



NFC Module Manual

Version 1.0

REV02-20160520

GENERAL INFORMATION

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Please read the manual before beginning and keep the manual for later use.

The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

CONVENTIONS

[KEYS]	Keys that are to be pressed by the user are given in square brackets, e.g. [CTRL] or [DEL]
COURIER	On-screen messages are given in the Courier font, e.g. C : \>
COURIER BOLD	Keyboard input to be made by the user are given in Courier bold, e.g. C : \> DIR
"..."	Names of buttons to be pressed, menus or other onscreen elements and product names are given within double quotes. (e.g. "Configuration").
PICTOGRAMS	In this manual the following symbolic are used to indicate particular text blocs.
	<i>Caution!</i> A dangerous situation may arise that may cause damage to material.
	<i>Hint</i> Hints and additional notes
	<i>New</i> New features

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1 Introduction

1.1 WHAT IS KNXCONTROL?

KNXCONTROL stands for a family of products for the visualisation and surveillance of home & building automation plants which were realized using the worldwide KNX standard. The KNXCONTROL devices allow to manage the functions of a KNX system over any modern device with a web browser, be it a PC, a tablet or a smartphone, from both internally over the systems LAN, and remotely over the internet. Refer to our website www.divus.eu to get further details about the implementation and management of our KNXCONTROL products. You will find manuals, datasheets and other free and useful tools to get you started.

1.2 WHAT IS THE GOAL OF THIS MANUAL?

This manual explains how the „near field communication“(NFC) may be implemented in a KNXCONTROL system expanding its possibilities with a new way of interaction.

1.3 REQUIREMENTS

To use NFC in Optima you will need:

- A KNXCONTROL device with Optima version 1.3.5 or newer or the PDK version 1.3.5 or newer. The latter is available as a free download on our website www.divus.eu.
- An Android™ device which supports the NFC technology and has the Divus Optima app installed. You can download the app from the Google Play Store for free.
- One or more NFC tags.

2 First use of NFC with Optima

2.1 INTRODUCTION

When you hover with your NFC-capable device over an NFC tag, there's an exchange of information: the two recognize each other (note: we'll call this action scanning from here on). Each tag has a unique code which makes it easy to identify and distinguish it from any other tag. This makes it possible to assign unique tasks to each tag.

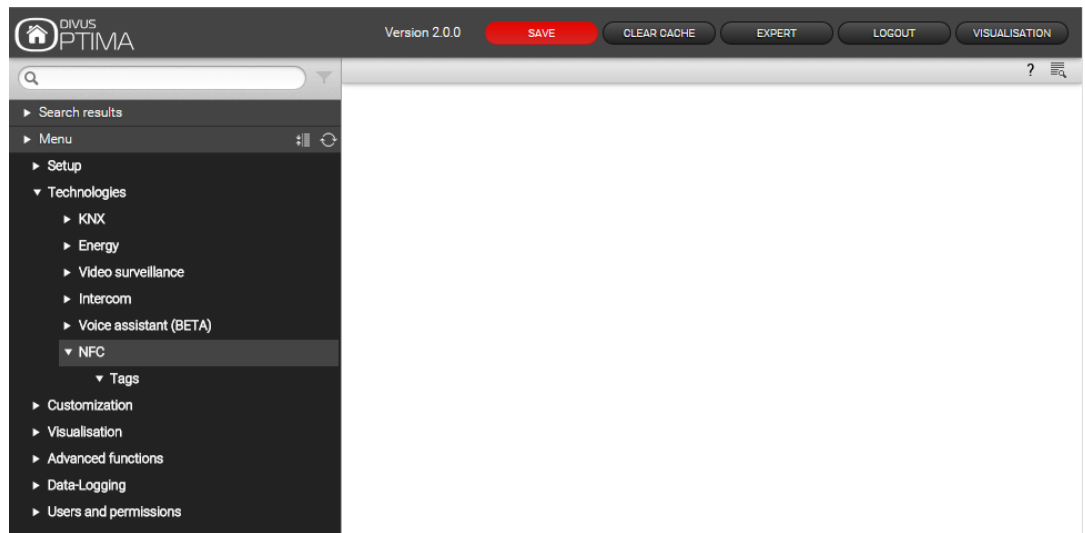
In Optima NFC tags are seen as objects with an ON/OFF value, much like a Virtual Object of type Boolean¹. As such, it may be used inside any part of your Optima project like any other object, but with the additional possibility to be switched by using the tag scanning action.

2.2 ACTIVATING THE NFC MODULE IN OPTIMA

Login to your KNXCONTROL device as administrator. The default account has username `admin` and password `admin`. In the main navigation menu on the left, open `Setup` and then `Licenses and modules`. Insert the NFC license key you obtained in the row starting with `NFC`. Make sure to avoid empty spaces before and after the key string. Then press the `SAVE` button and wait for Optima to store the new settings and reload. Open the same page again and look at the `NFC` row again to make sure it has a green text saying "Valid license". That confirms that you inserted the license key correctly and that the new functionality is ready to be used.

