TRILUX
SIMPLIFY YOUR LIGHT.

SYSTEM MANUAL

LIVELINK DR CONNECT

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1 INTRODUCTION ⚠

1.1 SAFETY INSTRUCTIONS

Commissioning (electrical side) may only be carried out by a qualified electrician.
- **Work on electrical equipment may only be carried out while disconnected from the power supply.**
- **Applicable safety and accident prevention regulations must be observed.**

- **For installation, also observe the corresponding steps from the installation instructions of the luminaire to be installed.**

LiveLink is not intended for applications other than those listed here. Other applications are considered improper. If LiveLink is used improperly, safe operation is not guaranteed.

1.2 BASIC FUNCTIONS

LiveLink Connect is a light control system that ensures ideal quality of light and efficiency through automatic or semi-automatic control. Innovative operation via tablet and smartphone provides maximum convenience for setup and use.

LiveLink can be individually configured to operate luminaires as required. All connected luminaires and sensors must feature the DALI interface (Digital Addressable Lighting Interface). Luminaires, sensors and push-buttons are connected to a LiveLink control unit room by room, with a room not necessarily having to correspond to a physical room.

The system is set up via tablet and operated via tablet or smartphone. It maintains the highest security standards (see also chapter "WiFi security").

Connection to an existing network structure is possible.

Use Cases containing pre-configurations are available for luminaire group and lighting scene setup. Further setup facilitates adapting each room individually to the respective needs.

1.3 APP- DOWNLOAD

App „LiveLink Install"
The "LiveLink Install" app is used to set up the system. It requires a tablet with iOS 8 (or higher) or Android 4.1 (or higher).

App „LiveLink Control"
The "LiveLink Control" app facilitates convenient room lighting operation. It requires a tablet/smartphone with iOS 8 (or higher) or Android 4.1 (or higher).

www.trilux.com/livelink-app

1.4 FAQ

In addition to this manual, frequently asked questions and corresponding answers (FAQ) are constantly updated and made available: www.trilux.com/livelink-faq

2 SYSTEM OVERVIEW

A special master-slave function enables LiveLink Connect to inter-connect several LiveLink Connect control units. This function facilitates the use of multiple halls (sports or industrial halls) either in individual single hall operation or partial/entire hall operation.

For this purpose, "LiveLink DR Connect" control units are set up for the individual hall sections and then connected to each other via LAN. A separate control unit is installed for each hall section and set up using

the LiveLink Install app. For proper functioning, each control unit is set up with the same Use Case.

To network the hall sections, the control units are connected via LAN. The master controller should always control the central hall section to enable combinations with one or more slaves for partial or entire hall operation.
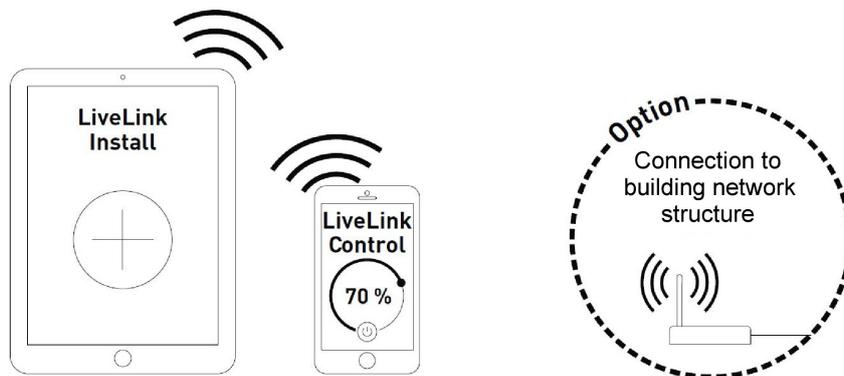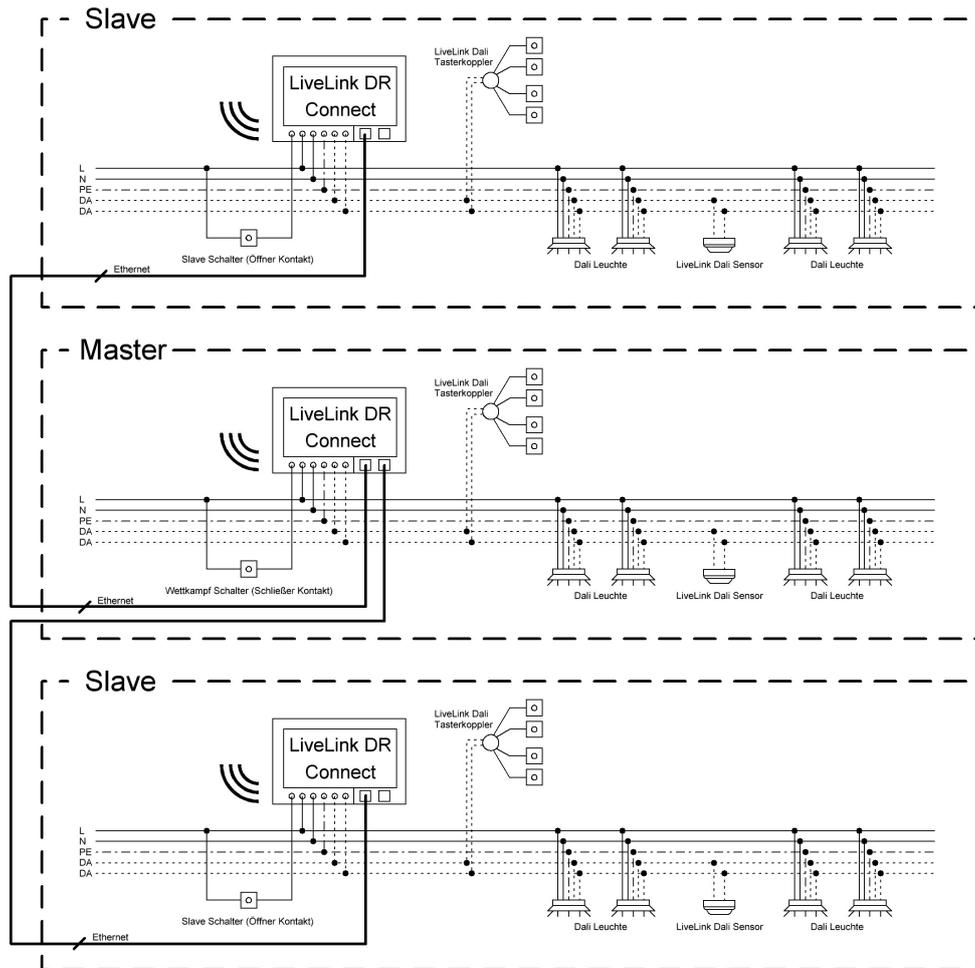
2.1 APPLICATION EXAMPLES

