# DESKO®

# Technical Specification

# IDenty chrom®

**Made for**
**iPhone iPad**

**Bluetooth®**

IDenty chrom mobile

IDenty chrom®

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# DESKO Official Explanation of Abbreviations

| | |
|---|---|
| 1D Code | Linear or one-dimensional Barcode |
| 2D Code | Two-dimensional Barcode |
| API | Application Programming Interface |
| BC | Barcode |
| BCR | Barcode Reader |
| DLL | Dynamic Link Library |
| DPI | Dots Per Inch |
| DUKPT | Derived Unique Key per Transaction |
| ICAO | International Civil Aviation Organization |
| IP | Ingress Protection |
| IR | Infrared |
| ISO | International Organization for Standardization |
| LED | Light Emitting Diode |
| MRZ | Machine-Readable Zone |
| MSR | Magnetic Stripe Reader |
| NFC | Near Field Communication |
| OCR | Optical Character Recognition |
| PCB | Printed Circuit Board |
| QIG | Quick Installation Guide |
| RFID | Radio Frequency Identification |
| RS232 | Serial Interface |
| RTC | Real-Time Clock |
| USB | Universal Serial Bus |
| SDK | Software Development Kit |
| UV | Ultraviolet Light |
| VCOM | Virtual COM Interface |
| VIS | Visible Light |
| VIZ | Visual Inspection Zone |
| WLAN | Wireless Local Area Network |

Bluetooth®

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# 1 Handling Rules & Package Content

## 1.1 Handling the DESKO IDenty chrom Readers

The IDenty chrom readers are designed to work in a rough environment and to withstand light shocks. Nevertheless, the devices contain a precise opto-mechanical part.

Therefore, DESKO recommends the following handling rules:
- Do not drop the devices.
- Prevent the devices from heavy vibrations.
- The devices are <u>not</u> waterproof, prevent the devices from getting wet.
- Prevent the devices from heavy dust.

## 1.2 Package Content

- DESKO IDenty chrom or IDenty chrom mobile.
- Device battery charger 5 V DC (IDenty chrom mobile only).
- Charging cable USB-A / micro USB (IDenty chrom mobile only).
- Quick Installation Guide with first-time use information and link and log-in data for the IDenty chrom readers download area. Within the download area you find all relevant documents for the IDenty chrom readers along with necessary tools and drivers.

# 2 Introduction

*This guide describes the standard use of the DESKO IDenty chrom readers. Detailed information on the respective configuration can be found in the Quick Installation Guide, which was shipped with the device.*

*Please contact support@desko.com or visit us online at www.desko.com/support should you have not received a Quick Installation Guide or need access to our download area.*

The DESKO IDenty chrom readers combine OCR and MSR reading in a small ergonomic housing. Simple handling is guaranteed by only one swipe slot for OCR and MSR reading and the support of a bidirectional reading direction.

With its variable cable outlet, the IDenty chrom can be easily integrated in every counter. In addition to the table top installation, the housing provides the possibility to mount the IDenty chrom on the side of a monitor. In this case, the IDenty chrom does not occupy any counter or desk space. The IDenty chrom housing provides the ability to secure the device via Kensington Lock for theft protection.

Thanks to its *Bluetooth*® feature and its integrated battery pack, the IDenty chrom mobile can be connected to your application running on a tablet PC and operated up to 10 hours completely wireless.

The IDenty chrom readers are ideal for data gathering applications of OCR documents with a machine-readable zone and magnetic stripe documents. Such applications are usually found in banking and financial environments, ticket- and border control, public authority environments or airport and airline environments and many more.

Depending on the hardware configuration, the devices support reading of:

- Machine-readable zone of OCR documents according to ISO/IEC 7501-1 and ICAO 9303 (e.g. ID cards, passports and visas).
- Magnetic stripe documents according to ISO 7810 and ISO 7811.
- RFID module for ePassport reading according to ISO 14443(A/B) (IDenty chrom only).
- Chip card module according to ISO 7816 (IDenty chrom only).



Should you not know the exact configuration of your device or should you need further information on the IDenty chrom or IDenty chrom mobile, please contact our sales team at sales@desko.com. Please always state the serial number of the device in your email.

