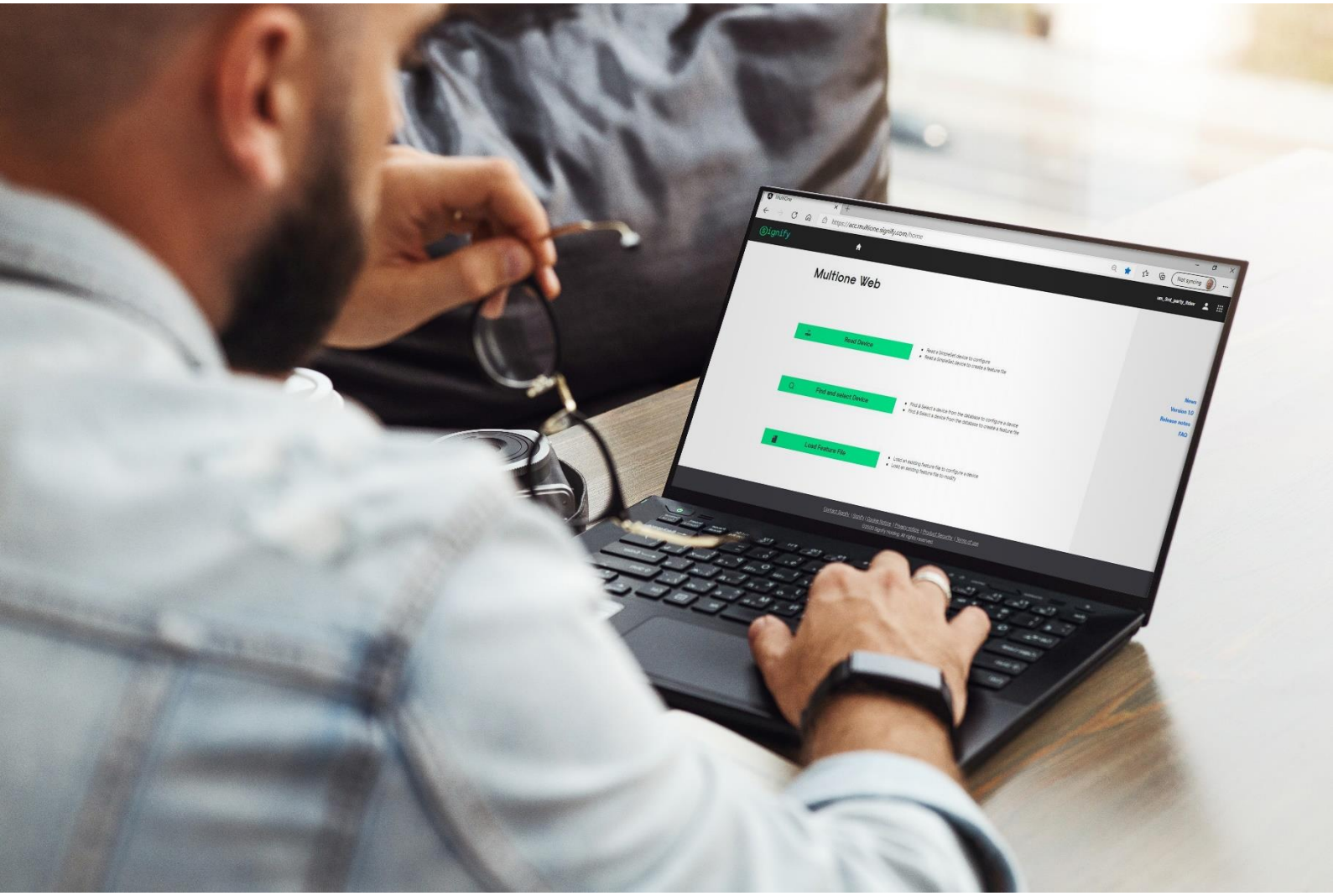
MultiOne by Signify

MultiOne

Configuration tooling

Box Configuration

Box Configuration Application Note



Application Note for Box Configuration

Document version December 2025

Signify

Version history

Date	Changes
14 Oct 2024	Initial Document
22 Nov 2024	Product Picture FAQ questions added
22 Jan 2025	Ordering information added.
01 Dec 2025	Table design and process updates.

