

# NFC USER MANUAL

VERSION 1.0

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## CATALOG

|       |                              |   |
|-------|------------------------------|---|
| 1     | Product Overview .....       | 1 |
| 1.1   | Product Introduction .....   | 1 |
| 1.2   | Technical Specification..... | 1 |
| 2     | Hardware Introduction .....  | 1 |
| 2.1   | Appearance Introduction..... | 1 |
| 2.1.1 | Interface .....              | 2 |
| 2.2   | Assembly Introduction .....  | 2 |
| 3     | Operation Instruction.....   | 3 |
| 3.1   | Setup-Up.....                | 3 |
| 3.2   | Swipe Care.....              | 3 |
| 3.3   | Query Version.....           | 4 |
| 3.3.1 | LIN Communication.....       | 4 |
| 3.3.2 | Query Version .....          | 5 |
| 4     | FCCID .....                  | 5 |
| 5     | Product Informaiton .....    | 5 |



## 1 Product Overview

### 1.1 Product Introduction

In LPCD mode, the near field communication module can wake up the NFC device on the vehicle side when the NFC card or mobile phone is near, and then enter the standard Polling mode. When a matching card is detected, the polling mode is activated. LIN informs VKM and CAN informs BCM to open or close the door.

### 1.2 Technical Specification

Product specifications are as follows:

Table:1-1 Product specification parameter

|                      |                                  |            |                     |            |
|----------------------|----------------------------------|------------|---------------------|------------|
| Product name         | NFC Reader Module                |            |                     |            |
| Product Features     | Model                            | T1XX       | Dimension           | 85×19×6mm  |
|                      | Material                         | PC+ABS     | Weight              | <80g       |
|                      | Power Supply                     | DC 6 ~ 16V | Waterproof class    | IP6K8      |
| Processor            | 32bit 120MHz                     |            |                     |            |
| Storage              | RAM                              | 32KB       | ROM                 | 512KB      |
|                      | 1 LIN、1 KL30、1 GND               |            |                     |            |
| Consumption          | Detecting Period(30ms) : <0.45mA |            |                     |            |
| Ambient              | Operating Temperature            | -40 ~ 85°C | Storage Temperature | -55 ~ 90°C |
|                      |                                  |            |                     |            |
| Communication Mode   | ISO/IEC 14443A/B/MIFARE          |            |                     |            |
| Digital Key Protocol | ICCE                             |            |                     |            |
| Operating Frequency  | 13.56MHz                         |            |                     |            |

## 2 Hardware Introduction

### 2.1 Appearance Introduction

The dimensions of the NFC body are about 85 x 19 x 6mm, and the front and rear shells are affixed with double-sided tape. The sides are LIN, ground, and power interfaces, as shown in Figure2-1.



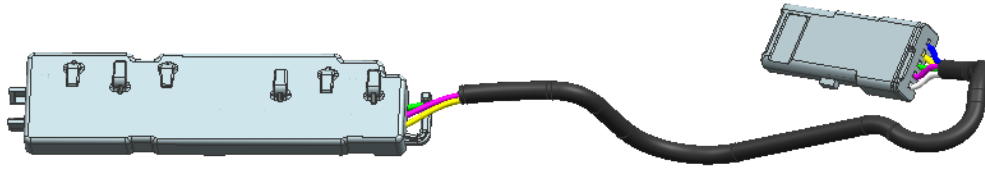


Figure 2-1 T1XX Appearance

### 2.1.1 Interface

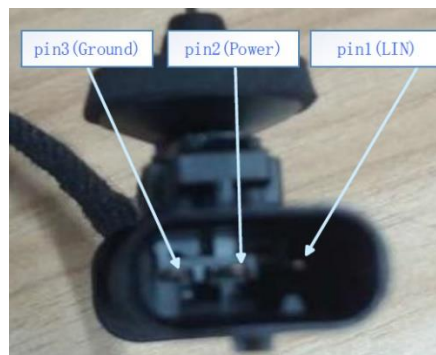


Figure 2-2 Interface

Interface definition:

Tale2-1: Interface Definition

| SN | Name  | Description        |
|----|-------|--------------------|
| 1  | LIN   | LIN signal         |
| 2  | Power | Supply power KL30. |
| 3  | GND   | GND                |

## 2.2 Assembly Introduction

The T1XX is placed inside the door handle and do not require extra fixing. Figure 2-3 show the installation positions..



