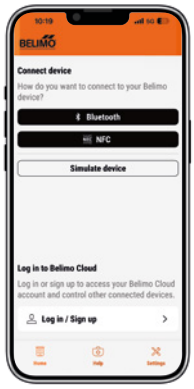
FAQs — Frequently asked questions

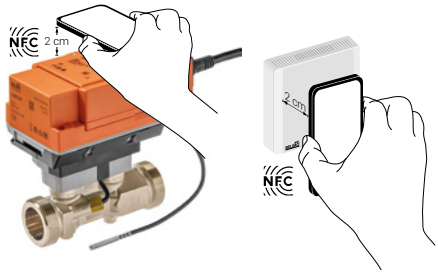
NFC



The NFC (Near Field Communication) interface on Belimo devices enables quick and easy configuration, operation, and troubleshooting of devices using Belimo Assistant 2.

General

What is NFC?



NFC is a wireless communication protocol defined by ISO/IEC 14443. It transfers data at up to 424 kbit/s and operates at a frequency of 13.56 MHz between an active reader (e.g. smartphone) and a passive device (e.g. Belimo actuators and sensors). For communication to occur between two devices using NFC, the NFC interfaces must be placed close enough to each other. NFC works best with direct contact to the actuator or sensor. Communication works at distances of up to 2 cm.

The active device's NFC uses electromagnetic induction to power the passive device's NFC interface. This means that NFC-enabled devices can be accessed in both their powered on or off states.

How can Belimo devices be accessed over NFC?

NFC-enabled Belimo devices can be accessed via the free Belimo Assistant 2 app for smartphones, tablets, and PCs. Once Belimo Assistant 2 is opened and for instance a smartphone is held within 2 cm of the Belimo device, for example, a connection will be automatically established.

What are the advantages of using NFC?

NFC has several advantages:

- works with actuators and sensors, even if they are not powered
- widely used standard
- direct communication with the device, no second guessing which device you're communicating with

What information is exchanged over NFC?

While using Belimo Assistant 2, the user has access to the following:

- settings for communication and application parameters
- software information, such as the firmware version
- current sensor values, target setpoints
- warnings and error reports for diagnostics
- newly added features

What are the system requirements for NFC communication?

Smartphones/tablets that are NFC-enabled can be connected directly to Belimo products. Devices without NFC capability cannot be connected directly. If these devices support Bluetooth, they can be connected indirectly via the Belimo Assistant Link (LINK.10). LINK.10 is a converter for the connection of Belimo Assistant 2, as well as configurable and communicative devices from Belimo. LINK.10 supports Bluetooth and USB to NFC and MP-Bus.

Which Belimo products are NFC compatible?

Most Belimo products are equipped with NFC. A corresponding NFC logo can be found on the device. Further information can be found in the data sheet for the device.

Security

How secure is NFC in Belimo products?

Belimo integrates NFC into its devices based on the fundamental principle that a device is no longer considered secure once a person has physical access to it. A person with physical access to a device can compromise the device.

Is NFC communication between the reader and Belimo product encrypted?

No. This is because very close physical proximity (a few centimetres) is required to eavesdrop on NFC communication, which cannot be achieved without being noticed by the service engineer.

What is the maximum distance between an NFC reader (e.g. smartphone) and a passive NFC tag for successful communication?

The maximum distance for successful NFC communication with current smartphones or NFC readers is 2 cm.

RFID tags can be read over larger distances. How does a Belimo device block these signals?

The numerous RFID technologies utilise different frequency bands. The NFC technology integrated in Belimo products uses a carrier frequency of 13.56 MHz, and the devices contain very small antennas. This means that NFC tags cannot be read from afar like some other RFID tags.

Can a non-Belimo NFC signal affect Belimo devices?

No. NFC signals cannot be transferred over larger distances.

Can the NFC signal between Belimo devices and NFC readers be "cloned"?

An NFC signal can only be eavesdropped and cloned if it can be physically intercepted between the NFC reader/smartphone and the Belimo device. This means that the person eavesdropping must have physical access to the device.

Can NFC in Belimo products be switched on and off by the customer?

An NFC switching function is not implemented. It is possible, however, to permanently deactivate the NFC function. Deactivation is irreversible and is, therefore, not recommended.

Is data written to or read from the customer's smartphone via NFC communication?

NFC communication via Belimo Assistant 2 transfers the device configuration data to the smartphone. However, the configuration data is not permanently stored on the smartphone; it is just displayed by Belimo Assistant 2. The user can then change the configuration and transfer it back to the Belimo device. The data is deleted after it has been sent to the Belimo Cloud and Belimo Assistant 2 is closed.

Will the information received on a smartphone over NFC be relayed to the Cloud?

Yes. All data read from a Belimo device is relayed to the Cloud by Belimo Assistant 2. This transfer can be deactivated in Belimo Assistant 2. Belimo Assistant 2 may also be used offline, in which case data transfer is not possible.

What do I have to do to ensure secure use of NFC with Belimo products?

Always use the latest version of Belimo Assistant 2. If your smartphone does not support NFC, please use LINK.10 for NFC to Bluetooth conversion. LINK.10 is automatically updated by Belimo Assistant 2.

For further information, please visit: www.belimo.com

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