Introduction

The SimpleSet (NFC) interface is widely used in factories to configure LED drivers. The current way of configuring is by retrieving each driver from the box and placing it near the NFC reader one by one.

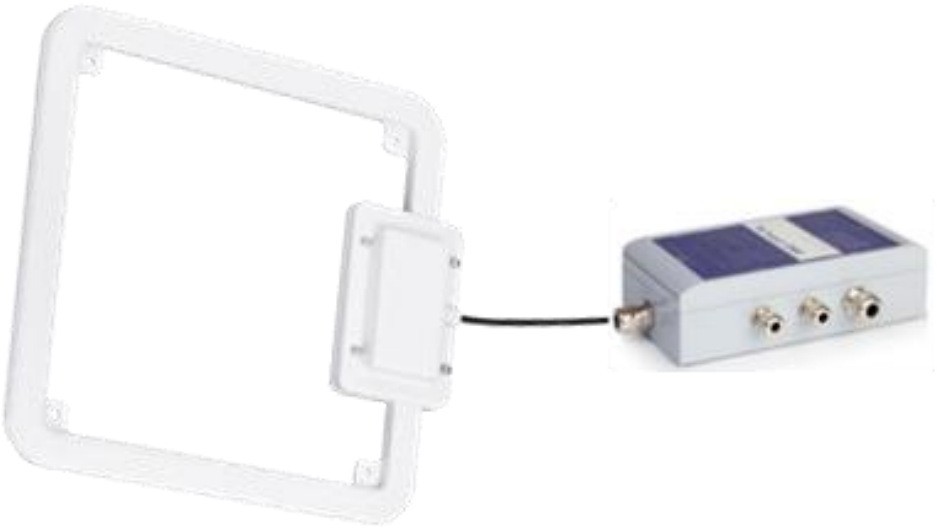
Productivity can be increased by lowering tact time for configuring drivers. This is especially applicable for batches consisting of a high number of drivers requiring an identical configuration. Configuring a complete box of drivers via NFC without unpacking the drivers is an enabler for such production efficiency increase.

The goal of this document is to introduce and explain how box configuration works, and how the setup should be prepared for your production facility.

Table of Contents

Equipment Needed for the Setup

NFC Reader



Name	Signify - LCN9640 for the combination of NFC Reader and antenna FEIG – Reader with ID ISC.LR1002-E and Loop Antenna with the ID ISC.ANT310/310-A
Components	NFC Antenna, NFC Reader, Power Supply, Coax Cable
MultiOne	Web
Usage	Batch configuration of compatible drivers, used for mass programming.
Datasheet	NFC Reader: Data_sheet_Identification_Stationary_Readers_ID_LR1002.pdf (feig.de) Loop Antenna: Data_sheet_Identification_Antennas_ID_ANT310_310.pdf (feig.de)

Warnings and Instructions 

- Other NFC Compatible or RF Sensitive equipment like smartphones should not be placed on top of or held nearby the setup. It might get damaged due to high transmitting power.
- FEIG Equipment (antenna & reader) are compliant for human exposure to EN 50364. (Product standard for human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 300 GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications). For more information, please check device datasheets, you may find the links on page 4 of this document.
- Do NOT try to service the antenna or reader when mains voltage is connected.
- Do NOT use damaged products.
- Any metal besides the test setup or the driver itself in proximity of the test setup is forbidden. Minimum distance to metal surfaces must be 1 meter to prevent disturbances.
- Do NOT use any metal screws on design of the setup.

Ordering Information

The below components can be ordered from FEIG directly.
FEIG service partner | FEIG ELECTRONIC

1) ID ISC.ANT310/310-A HF Antenna (ID ANT310/310-A)
   Antenna for HF Reader, connecting cable RG58, 3.6m Connection Plug SMA – male, tuning manually dimensions approx. 310 x 310mm
   HF Antenna – ID ANT310/310 – Identification – Products | FEIG ELECTRONICS Inc.