Figure 2-3 Place in Doorhandle

### 3 Operation Instruction

The NFC valid card is placed near the NFC module, and the NFC module transmits information to the ECU with SE at the end of the car through LIN, and unlocks the car after the NFC card is certified.

#### 3.1 Setup-Up

Before the module can start normally, it is necessary to prepare a power supply, a valid NFC card, a wire harness, and a LIN communication tool. In addition to connecting the NFC reader module, the wiring harness also needs to connect to the LIN communication tool. After the power supply is powered on, if the current is about 20mA, the NFC module is started. Figure 3-1 shows the following.

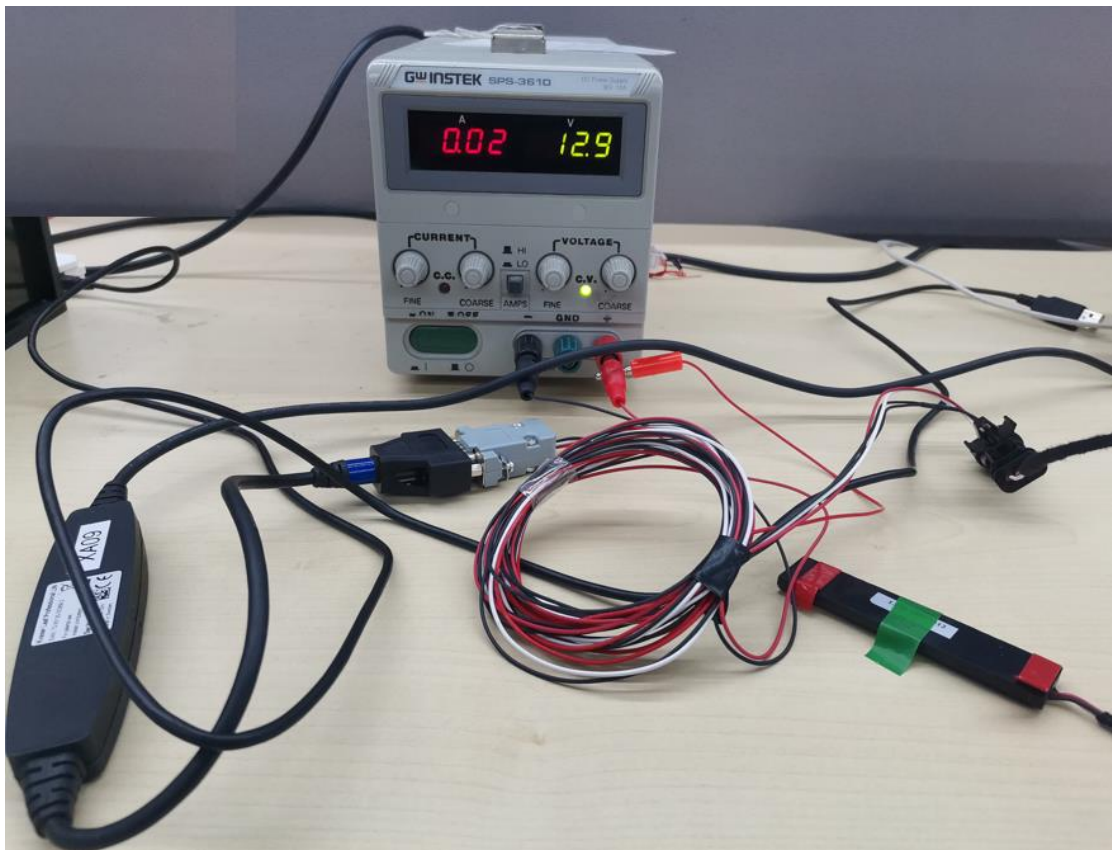


Figure 3-1 Power On Setup

#### 3.2 Swipe Care

Place a valid NFC card close to the NFC module, as shown in Figure 3-2



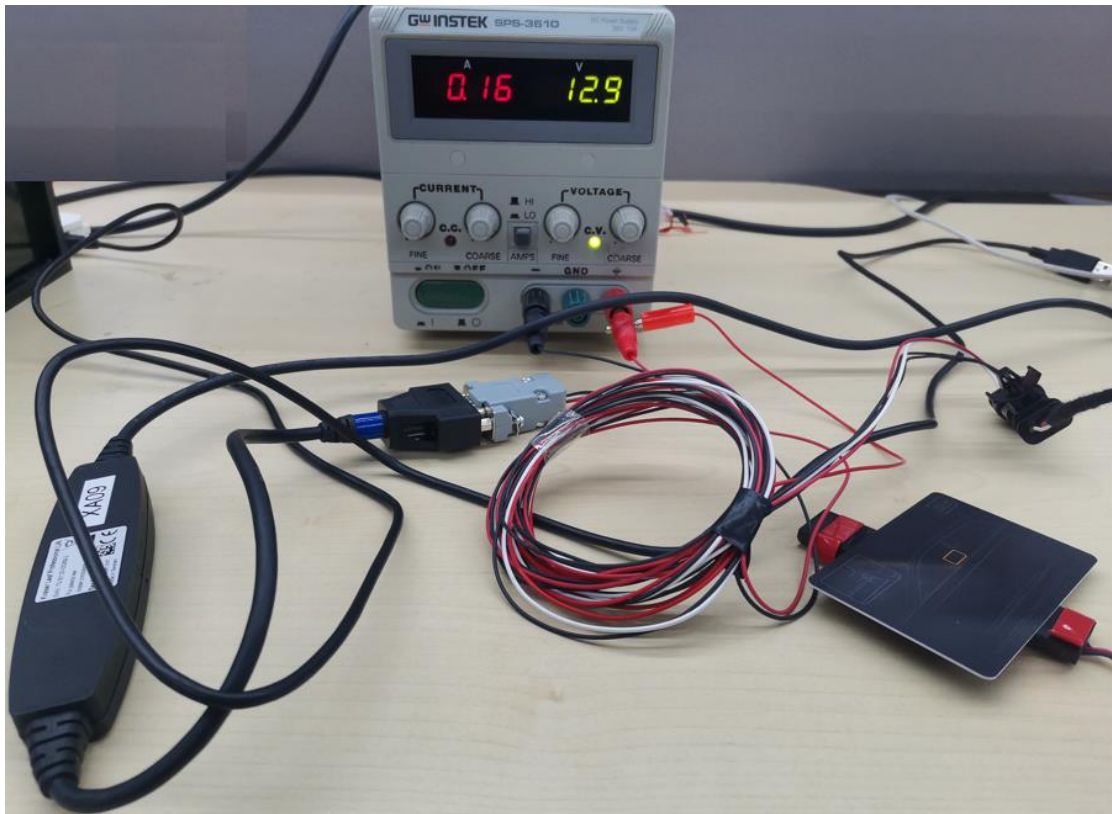


Figure 3-2 NFC Polling

### 3.3 Query Version

#### 3.3.1 LIN Communication

Connect the DB9 port of Kvaser Lin on the wiring harness, connect the USB port of Kvaser Lin on the PC, and power on the device. The port shown in Figure 3-3 is identified in the device manager on the PC



Figure 3-3 Ports on the Kvaser Lin device

Click "Connect Device" in the LIN FLASH tool. "LIN Hardware Init OK" is displayed in Figure 3-4, indicating that the Kvaser Lin device is normal.



Figure 3-4 Kavser Lin Normal

3.3.2 Query Version

Click "App Version Number" in the LIN FLASH tool, and the message "62 f1 95 02 06 01 04 14 00." is displayed in Figure 3-5. Indicates that the version information of F195 is read.



Figure 3-5 Query Version Normal

4 FCCID

Table 3-1 FCCID

| Model | FCC ID       |
|-------|--------------|
| T1XX  | 2BBZ4NFCT1XX |

5 Product Informaiton

DIAS Automotive Electronic Systems Co.,Ltd.  
Product: NFC READER MODULE  
Mode: T1XX



Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

