USER MANUAL

103 UHF Desktop Reader

# USB UHF RFID Reader-Writer

Hardware, the Identium DesktopReader app for Windows and macOS, and the 103 All-in-One SDK — set-up, reading, encoding and troubleshooting




| THIS MANUAL COVERS | VERSION | PLATFORM |
|---|---|---|
| 103 UHF Desktop Reader (IDTS-103 / 103UDR) | — | USB to a Windows PC or a Mac |
| Identium DesktopReader | 1.4.6 | Windows 10/11 (64-bit) and macOS (Apple Silicon and Intel) |
| 103 All-in-One SDK | 1.0 | C# and C/C++ (USB-HID) |

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*Creating identities for all*

The 103 is a compact UHF RFID reader-writer for a desk: place a tag or label on the pad and the PC reads it or writes it. It connects over USB with no driver and no separate power supply. This manual covers the reader (model IDTS-103, also called 103UDR, and the 103UDR-EVK evaluation kit), the free Identium DesktopReader application – reading, writing and killing tags, batch encoding from a counter, an Excel sheet or a barcode scanner, and Keyboard Mode – and the 103 All-in-One SDK for developers. From version 1.4.6 the same application also runs Identium's UDR-111 desktop reader: you choose the reader model when you connect, and a reader plugged into USB is recognised for you. Everything in this manual describes the 103; section 15 lists the few places where a UDR-111 behaves differently.

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# 01/ Packing List

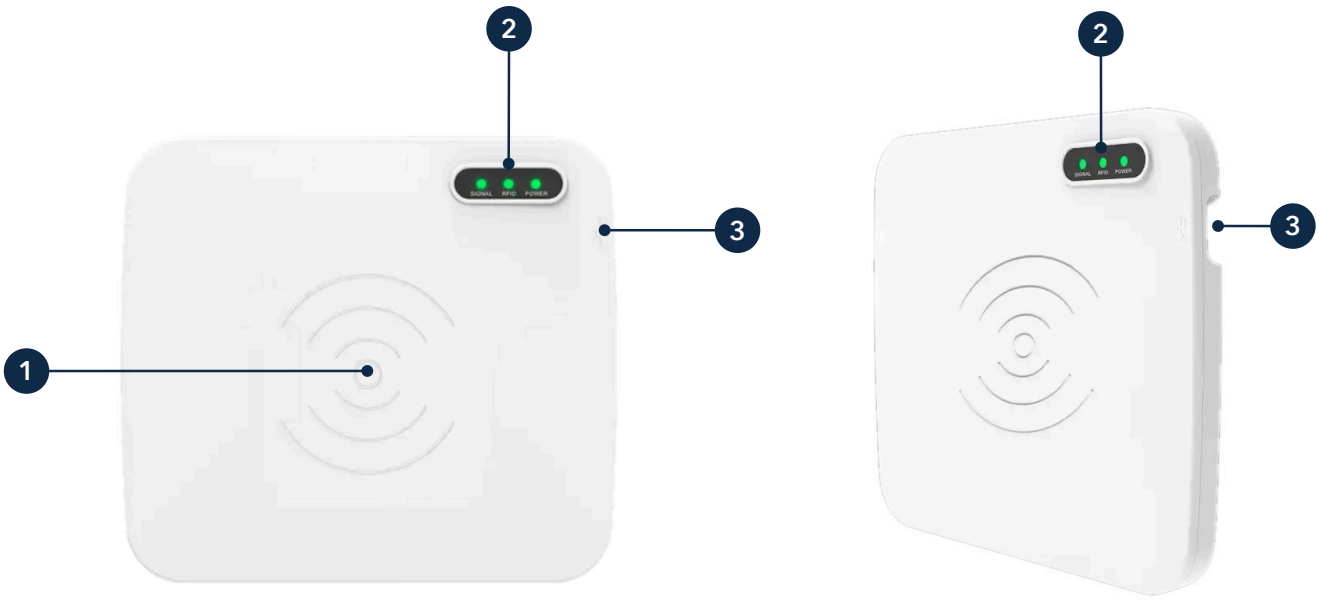
The 103 is sold on its own and as the **103UDR-EVK evaluation kit**. The evaluation kit contains:

| Item | Qty | Notes |
|---|---|---|
| 103 UHF desktop reader-writer (IDTS-103 / 103UDR) | 1 | USB reader-writer for one PC |
| Sample kit of UHF RFID labels and tags | 1 | One set of sample labels and tags; the mix follows the items you plan to encode and is confirmed with your order |
| Identium DesktopReader (Windows and macOS) | – | Free, no licence fee. Download from the Resource Hub (Windows installer or portable, macOS disk image) |
| 103 All-in-One SDK | – | Libraries, examples and developer guides; the C# and C/C++ libraries drive the 103 over USB. Download from the Resource Hub (section 16) |

**TIP**

Check the contents when you unpack. If anything is missing, contact Identium with your order number (see Support at the end of this manual).

# 02/ Equipment Diagram




Front

Front and right-hand edge

The 103 desktop reader: front view (left) and angled view showing the USB connection on the right-hand edge (right).

1. Tag area: place the tag or label flat on the wave mark.
2. Indicator window: three lights labelled SIGNAL, RFID and POWER.
3. USB connection: on the right-hand edge, next to the USB symbol. Connect it to your PC.

## Indicators and sound

| Part | What you see or hear | How to control it |
|---|---|---|
| Indicator window | Three lights labelled SIGNAL, RFID and POWER | Set by the reader |
| Reader buzzer | A short beep from the reader when it reads tags | **Beep** tick box on the Read screen. **usb finder** on the Read screen rings the buzzer so you can tell which reader is connected. |
| PC beep (batch writing) | One beep from the PC for each tag written; the reader stays silent while it waits | **Beep once per write (silent otherwise)** in Batch Write |

The reader has no buttons or switches; everything is controlled from Identium DesktopReader on the PC.

> **NOTE**
> The read range is up to 30 cm and can be adjusted. For encoding one label at a time, keep the range short; open it up when you want to check a few tagged items on the desk together.

# 03/ Power and USB Connection

The 103 takes its power from the USB port of the computer. It needs **no separate power supply and no driver**: Windows and macOS both recognise it as a standard USB device.

1. Connect the reader to a free USB port on the computer. It is powered from the port at once.
2. Start Identium DesktopReader and connect (section 05).
3. To switch the reader off, click **Disconnect** in DesktopReader, then unplug the USB cable.

> **CAUTION**
> If **Keyboard Mode** is on, the reader may keep reading and typing tag numbers on its own, even with DesktopReader closed. Turn Keyboard Mode off (section 12) before you hand the PC to someone who does not expect it.

