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Creating identities for all

USER MANUAL

CX1500N

Rugged UHF RFID Handheld Reader

Hardware, the CX Flow Pro app and the SDK: set-up, daily use and troubleshooting



THIS MANUAL COVERS	VERSION	PLATFORM
CX1500N UHF RFID handheld reader	–	IDOS, built on Android 15
CX Flow Pro app	2.4.0	Android 8.0+ (Resource Hub build)
Identium CX1500N SDK	2.9 (package 2.9.1)	Android AAR, API 21+ (22 recommended)

Document version 1.0.3 · November 2026

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Creating identities for all

The CX1500N is a rugged gun-grip handheld that reads UHF RFID tags at up to 25 m, with a 1D/2D barcode imager, 4G, Wi-Fi and GPS. It runs IDOS, Identium's OS built on Android 15, and comes with CX Flow Pro, Identium's app for bulk counts, stock audits, tag finding and tag programming. This manual covers the hardware, every CX Flow Pro screen, sending reads to other software, and a quick start for developers using the Identium CX1500N SDK.

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01/ Packing List

Check the box contents against this list before you start. Contact Identium if anything is missing or damaged.

Item	Qty	Notes
CX1500N UHF RFID handheld reader	1	IDOS (Identium's OS built on Android 15) and CX Flow Pro pre-installed
Rechargeable battery pack, 10,000 mAh, 3.7 V Li-ion polymer	1	The pack the reader ships with
USB cable	1	Charging and file transfer
Power adapter, 5 V / 2 A	1	Use with the USB cable

Ordered separately	Store ID	What it adds
Charging cradle for the CX1500N	10059	A desk cradle that charges the reader through its contacts; any spare-battery bay or data function is stated in your quotation
Spare battery, 10,000 mAh	10058	A second pack, so a long count can carry on with a swap instead of a charging stop
Inventory evaluation kit CX1500N-EVK	10036	A CX1500N plus a sample kit of UHF RFID labels and tags chosen for your stock (mix confirmed with your order)

02/ Equipment Diagram



Front and right side **Back and left side**

The CX1500N seen from the front and right side (left) and from the back and left side (right).

1. Front camera (5 MP)
2. Receiver (earpiece)
3. 5.0-inch touch screen
4. Touch keys: ≡, Home and Back
5. Volume + / –
6. Right side button (Action button)
7. SIM / TF card cover (2 × nano-SIM, 1 × TF card)
8. Charging contacts (for the cradle) and USB port, at the bottom end
9. Pistol grip
10. Power button
11. Left side button (Action button)
12. Barcode imager window (Class 2 laser aimer)
13. UHF RFID antenna: point this face at the tags
14. Trigger (Action button)

The UHF antenna (13) is a circularly polarised 4.5 dBi ceramic antenna, which helps read tags that sit at mixed angles. Hold the reader by the grip (9) with the screen facing you and the antenna pointing at the items you want to read.

03/ Power On/Off and Charging

Switch on and off

1. **Switch on:** press and hold the power button (10) until the screen lights up. IDOS starts and shows the lock screen; swipe up to unlock.
2. **Lock or wake the screen:** press the power button briefly.
3. **Switch off or restart:** press and hold the power button, then tap **Power off** or **Restart**.

Charge the battery

- **With the cable:** connect the USB cable to the USB port at the bottom end of the reader (8) and to the 5 V / 2 A power adapter, then plug the adapter in.
- **In the cradle:** stand the reader in the optional charging cradle, which charges it through the charging contacts (8).

> **NOTE**
> Charge before first use and at the end of every shift, so the reader starts each count full.

Change the battery pack

1. Power the reader down.
2. Swap the empty pack for a charged 10,000 mAh pack, then switch the reader on again.
3. Put the empty pack on charge straight away, and rotate the two packs so both age evenly.

> **TIP**
> How long a charge lasts depends on how much of the day the reader transmits: continuous bulk inventory at full power uses far more than occasional single reads, and the screen and scanner add to it. A spare pack turns a charging stop into a quick swap.

04/ Buttons and Feedback

Button	What it does
Power (10)	Press and hold to switch on, or for the power menu. Press briefly to lock or wake the screen.
Volume + / – (5)	Sets the loudspeaker volume, including the read beeps.
Trigger (14), left side button (11), right side button (6)	**Action buttons.** In IDOS each one runs one of eight actions, such as Scan barcode, **CX Flow Pro trigger**, Flashlight, Camera or Open an app. Out of the box the right side button (6) is the CX Flow Pro trigger; the trigger (14) and the left side button (11) scan barcodes.
Touch keys (4)	≡, Home and Back, for moving around Android.

Set the button you read tags with

CX Flow Pro starts and stops reading when it receives the **CX Flow Pro trigger** action. Out of the box the **right side button (6)** sends it, so the steps in this manual say "press the right side button". If you give the CX Flow Pro trigger to another button, use that one instead. To change it:

1. Open IDOS **Settings › Action buttons**.
2. Pick the trigger or a side button and set its action to **CX Flow Pro trigger**.
3. Keep the **CX Triggers** tile switched on in the pull-down quick-settings shade, so the buttons stay active.

