

# **User manual**

## **K-BUS®KNX Gateway for IR configuration\_V1.0**

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## Chapter 1 Summary

We provide KNX Gateway for IR with a configuration tool (KNX Gateway for IR configuration) or DCA, to assist in the learning, testing and configuration of the IR code, as well as downloading the IR code to KNX Gateway for IR which is configured by ETS and enables the KNX bus to control the IR device.

**Note: KNX Gateway for IR configuration is a software that runs independently in PC. DCA is an APP plugin of ETS, embedded in the product application.**

In addition, the software should be used with IR Learner (BTIL-01/00.2). IR Learner is connected to the PC via USB interface and used to learn the control codes of the keys of the IR Remote Controller, store the codes in the configuration tool. IR Learner can learn more than 95% of the IR Remote Controller on the market. The learning process is realized by operating the software, and you should put the IR detector of the Remote Controller near to IR detector of the IR Learner as close as you can(within 3cm) to avoid the failure of learning. And IR learner also has the functions for IR receiving emitting IR function, so it can test and verify whether the learned control code has been learned correctly.

This manual provides detailed technical information about the KNX Gateway for IR configuration and IR Learner for users as well as assembly and programming details, and explains how to use by the application examples.

### 1.1 KNX Gateway for IR configuration

KNX Gateway for IR configuration is a software that runs independently in PC. Below describes the overall framework of the software and the use of IR configuration function. The IR configuration function of this software are only available in conjunction with the IR Learner and KNX Gateway for IR.

The functions are summarized as follows:

- Used with IR Learner to assist in the learning, testing and configuration of the IR code, as well as downloading the IR code to KNX Gateway for IR;
- Support to encrypt the IR configuration file and export it.

**Operating system:** Win7 and above systems;

**Operating environment:** must install Microsoft.NET Framework 4.6.1 on the PC.

## 1.2 The IR Learner (BTIL-01/00.2)

The IR Learner uses a common USB port to communicate, it is easy to learn the functional control codes of the IR remote controller and store the codes to the configuration tool.

The design of the IR Learner is as a USB flash Disk, small and exquisite in size. The IR Learner is needed to use only when it learns the functional control codes of the IR remote controller.

**Attention: When learning, please put the the IR detector of the Remote Controller near to IR detector of the IR Learner as close as you can(within 3cm) to avoid the failure of learning.**

The IR Learner is provided with receiving and emitting IR function, so it can test and verify whether the learned control code has been learned correctly.

For convenient to operate, suggest that connect the IR Learner to PC via a USB extension cord please.



① USB communication port

② IR detector. When learning, please put the IR detector of the Remote Controller near to IR detector of the IR Learner as close as you can

## Chapter 2 Software Introduction

### 2.1 Software Interface

Double-click the software “KNX Gateway for IR configuration.exe” on the desktop or click on the Start Interface to start the software, the initial interface shown as in Fig.2.1.

