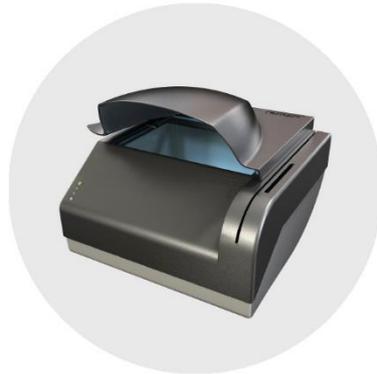


COMBO SMART N

ID AND PASSPORT SCANNER



USER'S MANUAL

Combo Smart N User's Guide

v. 1.3.0097

Document version: 2020-02-26

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DEVICE OVERVIEW

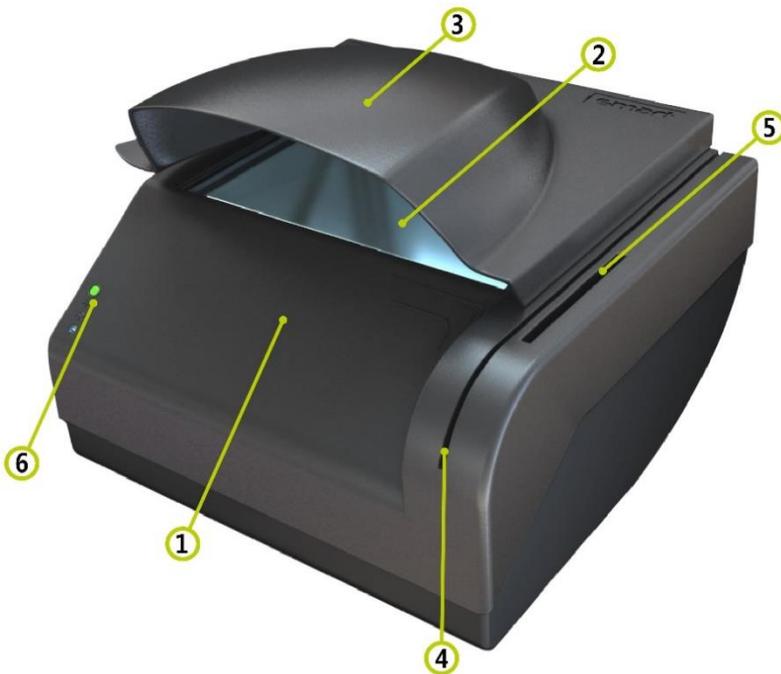
1. PACKAGE CONTENTS

- Network ID Scanner Reader Device
- 5V output power supply
- Power cord (EU)
- 1 pc of glass cleaning wipe