2) ID ISC.LR1002-E HF LR Reader (ID LR1002-E) in metal housing (IP54)
   ISO15693/ISO18000-3 Dimensions (w x h x d): 200 x 110 x 60 mm Protocols: ISOHost Mode, Scan Mode, BRM, Notification Mode (up to 100 data sets) Interfaces: RS232, LAN, USB/JST PH (service interface)
   HF Long Range Reader, Standard ID LR1002 | FEIG ELECTRONIC

3) ID CAB.USB-B Cable for Interface USB/JST PH Interface cable for ID CPR74, ID CPR40.0x-CDUSB, ID ISC.MU02.02-CU, ID ISC.LR/LRM1002
   – Length: 2,75 m
   – High-/Full-Speed cable according to USB 2.0 specification
   – Plug 1: USB Connector Type A Plug – Plug 2: JST PH series (PHR-5)
   – Color: similar RAL 9002
   – UL and RoHS compliant
   USB Interface Cable – ID CAB.USB-B – Identification – Products | FEIG ELECTRONICS Inc.

4) ID NET.24V-B Power Supply Unit for ID ISC.LR/LRM2500/1002, ID ISC.LRU/LRU3x00/1002.
   Versatile outlets available (EU, GB, US – not included)
   24V Power Supply Unit ID NET.24V-B | FEIG ELECTRONIC

5) ID CAB.NET.24V-B-EU Cable with
   European Plug Cable
   Power Supply Unit Cable ID CAB.NET.24V-B-EU | FEIG ELECTRONIC
   or
   USA Plug
   Power supply unit cable with US plug for 24V power supply unit ID NET.24V-B
   Power Supply Unit Cable ID CAB.NET.24V-B-US | FEIG ELECTRONIC

Box Configuration Table Setup

Near-field communication (NFC) is a technique that enables communication between two electronic devices over a distance that is typical several centimetres. In case communication over a longer distance is required two prerequisites become increasingly important:

1. A large antenna that is sensitive
2. An environment (test setup) that is extremely friendly for the 13.5 MHz radio frequency signals.

To safeguard this, the following test setup (or similar) is recommended:

FIGURE 1 TABLETOP DESIGN

Size of the test setup: L/W/H – 1200mm/500mm/400mm

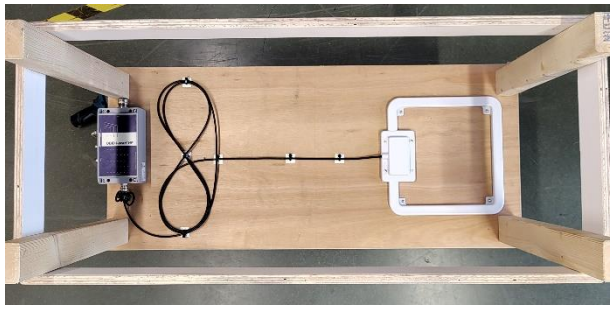


FIGURE 2 READER. ANTENNA AND CABLE ORIENTATION

As per recommendations as described in the FEIG ID ISC.ANT310310-A HF Antenna installation manual:

- Use a non-metal table, e.g., one made of (ply)wood. Use a tabletop thickness of 18-20mm.
- Any metal objects (other than the test setup or drivers) near the test setup are prohibited; maintain a minimum distance of 100 cm from all metal parts.
- The antenna cable should be routed straight out, up to a distance of 50 cm, parallel to the mounting surface, and securely fastened.
- To achieve optimal reading range, do not shorten or extend the 3.6m antenna connection cable that comes with the FEIG loop antenna.
- Excess coaxial cable must never be wound into a circular coil (it may be arranged in a figure-eight shape), and any bends must have a minimum radius of 10 cm.
- To suppress possible interference in the frequency range of 20–100 MHz, a toroidal core must be integrated into the antenna connection cable. According to FEIG documentation, the coaxial cable must be passed through the core four times and positioned within 10 cm of the reader.