# 3 Features of the DESKO IDenty chrom Readers

The IDenty chrom readers are multi-document readers. They support the reading of various document types like passports or credit cards. The actual features depend on the hardware configuration.

## 3.1 Optical Character Recognition (OCR) Reader

The integrated ICAO document reader is able to read and decode OCR data from the following documents:

- Passport data from machine-readable passports and identification cards according to ISO/IEC 7501-1 and ICAO 9303.
- Personal OCR encoded travel documents e.g. visas or crew member cards according to ICAO 9303.

Additional document types can be supported upon request.

The DESKO IDenty chrom readers are able to scan documents with the following light source:

| Light source | Description | Wavelength | Comment |
|---|---|---|---|
| IR | Near infrared light | 850 nm | |

## 3.2 Magnetic Stripe Reader (MSR)

The integrated 3-track bidirectional magnetic stripe reader is able to read all magnetic stripe data encoded in equivalence to ISO 7810 and ISO 7811.

## 3.3 Bluetooth® Connection (IDenty chrom mobile only)

The IDenty chrom mobile can be connected via Bluetooth® wireless technology. Please see chapter 4.3 for further details.

## 3.4 Battery Powered (IDenty chrom mobile only)

In addition to the Bluetooth® connection the IDenty chrom mobile is available with a battery pack. This means that a completely wireless usage of the IDenty chrom mobile is possible. The battery pack allows for an independent usage of up to 10 hours. Please see

Appendix A – Battery Power for further details.

## 3.5 User Feedback

### 3.5.1 Multicolor LED

The IDenty chrom readers have two integrated multicolor LEDs for user feedback (status and connect).



Status LED

The status LED displays the OCR and MSR scanner result with the following indications:

| Status | Status LED of IDenty chrom – USB Connection – | Status LED of IDenty chrom mobile – Bluetooth® Connection – |
|---|---|---|
| Turned Off | – | – |
| Good Read Result | Green (2 seconds) | Green (2 seconds) |
| Bad Read Result | Red (blinking, 2 times) | Red (blinking, 2 times) |

Connect LED

The connect LED shows the connection status of the IDenty chrom readers as follows:

| Connection Status | Connect LED of IDenty chrom – USB Connection – | | Connect LED of IDenty chrom mobile – Bluetooth® Connection – |
|---|---|---|---|
| | *VCOM Connection* | *API Connection* | |
| Turned Off | – | – | – |
| Turned On | Blue (blinking) | Blue (blinking) | Blue (blinking) |
| Connected via Bluetooth® | n/a | Blue | Blue |
| Connected to Application | Green | Green | Green |
| Power Save Mode | n/a | Blue | Blue |

### 3.5.2 Buzzer

The IDenty chrom readers are equipped with an internal buzzer for audible user feedback. The buzzer has by default the following functionality:

Good read result:    one short buzzer sound
Bad read result:     three short buzzer sounds

## 3.6 Optional Features

In addition to the standard features, the DESKO IDenty chrom readers can be equipped with extra options to fulfill special requirements.

### 3.6.1 RFID Reader (IDenty chrom only)

The IDenty chrom is available with an integrated RFID module. This module can read RFID documents according to ISO 14443(A/B), e.g. RFID chip of a biometric passport (= ePassport).

### 3.6.2 Chip Card Module (IDenty chrom only)

The IDenty chrom can be equipped with an ISO 7816 compliant chip card reader. The card reader module is designed for reading synchronous and asynchronous smart cards.

### 3.6.3 Real-Time Clock

The IDenty chrom can be equipped with a real-time clock. This way the IDenty chrom is able to read ID documents and give feedback on the ID holder´s age without necessarily being connected to a PC workstation. The device can for example distinguish between:

- <16 years
- between 16 and 18 years
- >18 years

These configurations can be amended due to specific requirements. Please contact our support at support@desko.com for further information or visit us online www.desko.com/support.

# 4 Software Integration

Information about the software, driver and SDK can be found in the DESKO download area. The link and login data for the download area can be found in the Quick Installation Guide, which was shipped with the device, or contact our support team at support@desko.com or visit us online at www.desko.com/support.