The new NFC section can be found under `Technologies` now. At the beginning it will only contain an empty point called `Tags`. Here you can add new NFC tags manually or using the tag scanning procedure and then configure them one by one.

¹ See the **Optima administration manual** for details about `Virtual Objects`. Download it from www.divus.eu



2.3 REGISTERING A NEW NFC TAG




NOTE: Please disable the bluetooth function of your device because it could negatively influence the NFC function.

2.3.1 AUTOMATIC INSERTION OF NEW NFC TAGS

Once you activated NFC on your mobile device and opened the Optima app, you can approach the first NFC tag. Depending on your device's settings the device could vibrate, make a sound, both or even none. What happens behind the scenes is anyways a double forwarding of information. The NFC tag will reveal its unique ID code to the mobile device; the latter will forward this information again sending it to the Optima server. Now we may have to possible outcomes:


1. the server does not know the NFC tag
2. the server recognizes a known NFC tag

In the first case a new NFC tag is created. You will find it listed under **Technologies - NFC - Tags** and ready to be configured and used. You may have to refresh the browser for the new addition(s) to appear.

To configure an NFC tag, first select it in the menu. Then click on the Ellipsis (...) on the right of the name or on the **Edit** button  in the lower left tool bar.

In the second case, any number of events may be started through the scanning, like e.g. opening a door, playing a scenario, turn off an alarm etc.

2.3.2 MANUALLY ADDING NEW NFC TAGS

You may of course also add NFC tags manually, like you are used from other objects in Optima. To do so, just select **Tags** in the menu and then the **Plus** button  in the lower left tool bar. Then open the new tag's detail page to configure it.

3 Settings of an NFC tag

Tag 1 CLOSE

Object properties

General information

Name:


ID tag:

Predefined action:

Value:

Feedback for ON:

Appearance

Icon: 

Permissions

Enable Schedule:

Localization

Enable localization:

CLOSE

Active events

ID	Name	Condition	Action	Value

Passive events

ID	Name	Condition	Action	Value

Here you see a new NFC tag's detail page.

3.1 GENERAL INFORMATION

- **Name** – define or change the tag's name here.
- **ID tag** – this is the unique ID used to identify the tag. It looks like a mac address of a network device. An example is 04:d2:ef7:8a:97:37:80. If you search the Google Play Store for „NFC reader“ or „NFC tools“, you shall find a number of apps which are capable of reading and showing an NFC tags ID on the screen of your device. The insertion of this bit of information is necessary for the functioning of the tag in Optima. Read the following note for the correct way to insert it!



NOTE: The ID of an NFC tag is automatically added when you use the automatic procedure. When using the manual procedure, please note that **the colons are not to be inserted!** In the example above, the correct string to enter would be 04d2ef78a973780. Once the settings are stored, Optima will switch to the representation with colons automatically. Check that you now have 7 groups of 2 hexadecimal symbols each.

- **Predefined action** – Here you can choose between Set, Toggle and Trigger. Depending on the chosen option, the subsequent input fields will change accordingly.
 - o When on **Set** there will be
 - **Value** – defines whether the scanning should set the object’s value to ON (1) or OFF (0).
 - **Feedback for ON (OFF)** – defines the voice feedback which the mobile device should give when the tag is activated through scanning.
 - o When on **toggle**:
 - **Feedback for OFF** and **Feedback for ON** – see explanation above.
 - o When on **trigger** there will be one field for feedback.

3.2 LOCATING AN NFC TAG

The NFC module allows to create a sort of localization through NFC tags. Using this feature the user can tell the system where she/he is located and Optima can show the room accordingly in the visualisation.

- **Enable localization** – this option allows to couple an NFC tag with a room (and vice versa). Use the search field to find the room to assign to the tag and drag it onto the field with the red border.

The image shows two examples of the 'Localization' configuration form. Both forms have a title 'Localization' and a checked 'Enable localization' checkbox. The first form shows the 'Room, in which the tag is positioned:' field with a red dashed border and the placeholder text 'Please drag the desired object in here'. The second form shows the same field with the text 'Main Room' entered inside the red dashed border.

After that, the reaction of the Optima app on the device to a tag scanning will be that of opening the assigned room in the visualisation.

3.3 TRIGGER EVENTS

Using the sections `Active events` and `Passive events` you can turn an NFC tag into a switch. If e.g. you drag a knx light switch into the Active events list, you can configure it to switch the light on (or off) at every scan or only at a certain value of the tag.

For more details about active and passive events in Optima, please refer to the Optima administration manual, downloadable from our website at www.divus.eu.