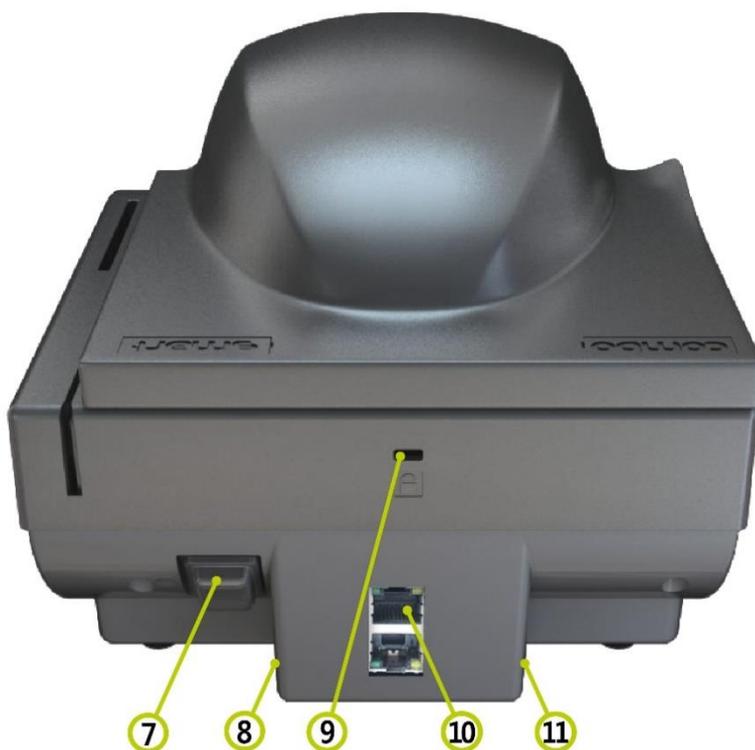
2. PRINCIPLE OF OPERATION

The Combo Smart N is a full-page, multi-purpose passport and ID reader that provides automatic, accurate data extraction and verification with the ability to read multiple types of identity documents: **passport, e-passport, ID cards, visas** and **driver licenses**. The printed data is extracted from the entire page (MRZ, VIZ and 1D & 2D bar codes) while digital data is obtained from contactless (RFID), contact smart chip (optional) and from magnetic stripes (optional). The available multiple illumination sources are visible white, IR and UV. A special feature of the Network ID Scanner is that it has a built-in PC which runs a fully functional webserver that is accessible virtually with any device once the reader is connected to a network. The recognized documents are processed by the device, no separate PC is needed to process the collected data.

3. PARTS AND COMPONENTS



The device is produced in a **plastic body** (1). The **object-plate** (2) is protected from the external light-striking by the **cover** (3). Optionally, the device is equipped with a **magnetic stripe reader** (4) and a **smart card reader** (5), located on the side of the device. The **status LEDs** (6), indicating the various states of the device, are installed on the front of the body.



The **On/Off switch** (7), the **USB socket** (8), the **Kensington® security slot** (9), the **Ethernet ports** (10) and the **power supply socket** (11) are located on the back of the device.

! Important

The USB socket is only suitable for the purpose of transferring data for storage (e.g. pendrive*, External Hard Drive).

*Feature is currently not available.

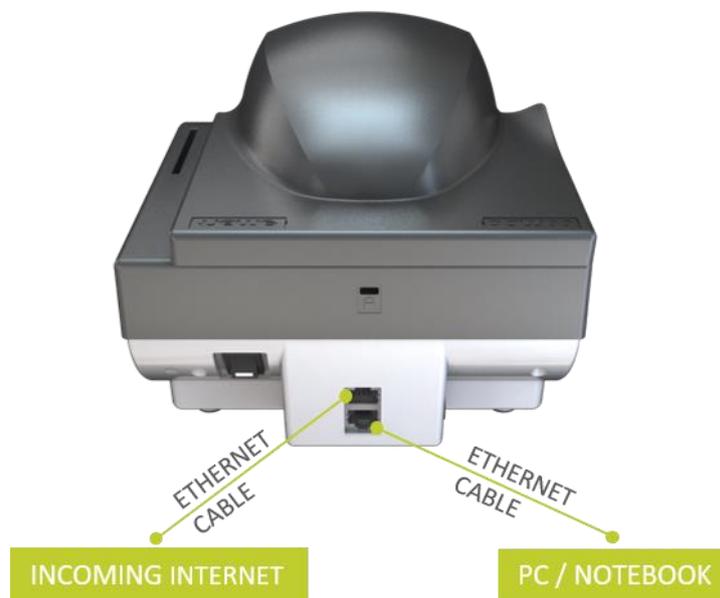
! Important

Please connect the Ethernet cable to the lower RJ45 socket.

The device has two Ethernet sockets due to the following:

In the case of being available only a single Ethernet connection point as well as switch can not be connected (e.g. due to network policy), then the incoming network traffic can be shared between the Combo Smart N and the PC in the following way:

Two Ethernet sockets are located on the back of the Combo Smart N, the upper one being a switch. Thereby the incoming Ethernet cable is to be connected to the upper RJ45 socket as well as with another Ethernet cable the lower RJ45 socket and the PC/notebook are to be connected.



4. MAINTENANCE

The device has no motorized moving parts which ensures maximum reliability and low maintenance. However, in order to ensure that the device remains in a satisfactory operating condition, regular maintenance is required.

To clean the device, do the following:

1. Turn the power switch off.
2. Clean the document window with a clean cloth. For stains that cannot be wiped off with a cloth, use a mild glass cleaner or a lightly dampened cloth (alcohol).

! Important

Do not use abrasive cleaners or solvents. These may scratch the glass or damage the plastic.

! Important

The device should not be operated with its object-plate exposed to direct sunlight.

3. Verify that there are no streaks or smudge spots remaining on the document window.
4. Clean the body of the reader with a lightly dampened cloth (water).

ACCESSING THE DEVICE

The Combo Smart N was developed to operate without any kind of special software. All processes are running on the built-in PC of the device. The webserver running on the scanner can be accessed with any other device (e.g. a laptop) that can log on to the network that the scanner is connected to.