## 4.1 Virtual Serial Connection (IDenty chrom only)

For using the IDenty chrom connected via USB, it is necessary to install the DESKO VCOM software package. Please refer to the DESKO Virtual COM Software Installation Guide for detailed information.

This software generates a virtual COM port on the system, which can be used as a standard COM port. As soon as the generated virtual COM port is used by an application, the DESKO IDenty chrom is ready for operation. In this status the OCR and MSR data will be sent to the generated virtual COM port. The protocol description is available upon request.

## 4.2 Connecting via APIs

To get access to all features of the IDenty chrom, it needs to be connected via the USB host interface and addressed via the APIs. Depending on the hardware configuration and what scanned data you want to receive, you have to choose the corresponding API. All APIs can be found in their SDK packages which are included in our download area.

IMPORTANT: *A simultaneous usage of the VCOM and HID API interfaces is not possible as an active connection via one of these interfaces already blocks the swipe reader. Consequently, the device is no longer accessible via the other interface.*

## 4.3 Bluetooth® Connection (IDenty chrom mobile only)

The IDenty chrom mobile is equipped with a Bluetooth® module. Thanks to this Bluetooth® module the device can communicate, using Bluetooth® Classic, with your mobile application running on a tablet, laptop or PC.

To get access to the Bluetooth® connection the IDenty chrom mobile needs to be addressed via our DESKO Device API. For more information please contact our support at support@desko.com or visit us online at www.desko.com/support.

MFi certified product
The IDenty chrom mobile is an MFi certified product and is made for:

- ✓ iPad pro (9.7")
- ✓ iPad mini 4
- ✓ iPad pro (12.9")
- ✓ iPad Air 2
- ✓ iPad Air

- ✓ iPhone 7
- ✓ iPhone SE
- ✓ iPhone 6 S Plus
- ✓ iPhone 6 S
- ✓ iPhone 6

*"Made for iPad" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to iPad and iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPad and iPhone may affect wireless performance.

**iPad and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries. iPad Air and iPad mini are trademarks of Apple Inc. The trademark iPhone is used with a license from Aiphone K.K.


## 4.4   Keyboard Emulation (IDenty chrom only)

Optionally, the scanned OCR and MSR data can be sent as keyboard data to the system. In this case, no additional software has to be installed on the system.

Should you need more information regarding the keyboard emulation, please contact our support at support@desko.com or visit us online www.desko.com/support.

# 5 Hardware Connection

## 5.1 Connect IDenty chrom via USB

The standard host connection is established via the USB interface. The IDenty chrom is USB bus powered and does not need an additional power supply.

| 1 | USB Host | USB full speed communication between DESKO IDenty chrom and host PC |
|---|----------|---------------------------------------------------------------------|



Connect the IDenty chrom via the USB cable with your PC.



**Kensington Lock**

To achieve a theft-protected device installation, the IDenty chrom can be secured by a Kensington Lock.

## 5.2  Connect IDenty chrom mobile via Bluetooth® Wireless Technology

In order to connect the IDenty chrom mobile to your tablet PC using Bluetooth® technology please follow these steps:

1. Turn on IDenty chrom mobile.
2. Turn on Bluetooth® connection on your tablet PC (go to Settings ➔ Bluetooth®).
3. Connect tablet PC with IDenty chrom mobile by clicking on "*DESKO Reader*".

The IDenty chrom mobile is now connected to your tablet PC.

## 6   Usage of the IDenty chrom Readers

As soon as the IDenty chrom readers are connected to a PC or mobile device, the devices are ready to read OCR and MSR data from various documents.

The IDenty chrom readers provide the OCR and MSR scan functionality in only one slot. To read a document, the medium (e.g. passport) should be passed through the reader with moderate and constant speed. It is possible to swipe in both directions as shown in the picture below.



