction, the desired mode setting needs to be repeated e.g. every 30 minutes in the time table. This can make sure that a user interaction will not have an effect which is persistent for more than this time intervall. The change from one timetable entry to the next is going slowly to avoid disturbing changes. Already during this slow change, the change can be stopped by manual rotation, which is regarded as prioritized.

Troubleshooting / Q&A

New Functions

Sensor application

Up to 8 wireless Zigbee presence sensors can be integrated in the installation. If none of the sensors detects motion for the defined Auto-Off Delay time, all lights will be switched off. Any of these sensors will allow to turn on the lights after they have been turned off by either none of the sensors detecting presence or after the system was set to software-OFF.

The presence sensors need to be configured on the app.

- a) the sensor needs to be enabled in order to function
- b) the sensor sensitivity can be set to low in case that the sensor detects presence or movements which should not activate the light. standard setting for this option is disabled, what means that the sensor is working with high sensitivity
- c) the sensor configuration needs to be set to the desired behavior:
 - Automatic ON/OFF enabled if the sensor should turn the lights ON when presence is detected and OFF, after no presence is detected. When disabled, the sensor will only turn the lights off, after no movement is detected, but turning on needs to be done by the user, e.g. by rotation on control unit
 - the Auto-Off Delay defines the time after which the sensor turns off the lights, when no movement is detected during this time.

Attention: some settings might lead to confusion: e.g. sensor enabled, while Automatic ON/OFF disabled and Auto-Off Delay disabled is equivalent to sensor disabled. The sensor will not work in this setting

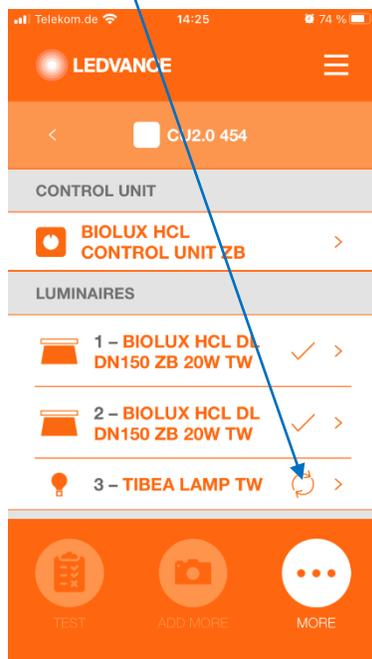
Troubleshooting / Q&A

New Functions of HCL-CU G2

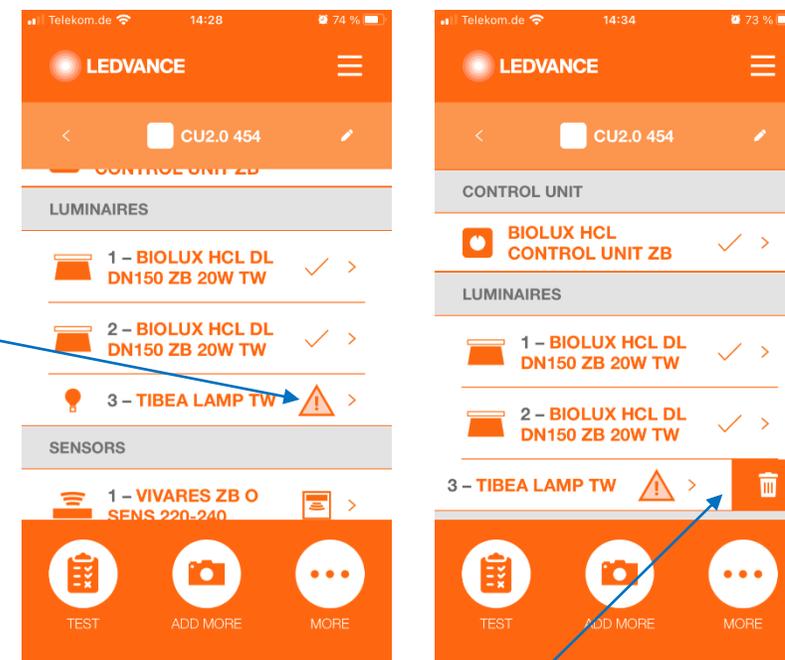
Cancellation of commissioning process

The ongoing joining process is indicated by two rotating arrows, forming a cycle.

If you try to connect a luminaire which doesn't join – be it because of a defect, a missing electrical connection, reading of a wrong, not matching QR-code or any other reason, you can stop the joining process by swiping the corresponding luminaire to the left and deleting it.



If the joining fails, the control unit will stop the joining process after some minutes and display a warning symbol.