What the CX Flow Pro trigger does on each screen

Screen	Trigger action
Scan	Hold to read, release to stop. With Trigger Mode set to Single, each press reads one tag.
Custom Scan	Hold to read your stock sheet, release to stop.
Tracking	Hold to search, release to stop.
Config	Press once to run the selected Read, Write, Lock or Destroy operation straight away.

Every screen also has an on-screen Start / Stop or Execute button that does the same thing.

Beep and vibration

By default the reader beeps and vibrates on each **new** tag; switch **When To Alert** to **Every read** in **More › Settings › Feedback** to hear every read. In Tracking the beep speeds up as you get closer to the tag you are looking for. Beep length and volume, vibration strength (Off, Light, Normal, Strong) and button haptics are set in the same place.

05/ Install and Start CX Flow Pro

CX Flow Pro is Identium's RFID data-capture app. It comes pre-installed on every CX1500N, with no licence fee: open it from the app list (icon **CX Flow Pro**). This manual describes version 2.4.0, the version on the Resource Hub. Your reader may come with a newer version, whose screens can differ slightly.

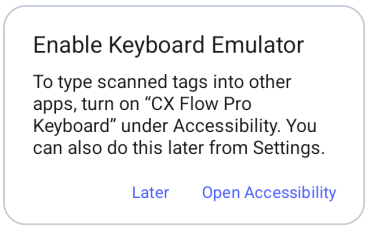
Version described	2.4.0 (Resource Hub build)
Application ID	`in.identium.cxflowpro`
Runs on	Android 8.0 or newer (the CX1500N runs IDOS, built on Android 15)
Download	Resource Hub row **CX Flow Pro (CX1500N)**, file `CX-Flow-Pro-v2.4.0.apk`

Install or update from the Resource Hub

> **NOTE**
> **Check your version first:** open **More › Settings** and look at the bottom of the **Data** section. Install the Resource Hub APK only if it is newer than the version on your reader; Android does not install an older version over a newer one.

1. On a PC, download `CX-Flow-Pro-v2.4.0.apk` from **identiumone.com/resourcehub/**.
2. Connect the CX1500N to the PC with the USB cable. On the handheld, choose **File transfer** for the USB connection, then copy the APK into the **Download** folder.
3. On the handheld, open **Files › Downloads** and tap the APK.
4. If asked, allow installs from this source, then tap **Install** (or **Update**).
5. Open **CX Flow Pro**.

First start



First-start prompt

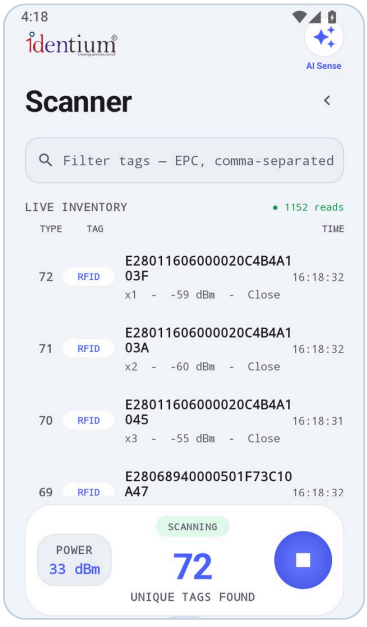
1. Allow notifications when Android asks.
2. The app offers to set up the **Keyboard Emulator**. Tap **Later** for now, or **Open Accessibility** to set it up straight away (see section 11).
3. The app opens on the **Scan** screen, ready to read.

Getting around

Bottom bar	Use it to
Custom	Audit stock against a spreadsheet you import, with a live dashboard.
Tracking	Find one tag (proximity circle and Geiger-style beep) or check a whole pick list (found/missing lists and a radar).
Scan (centre)	Count every tag in range, then save or export the list.
Config	Read, write, lock or destroy the memory of a single tag.
More	**Settings** (reader, output, feedback, keyboard and Auto Mode) and **Inventory** (saved sessions).

The **AI Sense** button at the top right of the Scan screen opens AISense, which recommends reader settings for the job you describe (section 10).

06/ Scan: Count Tags



Scan screen during a count

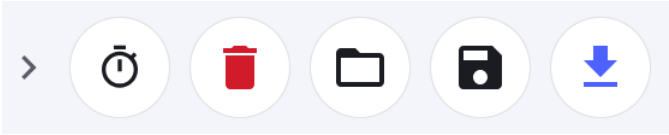
1. Tap **Scan** in the bottom bar and point the antenna at the tags.
2. Press and hold the right side button, or tap the round ▶ button. The status reads **SCANNING**.
3. Watch the big number: it is the count of **unique tags found**. The reads counter above the list shows every read, including repeats.
4. Release the button, or tap ■, to stop. The list stays on screen.

Each row shows the tag's EPC, how many times it was read (for example `x3`), its signal strength in dBm, a closeness word (Very Close, Close, Near, Far, Very Far) and the time it was last seen. Type part of an EPC in **Filter tags** (several, separated by commas) to list, count, save and export only the tags that match.