**Bidirectional Swipe**
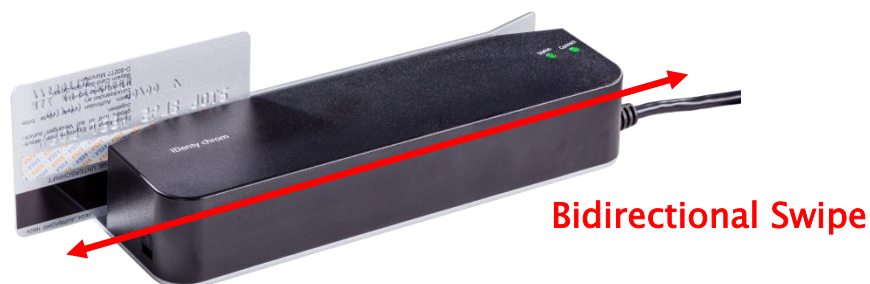
## 6.1 Reading an OCR Document



The implemented OCR scanner supports a bidirectional swipe. To read an OCR document, the medium (e.g. passport) should be pulled through the swipe slot with moderate and constant speed. The correct position to hold the document is always in the middle of the document.

Please note that the OCR information always has to face towards you in order to be read.

Depending on the read result, the buzzer and the multicolor LED give a respective feedback (see chapter 3.5).

## 6.2 Reading a MSR Document



The integrated 3-track bidirectional magnetic stripe reader is able to read magnetic stripe data. This functionality allows the handling of documents such as credit cards, frequent flyer cards and employee travel cards.

Please note that the magnetic stripe always has to face towards you in order to be read.

Depending on the read result, the buzzer and the multicolor LED give a respective feedback (see chapter 3.5).

## 6.3 Reading a Chip Card



To read a chip card, the card needs to be inserted in the provided card slot as shown in the picture.

## 6.4 Reading a RFID Document



The integrated RFID Reader is equipped with a RFID antenna located on the top under housing. For reading a RFID document, it simply has to be placed on the marked area as shown in the picture.

# 7 Service and Maintenance

In general, DESKO products are maintenance free. However, should you require any technical assistance, contact our support team at support@desko.com or visit us online at www.desko.com/support.

For maintenance regarding firmware upgrade, it is required to install a dedicated DESKO software package. This can be obtained upon request and contains all necessary drivers, tools and documentation to perform the following actions:

- Display detailed information about firmware version and device configuration.
- Update firmware and device configuration.

Please contact our support team, should you require the DESKO software package.

# 8  Warranty

Please note that due to improper usage (see section 1.1) or after opening the device, warranty cannot be claimed anymore. Warranty excludes normal wear and tear.

# 9  Support

Please check if the DESKO IDenty chrom or IDenty chrom mobile is connected and, if needed, the software is installed properly. If this is the case and the device still does not work, then contact our DESKO support team:

Technical Support

E-mail: support@desko.com
Web: www.desko.com/support

Phone: +49 (0) 921 79279-69
(available during German office hours)

In order to give you an immediate and reliable support please always include the following information within your support inquiry:

- ✓ Name of the product
- ✓ Serial number of the product *(The serial number can be found on the backside of the device. It is an eleven-digit number, always starting with 20. Example: 201546 00589)*
- ✓ Detailed issue description
- ✓ Contact details of the person responsible at your company

# 10 Technical Overview

## 10.1 Technical Data

| | |
|---|---|
| Supply Voltage: | 5 V DC ±5 % (USB bus powered) |
| Supply Current: | 300 mA |
| Storage Temperature: | −10 ℃ − +60 ℃ |
| Operating Temperature: | 0 ℃ − 50 ℃ |
| Humidity: | <80 % (R.H. non-condensing) |
| Reliability: | MTBF = 180.000 hours |
| RF / EMI Compliance:<br>*Test report available upon request* | CE and FCC |
| Cable Length:<br>*Others available upon request* | 3.00 m (3.3 yd) |

## 10.2 Dimensions

| | |
|---|---|
| Weight:<br>IDenty chrom (without battery pack) | Approx. 390 g (13.76 oz) |
| IDenty chrom mobile (with battery pack) | Approx. 410 g (14.5 oz) |
| Footprint: | 180 mm (7.1 inch) x 60 mm (2.4 inch) x 33 mm (1.3 inch) |

## 10.3 Features of the DESKO IDenty chrom Readers

| | |
|---|---|
| OCR Recognition: | OCR reader according to ISO/IEC 7501-1 and ICAO 9303, bidirectional reading |
| Magnetic Stripe Reader: | Bidirectional reading of 3 track credit card information according to ISO 7810 and ISO 7811 |

| RFID & NFC: | RFID documents according to ISO 14443 (A/B), ISO 7816 (incl. US passport) |
|---|---|
| Chip Card Reader: | chip cards according to ISO 7816 |
| User Feedback: | Buzzer, 2 x multicolor LEDs |