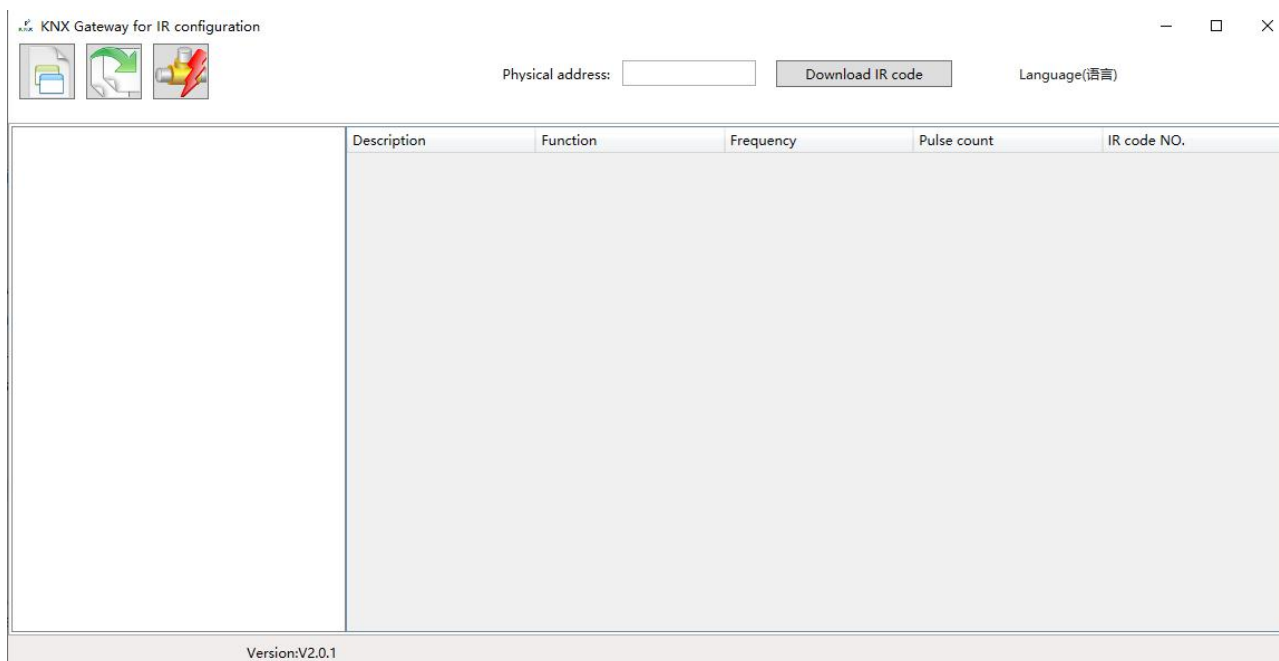



Fig.2.1(1) The initial interface

**【New IR configuration file】**: Click the icon  to create a new configuration file (Currently only supports the creation of the format.IRPrj). The new file has the option to set the password and increase security with a password length of 6 to 20 characters. As the following Fig.2.1(2).

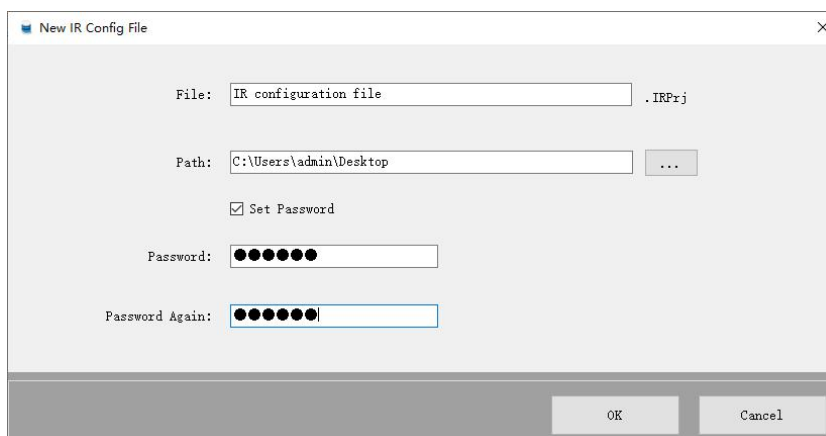




Fig.2.1(2) New IR configuration file

**【Open the configuration file】**: Click the icon  to open the configuration file (Currently only supports the open

of the format.IRPrj).

【Connected to the bus】 : Click the icon  to connect or disconnect the communication between the software and the bus.

【Physical address】 : Input the physical address. Support the input of the format xx.xx.xxx, such as 1.1.1.

【Download IR code】 : Download the IR code to the KNX Gateway for IR via the KNX bus. Click it to pup up the download window for the download task, and download one task at a time. User can cancel the current task and view the progress via the window.