Read power

Tap the **POWER** tile to open the RF power slider (5 to 33 dBm). Turn it down to read only the shelf in front of you; turn it up to sweep a room. Read range is up to 25 m at full power, depending on the tag, its orientation and the surroundings.

The header buttons

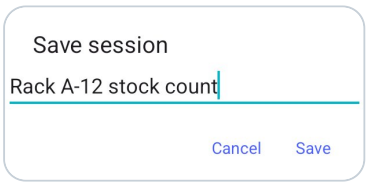


Tap ‹ next to the Scanner title to show these buttons; tap › to hide them again.

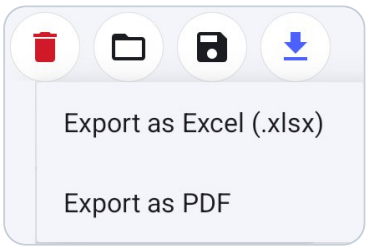
Button (left to right)	What it does
Timer	Stops scanning by itself after the number of seconds you enter (0 = off).
Clear (red bin)	Clears the live list and counters. Saved sessions are not touched.
Load (folder)	Adds a saved session back into the live list, to re-check or extend an earlier count.
Save (disk)	Names and stores the current list as a session on the reader.
Export (download arrow)	Exports the list as **Excel (.xlsx)** or **PDF** and opens Android's share sheet, so you can send or save the file.



Tap POWER: the RF power slider



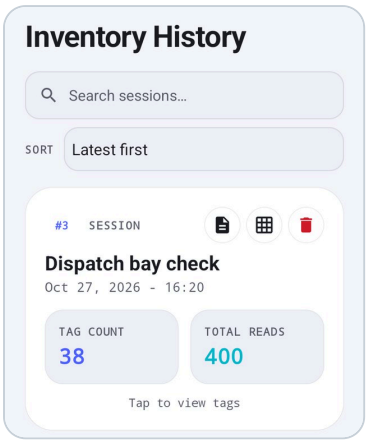
Save: name the session



Export: Excel or PDF

Export columns: Type, EPC / Code, TID, User, Barcode, Time, Peak RSSI and Count. When the scan is stopped, tap a tag to see its details; TID and User are read on demand when your output format includes them (**More › Settings › Data Acquisition**).

Saved sessions (More › Inventory)



More › Inventory: saved sessions

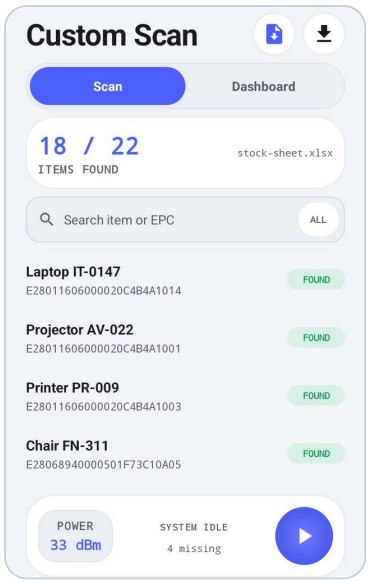
Every session you save appears in **More › Inventory** as a numbered card with its name, date and time, **Tag count** and **Total reads**.

To	Do this
Find a session	Type in **Search sessions**, or change **Sort** (Latest first, Oldest first, Most tags first, Fewest tags first).
See its tags	Tap the card.
Export one	Tap the PDF or Excel icon on the card.
Export or delete several	Long-press a card to start selecting, tick more (or **ALL**), then tap PDF, Excel or delete. Several sessions export into one file with a Session column.
Delete one	Tap the red bin and confirm.

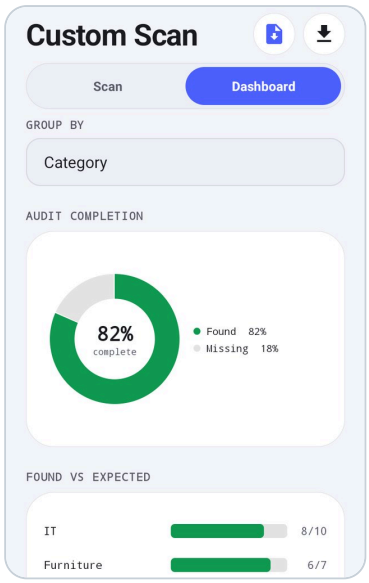
07/ Custom Scan: Audit Against Your Stock Sheet

Custom Scan checks a physical count against a spreadsheet: import your stock list, scan, and see which items were found and which are still missing, with a dashboard you can group by a column such as Category, Location or Department (any column with a manageable number of different values).