The luminaire can be deleted by swiping it to the left.

Troubleshooting / Q&A

How can I do the commissioning / initial configuration of my BIOLUX system?

The wiring and installation of the luminaires and the HCL Control Unit needs to be done by a qualified electrician. The peelable QR-codes of each BIOLUX HCL device need to be collected on the leaflet of the Control Unit. Write the name of the room to the leaflet!

After the electrical installation, you need the HCL BIOLUX app for commissioning of the luminaires. Just simply select the “New Room”, scan the QR-codes 1 by 1 and when you finished, give a name to the room. The app tries to detect where is the installation and what is the exact time. If the detected values are right, just simply accept them. If the Control Unit is in Bluetooth® LE range, the configuration data will be automatically up-loaded and the commissioning of the wireless network starts.

The process is fully automated from this point and does not require any human interaction. A kind of radar icon will be visible on the display of the Control Unit. As soon as the process has been finished, the Control Unit changes to NATURAL mode and the lights will change their intensity and color temperature according to the right setting.

Important precondition: All new devices shall be powered and shall be in factory reset status!

What is the content of the QR-codes on the devices?

The QR-code contains the type, manufacturer code, the MAC addresses and the secret installation code of the device. This code is needed for setting up secure connection between the devices. This QR-code is known only by the installer or owner of the system. Please do not share it with anyone else.

The QR-code is unique for each single luminaire driver and cannot be used for any other luminaire driver, also not the same type.

Troubleshooting / Q&A

Can I control the lights of other manufacturers with the CU?

No. Only luminaires of the LEDVANCE BIOLUX series can be used. Lamps/Luminaires from other manufacturers as well as other LEDVANCE luminaires than the BIOLUX series cannot be used.

Can I integrate the lights in the controls of other manufacturers? If so, which one?

The luminaires themselves - without connection to the HCL CU - can be integrated into Zigbee systems which are supporting the standard Zigbee 3.0.

The HCL functionality of the LEDVANCE HCL Control Unit will not be possible in this case. The user is responsible for a suitable control of the luminaires himself. If the lights are connected to the HCL-CU, they can not be integrated into a second controller.

Then it is only possible to switch the lights on and off by disconnecting the power supply, similar to the presence sensor.

How can I check if the devices are in factory reset mode?

If the luminaires are in factory reset mode and for about 1 second a blinky sequence with cold white, warm white, cold white is started after powering up by 230V. The sequence is automatically ending in 4000 K lighting color. Luminaires in factory reset mode cannot be controlled and will always show 100% light output at 4000 K after the blinking sequence described above. The Control Unit is in factory reset mode if its room name in the HCL BIOLUX app is “UNCOMMISSIONED”.

How can I do factory reset of the luminaires?

Follow a special power-on / off sequence: power-on, wait 5s, power-off, wait 5s – and repeat it 5 times. After this procedure the luminaires will play the blinky pattern with cold white, warm white, cold white and ending with 4000 K after each power up.

Troubleshooting / Q&A

Can I use more than one CU in the room or connect it to the lights?

For each CU, the commissioning process determines which lights are connected to it and thus which lights are controlled by the CU.

Each luminaire can only be connected to one CU.

If you install several CUs and connect different luminaires in one room, each with a CU, the room is treated as if it were several separate rooms each with a single CU.

For example, a large meeting room, which is separated in the middle would require two CUs.

Currently it is not possible to group luminaires and to control different groups of luminaires with a single CU.

It is also not possible to connect the same luminaires to several CUs, so that all luminaires in a room can be controlled by one or the other CU.

Is it possible to combine the system with a presence sensor?

Yes. The sensor must be able to turn power supply on or off on the mains side of the luminaires.

The sensor is connected in series with the power supply of the luminaires and switches the luminaires on and off. The switched signal must be given to the L' connection of the CU.

With such an external presence detector can be used to switch on the power for the luminaires. The L' connection does not have a switching function. It is only needed as a signal to the CU to indicate the status of the luminaires.

Zigbee sensors or other sensors that give only one control signal can not be used.

Troubleshooting / Q&A

How can I do a factory reset of the Control Unit?

Select it in the HCL BIOLUX app, go to the HCL Control Unit and use the Menue „Reset“. If the luminaires are in range and in the low-power radio network, the Control Unit setting them also automatically to factory reset mode.

What handheld device I can use for the configuration?

The HCL BIOLUX application is available for Android® and iOS® operating systems. The app needs to know the location of the installation for the accurate astronomic calculations, therefore only GPS enabled devices can be used, eg. some iPads are not supported.

Devices without GPS system may support to enter the location manually.