Software Requirements

The Box Configuration is only supported by MultiOne Web, therefore user must first register to the MultiOne Web tool. For more information please visit MultiOne Configurator | Signify Company Website or MyLighting portal

After registration, user must install “Direct Configuration Service (DCS)” version 1.3 or higher to their notebook for the necessary windows drivers for LCN-9640 that will be used for testing and manufacturing. “Direct Configuration Service (DCS)” can be found and downloaded from MultiOne Configurator | Signify Company Website and MyLighting portal

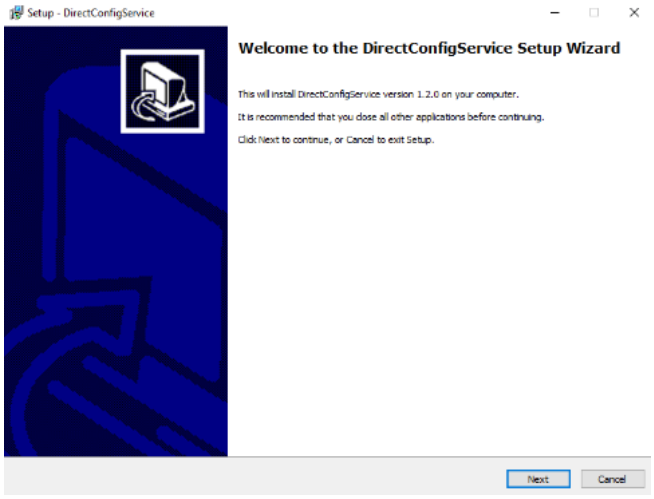


FIGURE 3 DCS INSTALLATION

Configuration Procedure

After the test setup is completed, user should open and login to MultiOne Web tool via MultiOne (signify.com).

Connect the reader to the notebook via USB. Connection status appears at the top-right of the MultiOne Web page, next to the username. A successful connection shows a green icon and 'LCN9640'. If not connected, it displays 'SimpleSet (Not Connected)' with a red icon.