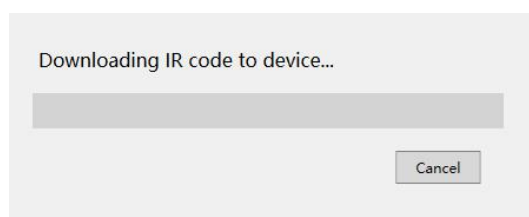
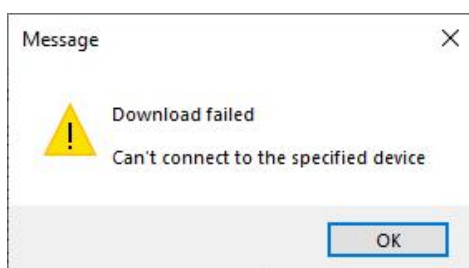


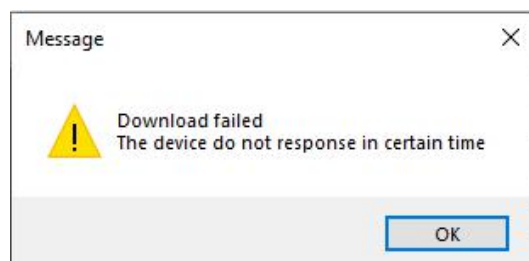
Fig.2.1(3) Down window

Common download failure exceptions:

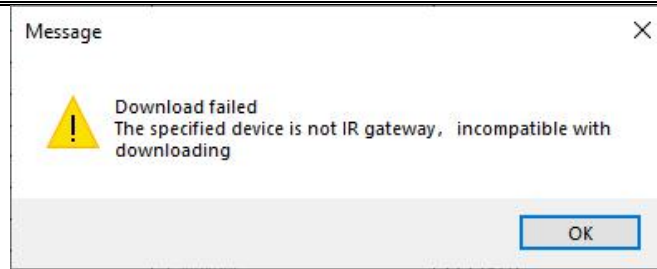
- ① The device with the entered physical address cannot be connected. For example, the device cannot connect to KNX bus.



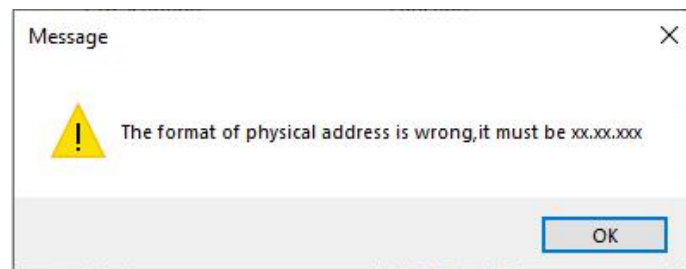
- ② Download is interrupted during an exception. For example, the device is removed, or the bus is abnormal or the others, to make the sending telegram no response or incorrectly.



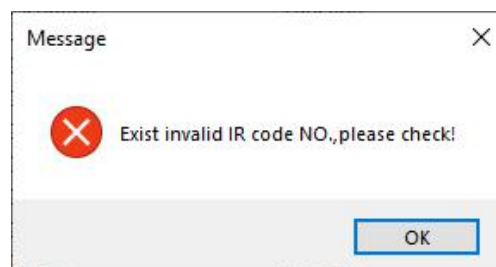
- ③ The device to download is not a KNX gateway for IR.



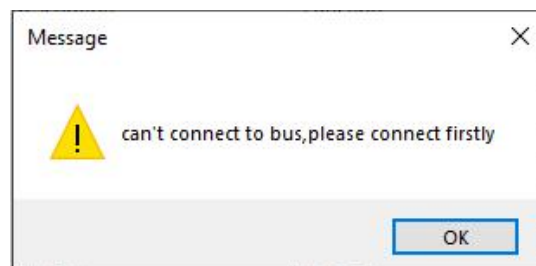
- ④ The physical address format entered is not a xx.xx.xxx.



- ⑤ Exist invalid IR code for the IR code configuration. If an IR number is not within 1~300, an error is reported.



- ⑥ There is not a interface connecting to software. If not connect the bus firstly to download, an error is reported.



【Language(语言)】: The drop-down menu is shown as Fig.2.1(4), select Chinese or English as the system language.



Fig.2.1(4) 【Language(语言)】 drop-down menu

**Note: When the software language is switched to English, the language of windows operating system also need switch to English, otherwise, it will exist some language mismatch.**

## 2.2 IR code configuration Interface

IR configuration interface is used to configure the function of KNX Gateway for IR, through IR Learning Code Manager, we can learn and record each IR encoding of the appliance remote controller's function, download the configuration to the KNX Gateway for IR via the KNX bus, as shown in Fig.2.2.