SOFTWARE REQUIREMENTS

- For network setup, administrator (root) privileges are necessary.
- Web browser: We recommend using the latest versions of Firefox or Chrome.

1. ACCESSING THE WEB INTERFACE OF THE DEVICE FROM A BROWSER

1. Connect the device directly to a computer or network switch. Next, connect the power supply to the unit and switch the device on.

! Important

Only use the power supply that was shipped with the device.

2. Once the device is turned on, the status LED on the power button switches to green. The status LEDs found on the front of the device also turn on signaling that the device is booting up. After the booting process, the status LEDs are controlled as set up in the **SCAN PROCESS / LED CONFIG** menu. When the device is ready for operation, the orange, red and blue LEDs will turn off.

Note

If the device is not turned on, but the power adaptor is connected, the status LEDs on the Ethernet port of the device blink.

Note

Status LED operation of Combo Smart N devices can be customized via the web interface. In this manual, the default status LED configuration of Combo Smart N is detailed.

! Important

The IP addresses below are examples.

3. The device is set to receive IP address via DHCP. Please make sure that your network has a DHCP server in order to operate your network ID scanner.
4. Once IP address is assigned to the device, use the ping command to test communication with your network scanner:

```
ping -t {device IP address}
```

5. If the ping command fails, make sure that you:
 - check the Ethernet LEDs on the PC or the switch and device,
 - check whether the assigned IP address of the device can be pinged,
 - check proxy settings,
 - check that your browser is not set to offline mode.
 - check if the device can be accessed by its hostname via the following Windows PowerShell command: `Resolve-DnsName -Name COMBOSMARTN-{device type and serial number*} -Llmnronly`

*Type the serial number without the very first "1". E.g. 194987 instead of 1194987.

Note

The Resolve command only works under Windows 8 operating system and above.

Note

Link-Local Multicast Name Resolution Daemon: This protocol is implemented to search for Combo Smart N devices in a computer network. For more information on LLMNR, please refer to RFC4795 and the recently mentioned command.

E.g. `Resolve-DnsName -Name COMBOSMARTN-LR175009 -Llmnronly`

As a result of the above command, the device is listed together with its IP address:

Name	Type	TTL	Section	IPAddress
COMBOSMARTN-LR175009	AAAA	30	Answer	fe80::21d:4dff:fe00:60c2
COMBOSMARTN-LR175009	A	30	Answer	192.168.2.215

Note

The hostname of your device is COMBOSMARTN-LR{serialnumber}. The serial number of your device is printed to the sticker, at the bottom of your scanner.

If there is still no reply, power the device off, turn it back on and try to ping the device again via the IP address assigned to it.

6. Start a browser and enter the following into the browser's address bar:

`http://{IP address}:3000/#login`



The screenshot shows a web browser window displaying a login page. The page title is "Sign in v1.3.0097". There are two input fields: the first is labeled "owner" and the second is a password field with masked characters. Below the fields is a dark grey button with a right-pointing arrow and the text "Log in".

7. If all information was entered correctly, the following screen should come up in your browser window.

8. The default user account is the following:

Username: owner

Password: Owner123*

Note

The minimum length of the username is 5 characters and it can contain the following characters:

