

数字钥匙模块简要说明书

Brief manual for the Digital Key Module

NFC 的工作原理:

How NFC works:

1. 工作频段:

NFC工作在13.56MHz的高频段，通常分为主动和被动两种工作模式。在主动模式中，设备可以同时发送和接收数据；在被动模式中，设备只能接收数据。

1. Operating frequency band:

NFC works in the high frequency band of 13.56MHz and is usually divided into two operating modes: active and passive. In active mode, the device can send and receive data at the same time; in passive mode, the device can only receive data.

2. 磁感应耦合:

NFC使用磁感应耦合进行通信，因此设备之间需要相对靠近才能进行数据交换，通常距离在几厘米到最多几十厘米。

2. Magnetic Inductive Coupling:

NFC uses magnetic inductive coupling for communication, so devices need to be relatively close to each other in order to exchange data, usually at a distance of a few centimeters to a maximum of tens of centimeters.

3. 工作模式:

NFC设备通常分为读取器/写入器 (Reader/Writer) 和标签/标签 (Tag/Tag) 两种类型。读取器/写入器可以向标签发送数据并读取响应，也可以接收来自标签的数据；标签通常只能接收读取器/写入器发送的数据。

3. Mode of operation:

NFC devices are usually categorized into two types: Reader/Writer and Tag/Tag. Reader/Writer can send data to the tag and read the response, but also can receive data from the tag, tag usually can only receive the data sent by the reader/writer.

4. 数据交换:

NFC数据交换通常分为两种模式：被动模式和主动模式。在被动模式下，标签被激活后，读取器/写入器会向标签发送命令，并接收标签的响应。在主动模式下，两个设备都可以发送和接收数据。

4. Data exchange:

NFC data exchange is usually categorized into two modes: passive mode and active mode. In passive mode, after the tag is activated, the reader/writer sends commands to the tag and receives a response from the tag. In active mode, both devices can send and receive data.

5. 安全性:

NFC通信具有一定的安全性，通常通过加密和认证机制来保护数据的安全性。例如，可以使用加密算法对传输的数据进行加密，或者使用认证机制来验证通信双方的身份。

应用场景:

移动支付：通过NFC技术可以实现手机刷卡支付。

数据传输：可以用于快速配对和传输数据，如分享联系方式、图片、视频等。

门禁控制：可以用于门禁卡或门禁手机的识别和控制。

5. Security:

NFC communication has a certain level of security, and data is usually protected through encryption and authentication mechanisms. For example, encryption algorithms can be used to encrypt the transmitted data, or authentication mechanisms can be used to verify the identities of the communicating sides.

Application Scenario:

Mobile payment: cell phone card payment can be realized through NFC technology.

Data transmission: It can be used to quickly pair and transmit data, such as sharing contact information, pictures, videos, etc.

Access control: it can be used for identification and control of access card or access phone.

6. 6. 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.

7. 7. Information to user.

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

8. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

7. 用户须知

有意或无意散热器的用户手册或说明手册应告诫用户，未经合规责任方明确批准的更改或修改可能使用户操作设备的权力失效。如果手册仅以纸张以外的形式提供，如电脑磁盘或互联网，本节所要求的信息可以以该替代形式包含在手册中，前提是可以合理地预期用户有能力获取该形式的信息。

8 RF exposure 警语:

FCC Radiation Exposure Statement:

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body.