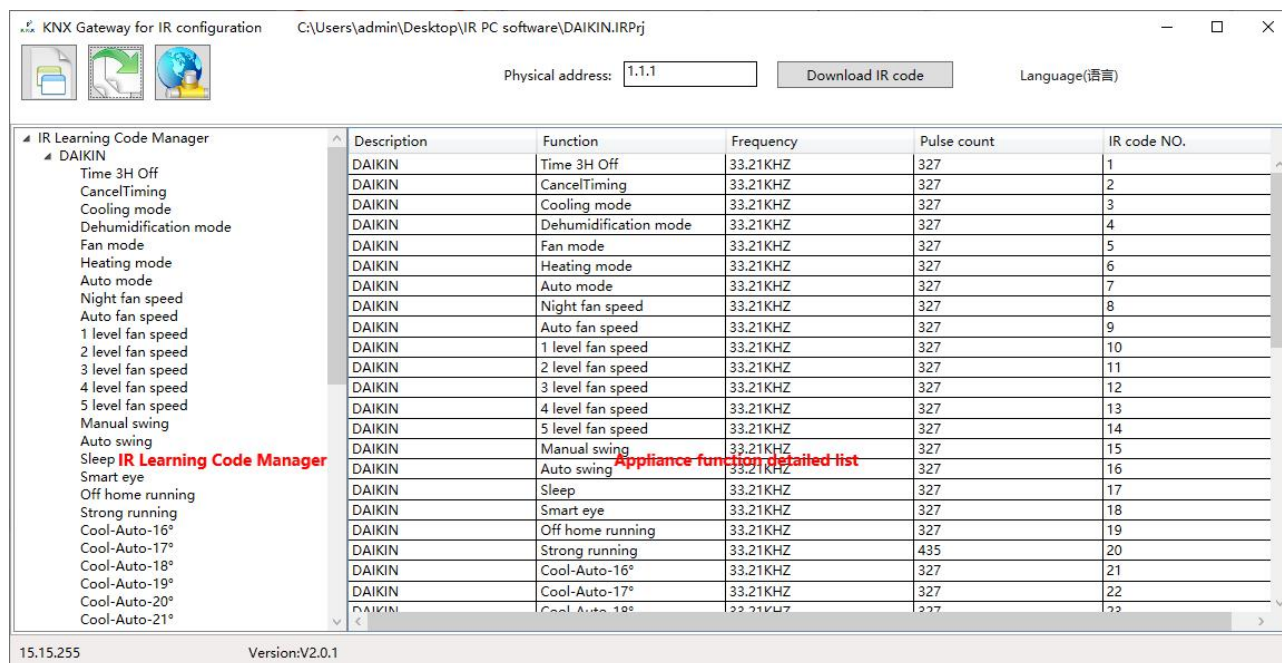


Fig.2.2 IR Configuration

**【 IR learning Code manager 】** : Manage the information of the controlled appliances which have IR remote controlled function. It is mainly used for the controlled electrical new, delete, rename, import or export IR learning code, and the remote controlled function of appliance's new and learning, test.

**【 Appliance function detailed list 】** : The appliance function detailed list is used to display the item sub information which are selected by the learning code manager. we can check the appliance name of selected items, electrical function, the frequency and pulse counting of the electrical function remote controller, also can pass the test to verify the effectiveness of learning code.