To control a multiple hall, one control unit is set up as the "master" and one or more other control units as "slaves". Each control unit – including the master – can either control its hall section individually (single hall operation) or be controlled centrally via the master (partial or entire hall operation). In the case of partial or entire hall operation, the slaves only execute the master commands.

The possibility of single hall operation can be prevented for each individual control unit by permanently setting up said control unit as a "slave" using the Install app.

Otherwise, a switch can be used on each control unit to switch between single hall operation (independent control of the hall section) and partial or entire hall operation (slave operation).

This slave switch reacts as follows:
- closed slave switch: single hall operation
- open slave switch: slave operation (partial or entire hall control via master)

The switch on the master control unit has a special function: it can be used to switch to competition mode. This activates a special competition scene for all control units and at the same time deactivates all sensors and push-buttons so that the competition is not affected. As a basic prerequisite, however, the slave control units must be in slave mode; as necessary, the slave switches must be switched accordingly. The master switch reacts as follows:
- closed master switch: competition mode
- open master switch: normal operation

Example 1: Single hall operation
All controllers are in single hall mode, for this purpose the slave switches on the slave controllers are closed. Each hall section is controlled individually via the sensors in each hall section (dependent on presence and daylight). In addition, each hall section can be manually controlled individually via optional push-buttons in the hall section or via the LiveLink app.

SLAVE
OFF
Slave Switch: **OFF**

MASTER
Scene: Game
Key-operated switch: **OFF**

SLAVE
Scene: Training
Slave Switch: **OFF**

ON: open | OFF: locked

Example 2: Single hall operation
Another example of single hall operation. The light control of the slave control units is independent of the master, even if no light is switched on at the master control unit.

SLAVE
Scene: Training
Slave Switch: **OFF**

MASTER
OFF
Key-operated switch: **OFF**

SLAVE
Scene: Training
Slave Switch: **OFF**

Example 3: entire hall operation

The overall lighting is controlled exclusively via the master, both via the LiveLink app and via the push-buttons connected to the master. The push-buttons of the integrated hall sections are deactivated. The system only controls sections of the hall whose control units are not switched to single hall operation.

Note:

With entire hall operation, presence is detected by all sensors. Daylight-dependent control is automatically carried out by the sensor measuring the lowest illuminance (lux) value (regardless of whether it is connected to the master or a slave).