1. Prepare an **.xlsx** file with one row per item. It needs an **EPC** column (headers such as EPC, Tag ID or RFID) and an **Item Name** column (such as Item Name, Product, Asset Name or SKU). Any other columns, such as Category or Location, are kept.
2. Copy the file to the reader (for example into **Download**).
3. Tap **Custom** in the bottom bar, then **IMPORT SHEET** and pick the file. The screen shows **0 / N** under **Items Found**.
4. Press and hold the right side button, or tap ▶, and walk the area. Items turn **FOUND** as their tags are read.
5. Tap **ALL** to switch to found items only; tap an item to see every column from its row.
6. Open **Dashboard** for charts, and use the export button (top right) for an Excel or PDF report.



Scan: items found against the sheet



Dashboard grouped by Category

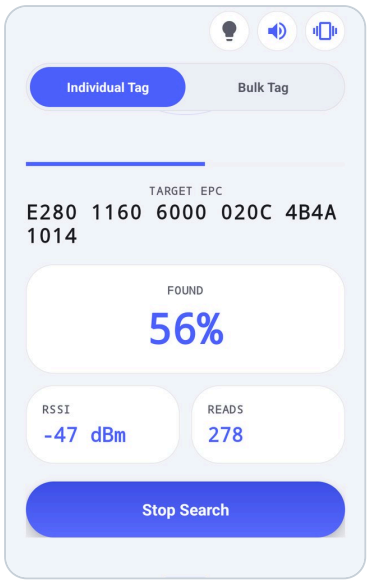
The dashboard shows **Audit Completion**, **Found vs Expected** per group, **Stock Mix**, **Items Per Group**, **Still Missing** and **Scan Progress**. Choose the grouping column under **Group By**; a column named Category, Type, Group or Department is picked by default. **Group By** lists the columns that have at least two and only a limited number of different values, never the EPC or item-name column; if the sheet has none, the dashboard shows **No groupable column**.

08/ Tracking: Find a Tag or Check a List

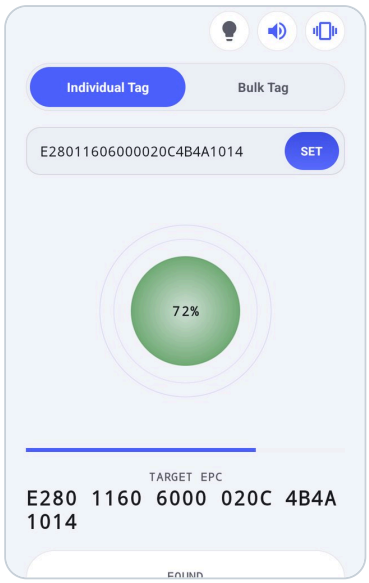
Individual Tag: find one item

1. Tap **Tracking**, then **Individual Tag**.
2. Type or paste the target EPC and tap **SET**.
3. Scroll down and tap **Start Search**, or press and hold the right side button.
4. Sweep the reader slowly. When the tag answers, the centre circle turns green and shows a percentage, and the beep starts.
5. Walk towards the rising percentage: a fuller, darker green circle and a faster beep mean you are closer.
6. Tap **Stop Search**, or release the button, when you have found it.

The three round buttons at the top switch the tag LED, the beep and the vibration on or off. The LED button lights the searched-for tag when it is an LED tag.



Searching: Found %, RSSI and reads

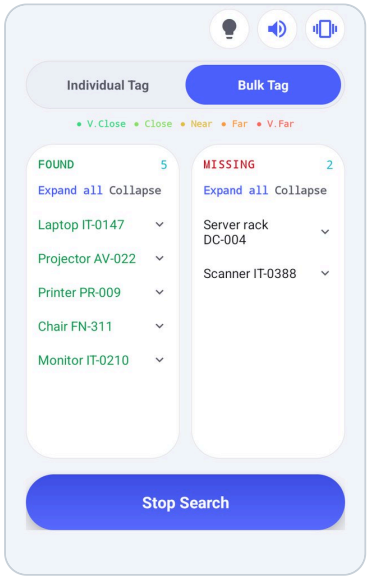


Closer: 72% and a fuller green circle

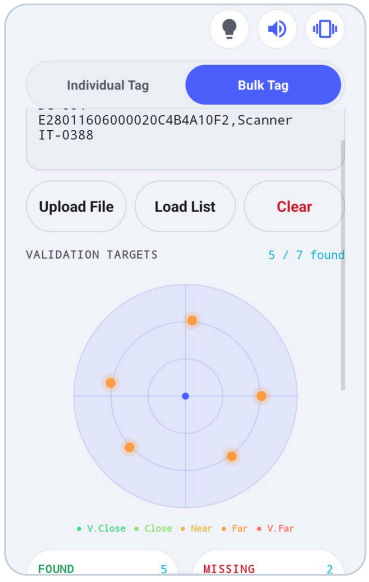
Bulk Tag: check a pick list

1. Tap **Bulk Tag**.
2. Paste one tag per line, as `EPC` or `EPC,Asset Name`, and tap **Load List**. Or tap **Upload File** and pick an .xlsx or .csv file with the EPC in column A and the asset name in column B.
3. Tap **Start Search**, or press and hold the right side button, and walk the area.
4. Items move from **MISSING** to **FOUND** as they are read, and the radar plots each found tag by closeness. When every item is found the app shows **All tags found** and stops.