**Note:** If the IR code number is 0 or empty, user need to manually modify the number.

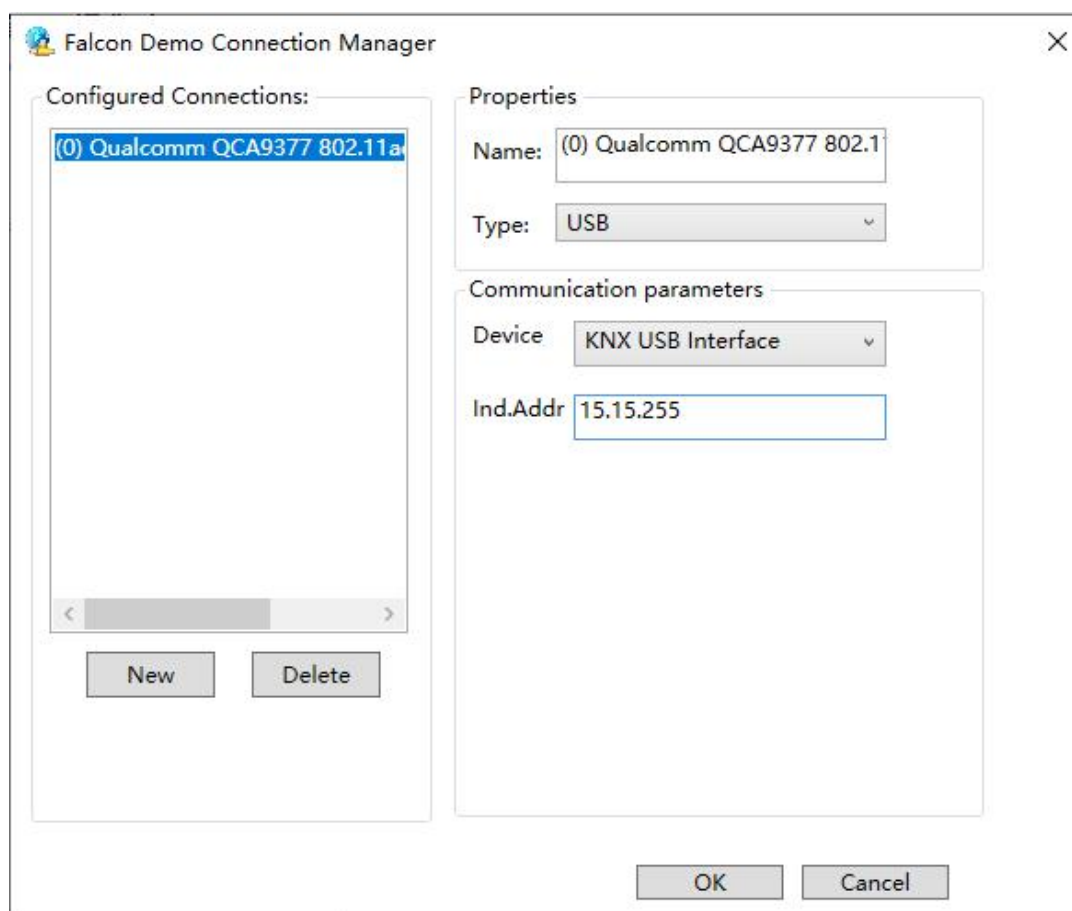


## Chapter 3 Demo

This chapter describes all the actual operation of the software function and the matters of needing attention.

### 3.1 Communication settings

Select **【Connected to the bus】** , and then Configure the downloader in the following dialog box, click on **【OK】** .

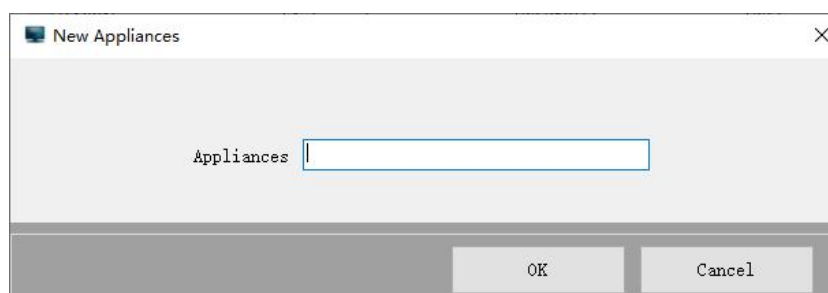


**Note:** If you select a USB connection in “Configured Connections” box, not detected download device in the right “Communication parameter” box, please check the connection of download device and PC machine .If the connection is well and the downloader is USB, we will need to install the driver.