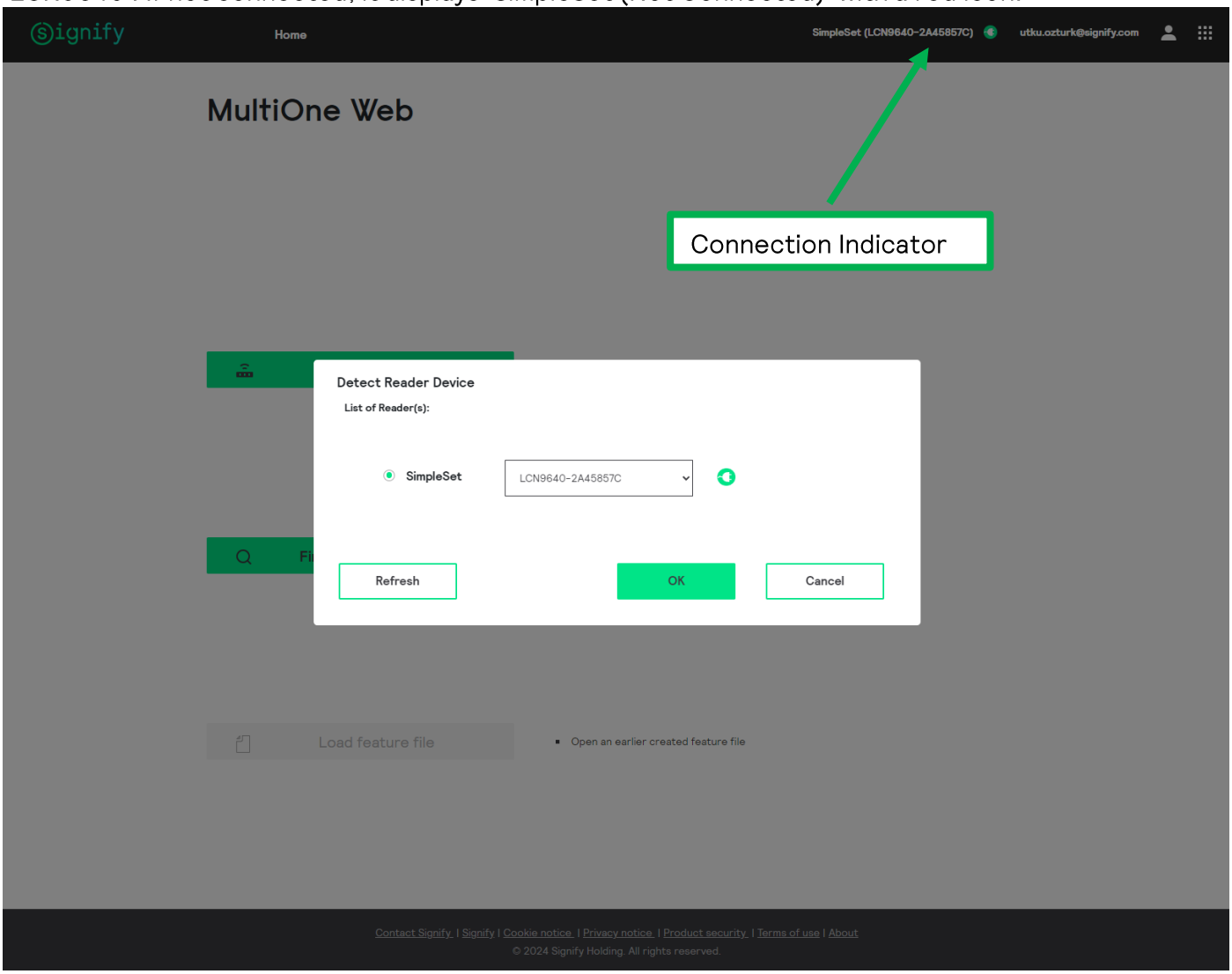


FIGURE 4 MULTIONE WEB HOMEPAGE

If the proper connection is established, user can choose to read the driver type via LCN9640 by clicking on "Read Device" or can proceed to "Find and select device" to filter and choose box programmable drivers.

Note: MultiOne Web does not support usage with multiple interfaces connected to the PC, please only connect LCN9640 for Box Programming, **do not connect multiple NFC reader devices at the same time.**

Box Positioning

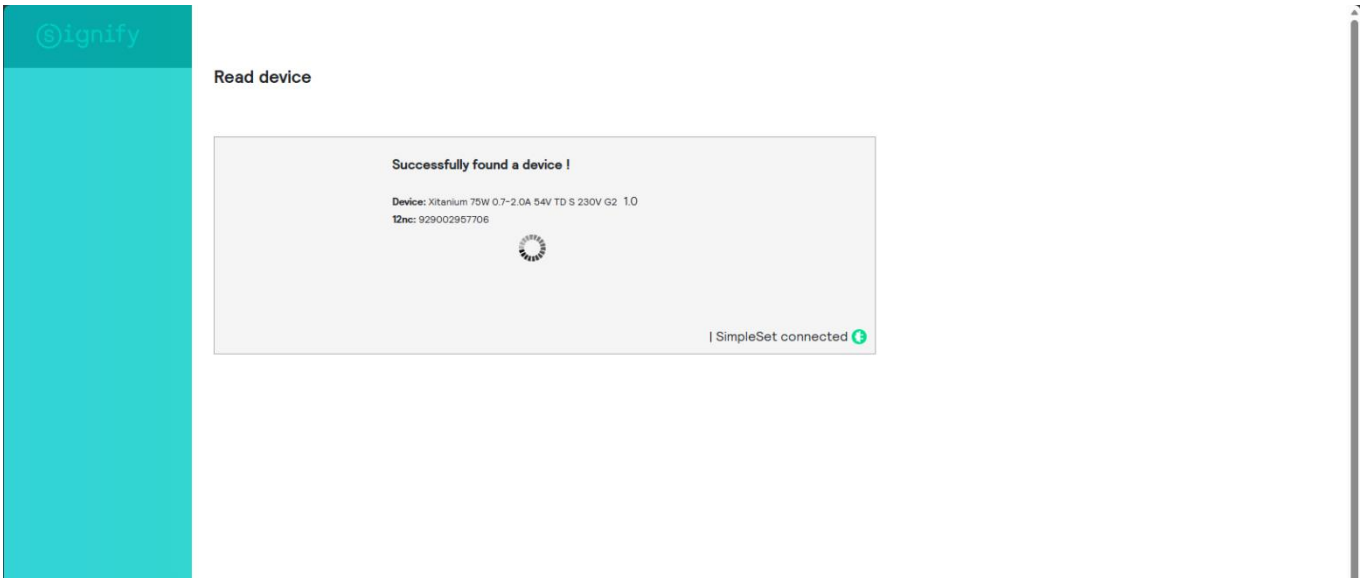
1. Check the driver box for the position of the “rectangular markings” on the box. Which is the “primary” side of the box where the NFC tags will be oriented parallelly to the loop antenna. The box should be placed on the side with the “rectangular marking” looking down.