# 04/ Install Identium DesktopReader

Identium DesktopReader is the free application for the 103. It reads, writes and kills tags, encodes labels in batches (from a counter, an Excel sheet or a barcode scanner) and sets up Keyboard Mode. The same application also runs Identium's UDR-111 desktop reader – you choose the reader model when you connect (section 05).

| | |
|---|---|
| **Operating system** | Windows 10 or 11 (64-bit), or macOS 11 or later (Apple Silicon or Intel) |
| **Connection** | One free USB port |
| **Hardware** | 103 UHF Desktop Reader (or the UDR-111) |
| **Version in this manual** | Identium DesktopReader 1.4.6 |

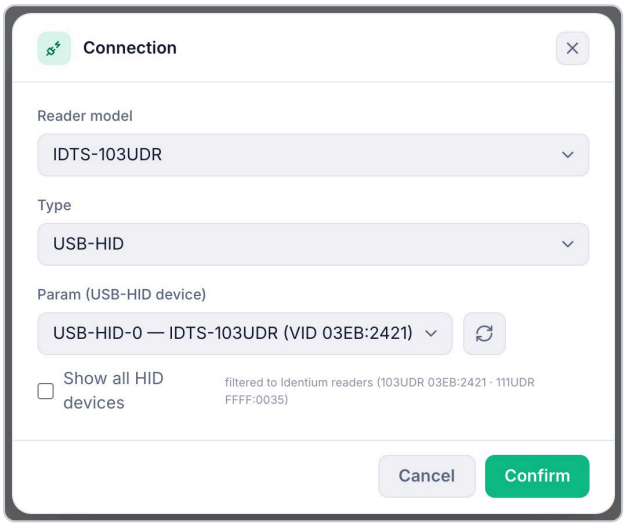
## Download and install

1. Open **www.identiumone.com/resourcehub/** and find **Identium Desktop Reader** (the DesktopReader app).
2. Download the file for your computer:
   **Windows installer** – `Identium.DesktopReader.Setup.1.4.6.exe` (recommended; creates Start-menu and desktop shortcuts)
   **Windows portable** – `Identium.DesktopReader.1.4.6.Portable.exe` (a single file that runs without installing)
   **macOS (Apple Silicon)** – `Identium.DesktopReader.1.4.6.arm64.dmg` for M-series Macs
   **macOS (Intel)** – `Identium.DesktopReader.1.4.6.x64.dmg`
3. Windows: run the file. If SmartScreen shows "Windows protected your PC", click **More info**, then **Run anyway**.
4. macOS: open the disk image and drag **Identium DesktopReader** to Applications. The first time you start it, right-click the app and choose **Open**, then **Open** again. If macOS blocks it, open **System Settings › Privacy & Security** and click **Open Anyway**.
5. Plug in the reader and start **Identium DesktopReader**.

**TIP**

The app opens in a dark theme. Screens in this manual use the light theme. To switch, click the theme button (sun or moon) at the bottom right of the window: it cycles Dark, Light and System. The palette button next to it sets the font and the text size (Compact up to Massive).

# 05/ Connect and Find Your Way Around




The Connection window with the 103 found on USB.

1. Start DesktopReader. The **Connection** window opens by itself. (Later you can open it from **Settings › Connect** or the **Connect** button.)
2. Leave **Reader model** on **IDTS-103UDR**.
3. Leave **Type** on **USB-HID**.
4. The reader appears under **Param** as **USB-HID-0 – IDTS-103UDR**. If it is not listed, check the cable and press the refresh button.
5. Click **Confirm**. The status bar at the bottom shows **Connected: USBHID** in green.

## Choosing the reader model

DesktopReader drives two Identium desktop readers – the **103** and the **UDR-111** – and they speak different radio protocols, so the app has to know which one is on the other end. A reader plugged into USB says which model it is, so **Reader model** is filled in for you and the device list names it (for the 103: *USB-HID-0 – IDTS-103UDR (VID 03EB:2421)*). A serial or network link cannot identify itself, so there you choose the model yourself. The choice is remembered for the next time you start the app.

## The main window

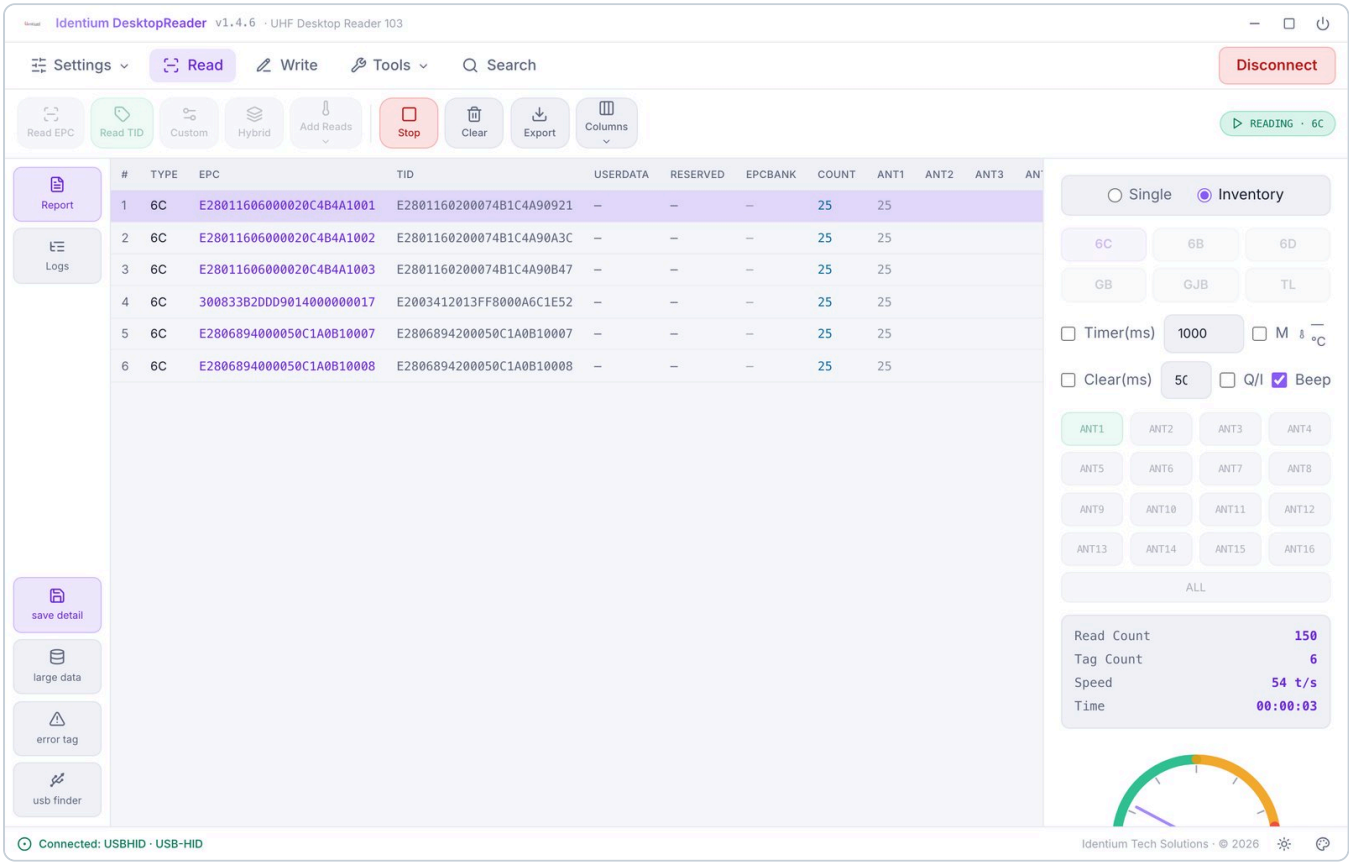
The title bar names the app, its version and the reader it is set up for – **Identium DesktopReader v1.4.6 · UHF Desktop Reader 103**. Quote that version if you ever contact support.
The menu bar holds **Settings** ▾ (Connect, Device Settings, RFID Settings, Typical Application, Http Server, Keyboard Mode with its on/off switch, Exit), **Read** (section 06), **Write** – Manual Write for one tag (sections 07–08) and Batch Write for a run of tags (sections 09–11) – and **Tools** ▾ (section 14). **Disconnect / Connect** sits at the top right. The status bar at the bottom shows the connection, messages, and the theme and appearance buttons.