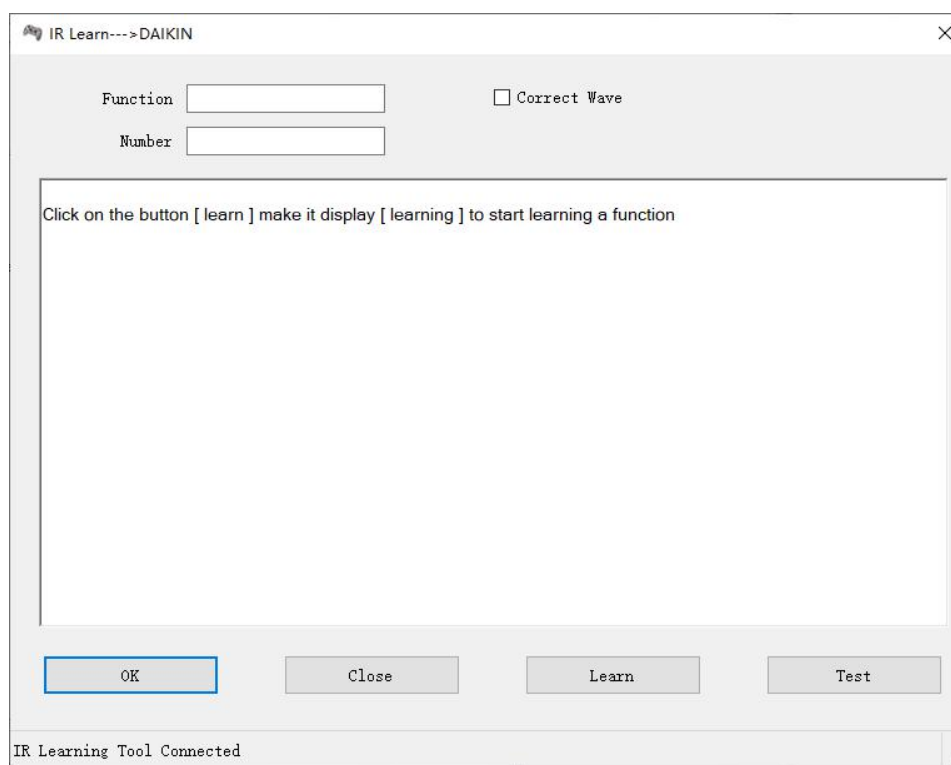
## 3.2 IR configuration function

### 3.2.1. New Controlled appliance

(1) Right-Click the **【IR learning code manager】**, select **【New Appliance】** in the shortcut menu, then set the appliance name in the following dialog box, click on **【OK】**.



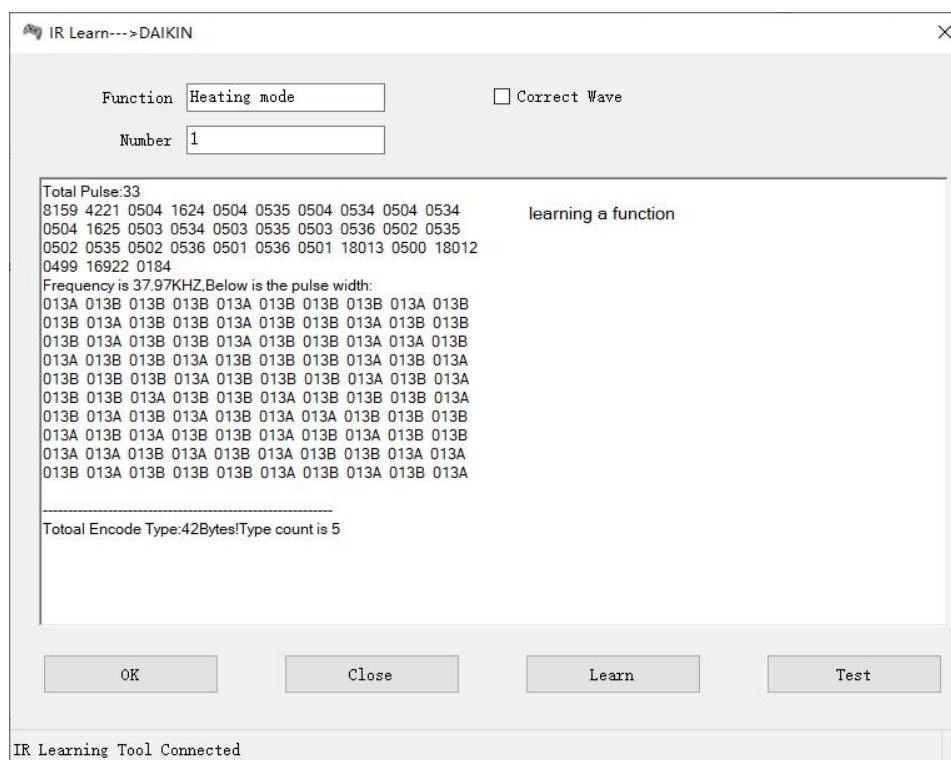
(2) Right-Click a appliance in IR learning code manager, select **【New function】** in the shortcut menu, pop-up dialog box shown below.