Can I configure the system without the HCL BIOLUX application on a mobile device?

No.

Can I do the configuration before the installation?

Yes, the on-site paper work can be avoided. The HCL BIOLUX app is able to read the QR-code contents and save the settings with a given room name. The control unit and the luminaires must be connected to the mains for this. After the physical installation of the devices, the application can connect to the Control Unit and upload the configuration.

Troubleshooting / Q&A

Is a username and password required? How can I register?

You do not need to register at all. If you have physical access to the QR-codes of the luminaires and the Control Unit, you can do initial set-up or maintenance.

Does the BIOLUX app or the Control Unit share any data to LEDVANCE or any other third party?

No, the HCL BIOLUX app is only communicating to the HCL Control Unit to do the setup. The time and the geographic location is not shared outside the system of HCL BIOLUX app and HCL Control Unit. Communication includes the following data:

- check on the LEDVANCE server if a software update for the CU or for the luminaires is available. Only version numbers of the software and the products is required for this. All data are not be stored on any system. If accepted the updates will be downloaded by the mobile phone and transferred to the Control Unit. This function will only be initiated if internet connection is established on the mobile phone.
- time and geographic location is transferred from the mobile phone to the BIOLUX app and saved to the Control Unit, if allowed in the settings of the mobile phone. Otherwise the user has the option to add the location manually. The geographic location received by the mobile device is rounded by the BIOLUX app to two digits, corresponding to a range of some miles to avoid exact determination of the location. It still allows calculation of the time of sunrise and sunset with an accuracy better than 2 minutes. The exact location is not stored anywhere.
- if the user decides to send a backup by email it is in his own responsibility to keep this email and the content safe. Data will only be sent to the addresses entered by the user. The BIOLUX app does not use an own emailing system, but is only creating a draft for an email in the user's email system, which can be sent by the user.

Troubleshooting / Q&A

Can I commission the system to a different place?

As long as this different place is in the same time zone, it is easy to select the location manually by not confirming the automatically detected location and select a different place on the map which will be shown.

If the different place is in a different time zone the correct time and timezone for this place has to be set up in the settings of the mobile phone before and automated setting of time and time zone disabled, which requires some expertise.

The user is responsible not to misuse this feature to set the system to inappropriate time settings.

How can I add a new luminaire to an existing system?

If you are on-site, just click to the name of the room and use the “Add more” menu. Scan the QR-code of the luminaire(s) and after you finished the Control Unit starts to join them to the network.

Important precondition: All device shall be powered and all device shall be in factory reset state!

How can I replace a luminaire in an existing system?

If you are on-site, select the replaceable luminaire in the list, click to its name and use the “Delete” menu. The Control Unit will remove it from the network and reset the luminaire to factory reset mode. As a next step, use the “Add more” menu with the new luminaire.

Troubleshooting / Q&A

I have 20 pcs same type luminaires in the system, how I can find which one is the replaceable one?

Use the magnifier menu in the application and scan the QR-code of the this luminaire (you can find it either on the leaflet, or on the back side of the luminaire or on the driver of the luminaire. Both are the same!)

How can I replace the Control Unit in an existing system?

If you are on-site, select the room name in the application and the HCL Control Unit in the list. Use the “Replace” feature in the menu. You need another Control Unit also!

The luminaires do not connect to the Control Unit during the commissioning process. What should I do?

Please check if the luminaires are really in factory reset mode. If not, please reset them with a five-time switch sequence.

The luminaires are almost immediately blinking one after I powered-on them, but not joining later to the Control Unit. What should I do?

The luminaires are joining to a different open low-power network in the neighborhood. Please find out, where is it and ask its owner to close the permit join window because it bothers other systems in the building.

The BIOLUX Control Unit enables to join only the already scanned (QR-code) luminaires and does not “steal” the control of not intended devices. You need to reset those luminaires which have joined to a different system to factory reset mode before trying to recommission them.

Troubleshooting / Q&A

How can I do the factory reset of a luminaire?

If the luminaire is commissioned to a BIOLUX Control Unit, delete it from the list shown in the HCL BIOLUX app.

If the luminaire cannot be addressed by the BIOLUX app, you need to do a hard reset. Do a cycle of five times power on and power off for five seconds each. Luminaires which are reset are blinking in a pattern of cold white - warm white – cold white – 4000 K after power on.

Can I use a presence sensor together with the system?

Yes. You can use a sensor that can cut the line power of the luminaires.

Important: during the commissioning of the luminaires, please avoid their power cut!

Presence sensors which send control signals, but do not cut the power line to the luminaires cannot be used.

Can I use Daylight Harvesting with the BIOLUX HCL system?

