

Datasheet DeskID NFC RFID Reader

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Table of Contents

- 1. General Information / Security Advice 2
 - 1.1. Notes on the Use of this Documentation 2
 - 1.2. Security Advice..... 2
 - 1.3. Export Restriction..... 2
 - 1.4. Further Documentation 3
- 2. Product Description 4
 - 2.1. Intended Use..... 4
 - 2.2. Technical Specification..... 5
 - 2.3. Scope of Delivery 6
- 3. RFID Integration Hints 7
- 4. Power Supply and Power Consumption 8
- 5. Protocol 9
- 6. LEDs and Buzzer..... 10
- 7. Certification 11
 - 7.1. CE / ETSI (EU)..... 11
- 8. FCC 12
 - 8.1. FCC Statement 12
 - 8.2. IC (Canada)..... 13
- 9. Further Notes 14
- 10. Version History 15

1. General Information / Security Advice

1.1. Notes on the Use of this Documentation

This user manual and integration guide uses different symbols to point out potentially dangerous situations. The following signs and symbols are used throughout the document.



ATTENTION

Declares a potentially hazardous situation. If this is not avoided, the product or something in its surrounding could be damaged.



NOTES

Declares notes for the user as well as other useful information, where no harmful or dangerous situations can be expected.

1.2. Security Advice

The DeskID NFC RFID Reader/Writer was not designed for use in dangerous environments. Using this product in applications where a failure could directly result in severe injuries or death (“high risk activities”) is not permitted. This includes but is not limited to applications in nuclear facilities, flight control systems, life support systems or weapon systems. The manufacturer denies the suitability of this device for such scenarios.

1.3. Export Restriction

The DeskID NFC RFID Reader/Writer contains components that underlie US export restrictions. It is therefore forbidden to export the product to countries that are on the US trade embargo list. The same applies to any countries that are on the EU embargo list.

1.4. Further Documentation

While this documentation explains the electrical and mechanical characteristics of the DeskID NFC, it might be useful to also read the Metratec HF AT Protocol Guide, which explains the AT protocol used to control the module in full detail. Source: <https://www.metratec.com>

2. Product Description

The DeskID NFC RFID Reader/Writer is an easy to use RFID device which can be used with PCs or embedded host systems without effort. This allows you to build your solution with RFID functionality. Thanks to the tested and extremely flexible firmware you can read and write data to many tags that follow the NFC standard. Supported communication modes are

- ISO 15693 (NFC Type 5)
- ISO 14443A (NFC Type 2)
- Mifare Classic 1k/4k

Even special features, e.g. sensor tags, can be used without firmware modifications. With its internal antenna a read range of up to 100mm is possible (with a credit card sized transponder).

Thanks to its simple AT-style protocol, the device is perfect for fast and easy development of RFID and NFC applications.



Figure 1. DeskID NFC, top view

2.1. Intended Use

The DeskID NFC HF RFID Module reads RFID tags that comply to the NFC standard on a short range of 100mm. Custom tag commands can be used without firmware changes if the tags follow the ISO 15693 standard with regard to the air interface.

2.2. Technical Specification

The following table shows the technical specification of the DeskID NFC with minimum, typical and maximum values for each parameter (where applicable).

Table 1. Technical Specification

	Min.	Typ.	Max.
Supply Voltage Vbus	4.7 V	5.0 V	5.5 V
Supply Current Standby		20mA	
Supply Current RF on 200mW	135	150mA	160mA
Supply Current RF on 100mW	95	110mA	120mA
conducted RF power into antenna	150mW	200mW	225mW
Operating Temperature ^[1]	-20°C	20°C	+70°C
Carrier frequency ^[2]		13.56 MHz	
Supported RFID Protocol		ISO 15693, ISO14443A, Mifare Classic	
Dimensions		95 x 65 x 15 mm	
Antenna Connector		Internal antenna, 3000 mm ²	
Communication Interface		USB	
Humidity		Non- condensing	

2.3. Scope of Delivery

The DeskID NFC RFID Reader/Writer comes with the following parts:

- DeskID NFC device
- USB C cable
- Documentation, Drivers and Demo Software are available via download from metraTec's website

[1] RFID performance may vary with temperature, check in application

[2] Usable worldwide.

3. RFID Integration Hints

The DeskID NFC features an onboard antenna emitting a magnetic field at 13.56MHz. Do not place the device directly on metal surfaces as this will impact the RFID communication quality and range. Use a wooden or plastic support or keep a distance of 50mm.

There should be no wires crossing the over the DeskID as these would detune the internal antenna and reduce reading performance. The same applies to metallic parts of substantial size close placed on the DeskID.

The effect of adding additional metallic parts is rather unpredictable. Please contact metraTec if you have doubts that all of the above hints can be incorporated into your system.

4. Power Supply and Power Consumption

The DeskID is powered via the USB C connection. All internal voltages are derived from the 5V USB VBUS supply. The host should be capable of delivering 500mA to the used USB port.

5. Protocol

The low level commands used to control the DeskID NFC are described in the Metratec AT Protocol Guide. This guide comprises a detailed description of all commands, response formats and examples. As this protocol is shared among several Metratec products the guide is available in a separate document from Metratec's website.

6. LEDs and Buzzer

The DeskID NFC has two status LEDs which can be controlled via firmware as well as a buzzer for acoustic feedback to signal a successful read or other events. The default use of the LEDs is green on to signal active scanning for tags and a blue LED flash for successful tag communication. Successful startup is signaled by a few notes on the buzzer.

7. Certification



ATTENTION

Changes or modifications to the module not expressly approved by metraTec could void the user's authority to operate the equipment.

7.1. CE / ETSI (EU)

The DeskID UHF RFID Reader/Writer complies with ETSI EN 300 330 and all other relevant European standards.

8. FCC

The FCC ID of the DeskID NFC is:

YUH-DINFC.

8.1. FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this 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. RF Exposure Information This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The device can be used in portable exposure condition without restriction.

8.2. IC (Canada)

Certification requirements for Industry Canada (IC) are similar to those of the FCC. Limits of ICES-003 for radiated emissions are similar to the formats specified in FCC Part 15 and CISPR 22. Industry Canada accepts FCC test reports or CISPR 22 test reports for compliance with ICES-003. The integrator is responsible for its product to comply with all relevant IC rules.

9. Further Notes

Electronic devices like the DeskID NFC are covered by the (German) ElektroG (electronic waste law) as well as the European WEEE directive and as such may not be disposed of by way of the normal household trash. Instead they have to be recycled properly. For you as our customer this is no additional burden, however, as you can send the device back to us for proper recycling. We assure you that the devices received back will be recycled properly and in an environmentally friendly way. Our WEEE Registration ID is DE 56060482.

When selecting electronic components we additionally made sure that all components are free of heavy metals and other harmful substances as required by the RoHS Directive for many industries. Hence, our products are produced in the most environmentally friendly way possible.



10. Version History

Table 2. Communication Interface Specification

Version	Change	Changed by	Date
1.0	Created	TM	30.10.2025

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