> **TIP**
> In version 2.4.0, Bulk Tag suits lists of a few dozen tags. For longer stock lists, use Custom Scan (section 07).



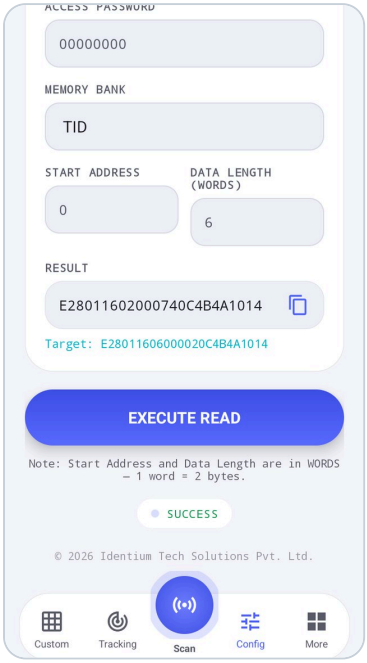
Bulk: found and missing items



Bulk: radar of found tags

09/ Config: Read, Write, Lock or Destroy a Tag

Config works on one tag at a time. It runs at its own low power (10 dBm by default) and first identifies the single nearest tag, then acts only on that tag. Hold just one tag close to the antenna.



Reading the TID bank

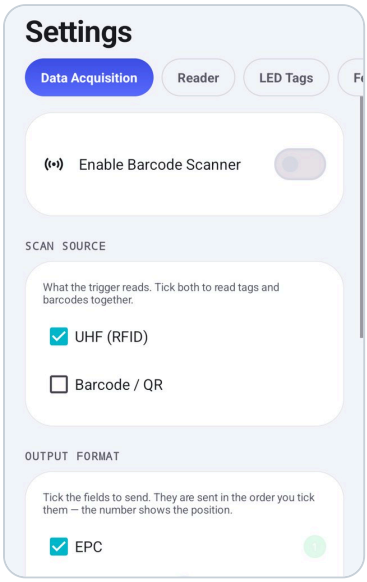
1. Tap **Config** and choose **Read**, **Write**, **Lock** or **Destroy**.
2. Enter the tag's **Access Password** if it has one (eight hex digits; `00000000` if none). For **Destroy**, type the tag's kill password in this field.
3. Fill in the fields for that operation (see the table).
4. Hold one tag close to the antenna and tap **EXECUTE READ** (the button names the mode: Write, Lock or Destroy), or press the right side button.
5. Read the result: **SUCCESS** or the reason it failed, with the target EPC. Tap the copy icon to copy a read result.

> **TIP**
> Keep the power slider low (about 8 to 12 dBm) so only the nearest tag answers. Start Address and Data Length are in words: 1 word = 2 bytes.

Mode	Fields	Notes
Read	Memory Bank (Reserved, EPC, TID, User), Start Address, Data Length	Shows the data as hex.
Write	Memory Bank, Start Address, Data Length, Data to Write (hex)	Writing to the EPC bank sets a new EPC and keeps the length word correct. TID is the chip's factory serial and is read-only.
Lock	Lock Area (Kill Password, Access Password, EPC, TID, User), Lock Type (Unlock, Lock, Perma-Lock)	Set a real access password on the tag first; a lock with `00000000` gives no protection.
Destroy	Access Password (type the tag's kill password here)	Permanently kills the tag. The tag must already have a non-zero kill password.

> **CAUTION**
> **Perma-Lock and Destroy cannot be undone.** A single press of EXECUTE or the right side button runs the operation immediately, with no confirmation. Run **Read** first to see which tag answers, then switch to Lock or Destroy. For Destroy, type the tag's kill password into the Access Password field.

10/ Settings and AISense



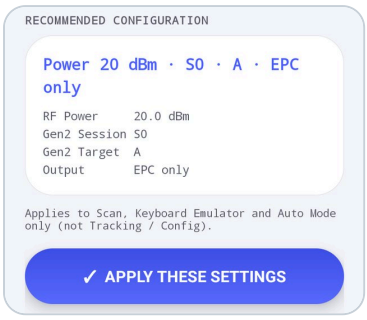
More › Settings, Data Acquisition

Open **More › Settings**. Tap a chip at the top to jump to a section, change what you need, then tap **SAVE SETTINGS**.

> **NOTE**
> **First-install defaults:** RF power 33 dBm, Region **Europe**, Session S0, Target A → B and EPC-only output.