Connectors

| IDenty chrom: | USB (full speed, USB-A plug) |
|---|---|
| IDenty chrom mobile: | Micro USB (for battery charging) |
| Bluetooth®: | Frequency: 2.402 GHz to 2.480 GHz |
| | Receive Sensitivity: -90 dBm (BR/EDR) |
| | Class 2 output power (+1.5 dBm typical) |

# 11 Regulation Information

This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s).
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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

# 12 Appendix A – Battery Power

The IDenty chrom mobile always includes a built-in battery pack and a Bluetooth®
module. This combination of Bluetooth® technology and battery pack allows for a
completely independent usage of the IDenty chrom mobile.

## 12.1 Battery Pack: Technical Data

| | |
|---|---|
| Nominal Voltage: | 5 V |
| Charge Voltage: | 5 V |
| Charge Temperature: | 0 ℃ to +35 ℃ (+32 ℉ to +95 ℉)<br>Do not charge below 0℃! |
| Nominal Capacity: | 5.20 Ah |
| Energy: | 18,7 Wh |
| Charge Current: | max 1 A |

Note: the IDenty chrom mobile can be charged at any USB port. To achieve the
maximum charge current however, the included USB cable and USB power adapter
(output: 5 V and minimum 1 A) need to be used.

# 13 Appendix B – Mounting the IDenty chrom Readers

The bottom plate of the IDenty chrom readers are equipped with 3 threaded holes
which can be used to mount the devices onto any flat surface. To get to the
threaded holes, 3 of the 5 rubber feet at the bottom of the IDenty chrom readers
need to be removed.
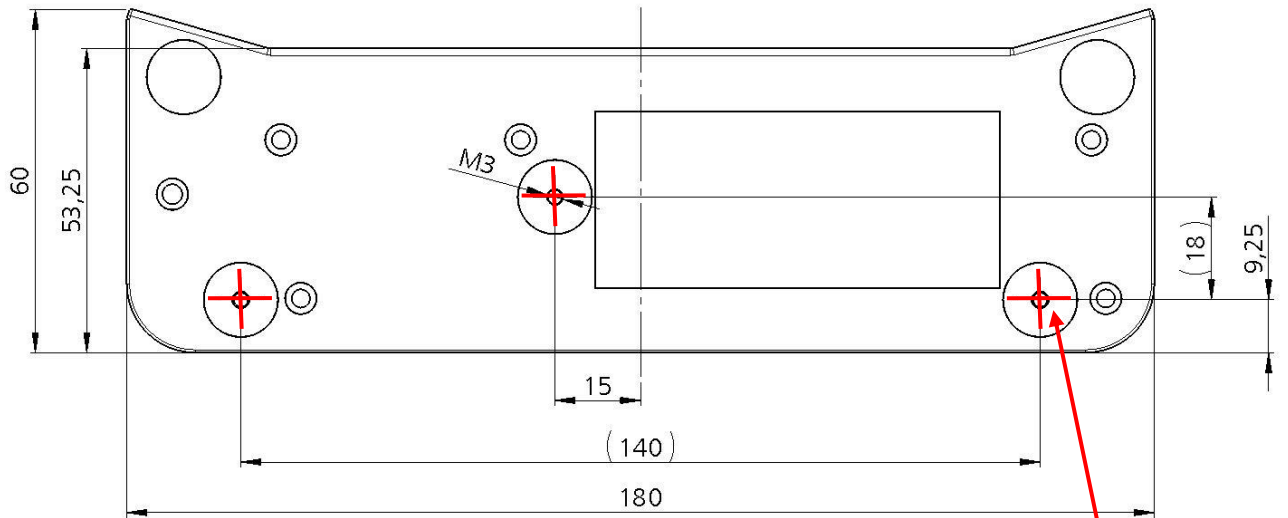
3x M3 threads for mounting, max. 0,4 Nm

IMPORTANT: When mounting the IDenty chrom mobile, all screws can only enter the device for 3mm to make sure that the integrated battery pack is not damaged.