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Network setup for the Wallbox eM4 Twin

This product information describes how to set up upstream communication (to the backend) and downstream communication (between Controller and Extenders) in a charging group using two typical scenarios. In both cases, you will need the ABL Configuration App installed on a mobile device to perform the setup.

Example 1: Group installation via LAN, backend connection via LTE / without backend connection

Required components

- Wallbox ABL eM4 Twin Controller, 1 pc.
  - *Only for operation with a backend:* LTE USB stick inserted in the communication module of the Controller wallbox with SIM card of the backend operator inserted
- Wallbox ABL eM4 Twin Extender, max. 14 pcs.
- DHCP-enabled router, 1 pc. (Recommendation: Teltonika RUT300)
- For charging groups with more than 4 wallboxes: Switch / LAN splitter (for required number of LAN sockets)
- One CAT7 network cable per wallbox for possible primary, secondary and tertiary cabling

> ⓘ **NOTE**
>
> Use of a DHCP-enabled router
>
> In order to ensure mutual communication within the charging group, use of a router preconfigured for DHCP (e.g. Teltonika RUT300) is required. If you wish to use a different router, it must be set up for DHCP operation prior to installation.

Schematic layout and setup
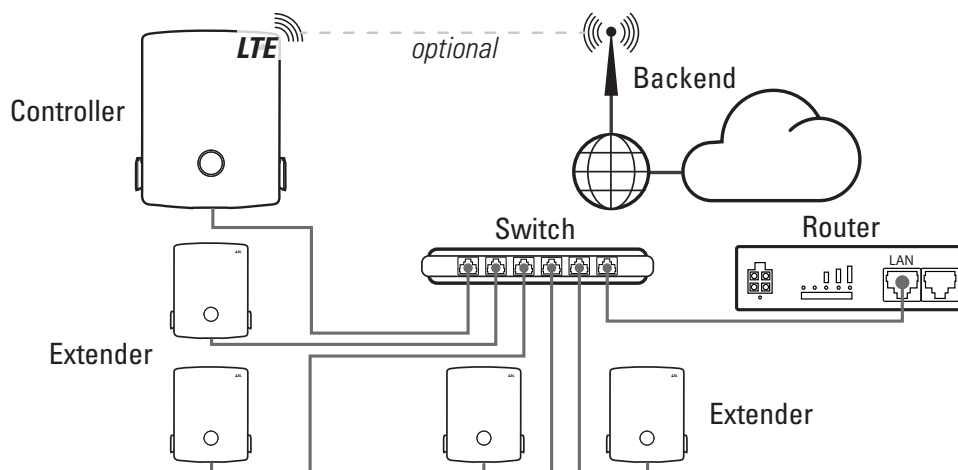
Proceed as follows:

1 Connect the Controller and Extender wallboxes in a star configuration to the LAN ports of the router using one network cable each.
  - If the router does not have enough LAN ports to connect all Extenders, you will need to increase the number of ports by connecting one or more switches / LAN splitters.

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2 Launch the **ABL Configuration App** and set up communication with the Controller wallbox: To do this, read the section "Configuring the Wallbox eM4 Twin" in the installation instructions for the ABL eM4 Twin (➞ to download).

3 After assigning the password, select **Set up LTE** in the **Backend Integration** screen.
- For a group installation without a backend connection, select the option **Do not connect backend** and go to step **5**.

4 On the next screen, enter the mobile network parameters of your backend operator and confirm by clicking **Next**.

5 On the following **Network Settings** screen, confirm that you want to connect the Controller to additional Extenders and select **LAN** as the connection method.

6 Now add more Extender wallboxes to the charging group.

7 Complete the charging group setup using the **ABL Configuration App**.

Communication within the charging group is now wired via the LAN network. Communication between the Controller and the backend is via LTE.

> ⚠ **ATTENTION**
>
> **Operating the charging group in a separate network**
>
> We recommend setting up the network for communication within the charging group so that it is isolated from other infrastructure networks and the Internet. If you want to operate the charging group so that it is not isolated in an infrastructure network, professional setup by an IT administrator will be required.

> ⚠ **ATTENTION**
>
> **Incorrect DHCP configuration**
>
> If the configuration of the charging group fails, make sure that DHCP is configured via IPv4 and not via IPv6 via the router's web interface.