SLAVE
Slave Switch: **ON**

MASTER
Scene: Training
Key-operated switch: **OFF**

SLAVE
Slave Switch: **ON**
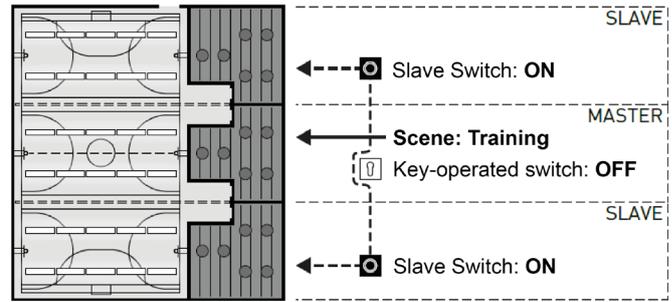
Example 4: competition mode

For competitions in sports halls, a key switch can be connected to the master control unit and linked to a light scene in the LiveLink setup. When the key switch is open, the scene is activated for all connected hall sections and the respective single hall controls are disabled.

SLAVE
Slave Switch: **ON**

MASTER
Key-operates switch: **ON**
(Scene: Competition)

SLAVE
Slave Switch: **ON**

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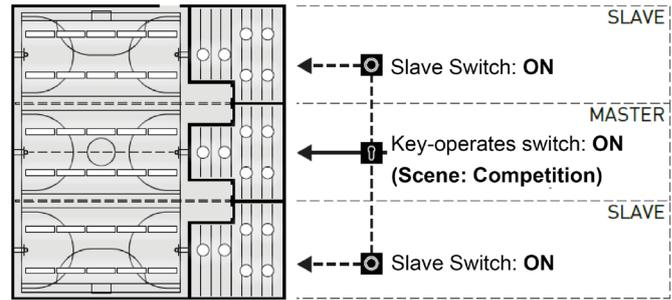
3 TECHNICAL DATA

The control unit – an intelligent command centre.
The core of the LiveLink control unit is a Linux-based high-performance minicomputer that processes incoming data streams and issues control commands to system components. For particularly simple communication with the user, the control unit features an integrated WiFi module for control via tablet or smartphone.

DINrail design
Due to its design, the control unit occupies 6 sub-units on the DIN rail.

DALI interface for clever light management.
The universal DALI interface enables simple integration, configuration and control of DALI-capable luminaires, sensors and push-buttons. Each control unit can control up to 16 luminaire groups individually. The maximum number of DALI devices is 64.

Convenient control via tablet or push-button.
The luminaires or luminaire groups can be controlled either with standard installation push-buttons or via a mobile app on a tablet or smartphone. Additional push-buttons can be connected via an optional LiveLink DALI push-button coupler, which is simply integrated into the DALI control circuit. The push-buttons can be freely assigned – meaning controlling luminaire groups and accessing light scenes is also possible "offline".

Autonomous encryption for more security.
To protect against external access, the control unit features an autonomously encrypted WiFi network. This keeps the system unaffected by cyberattacks on the general computer network.

Configuration is retained in case of power failure.
After a power failure, no reprogramming is necessary – the system configuration is stored in the control unit.

Master-slave networking.
For use in sports or industrial halls, up to 10 LiveLink DR Connect control units can be linked via the internal LiveLink LAN. Networking enables both single hall control (per control unit) and partial/entire hall control (via several/all control units). This function requires the same Use Case in all LiveLink control units. For competitions in sports halls, a defined competition scene can be activated using a key switch.

Technical Data	
Weight	76g
Input voltage	220-230V
Input current	max. 50mA
Input frequency	50/60Hz
Standby power consumption	<2W
Dimensions	
DALI participant	max. 64
DALI output current	max. 180mA
DALI groups	max. 16
Number of light scenes	max. 50
WiFi	IEEE 802.11b
WiFi encryption	WPA2
WiFi range	max. 25m
Master-slave coupling	max. 10
Protection class	IP20
Enclosure temperature tc max	0-85°C
Ambient temperature ta max	0-65°C
Norms	IEC 61347-2-11 EN 55015 EN 61000-32 EN 61000-33 EN 61000-547 IEC 62386
Cable length DALI	max. 300m
Cable length push button	max. 25m
Permitted cable cross-section	0,5 bis 1,5mm^2
TOC	769610

4 SETUP VIA INSTALL APP

Before setting up the master-slave function, all control devices (Li-veLink DR Connect) must be set up separately for the individual hall sections and then connected via LAN.

The "Master-slave configuration" setting is carried out in the "Settings" menu.

Note:
Before the systems can be interconnected, they must be set up. (Refer to the LiveLink system manual for system setup information). The controllers must be set up in the same Use Case and in the same groups and scenes.

Operating mode: slave
Permanent setup of a control unit as slave.

Operating mode: automatic switching
Setting up a control unit for single hall control that can be switched to slave operation using a connected switch.

Operating mode: master
Configuring a control unit as master. However, the slave control units must be set up first.

Assignment of master and slave control units
In the case of a control unit acting as master, the links to slave control units can be added and removed here. In the case of a control unit acting as a slave, the corresponding master is displayed here.