No. This system is designed to rooms where there is not enough daylight. DH and HCL together is often not adequate. Integration of a daylight sensor will be a future feature which may be provided by a software update at a given time.

How can I add a new luminaire to an existing system?

If you are on-site, just click to the name of the room and use the “Add more” menu. Scan the QR-code of the luminaire(s) and after you finished the Control Unit starts to join them to the network.

Important precondition: All new devices shall be powered and shall be in factory reset mode!

Troubleshooting / Q&A

How can I exchange the HCL Control Unit if it is not functional?

Select the room and the Control Unit to be replaced and click „Replace“.

If a connection from the HCL BIOLUX app to the Control Unit can still be established, confirm by pressing the second „Replace“, Scan the QR-code of the replacement CU, and press „Replace“ again. The old Control Unit and the luminaires will be reset, the configuration will be transferred to the new one and the luminaires will be commissioned to the new CU automatically.

If the old CU cannot be connected any more, you still can connect a new CU. But as the luminaires are still commissioned to the old CU, the luminaires need to be reset to factory mode manually before (see related Q&A). In the HCL BIOLUX app select the room and the old CU and click on „Replace“. The configuration will be transferred to the new CU and if the luminaires are in factory reset mode, they will be commissioned to the new CU.

Can I work together with my colleagues on the installation and the later maintenance?

The configuration can be exported and sent by e-mail to the colleagues. The HCL BIOLUX app can read the special e-mail attachment and import into its own database.

This export is also suitable for configuration backup. The settings can be recovered if the e-mail is available.

To do this select the *.ldv-file in the email program on the mobile phone where the BIOLUX app is installed and share it to the BIOLUX app. Then click „Import“ in the BIOLUX app.

Troubleshooting / Q&A

Can I change the intensity level or the Color Temperature of the luminaires with the HCL BIOLUX application?

The application cannot be used as a remote control. The application is not intended to change the dim level or the color temperature directly, as the user also cannot do it directly with the Control Unit. The user can select operating mode like RELAX or NATURAL or BOOST and the Control Unit calculates the relevant intensity and color temperature values, according to the geo-location and the date&time.

The goal of this system to provide the right light at the right time and to prevent inadequate stimulation of the biological system at the wrong time. Manual adjustment of the intensity or color temperature could compromise this behavior.

How can I do the later maintenance if I lost my mobile phone or if it has been seriously damaged?

There are two options.

- a. if the configuration was exported by e-mail just simple send back the e-mail to the new phone and open the attached *.ldv-file. The settings will be automatically imported.
- b. go onsite. Try to connect to the Control Unit with the HCL BIOLUX app. It will ask to scan the QR-code of the Control Unit.
 - use the existing leaflet, which was stored at a safe place after installation or
 - remove the outer-side of the Control Unit from the in-wall part, scan, put back the Control Unit to its place and the app can automatically download the settings of the whole system

Troubleshooting / Q&A

How can I add a new luminaire to an existing system?

If you are on-site, just click to the name of the room and use the “Add more” menu. Scan the QR-code of the new luminaire(s) and after you finished the Control Unit will start to join them to the network.

Important precondition: All new luminaires shall be powered and all new devices shall be in factory reset state before starting the joining process!

I cannot see the operating mode on the display of the Control Unit, but I can see 3 quickly changing circles. What should I do?

The Control Unit has detected some sort of error condition. Like loss of the time settings after a long power cut. The HCL BIOLUX app can correct the time settings automatically after the connection has been established.

I can see just a white point at the center of the Control Unit? What should I do?

The luminaires have no line power because the wall-switch is in OFF state or the L' pin of the Control Unit has not been wired well. Switch on the luminaires with the wall-switch. If it does not help, call a service person to check correct wiring.

Troubleshooting / Q&A

After the power-on of the luminaires, they are not reacting immediately to the operating mode change. What should I do?

These luminaires originally designed to having continuous power. They need some time after the power-on to establish their low-power wireless connection again. Depends on the size of the network, it takes up to 15s. Wait a bit and then select the desired mode.

I am frequently installing HCL BIOLUX systems. How does the app help me to organize different projects?

The app automatically puts to the top of the list the rooms which are in Bluetooth[®] range. The most recent installations are also on the top section of the list. The older installations are automatically moved to the “Archived Rooms” section. If you do not need one configuration, you can delete it, either with left swipe gesture or in the room name per HCL Control Unit page under “Factory reset” with the “Delete” option.

What will be the status of CU after Reset or what will be deleted by the reset?

The factory reset will erase only the current settings but not the latest installed Firmware version.

THANK YOU