- a-z
- A-Z
- 0-9
- -
- .
- @
- -

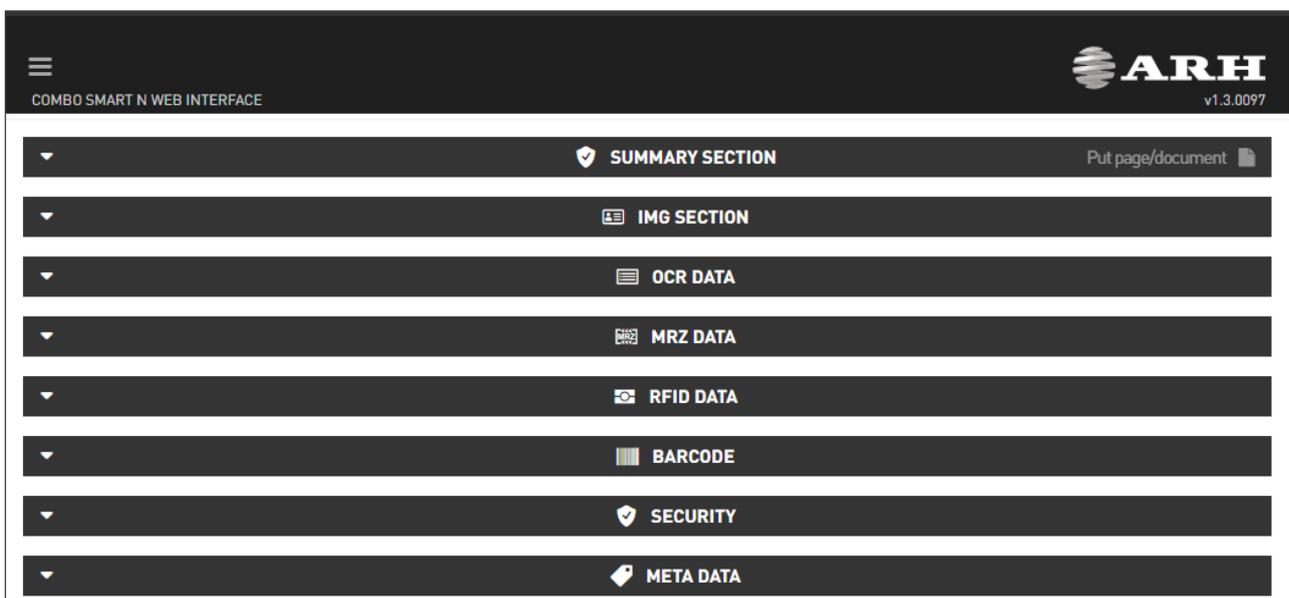
The minimum length of the password is 8 characters.

After logging in, each user is granted for a 10-minute-long session that is signaled by a counter at the bottom right corner of the browser window. This counter is reset upon changing menu, saving a form and after each scanning process.

! Important

Closing the browser does not terminate the session. Make sure to log out in order to allow other users from the same role to log in.

If you are signed in, you will find the following screen in your browser window:



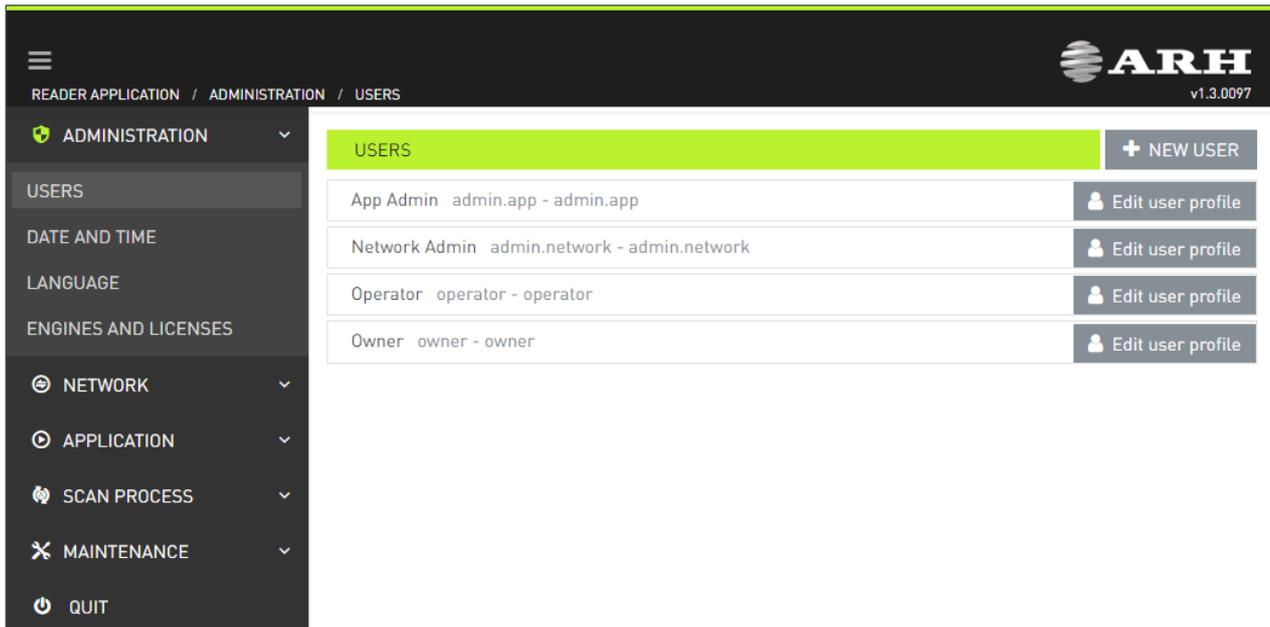
This is the home page, the **START APP** menu, where you can scan identity documents. Before scanning, it is important to check the **Main menu** (the three horizontal stripes; at the top left corner of the webpage) and perform the required settings.