Note:
The system displays only LiveLinks connected via LAN.

15:00 Tue 20. Jul		..ll LTE ⊕ 61 % 🔋
‹ Settings	Master-slave configuration	Done

?

Betriebsmodus

☑ Master　　　☐ Slave　　　☐ autom. switchover

Configure slaves

Name	ID	
Master	18:62:e4:16:96:90	Master
Slave-1	6c:c3:74:d3:8d:ae	Auto
Slave-2	80:30:dc:ff:00:5b	Auto

Add new slave

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4.1 COMMISSIONING

Commissioning

Each control unit is commissioned as usual via the LiveLink Install app. Subsequently, the IP addresses are set and the master-slave configuration is carried out.

Commissioning is described in the LiveLink system manual on page 36.

Note:

The slaves must not contain any luminaire groups that differ from the master, otherwise they will not receive any control commands from the master. The slaves may feature fewer luminaire groups than the masters but must not feature luminaire groups that are not set up in the master.
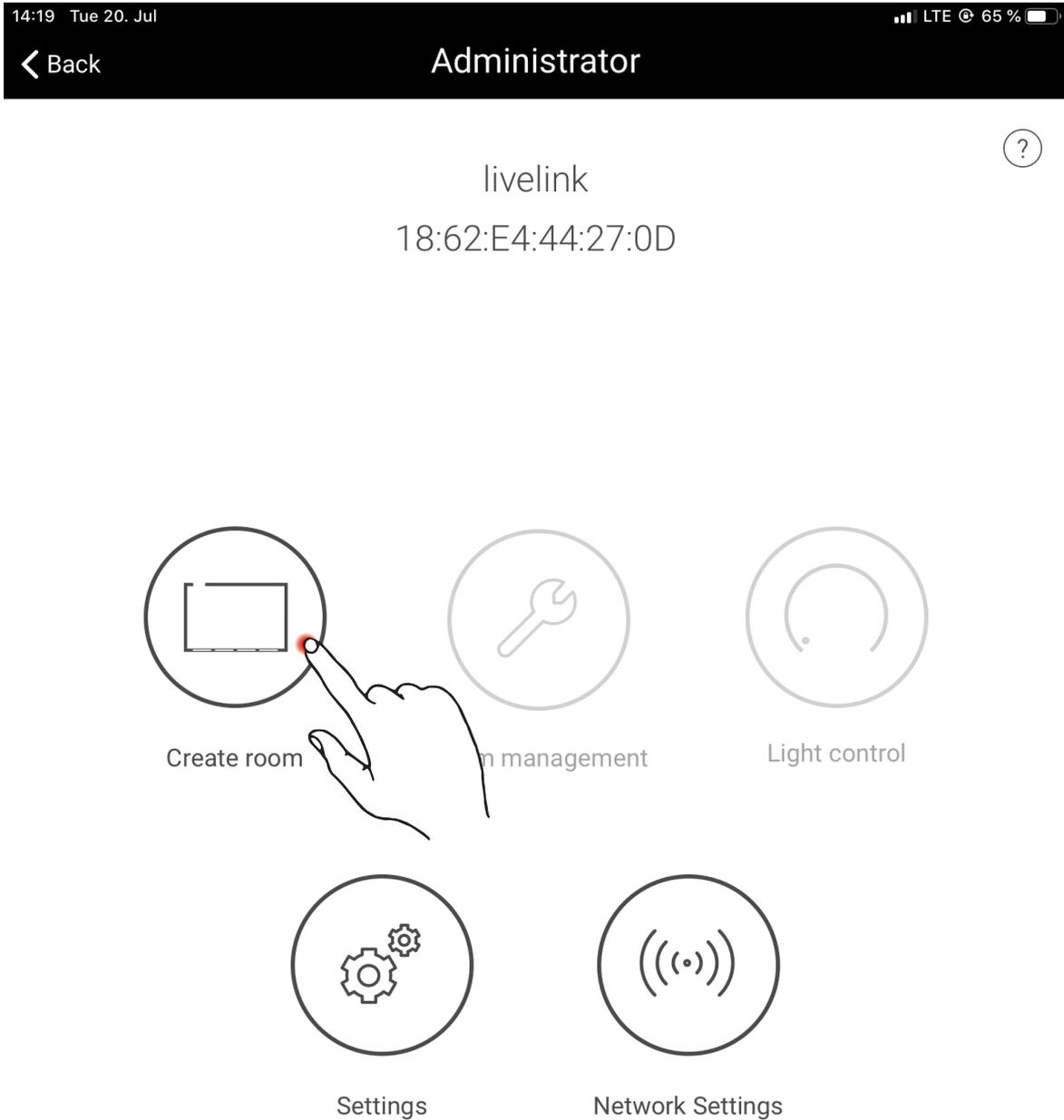
4.1.1 ETHERNET SETTINGS

IP address assignment:
For all LiveLink Connect DR controllers, an IP address must be assigned after commissioning. The IP address setting in the controller is described below.