For the 103 you only need **Read**, **Write**, **Tools** and the Settings entries above; you can leave Device Settings, Typical Application, Http Server and **Search** as they are.

# 06/ Read Tags

1. Click **Read** in the menu bar.

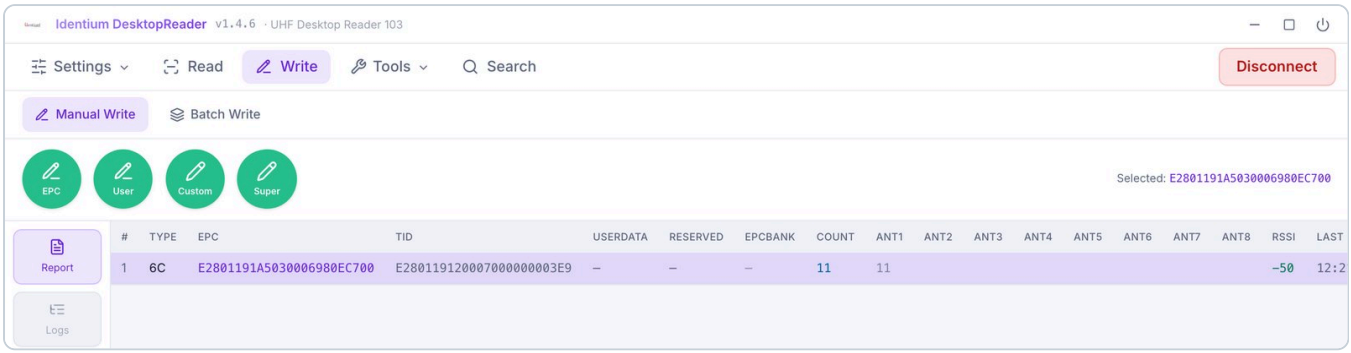
2. On the right, choose **Inventory** (keeps reading until you click Stop) or **Single** (one read round). Leave the protocol on **6C** for EPC Gen2 tags; choose **6B** for ISO 18000-6B tags. Leave **ANT1** selected – that is the reader's own pad antenna. (The grid lists ANT1–ANT16 because the 103's protocol can address more than one antenna; a UDR-111 shows ANT1 only.)
3. Place the tags on the reader.
4. Click **Read EPC** to read the EPC of each tag, or **Read TID** to read the EPC and the chip's factory TID together.
5. Each tag appears once in the table; **COUNT** shows how often it was read. The panel on the right shows Read Count, Tag Count, Speed (tags per second) and the elapsed Time.
6. Click **Stop** to end the read. **Clear** empties the table.



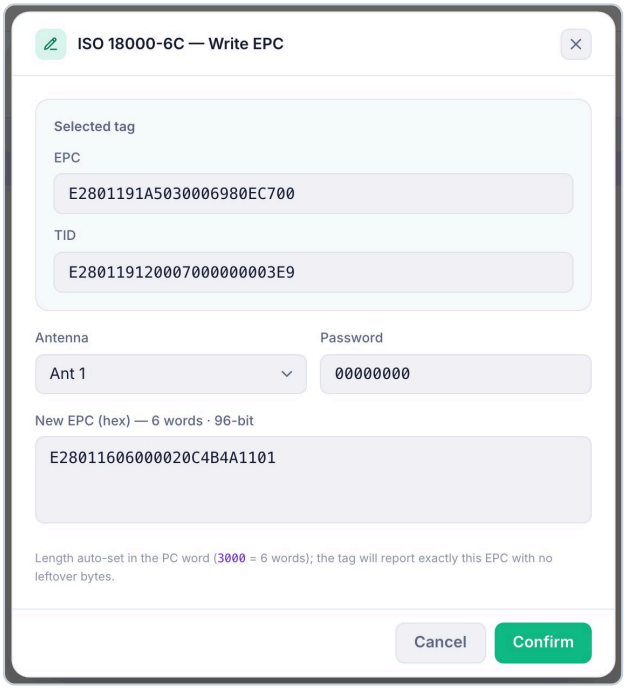

The Read screen while reading: six tags with EPC and TID, read counts on the right. Tag numbers in the screenshots of this manual are examples.

- **Export** saves the table as a CSV file (type, EPC, TID, Userdata, Reserved, total count, RSSI, frequency, phase, last seen).
- **Columns** chooses which columns to show, for example RSSI or ReadTime. **Custom** reads chosen memory banks (TID, Userdata, Reserved) with a match filter and access password.
- **Beep** lets the reader beep on every read; untick it for silent reading. **Report / Logs** switch between the tag table and the command log.

# 07/ Write One Tag




Write › Manual Write with one tag selected. EPC, User, Custom and Super open the write windows.