Further on the elements of the **Main menu** will be explained.

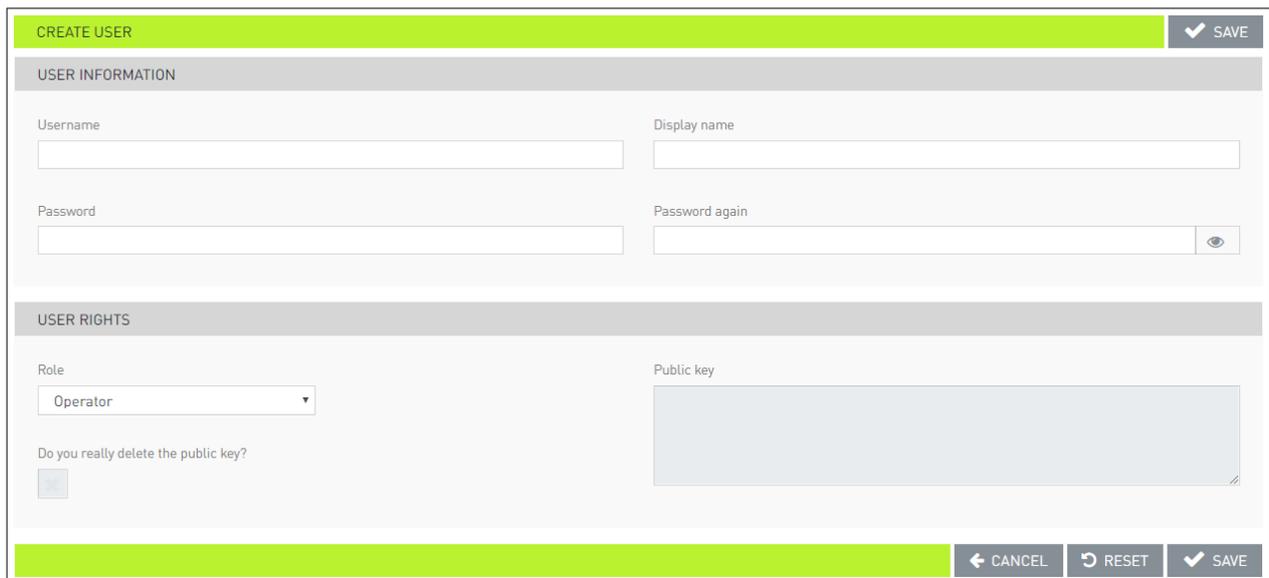
ADMINISTRATION

1. USERS

In the **USERS** menu, you can create and delete users, you can also change the passwords and the roles of the users. Click on the **[+NEW USER]** button to add a user.



The following window will appear.



CREATE USER ✓ SAVE

USER INFORMATION

Username: Display name:

Password: Password again:

USER RIGHTS

Role:

Public key:

Do you really delete the public key?

← CANCEL ↺ RESET ✓ SAVE

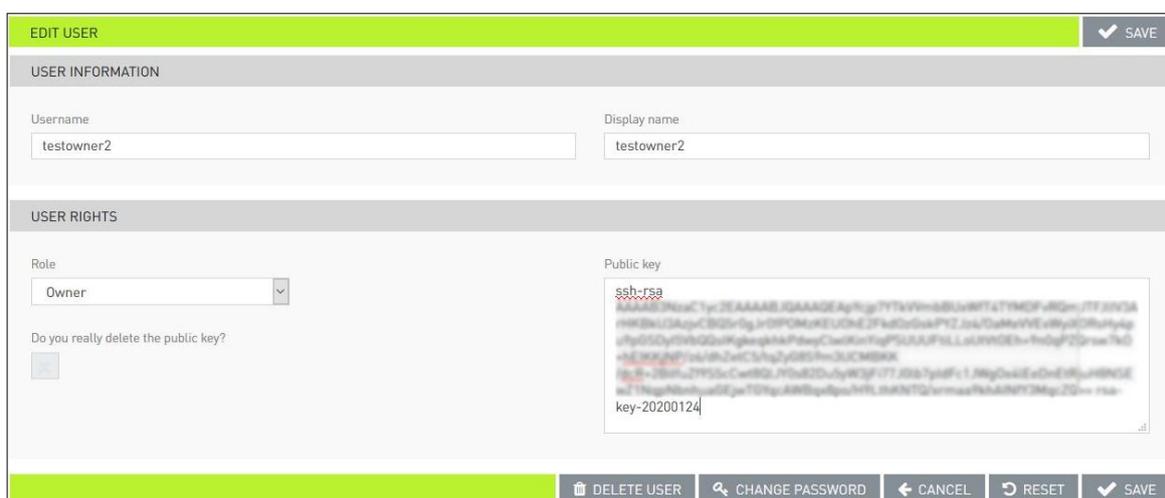
Fill out the **Username** and **Password** fields and select the role of the user. By clicking the **Eye** (👁) icon, you can either show or hide the password.