2. Align the “rectangular marking” in a way that it will align with the 0,0 coordinates of the configuration setup.

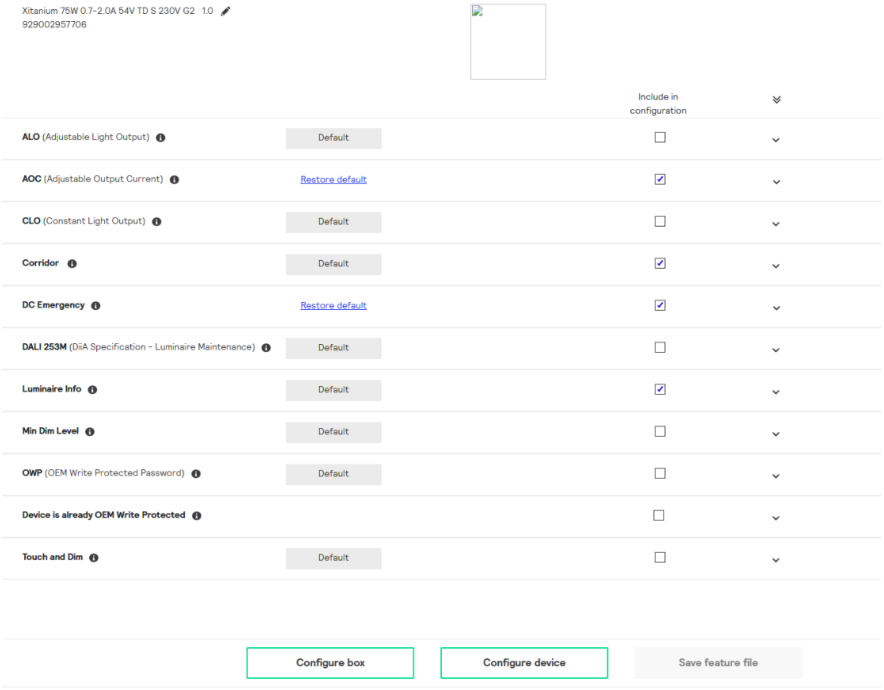
FIGURE 5 ALIGMENT EXAMPLE OF A DRIVER BOX