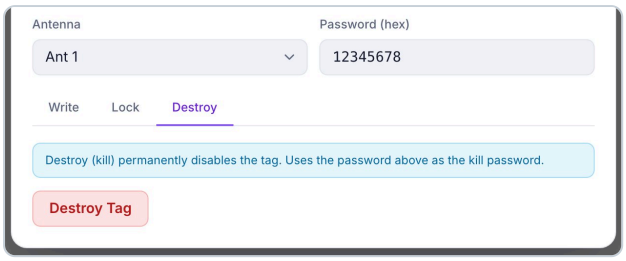

Write EPC: the new EPC is checked as you type.

1. Place **one** tag on the reader. On the **Read** screen click **Read TID**, then **Stop**.
2. Click **Write**, then **Manual Write**. Click the tag in the table so it shows as **Selected** at the top right.
3. Click **EPC**. Type the new EPC in hexadecimal. It must be whole 16-bit words, 4 hex digits per word: 24 digits make a 96-bit EPC.
4. Leave **Password** as 00000000 unless the tag has an access password.
5. Click **Confirm**. When you see "Write successful – lift the tag off the reader", lift the tag.

- **EPC** writes a new EPC. The length field (PC word) is set for you, so the tag reports exactly the EPC you typed.
- **User** writes data to the User memory, from the word you choose. **Super** reads all memory banks of the tag, then writes the EPC, User or Reserved bank.
- **Custom** writes any bank at a word pointer, and holds the **Destroy** (kill) tab – section 08.

# 08/ Kill (Destroy) a Tag

Killing (Destroy) switches a tag off for good: it no longer answers any reader. It is in **Write › Manual Write › Custom**. Select the tag first, as in section 07.




Custom Operation, Destroy tab (lower part of the window), with an example kill password typed in.

1. Write a kill password (not 00000000) to the tag first: on a Gen2 tag the **Reserved** bank holds the kill password in words 0–1. Use **Super**, or the **Write** tab of **Custom** with Area **Reserved** and Word pointer 0.
2. In **Custom**, type the kill password in **Password (hex)** and open the **Destroy** tab.
3. Click **Destroy Tag**. The tag no longer answers any reader.

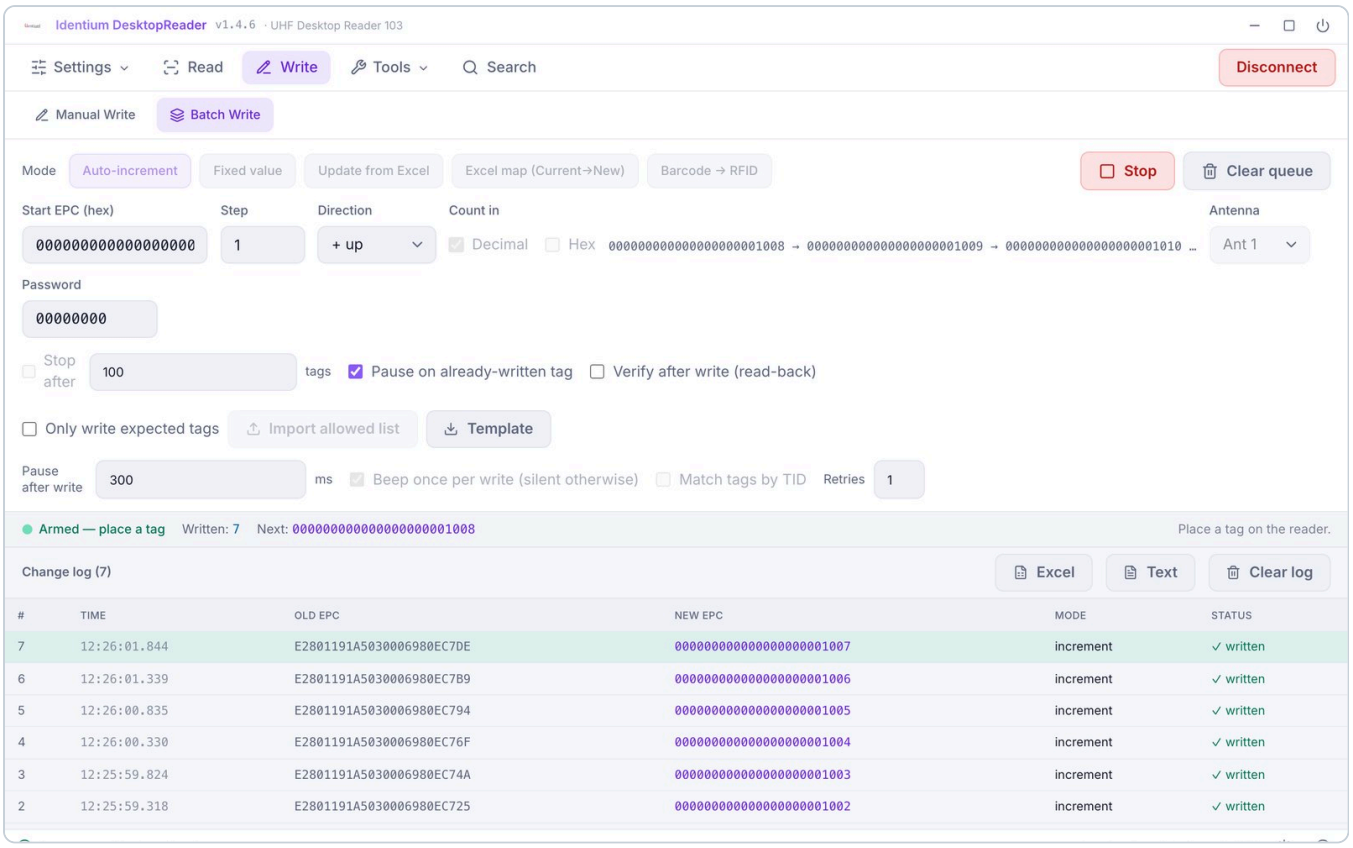
**CAUTION**

Kill cannot be undone. Try it on a sample tag first, and keep a record of every password you write. In this window, use the **Write** and **Destroy** tabs; if you need tags locked, contact Identium support.

## 09/ Batch Write: Encode a Run of Labels

Batch Write programs tags one after another: place a tag, it is written, lift it, place the next. There is no read step to click.

1. Click **Write**, then **Batch Write**.
2. Choose a **Mode** (table under the screenshot). For a numbered run choose **Auto-increment**: type the **Start EPC** (hex), the **Step** and the **Direction**, and pick **Decimal** (1009 → 1010) or **Hex** (1009 → 100A). The line under the fields previews the next numbers.
3. Leave **Antenna** on Ant 1 and **Password** on 00000000 for tags without an access password.
4. Click **Start**. The status changes to **Armed – place a tag**.
5. Place a tag. It is written at once; the status shows **Written – remove the tag** and the change log gains a row. Lift the tag and place the next one. A tag left on the reader is never written twice.
6. Click **Stop** when you are done. Use **Excel** or **Text** above the log to save the change log as your record.