Display name is a nickname or alternative name that is displayed at the bottom right corner of the webpage.

When selecting **Role** for the user, the following options are possible:

	Start scanning process	Scan process menu	Admin menu	Network menu	Reboot and Restart	Application menu	Maintenance (except for reboot and restart)	Maintenance menu
Operator	✓							
Network admin			✓	✓			✓	
App admin		✓			✓			
Owner	✓	✓	✓	✓	✓	✓	✓	✓

Providing **Public key** is required only for establishing SSH connection to the device upon remote troubleshooting sessions. The **Owner** users can upload public key to the device: in the possession of the private key belonging to this public key, the device is accessible through SSH with a user named "baas" with limited rights. In order to use this function, the public key is to be copied to the **Public key** text field at the **EDIT USER** option. After a successful upload, SSH key based connection can be established (in the possession of the private key of the uploaded public key) with the "baas" user. The "baas" user has limited rights, the allowed operations for "baas" user can be listed with the "help" command. Furthermore, a diagnostic file named systeminfo (system-information_{timestamp}-UTC.zip) can be found in the default library of the "baas" user which can be created with the **Make logpack** button located in the **MAINTENANCE / SYSTEM INFORMATION** menu. This file contains useful information for the support team to fix the possibly experienced errors. It is important to mention that there is always only systeminfo file: by clicking on the **[Make logpack]** button the previous systeminfo file is automatically overwritten.



Once all the information is entered, click the **[SAVE]** button to create the new user.

 Note

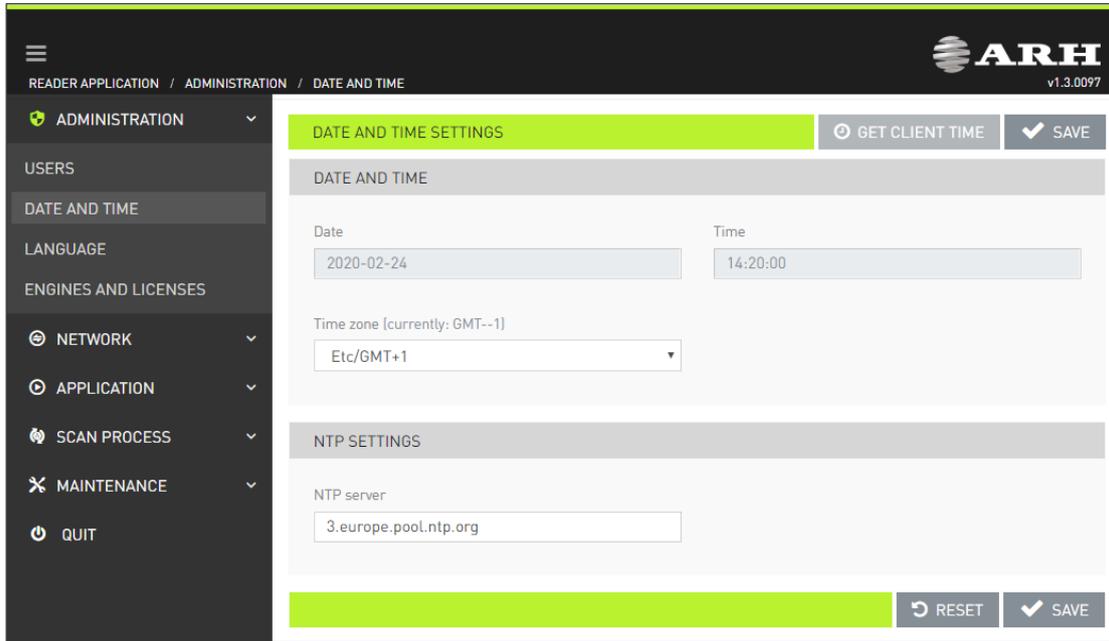
From each role, only one user can be logged in, at the same time. The only exception is the **Owner** that can be logged in together with other, non-owner users.