(3) Click on the button **【learn】** make it display **【learning】**, identify the software entering to the learning state. Then place the Emitter head of remote controller on receives head of learner about 0.5cm~2cm show as following.

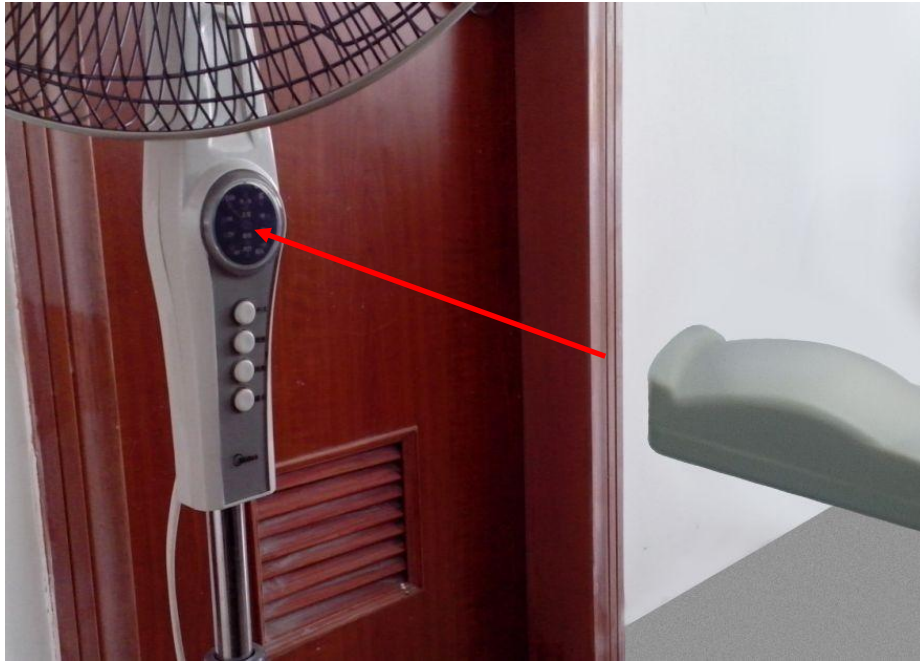


(4) Press the button on the remote control, When the IR learner receives the signal emitted by the remote control a button display the **【 learning 】** turn to **【 learn 】** to identify this study is completed, show as following .Then test the validity of this study.



(5) Placed IR learner on the opposite of controlled electrical infrared receiver less than 4 meters, then click on the button **【Test】** to test this learning code, show as following. If the test is valid, click button **【OK】** to save this encoding, if invalid, repeat steps (2)~(4).

**Note: Enter the function description and IR number before saving.**



(6) Repeat steps (2)~(5) to complete the learning of remote controller function.