Batch Write in Auto-increment mode, counting in decimal from …1001. The change log shows the newest write on top.

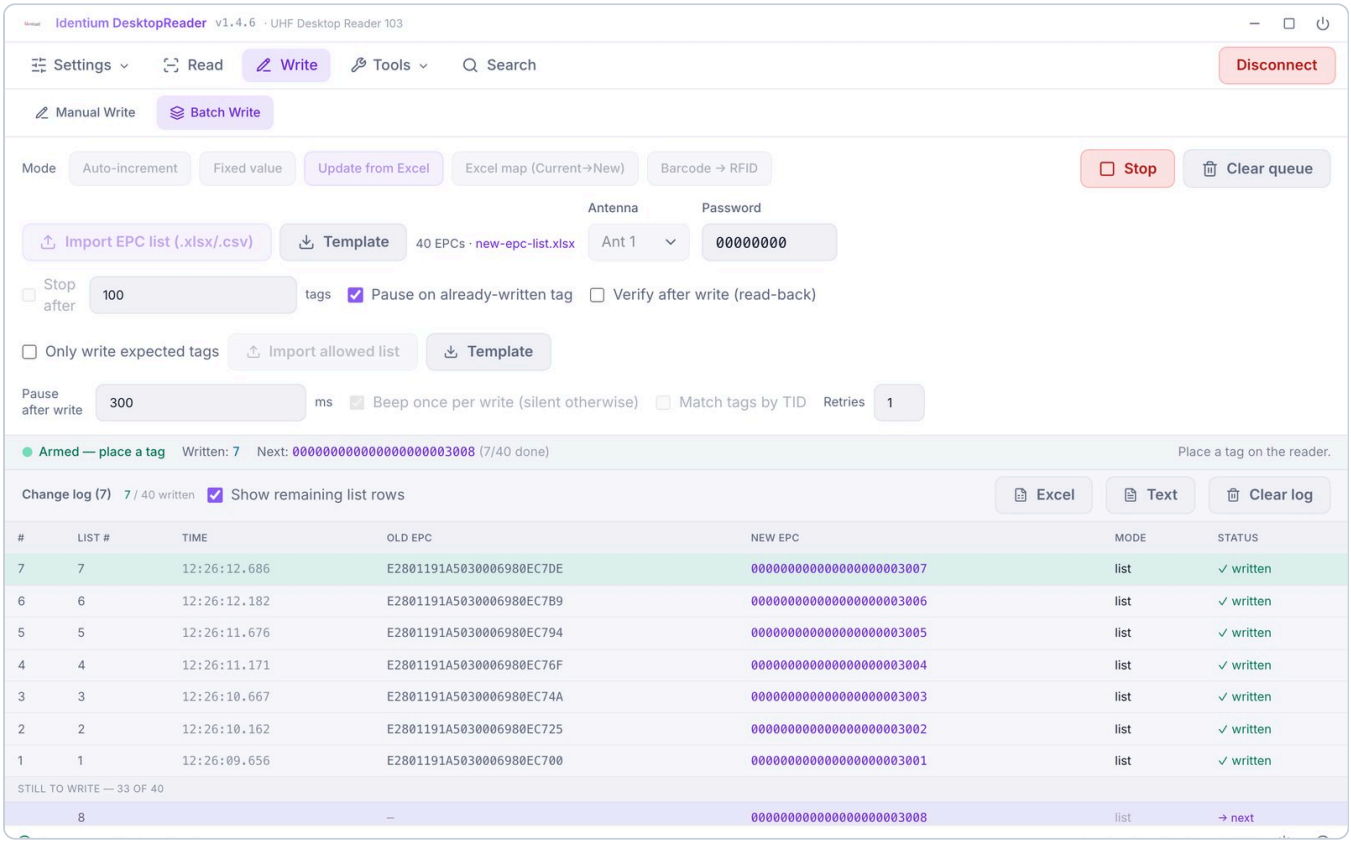
| Mode | What each tag receives |
|---|---|
| **Auto-increment** | The next number in the series, counted in decimal or hex |
| **Fixed value** | The same EPC for every tag |
| **Update from Excel** | The next EPC from a one-column list (section 10) |
| **Excel map (Current→New)** | The New EPC that the sheet pairs with the tag's current EPC (section 10) |
| **Barcode → RFID** | The barcode you have just scanned (section 11) |

| Safety option | Effect |
|---|---|
| **Stop after N tags** | Ends the run after a set number of tags |
| **Pause on already-written tag** | If a tag written earlier in this run comes back, the batch stops and asks: Cancel batch, Skip / change tag, or Continue & write |
| **Verify after write (read-back)** | Reads the tag back to confirm the new EPC. Safer, slightly slower |
| **Only write expected tags** | With **Import allowed list**: a tag whose current EPC is not on the list makes the batch pause and ask |

| Speed and sound option | Effect |
|---|---|
| **Pause after write (ms)** | How long the reader stays quiet after a write so you can lift the tag (default 300 ms) |
| **Beep once per write** | The reader stays silent while waiting; the PC beeps once for each tag written |
| **Match tags by TID** | Recognises tags by their factory TID. Off by default; it costs one extra read per tag |
| **Retries** | Extra attempts on a tag that refuses the write before it is set aside |

> **NOTE**
> If a tag will not take the write, the status reads **This tag would not take the write – swap it** and the log shows the reason. A blank tag (one with no EPC) is written like any other.

# 10/ Batch Write from Excel




Update from Excel, part of the screen: the imported list (40 EPCs from new-epc-list.xlsx) next to the Import and Template buttons, and 7 of 40 EPCs written. The rows still to write are listed under the log, the next one highlighted.

## Update from Excel – write a list in order

1. In **Batch Write**, choose **Update from Excel**.
2. Click **Template** to download a sample sheet: one column of new EPCs. Fill it in Excel and save it as .xlsx or .csv.
3. Click **Import EPC list (.xlsx/.csv)** and choose the file. The file name and the number of EPCs appear next to the buttons. Rows that are not whole 16-bit words are skipped and counted.

4. Click **Start** and place the tags one by one. The first tag receives the first EPC, the second tag the second, and so on. **LIST #** in the log is the position of the EPC in your imported list (1 = the first EPC under the header).