When an **Owner** is logged in, no user from any role can be logged in until the **Owner** logs out.

The created user will appear in the **USERS** menu.

2. DATE AND TIME

In the **DATE AND TIME** menu, you can set the server/device time and select a time zone.



The screenshot shows the ARH web interface for configuring date and time. The breadcrumb trail is 'READER APPLICATION / ADMINISTRATION / DATE AND TIME'. The left sidebar lists menu items: ADMINISTRATION, USERS, DATE AND TIME (selected), LANGUAGE, ENGINES AND LICENSES, NETWORK, APPLICATION, SCAN PROCESS, MAINTENANCE, and QUIT. The main content area is titled 'DATE AND TIME SETTINGS' and includes a 'GET CLIENT TIME' button and a 'SAVE' button. Below this, the 'DATE AND TIME' section contains input fields for 'Date' (2020-02-24) and 'Time' (14:20:00). A 'Time zone' dropdown menu is currently set to 'GMT--1' and shows 'Etc/GMT+1' as a selected option. The 'NTP SETTINGS' section has an 'NTP server' input field containing '3.europe.pool.ntp.org'. At the bottom, there are 'RESET' and 'SAVE' buttons.

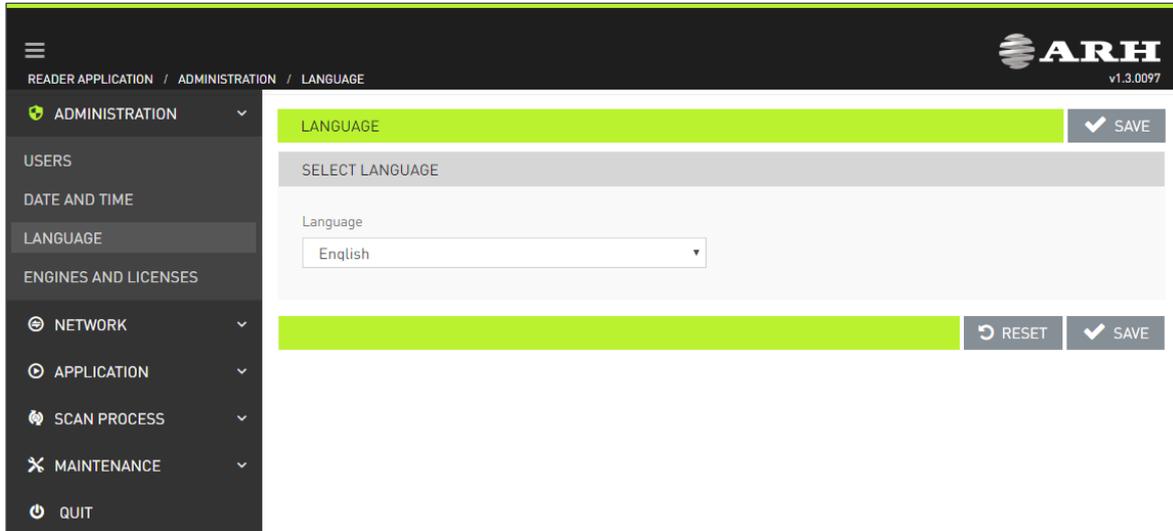
To configure the server/device time, simply type the **Date** and **Time** into the corresponding textboxes. As an alternative, click on **[GET CLIENT TIME]** to adjust date and time to what is set on your computer, tablet or phone. Once the time has been set, click on the **[SAVE]** button to save the changes.

You can configure the time zone by selecting one of the available options from the dropdown menu under **Time zone**.

In order to ensure constant accurate time on your device, the Combo Smart supports time synchronization with **NTP servers**. Enter a valid IP address or a fully qualified domain name of an NTP server to activate NTP sync.

3. LANGUAGE

In the **LANGUAGE** menu, you can select the language of your Combo Smart device web interface. After language is selected, click **[SAVE]** to apply changes.