Section	Settings
Data Acquisition	Enable Barcode Scanner · Scan Source (UHF (RFID), Barcode / QR; tick both to read together) · Output Format (EPC, TID, User ID, Barcode, Time, sent in the order you tick them) · Prefix · Suffix / Terminator (None, Enter, Tab, Space) · Trigger Mode (Continuous: hold to scan; Single: press once)
Reader	RF Read Power (5 to 33 dBm) · Region (default **Europe**, the ETSI setting; used by Scan, Custom Scan, Config, the Keyboard Emulator and Auto Mode) · Session (S0 to S3) · Target (A, B, A → B, B → A)
LED Tags	Turn on Tag LED, to light LED tags while scanning · memory bank, start address and length of the LED word
Feedback	Beep on read, beep length and volume · vibration strength · haptics on buttons · alert on new tags only or every read
Keyboard & Auto	Keyboard Emulator · Auto Mode (post to URL) · Webhook Endpoint URL · Auto-start on boot (section 11)
Appearance	Theme: System, Light or Dark
Data	Reset Settings to Default (returns every app setting to its first-install value, including the webhook URL and saved AISense profiles; saved sessions are kept) · Clear All Saved Sessions (permanent) · app version

AISense: let the app pick reader settings



AISense recommendation

1. On the Scan screen, tap **AI Sense** (top right). If AISense has been applied before, it opens on the active settings: tap **NEW AI SWEEP** to describe a new job, or **Revert to previous settings** to undo the last apply.
2. Describe the job: **Tag Population**, **Read Distance**, **Tag Motion**, **RF Environment** and **Application**.
3. Tap **OPTIMISE**. AISense matches your answers to a recommended RF power, Gen2 session and target, and output format.
4. Tap **APPLY THESE SETTINGS**, or **Save as Profile** to keep it for this kind of job, or **Run Again**.

AISense changes the settings used by Scan, the Keyboard Emulator and Auto Mode. Tracking and Config keep their own power and parameters.

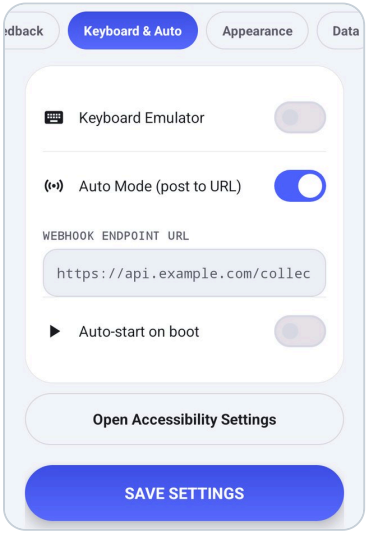
11/ Send Reads to Other Apps and Servers

CX Flow Pro can pass reads on to your own software in two ways: the **Keyboard Emulator** types them into another app, and **Auto Mode** posts them to your server.

Keyboard Emulator: type reads into any app

1. Open **More › Settings › Keyboard & Auto**, switch on **Keyboard Emulator** and tap **SAVE SETTINGS**.
2. Tap **Open Accessibility Settings** and turn on **CX Flow Pro Keyboard**.
3. In **Data Acquisition**, choose the **Output Format**, **Prefix** and **Suffix**: each read is typed in that shape. Set the Suffix to **Enter** or **Tab** if each read should move to the next field.
4. Open your app (a web form, ERP screen or spreadsheet), tap in a text field and press the right side button. The read is typed into the field.

Auto Mode: post reads to your server



Keyboard & Auto settings

1. In **Keyboard & Auto**, switch on **Auto Mode (post to URL)**.
2. Enter your **Webhook Endpoint URL** (for example `https://api.example.com/collect`) and tap **SAVE SETTINGS**.
3. Scan. Each new tag on the Scan screen, and each read you make with the right side button while you work in another app, is sent to your URL as an HTTP POST with a JSON body.

While Auto Mode is on, reads made with the right side button in other apps go to your URL instead of being typed. Switch on **Auto-start on boot** to have the reading service start with the reader.

What each post carries. Reads made with the right side button while you work in another app are posted with `formatted` set to your Output Format, Prefix and Suffix, and with `tid` and `user` filled when your output format includes them. Tags posted from the Scan screen carry the EPC (and the TID if it was already read); their `user` and `formatted` fields are empty. Barcodes posted from the Scan screen carry `barcode` and `formatted`.

```
{
  "epc": "E28011606000020C4B4A1014",
  "tid": "",
  "user": "",
  "barcode": "",
  "formatted": "E28011606000020C4B4A1014",
  "device": "<device model>",
  "time": "2026-10-27T16:18:35.120+0530"
}
```

Example body for a read made with the right side button in another app, with Output Format set to EPC and no prefix or suffix (Content-Type: application/json). Fields your output format does not include are sent empty.

> **TIP**
> Test with a request-inspection URL first, then point Auto Mode at your own endpoint. Your server should answer within 5 seconds.

12/ For Developers: SDK Quick Start

To build your own Android app for the CX1500N, download **Identium CX1500N SDK 2.9** (package 2.9.1, 6.7 MB) from the Resource Hub. It is the package for all new apps: one self-contained Android library (AAR) with a ready-built demo app and an integration guide.