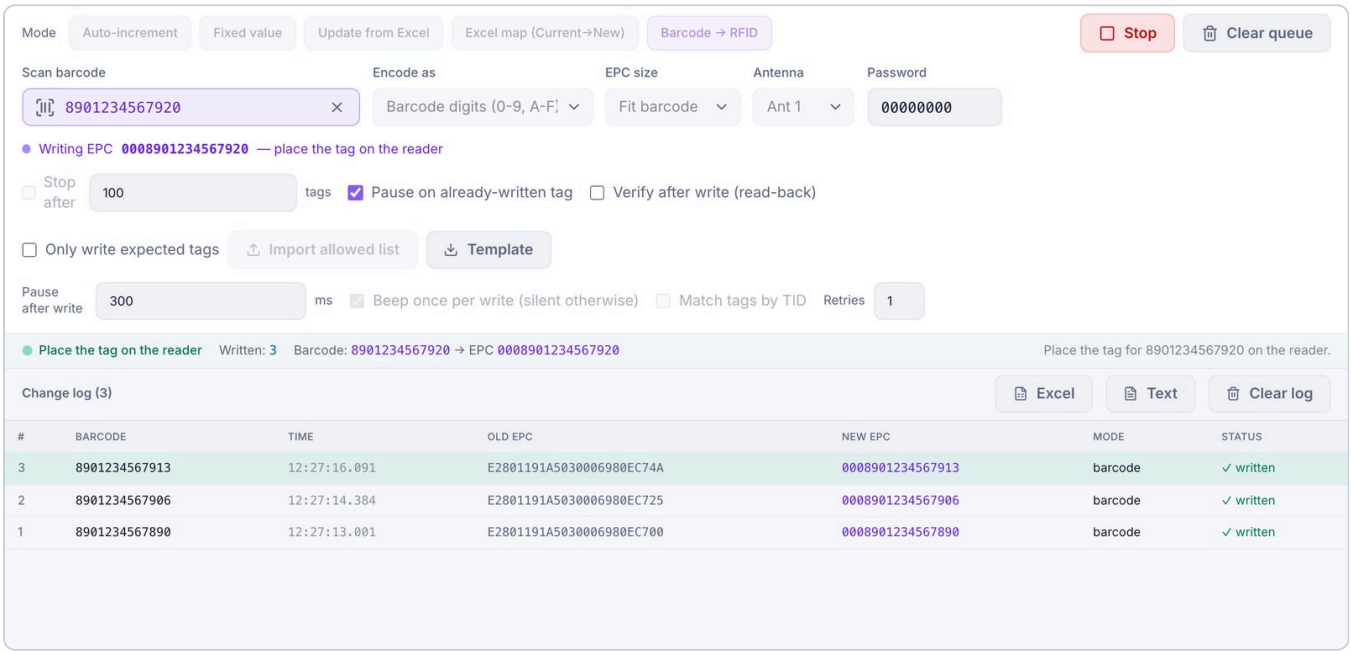
### Excel map (Current→New) – renumber existing tags

Choose **Excel map (Current→New)**, download its **Template** (two columns: Current EPC and New EPC), fill it, import it and click **Start**. Each placed tag is looked up by its current EPC and receives the matching New EPC. A tag that is not in the sheet is reported with "not in the imported map – remove this tag".

## 11/ Barcode → RFID

Move a barcoded range to RFID without renumbering: scan the barcode an item already carries with your barcode scanner, and the next tag placed on the 103 is written with that code.

1. Make sure **Keyboard Mode is off** (Settings ▾, switch off). Connect your barcode scanner to the same PC.
2. In **Batch Write**, choose **Barcode → RFID**. Choose **Encode as** and **EPC size** (table below).
3. Click in the **Scan barcode** box and scan. The scanner ends the scan with Enter (or Tab); the batch arms itself.
4. The box holds the code and shows "Writing EPC … – place the tag on the reader". Place the tag. One beep means written, and the box clears for the next scan.
5. To drop a scanned code before writing it, click the ✕ in the box.




Barcode → RFID: three barcodes written; the fourth is waiting for its tag.

**Encode as** sets how the barcode becomes the EPC; **EPC size** sets its length:

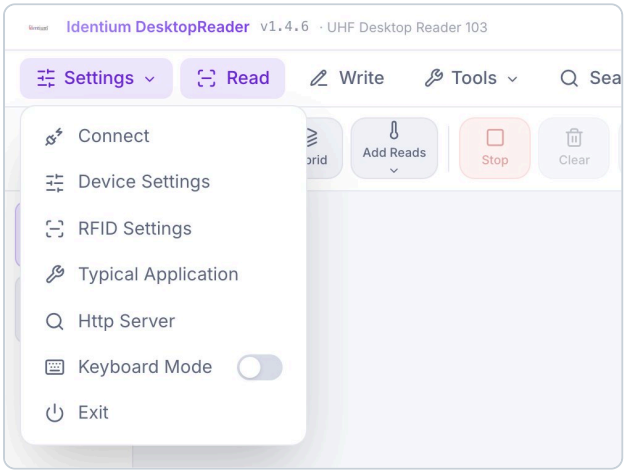
| | |
|---|---|
| **Encode as: Barcode digits (0-9, A-F)** | The barcode is the EPC, zero-padded on the left.<br>Example: 8901234567890 → 0008901234567890 |
| **Encode as: ASCII text (any barcode)** | Each character as its ASCII byte, zero-padded on the right.<br>Example: AB-12 → 41422D313200 |
| **EPC size** | **Fit barcode** (fewest whole words), **96-bit** or **128-bit** |

**CAUTION**

With Keyboard Mode on, the reader would type tag numbers into the barcode box, so Barcode → RFID stops with "Keyboard Mode is on". Turn Keyboard Mode off and scan again.

# 12/ Keyboard Mode

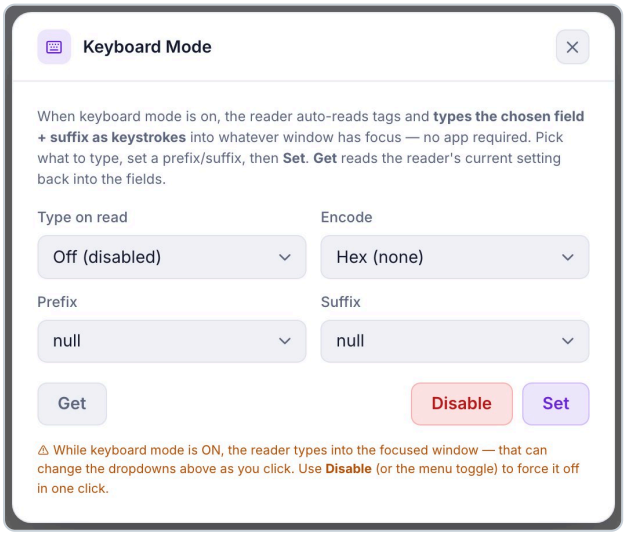
In Keyboard Mode the 103 works like a keyboard: it reads tags by itself and types each tag number, followed by Enter, into whatever window has focus – a cell in Excel, an ERP screen or a web form. Switch it on in DesktopReader; the reader keeps typing after you close DesktopReader. If you unplug the reader, open DesktopReader and connect once to resume typing, and check that the Keyboard Mode switch is still on.