Configure Box

1. After placing the box correctly, click **“Read device”** in MultiOne Web.

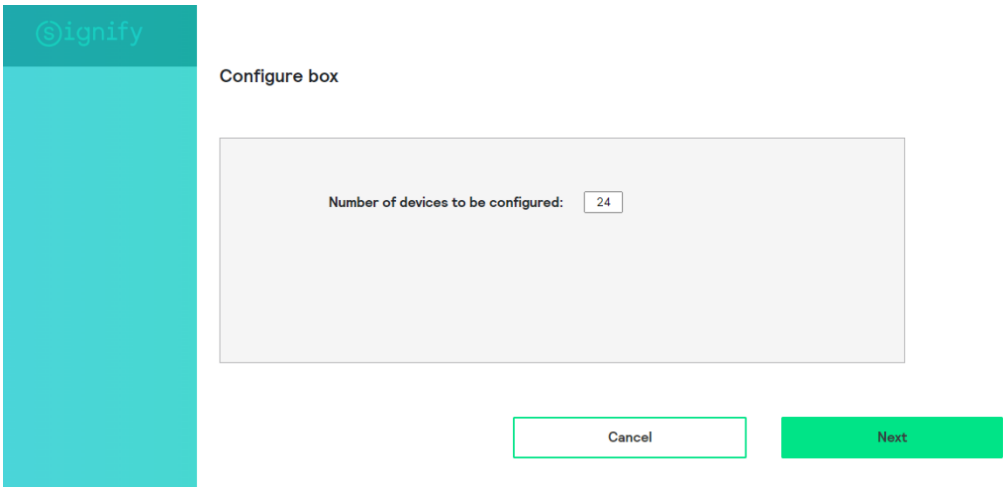


2. Device type and features should be properly seen on MultiOne Web screen as in the below picture.

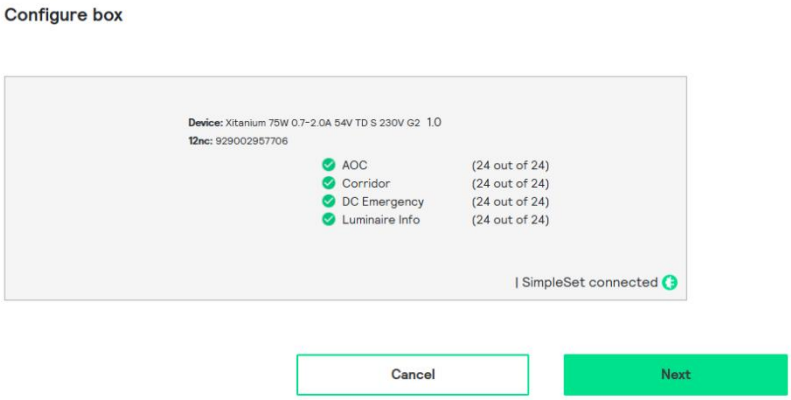


3. Configure all required features. When finished, click **“Configure Box.”**

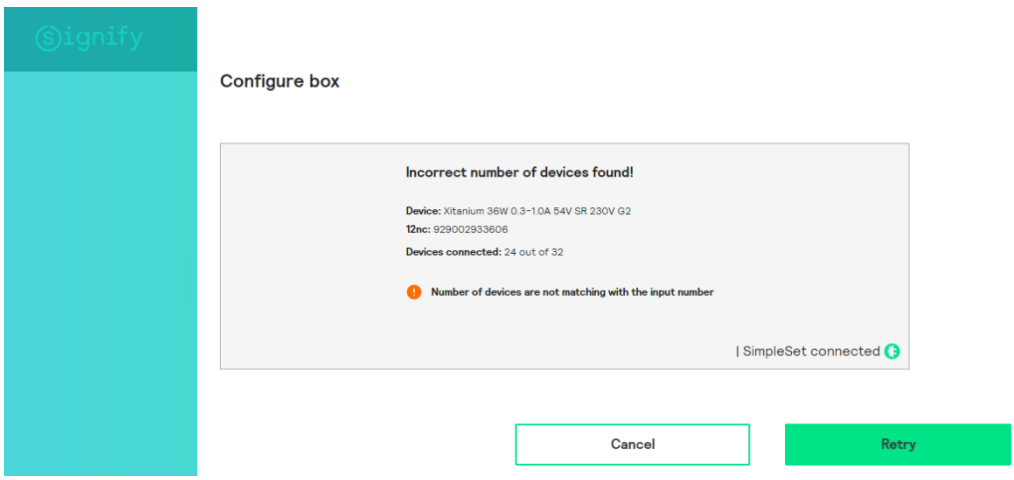
4. Enter the **number of drivers** inside the box. (Refer to the product datasheet for this information.



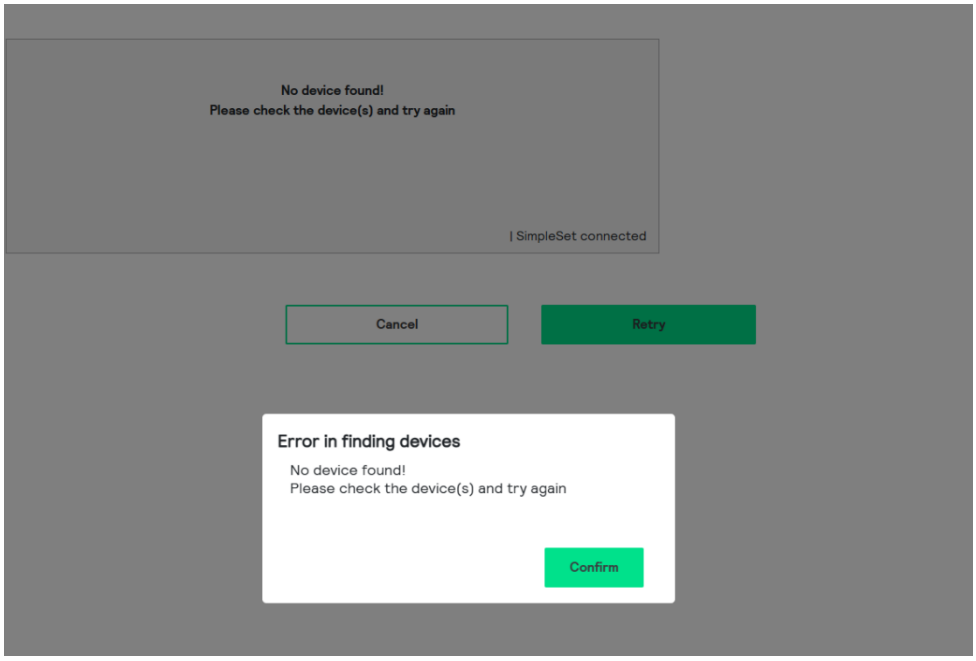
5. If the entered number **matches**, programming will start automatically and a **success screen** will appear.