Opening the network settings in the main menu
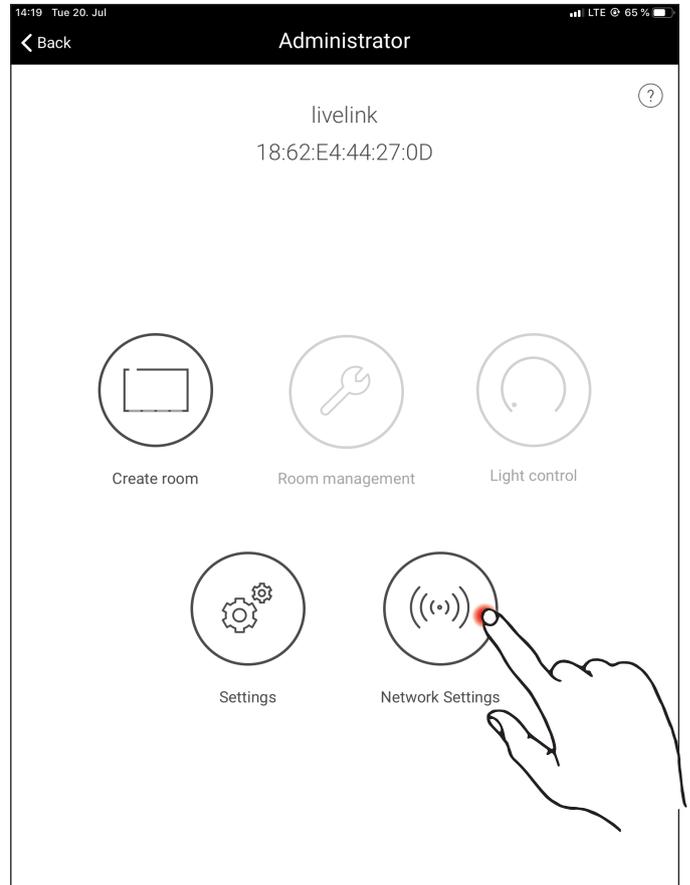
Opening the Ethernet settings in the network settings
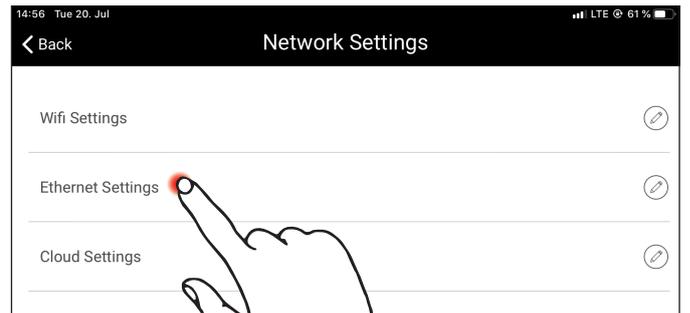
Setting the DHCP client to ˝off˝
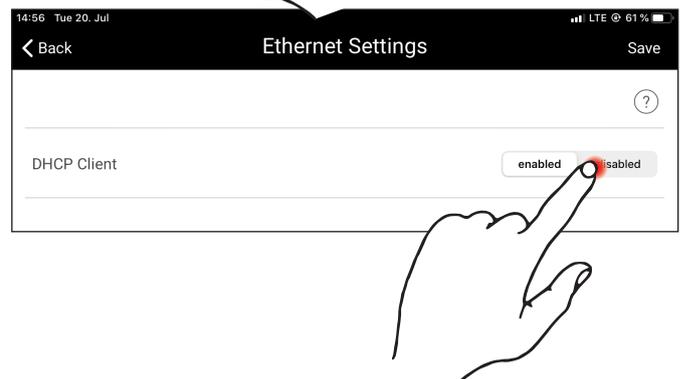
A maximum of 10 IP addresses can be assigned. These 10 IP addresses are: 192.168.194.1 - 192.168.194.10.

The master LiveLink DR Connect control unit should always be assigned the address 192.168.194.1. All following slave LiveLink DR Con-

nect control units have the IP address slave 1: 192.168.194.2 - slave 9: 192.168.194.10. IP addresses must never be assigned twice.

Furthermore, the subnet address must also be entered. It is the same for every LiveLink DR Connect, namely 255.255.255.0.