Settings menu: the Keyboard Mode switch.

## Quick on / off

1. Connect the reader in DesktopReader.
2. Open **Settings** ▾ and click the switch next to **Keyboard Mode**. On = the reader types the EPC and Enter. The status bar confirms the change.
3. Click into the field of your own program and place a tag. Its EPC is typed in.




Keyboard Mode panel.

## Choose what is typed

1. Click the words **Keyboard Mode** in the Settings menu to open the panel.
2. **Type on read**: Off, EPC, TID, or Other (User ID / custom area).
3. **Prefix**: null (nothing) or space. **Suffix**: null, Enter (CR+LF), CR, LF or space. Leave **Encode** on Hex (none).
4. Click **Set**. **Get** shows the reader's current setting; **Disable** turns Keyboard Mode off in one click.

**CAUTION**

While Keyboard Mode is on, the reader types into the focused window – including DesktopReader itself. Turn it off before batch writing with barcodes, and before other people use the PC.

On a UDR-111 the same menu entry opens a panel of its own, with more to choose from – see section 15.

# 13/ RFID Settings and Read Range

Open **Settings ▾ › RFID Settings**. Each block has **Get** (read the value from the reader) and **Set** (send your change).

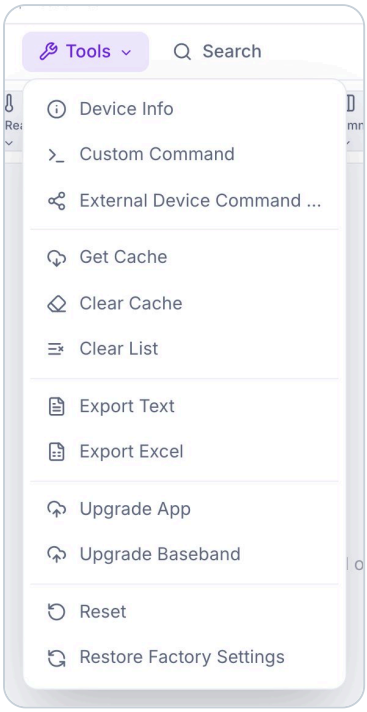
| Tab › block | Use |
|---|---|
| **Ant-power › ANT1** | Transmit power of the reader's antenna in dBm. Lower it to shorten the read range so only the tag on the pad answers; raise it to read a few items further away (up to 30 cm). On the 103 set **ANT1** – the pad antenna. |
| **Base › Frequency Range** | The radio band (region) stored in the reader. Keep the band your reader was supplied with: click **Get** to see it, and press **Set** here only if Identium support asks you to. For use in India, confirm the **865–868 MHz** India band with Identium when you order. |
| **Base › EPC Baseband** | Gen2 link settings: EPC speed, Session, Q value (QV) and search type |
| **Base › Filter** | Repeat time and RSSI limit for tag reports |
| **F-hop** | Automatic frequency hopping within the selected band |

**TIP**

To set the range for encoding: place one tag on the pad and a second tagged item where it would normally lie on the desk. Read, then lower ANT1 power until only the tag on the pad appears.

With a UDR-111 connected this entry opens a shorter window of its own – see section 15.

# 14/ Tools and Export




The Tools menu.

| Tool | What it does |
|---|---|
| **Device Info** | Serial number, app and baseband versions, build dates and power-on time of the reader |
| **Clear List** | Empties the tag table |
| **Export Text / Export Excel** | Saves the tag table as a text or Excel file |
| **Reset** | Restarts the reader |
| **Restore Factory Settings** | Returns the reader's settings to factory defaults; asks before it runs |

The other entries in the menu are not needed for everyday use with the 103.

**CAUTION**

Use **Upgrade App** or **Upgrade Baseband** only if Identium support sends you a firmware file and asks you to. A failed upgrade can leave the reader unusable.

# 15/ If You Also Have a UDR-111

From version 1.4.6 Identium DesktopReader drives two desktop readers from the same window: the **103** that this manual describes, and the **UDR-111**.

Choose the reader in the Connection window under **Reader model** – a reader plugged into USB is recognised and picked for you (section 05). The title bar then reads **· UHF Desktop Reader 103** or **· UHF Desktop Reader 111**, so you can always see which reader the window is set up for. Reading, writing one tag, Batch Write and Barcode → RFID are driven in exactly the same way on both readers. The table lists where a UDR-111 differs.

| Feature | On the 103 (this manual) | On the UDR-111 |
|---|---|---|
| **Antennas** | ANT1 is the pad antenna; the grid lists ANT1–ANT16 because the 103's protocol can address more than one | **One antenna.** Only ANT1 is shown, on the Read screen and in Batch Write |
| **RF power** | In dBm, per antenna, under **RFID Settings › Ant-power** | One of **12 power levels** – level 0 is 12.5 dBm and level 11 is 30 dBm, factory default level 2. The reader keeps the level when it is unplugged, and **Get** reads it back |
| **Radio band** | **Base › Frequency Range**; keep the band the reader was supplied with | **Region** in RFID Settings. India's 865–868 MHz band is the entry listed as *Europe / India 865–868 MHz* |
| **Keyboard Mode** | The switch in the Settings menu, plus a short panel (section 12) | A panel of its own: the mode, what is typed, prefix and suffix, which outputs are used, the search interval and the serial settings |
| **What is typed** | EPC, TID or a custom area, all typed by the reader | **One tag (EPC)**, **Several tags (EPC)** – both typed by the reader – or **TID (full)**, which DesktopReader types for you |
| **Buzzer** | The **Beep** tick box on the Read screen | **Reader beeps** in RFID Settings |
| **Menus** | The full Settings and Tools menus (sections 05 and 14) | The menus narrow to what this reader can do: Connect, RFID Settings, Keyboard Mode, Device Info, Custom Command, Clear List, the two exports and Restore Factory Settings |
| **Device Info** | Serial number, app and baseband versions, build dates and power-on time | Model, radio module, module software, manufacturer and controller version |

**NOTE**

A UDR-111 in Keyboard Mode goes quiet while DesktopReader reads or writes, and starts typing again when you disconnect or close the app. Typing an **EPC** is done by the reader itself, so it keeps working with the app closed. Typing the **full TID** is done by DesktopReader, so leave the app open – minimised is fine. On macOS, allow **Identium DesktopReader** under **System Settings › Privacy & Security › Accessibility** the first time it asks, so it can type for you.