What is in the SDK package

Path in Identium-CX1500N-SDK-2.9.1.zip	Contents
`IdentiumCX1500N.aar`	The SDK. Native libraries and open-source JARs are bundled inside; it is the only file your app needs.
`IdentiumCX1500N-Demo_2.9.apk`	The **Identium CX1500N Demo** app, ready to install on the handheld.
`Identium-CX1500N-SDK-Integration-Guide.pdf`	Requirements, Gradle set-up, basic usage, the demo app, 16 KB page-size status and troubleshooting.
`docs/SDK-Developer-Guide.md`	Full API reference and code examples, region codes, RF link profiles, Q and session for dense tag populations, and which settings survive a power cycle.
`check16k.py`	Checks native libraries for Android 16 KB memory-page support.
`README.md`	Package overview and quick start.

Run the demo

1. Unzip `Identium-CX1500N-SDK-2.9.1.zip` on your PC and copy `IdentiumCX1500N-Demo_2.9.apk` from the unzipped folder to the handheld (USB cable, File transfer).
2. On the handheld, tap the APK in **Files** to install it.
3. Close CX Flow Pro first: only one app can use the reader module at a time.
4. Open **Identium CX1500N Demo**. Use **Tags** to start and stop an inventory, **Config** for power and band, **Read**, **Write**, **Lock** and **Destroy** for tag memory, and **Location** to find a tag.

Integrate the SDK in six steps

1. Copy `IdentiumCX1500N.aar` into your app module's `libs/` folder.
2. In the module's `build.gradle`, set `minSdk 22` (API 21 is the minimum; 22 is recommended), `abiFilters 'arm64-v8a', 'armeabi-v7a'` and add `implementation files('libs/IdentiumCX1500N.aar')` with `androidx.appcompat:appcompat:1.7.0` and `com.google.android.material:material:1.12.0`. Build with JDK 17 and compileSdk 34.
3. Connect once with `UHFReader.getInstance().connect()` and check for `CODE_SUCCESS`. Run SDK calls off the UI thread: `connect()` can take several seconds, and most other commands up to about 1 s.
4. Register `setOnInventoryDataListener(...)`. Tags arrive as a list on the SDK's reader thread: keep the callback short and post to the UI thread before touching views.
5. Call `startInventory()` and `stopInventory()`. Stop the inventory before sending any other command, and call `disConnect()` when your activity closes.
6. After every connect, re-apply power, region and session: they live in module memory and revert when the module powers down.

```
UHFReader reader = UHFReader.getInstance();
if (reader.connect().getResultCode() == UHFReaderResult.ResultCode.CODE_SUCCESS) {
    reader.setPower(30);                // dBm, 5-33
    reader.setFrequencyRegion(0x08);    // EU / ETSI region, used in India
    reader.setOnInventoryDataListener(tags -> runOnUiThread(() -> {
        for (UHFTagEntity t : tags) show(t.getEcpHex(), t.getRssi());
    }));
    reader.startInventory();
}
// ... later
reader.stopInventory();
reader.disConnect();
```

Minimal inventory. getEcpHex() returns the EPC; getTidHex(), getRssi() and getCount() give the rest.

Task	SDK call
Single read	`singleTagInventory()`
Read / write tag memory	`read(password, bank, address, words, select)` · `write(...)` · `writeEPCID(...)`
Lock / kill	`lock(password, bank, action, select)` · `kill(password, select)`
Reader settings	`setPower(dBm)` · `setFrequencyRegion(code)` · `setSession(...)` · `setDynamicTarget(...)` · `setQ(...)` · `setRFLink(0–3)`
Module information	`getVersions()` · `getTemperature()` · `getPower()` · `getFrequencyRegion()`

See `docs/SDK-Developer-Guide.md` for the full API (section 5), region codes (5.5), RF link profiles (4.2) and code examples (6).

> **NOTE**
> The SDK talks to the CX1500N's built-in reader module over its internal serial port and power lines, so run and debug your app on the handheld itself. Apps built on SDK 2.9 run on the CX1500N as shipped; see section 2 of the integration guide for the Google Play 16 KB page-size status.

13/ Precautions

- **Laser:** the barcode imager window (12) carries a Class 2 laser caution label. Do not stare into the window or point it at anyone's eyes.
- **Charging:** charge with the supplied USB cable and 5 V / 2 A adapter, or the CX1500N charging cradle.
- **Battery:** power the reader down before changing the pack. Keep Li-ion packs away from heat, never puncture them, and store spare packs part-charged.
- **Temperature and humidity:** use the reader between −20 °C and +55 °C and store it between −30 °C and +70 °C, at 5–95% relative humidity without condensation.
- **Drops:** the reader is built to survive a 1.2 m fall onto concrete. Carry it by the grip.
- **Radio band:** for use in India, order the 865–868 MHz version of the reader.
- **Read range:** range depends on tag size, orientation and surroundings. Lower the power to avoid reading neighbouring shelves.
- **Tag programming:** Perma-Lock and Destroy are permanent and run without a confirmation. Run Read first, and keep Config power low so only the intended tag answers.
- **Exports:** saved sessions stay on the reader until you export or delete them. Export important counts before you clear sessions or reset the reader.