6. If the number **does not match**, an error screen will appear. Click **"Retry"** to correct the number or adjust box positioning to ensure proper antenna connection.



7. If programming fails, a failure screen will appear. Check the box alignment and antenna connection, then click **“Confirm”** and **“Retry”** until the process succeeds.

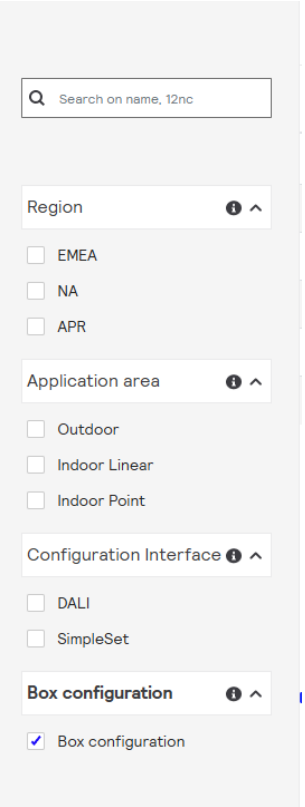


8. To start a new configuration **for the same driver type**, click **“Cancel.”** This returns you to the feature page; repeat from Step 2.

9. To configure **a different driver type**, click the **“Home”** button and restart from Step 1.

Supported Device List

Currently, box configuration is supported by only a limited number of devices. More drivers will be added over time. Supported devices can be found in their datasheets, or in the 'Find and Select Device' section of MultiOne Web by filtering for box configuration drivers as described in this document.



Frequently Asked Questions

Q. *How to understand if a driver is box configurable or not?*
A. Supported devices can be identified via the box label, which indicates "suitable for box configuration". Besides that it is mentioned in the datasheet of the concerning product. A third option is to use MultiOne Web by filtering box configurable drivers.

Q. *I have tried everything on this document, but box configuration does not work. What should I do?*
A. Please contact our support team via Key Account Managers to better analyse your situation and provide solutions.

Q. *Can I have the table drawings in this document for my table setup?*
A. Please contact our support team via Key Account Managers to better analyse your situation and provide solutions.

Q. *I do not have plywood or pinewood for the table design. Can I use another material?*
A. Please contact our support team via Key Account Managers to better analyse your situation and provide solutions.

Q. *My LCN9640 antenna and receiver does not seem to be working, can I use another NFC antenna that I got from Signify.*
A. Our box configuration feature as of now is just supported for LCN9640, another type of antenna or receiver can not be used, if there is a case where LCN9640 is not working or broken a new set should be ordered. Please contact your local dealer or responsible Signify Key Account Manager for more information.

Q. *I can not use Box Configuration with MultiOne Engineering, why?*
A. Box Configuration feature is only supported for MultiOne Web.

Q. *What is the duration of programming a full box?*
A. The typical programming time is around 1 minute

Q. *The programming prematurely fails, What can be wrong?*
A. If the programming fails within the first 10 seconds, there is probably a sub-optimal placement of the carboard box versus the antenna. Starting from the centre, move the box a few centimetres to find the best programming spot

Q. *I already have a FEIG ANT310/310 loop antenna. Can I just use it?*
A. Yes, that should work, when set to the factory default software and jumper settings and when taking our guidance about the wooden setup into account.

Q. *My setup does not reliably work anymore after a while*
A. Power it down for about 2 minutes can solve this.