To drive a UDR-111 from your own software, download **UDR-111 – UHF Desktop Reader SDK** from the Resource Hub. The 103's own SDK is in section 16.

# 16/ For Developers: SDK Quick Start

To drive the 103 from your own software, download the **103 All-in-One SDK** from the Resource Hub (listed as "103 – All-in-One SDK"; `Identium-103-SDK-1.0.zip`, 7 MB). For the 103 on USB, use the C# or the C/C++ library: both open the reader over USB-HID. If a screen only needs the tag number, Keyboard Mode (section 12) needs no code at all. To check the reader, the tags and the read range before you write code, use Identium DesktopReader (sections 05–14).

The package unpacks to an `Identium-103-SDK-1.0/` folder that holds these files and folders:

| | |
|---|---|
| `README.md` | Folder guide, requirements and quick start |
| `Identium-103-Communication-Protocol.pdf` | The reader's data communication protocol (frames, commands, parameters) |
| `demo/` | Where to get Identium DesktopReader, the Windows app for the 103 (the C# example sources are in `c#/c#-api/Example/`) |
| `c#/c#-api/` | The C# reader library, example sources and the C# development guide |
| `c_c++ api/windows/` | Headers, the reader library (.dll/.lib) for x86 and x64, .cpp examples and the C/C++ development guide |
| `c_c++ api/linux/` | The reader library (.so) for x86_64, armv7, aarch64 and mips, headers, an example, udev libraries and the Linux guide |
| `java/`, `android/` | Java and Android libraries, examples (Android: demo app source) and guides for readers on a serial or network connection |

## Integrate in six steps

1. Reference the C# reader library in `c#/c#-api/` (C/C++: add the headers and link the reader library).
2. List the USB readers and open one with the library's USB-HID functions.
3. Register the tag-report event handler and keep it short: slow work inside it slows the library.
4. Send the stop command to put the reader in idle, then start an EPC inventory on antenna 1. Add the TID option to receive TIDs as well.
5. Send the stop command to end the read. Check the result code of every command: 0 means success.
6. To write, stop reading first, then send the write-EPC command for the EPC bank at start word 1, with the PC word followed by the EPC.

> **NOTE**
> Full API reference: the development guide in each language folder of the SDK package (`Identium-103-Dev-Guide-CSharp.pdf`, `-C-CPP-Windows.pdf`, `-C-CPP-Linux.pdf`, `-Java.pdf`). A complete USB-HID console example in C# is `c#/c#-api/Example/Example_USB_HID.cs`; for C/C++, see the USB-HID connection chapter of the C/C++ development guide. Close DesktopReader while your own program talks to the reader.

# 17/ Precautions

- The 103 reads up to 30 cm. While encoding, keep other tagged items away from the pad, or lower ANT1 power (section 13), so the next item on the desk is not written by mistake.
- In Batch Write, lift each written tag before you place the next one.
- Keyboard Mode types into whichever window has focus, and keeps doing so after DesktopReader is closed. Switch it off when you do not need it.
- Kill cannot be undone. Test on a sample tag and keep a record of every password you write.
- Keep the radio band the reader was supplied with, and press Set on Frequency Range only if Identium support asks you to. In India the band is 865–868 MHz.
- Restore Factory Settings returns the reader's settings to factory defaults. Note your RFID settings before you use it.
- Use Upgrade App or Upgrade Baseband only if Identium support sends you a firmware file and asks you to; a failed upgrade can leave the reader unusable.

# 18/ Parameters

| | |
|---|---|
| **Model** | IDTS-103 (103UDR) UHF RFID desktop reader-writer |
| **Air protocol** | ISO 18000-6C (EPC Gen2), ISO 18000-6B |
| **Tag operations** | Multi-tag reading and writing; read EPC, TID, User, Reserved; write EPC, User, Reserved; kill |
| **Read range** | Up to 30 cm, adjustable |
| **Frequency** | UHF. Confirm the 865–868 MHz India band when you order |
| **Interface** | USB to a PC; serial or HID (keyboard) output, configurable |
| **Driver and power** | No driver needed; powered from the USB port, no separate power supply |
| **Indicators** | SIGNAL, RFID and POWER lights; built-in buzzer |
| **Software and SDK** | Identium DesktopReader 1.4.6 (Windows 10/11 64-bit and macOS 11 or later, free; it also runs the UDR-111); 103 All-in-One SDK with C# and C/C++ libraries for USB-HID |

Specifications are indicative and may change without notice; confirm details for your order in the quotation.

# 19/ Troubleshooting

| Problem | Likely cause | What to do |
|---|---|---|
| "No Identium reader found" in Connection | Reader unplugged, or plugged in after the window opened | Check the cable, press refresh, then Confirm. Try another USB port. **Show all HID devices** lists every USB device, which tells you whether the PC sees the reader at all. |
| The title bar reads **Desktop Reader 111**, or menu entries are missing | The Connection window was left on the other reader model | Click **Disconnect**, open **Settings › Connect**, set **Reader model** to **IDTS-103UDR** and Confirm. |
| No tags appear | Wrong protocol, tag too far, or power low | Select **6C** for Gen2 tags; place the tag flat on the pad; raise ANT1 power. |
| Several tags appear when you want one | Range reaches other tagged items | Move them away, or lower ANT1 power (section 13). |
| "EPC must be whole 16-bit words" | EPC length not a multiple of 4 hex digits | Use 4, 8, 12 … 24 hex digits (24 = 96 bits). |
| Write fails, or "This tag would not take the write – swap it" | Tag locked, wrong access password, or faulty tag | Enter the access password; otherwise use another tag. |

| Problem | Likely cause | What to do |
|---|---|---|
| Batch asks "Already-written tag" or "Unrecognised tag" | A tag from this run came back, or it is not on the allowed list | Choose **Skip / change tag**, **Continue & write** or **Cancel batch**. |
| Barcode → RFID stops with "Keyboard Mode is on" | The reader would type into the barcode box | Turn Keyboard Mode off (Settings ▾), then scan again. |
| Tag numbers appear in other windows | Keyboard Mode is on | Switch Keyboard Mode off (Settings ▾), or **Disable** in its panel. |
| "Reader not responding – resetting" | The reader stopped answering in a batch | Wait for the reset. If it repeats, Disconnect, re-plug the USB cable and connect. |

# 20/ Support

For help with installation, integration or a fault that the steps above do not clear, contact Identium. Please keep the product model, the software version shown in the app and a short description (or screenshot) of the problem ready.

| | |
|---|---|
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| **Software and documents** | www.identiumone.com/resourcehub/ |
| **Buy hardware and tags** | www.indiarfidstore.com |

This product and its software are updated from time to time; screens and specifications may change without notice. Check the Resource Hub for the latest version of this manual.