IP address assignment as described above:
Master: 192.168.194.1
Slave 1: 192.168.194.2
Slave 2: 192.168.194.3
...
Slave 9: 192.168.194.10

Subnet address assignment as described above:
Master: 255.255.255.0
Slave 1: 255.255.255.0
Slave 2: 255.255.255.0
...
Slave 9: 255.255.255.0

Saving the Ethernet settings
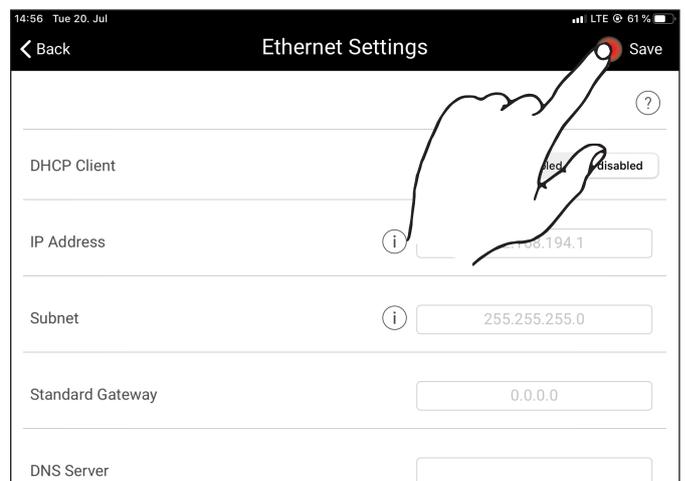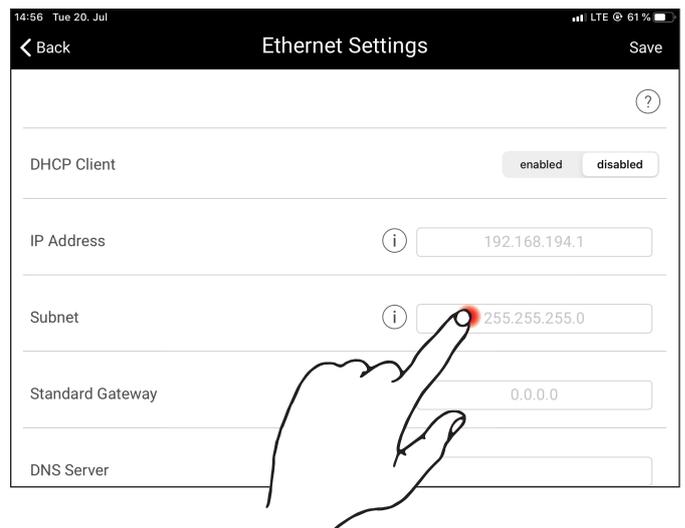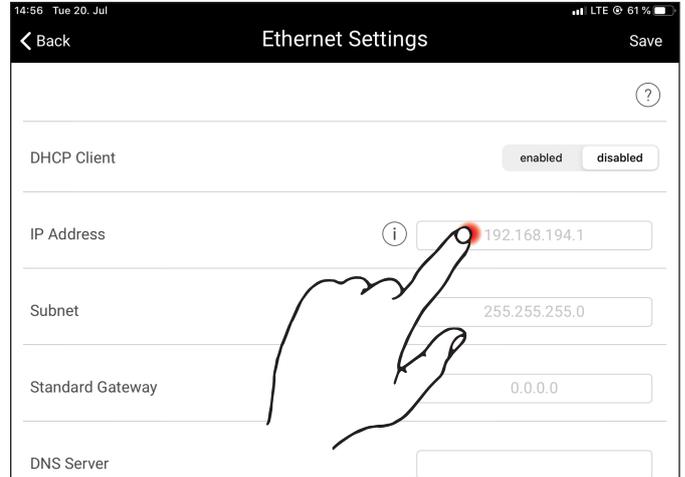
4.1.2 MASTER-SLAVE CONFIGURATION

Setting up the master-slave configuration
Upon successful setup of each LiveLink control unit, LAN networking and IP address assignment, the master-slave configuration can be carried out. The basic prerequisite for error-free operation is that all control units are set up with the same Use Case.