> ⚠ **ATTENTION**
>
> **Protection from interferences**
> The network cables should always be installed with sufficient distance from the wallbox power supply in order to avoid interference and disturbance signals.

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Example 2: Group installation via WLAN, backend connection via LTE / without backend connection

Required components
- Wallbox ABL eM4 Twin Controller, 1 pc.
  - *Only for operation with a backend:* LTE USB stick inserted in the communication module of the Controller wallbox with SIM card of the backend operator inserted
- Wallbox ABL eM4 Twin Extender, max. 14 pcs.
- DHCP-enabled router, 1 pc. (Recommendation: Teltonika RUT300)

ⓘ **NOTE**

Barrier-free connection to the WLAN network

Make sure that all wallboxes in the charging group are installed within the router's WLAN transmission range and that the radio connection is not impaired by obstacles such as parked vehicles. The signal strength of the radio signal should be at least -67 dB. The installer is responsible for ensuring sufficient signal coverage, and additional **repeater components** may be required.

Schematic layout and setup
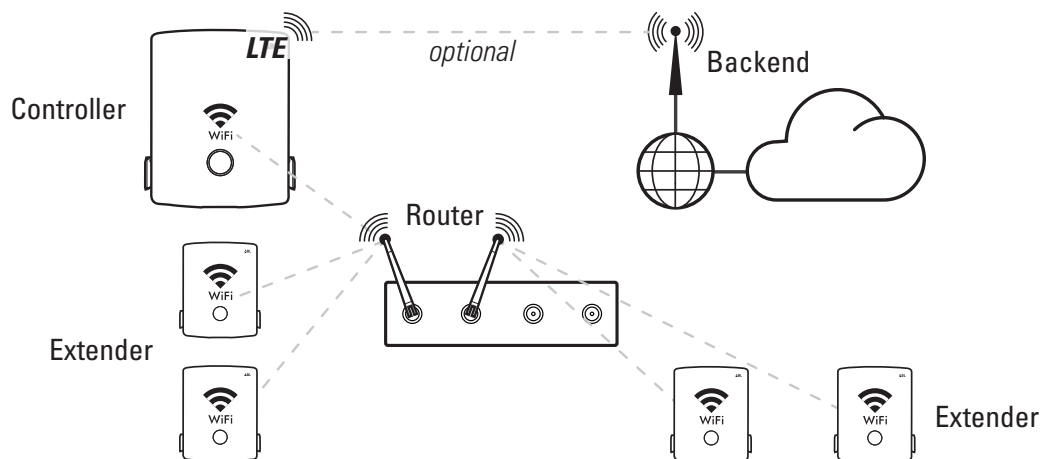
Proceed as follows:

1 Launch the **ABL Configuration App** and set up communication with the Controller wallbox: To do this, read the section "Configuring the Wallbox eM4 Twin" in the installation instructions for the ABL eM4 Twin (➡ to download).

2 To subsequently connect each Controller and Extender wallbox to the local WLAN network of the DHCP-enabled router, tap Yes in the dialogue box Network Settings > **Do you want to connect your wallbox to WLAN?**.

⚠ **ATTENTION**

Operating the charging group in a separate network

We recommend setting up the network for communication within the charging group so that it is isolated from other infrastructure networks and the Internet. If you want to operate the charging group so that it is not isolated in an infrastructure network, professional setup by an IT administrator will be required.

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3 In the next step, select the router's network and connect the wallbox to its WLAN network using the associated password.

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4 In the Backend integration screen, you will now need to specify whether you want to connect the Controller to a backend.

- Select Do not connect backend to run the charging group without a backend.
- Select Set up LTE to enter the mobile network parameters of the desired backend in the screen with the same name. If the backend is stored as a template in the ABL Configuration App, you can set up communication extremely quickly.

5 On the following Network Settings screen, confirm that you want to connect the Controller to additional Extenders and select WLAN as the connection method.

6 Now add more Extender wallboxes to the charging group.

7 Complete the charging group setup using the ABL Configuration App.

> ⚠ ATTENTION
>
> Incorrect DHCP configuration
>
> If the configuration of the charging group fails, make sure that DHCP is configured via IPv4 and not via IPv6 via the router's web interface.

Communication within the charging group will now take place wirelessly via the router's WLAN network or, if set up, via the infrastructure WLAN. If you use a backend, the Controller will communicate with the backend via LTE.

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