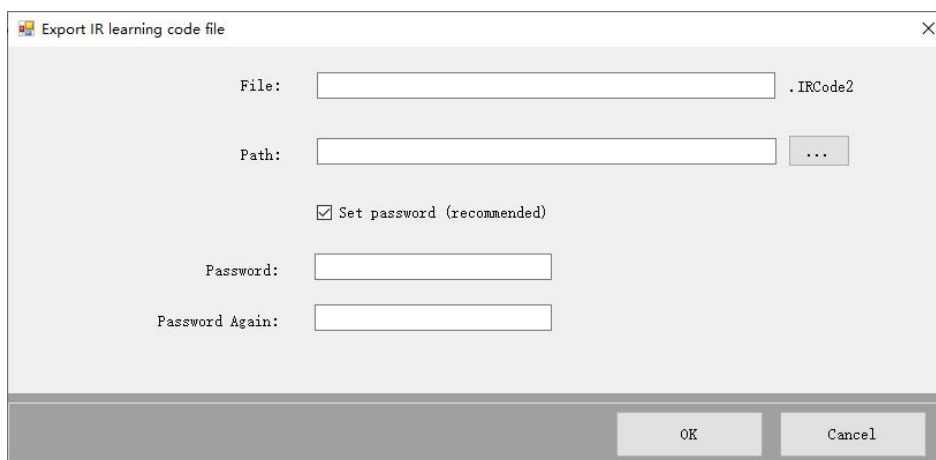
(7) Download the IR code to KNX Gateway for IR via KNX bus. Make sure that the bus is already connected and input the physical address of the device in the software interface, then click **【Download IR code】** to download.

### 3.2.2. Import\Export IR learning encoding data

After create electrical appliances, in order to backup data, we can export or import encoding data from IR learning Code manager, the file format supports .IRCode and .IRCode2.

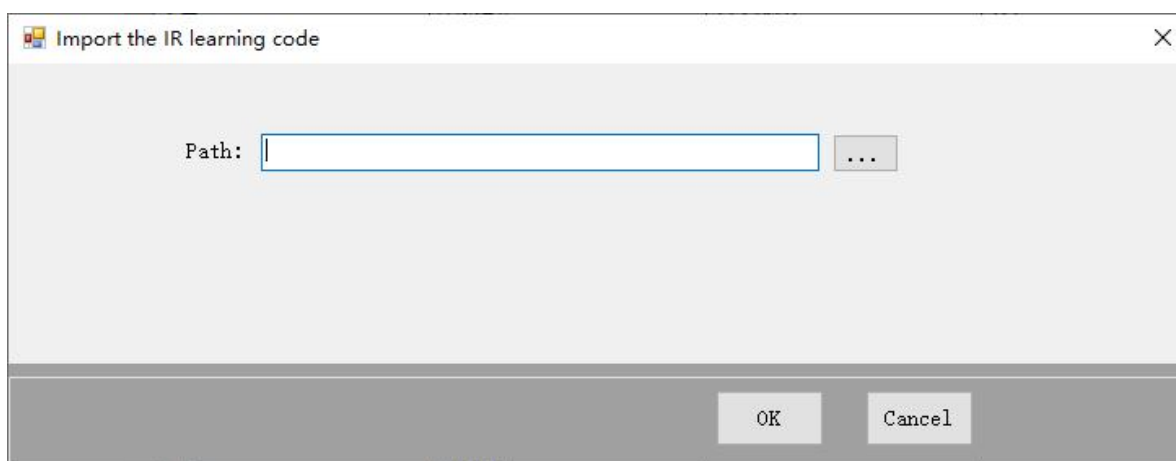
#### (1) Export IR learning coed file

Right-Click a appliance, select **【Export】** in the shortcut menu, then export the encoding of appliance. Show as the following figure. Set the corresponding information, then click **【OK】**. Suggest to set the password for exported file to increase security with a password length of 6 to 20 characters.



#### (2) Import IR learning coed file

Right-Click the IR Learning Code Manager, select **【Import】** in the shortcut menu, to import the IR code file. In the dialog, click button **【...】** to select the file, then click **【OK】**.



**Note:** After importing the IR code number, you need to confirm whether the IR code number is not 0.

If it is invalid or does not match the database settings, you need to manually modify it.

### **3.3 Precautions**

- ① The stored path of configuration file should not be too long, the total path characters cannot exceed 255 characters;
- ② The configuration file name cannot exceed 255 characters;
- ③ Object (such as device, function) name cannot exceed 255 characters;
- ④ The file cannot be deleted when opened, otherwise the software will pop-up anomaly with cannot find the file;
- ⑤ “.IRPrj”files can only be opened with the software,otherwise it will damage the file;
- ⑥ File encryption to protect the file only in a certain extent, so the important data must to be make a backup;
- ⑦ This software does not provide the password retake service , so be sure to remember file password;