Note:
The slaves must not contain any luminaire groups that differ from the master, otherwise they will not receive any control commands from the master. The slaves may feature fewer luminaire groups than the masters but must not feature luminaire groups that are not set up in the master.
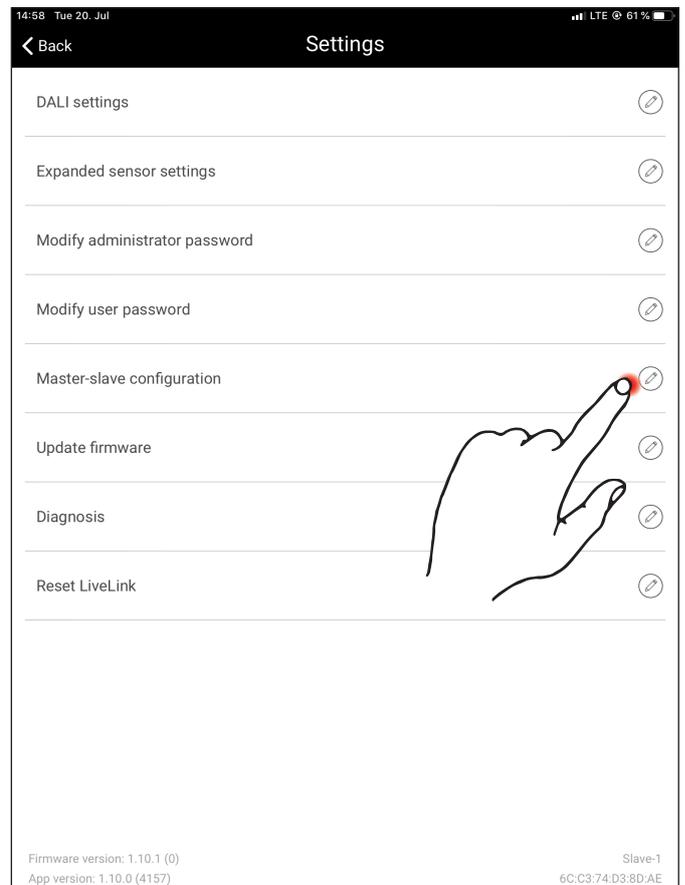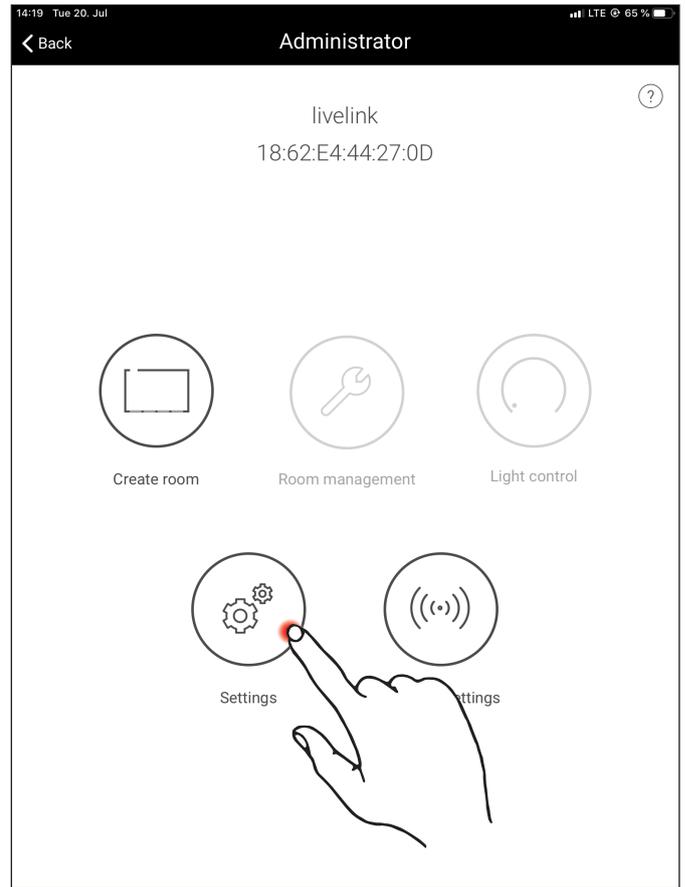
First, all slave control units must be configured with the slave operating mode.

Slave configuration (permanent)
By selecting the permanent slave operating mode, the control unit is permanently set up as a slave via the app. Only after that, it is possible to assign the slave to a master (see master configuration).
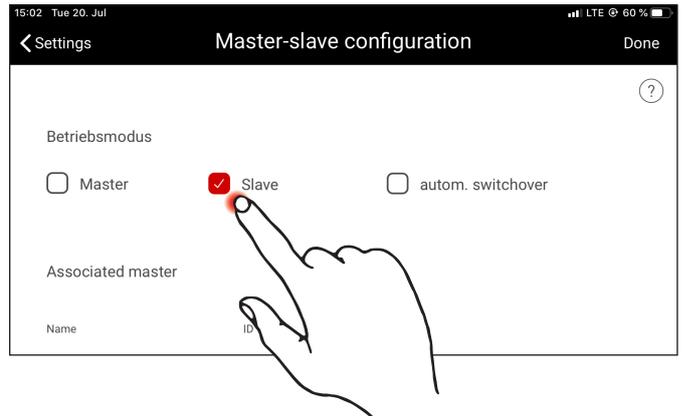
Slave configuration (automatic switching)
Optionally, the operating mode "autom. switching" can also be used. This operating mode enables automatic switching from individual single-hall operation (e.g. a sports hall section) to partial/entire hall operation (e.g. a multiple hall).