14/ Parameters

UHF RFID

Frequency	865–868 MHz (ETSI EN 302 208, India/EU); 902–928 MHz and 920–925 MHz versions available
Protocol	ISO/IEC 18000-6C (EPC Global C1 Gen2), ISO/IEC 18000-6B
Read range	0–25 m
Antenna	Circularly polarised, 4.5 dBi ceramic
Transmit power	Up to 33 dBm, adjustable

Computer

Operating system	IDOS, Identium's OS built on Android 15 (pre-installed)
Pre-installed apps	CX Flow Pro; IDOS adds Action buttons, Auto RFID and CX Code Scanner
Processor	Octa-core, 2.0 GHz
Memory	4 GB RAM, 64 GB flash; TF card up to 128 GB

Display, scanner and keys

Display	5.0-inch IPS, 720 × 1440, hardened (9H) cover glass, touch screen
Barcode	1D/2D imager: Code 128, QR Code, PDF417, Data Matrix and others
Camera	13 MP rear with autofocus and flash; 5 MP front
Keys	Touch screen; trigger and two side buttons, each programmable
Audio	Built-in loudspeaker, adjustable volume

Connectivity, power and environment

Mobile network	4G data: TDD-LTE bands 38, 39, 40, 41; FDD-LTE bands 1, 2, 3, 4, 7, 17, 20
Wi-Fi	IEEE 802.11 b/g/n
Bluetooth	4.0
GPS	Accuracy within 10 m
Slots	1 × SD/MMC (TF) card, 2 × nano-SIM
Battery	10,000 mAh, 3.7 V rechargeable Li-ion polymer
Cradle	Optional desk cradle, DC 5 V; charging (data transfer as stated in the quotation)
Drop	1.2 m free fall onto concrete
Operating temperature	−20 °C to +55 °C
Storage temperature	−30 °C to +70 °C
Humidity	5–95% RH, non-condensing
Atmospheric pressure	86–108 kPa
Dimensions	178 × 83 × 17 mm (±2 mm)
Weight	580 g
In the box	USB cable, 5 V / 2 A power adapter
Compliance	BIS and WPC approved

Specifications are from the CX1500N product page. Confirm the frequency version and accessories for your order in the quotation.

15/ Troubleshooting

Connecting and reading

Symptom	Likely cause	What to do
"Reader not connected"	Another app is using the reader module, or the app has not reconnected yet.	Close other RFID apps (such as the SDK demo), then leave the tab and come back so CX Flow Pro reconnects. Restart the reader if it persists.
Pressing a button does nothing in CX Flow Pro	The button is not set to CX Flow Pro trigger (out of the box only the right side button is; the trigger scans barcodes), or the CX Triggers tile is off.	Use the right side button, or in IDOS **Settings › Action buttons** set the button you want to **CX Flow Pro trigger**. Switch on the **CX Triggers** tile. The on-screen ▶ button always works.
No tags are read	Region, power or scan source is wrong, or the tags are out of range.	Check **Region** is set to the default, **Europe**, power is not at the minimum, and **UHF (RFID)** is ticked under Scan Source. Move closer and point the antenna face at the tags.

Range, tracking and tag programming

Symptom	Likely cause	What to do
Too many tags, or tags from the next shelf	Power is too high for the job.	Lower the power on the POWER tile, or use **Filter tags** to keep only the EPCs you want.
Config reads or writes the wrong tag	More than one tag is in range.	Hold one tag against the antenna and keep Config power around 8–12 dBm.
Destroy fails	The tag's kill password is still `00000000`.	Write a kill password to the Reserved bank (address 0, 2 words) first, then destroy with that password in the Access Password field.
Lock or write fails on a protected tag	Wrong or missing access password.	Enter the tag's access password (eight hex digits) and try again.
Tracking stays at 0% or SEARCHING	The EPC is not exact, was not SET, or the tag is far away.	Check the EPC, tap **SET**, then sweep slowly; far tags answer only now and then.

Data and output

Symptom	Likely cause	What to do
TID or User shows "-" in tag details or exports	The output format asks only for the EPC.	Tick **TID** and/or **User ID** under **Output Format** and save.
Keyboard Emulator types nothing	Accessibility service off, or no text field selected.	Turn on **CX Flow Pro Keyboard** in Accessibility, switch on Keyboard Emulator, tap **SAVE SETTINGS**, and tap in a text field before pressing the right side button. Check Auto Mode is off.
Auto Mode posts nothing	URL, network or switch.	Check the URL starts with `https://` or `http://`, the reader has Wi-Fi or 4G data, Auto Mode is on, and you tapped **SAVE SETTINGS**.

Barcodes, import and battery

Symptom	Likely cause	What to do
Barcodes are not read in CX Flow Pro	Barcode source is off.	Switch on **Enable Barcode Scanner** and tick **Barcode / QR** under Scan Source.
Custom Scan will not import the sheet	The file is not .xlsx, or the columns are not recognised.	Save the sheet as .xlsx with an EPC column and an Item Name column in the first row.
Battery runs down during a shift	Long periods of full-power continuous reading.	Lower the power where you can, use Single trigger mode for spot checks, and carry a charged spare pack.

16/ 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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