The switching impulse is provided by opening the slave switch at the push-button input of the slave control unit (see wiring diagram in chapter "System overview"). This can be done manually via a switch in the hall or, in case of a sports hall, via a limit switch, for example.

- Switch open:
  partial or entire hall operation, central control of all connected hall sections by the master
- Switch closed:
  single hall operation, individual control of the hall section by the slave
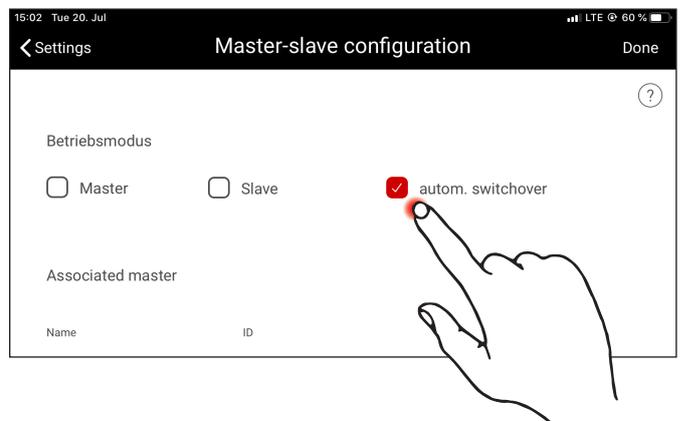
Master configuration

Definition of the master and assignment of the corresponding slaves.
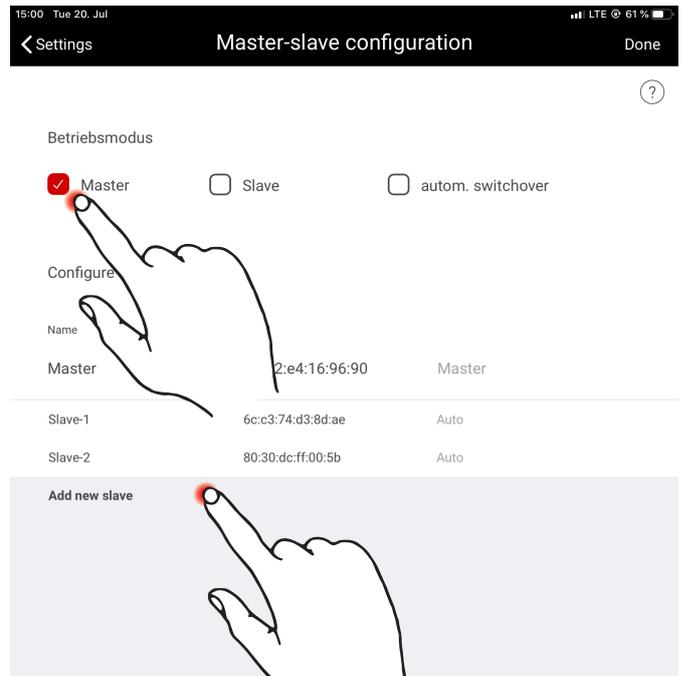
Confirming "Add new slave" opens a selection window with all available slave control units. The list only shows the control units previously connected to the master via LAN and configured with the operating mode "slave" or „autom. switching".
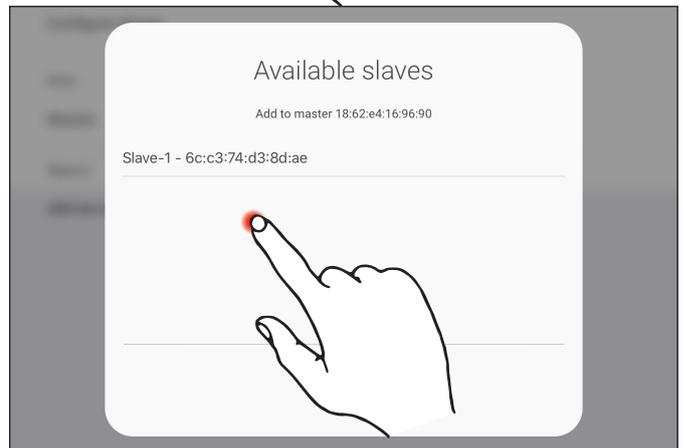
Competition mode configuration

The system provides a competition mode especially for sports halls. A stored competition scene is accessed and any other controls in the hall are locked. It is recommended to enable competition mode via key switch.

To implement this, a switch (key switch) is connected to the push-button input (s contact) of the master control unit and linked to a light scene as usual when setting up the system. The competition mode is activated by closing the (key) switch. Only once the key switch is opened, the system goes back to the default scene of the master and re-enables scene control. When competition mode is activated, all sensors and push-buttons in the hall sections are deactivated.