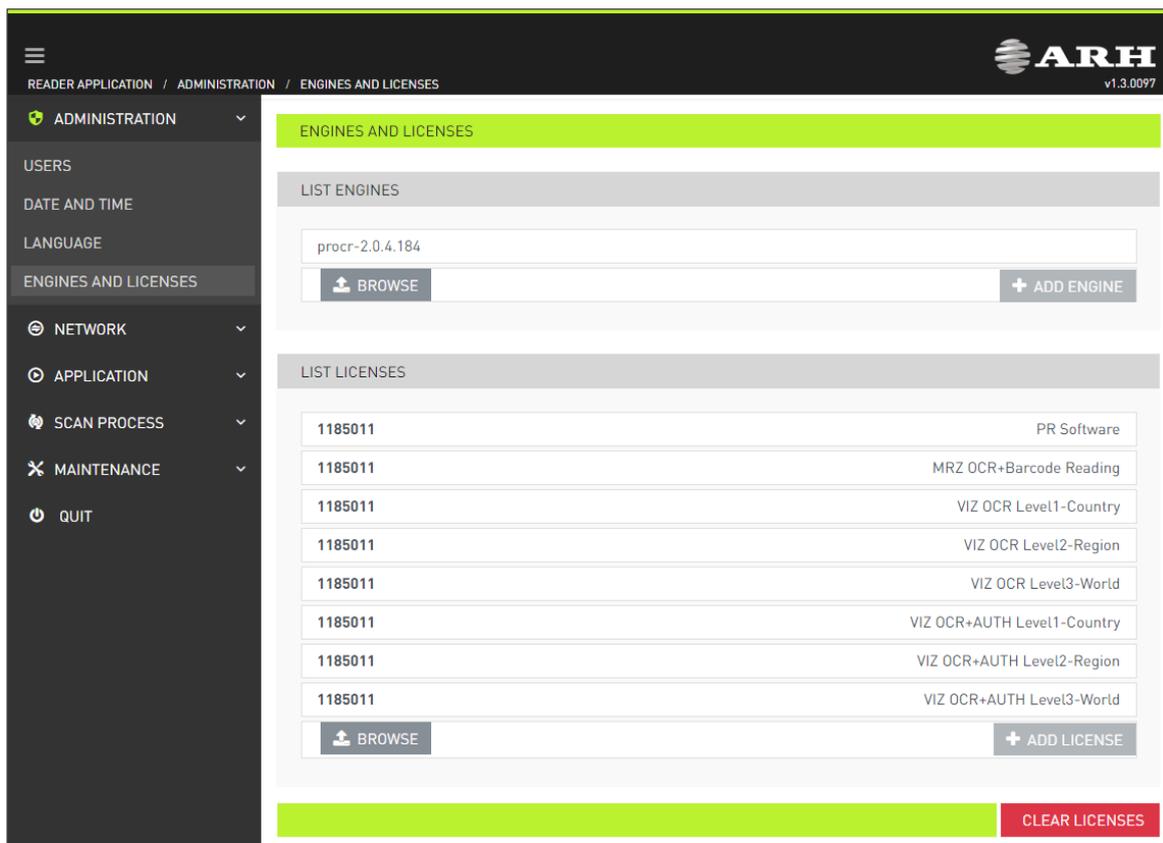


4. ENGINES AND LICENSES

The **ENGINES AND LICENSES** menu is designed to manage OCR engines and software licenses on the Combo Smart device.

The selected OCR engine defines:

- what data can be OCR-ed
- if authentication feature is available
- those documents that are supported for the above features



READER APPLICATION / ADMINISTRATION / ENGINES AND LICENSES

ADMINISTRATION

USERS

DATE AND TIME

LANGUAGE

ENGINES AND LICENSES

NETWORK

APPLICATION

SCAN PROCESS

MAINTENANCE

QUIT

ENGINES AND LICENSES

LIST ENGINES

procr-2.0.4.184

BROWSE + ADD ENGINE

LIST LICENSES

1185011	PR Software
1185011	MRZ OCR+Barcode Reading
1185011	VIZ OCR Level1-Country
1185011	VIZ OCR Level2-Region
1185011	VIZ OCR Level3-World
1185011	VIZ OCR+AUTH Level1-Country
1185011	VIZ OCR+AUTH Level2-Region
1185011	VIZ OCR+AUTH Level3-World

BROWSE + ADD LICENSE

CLEAR LICENSES

Note

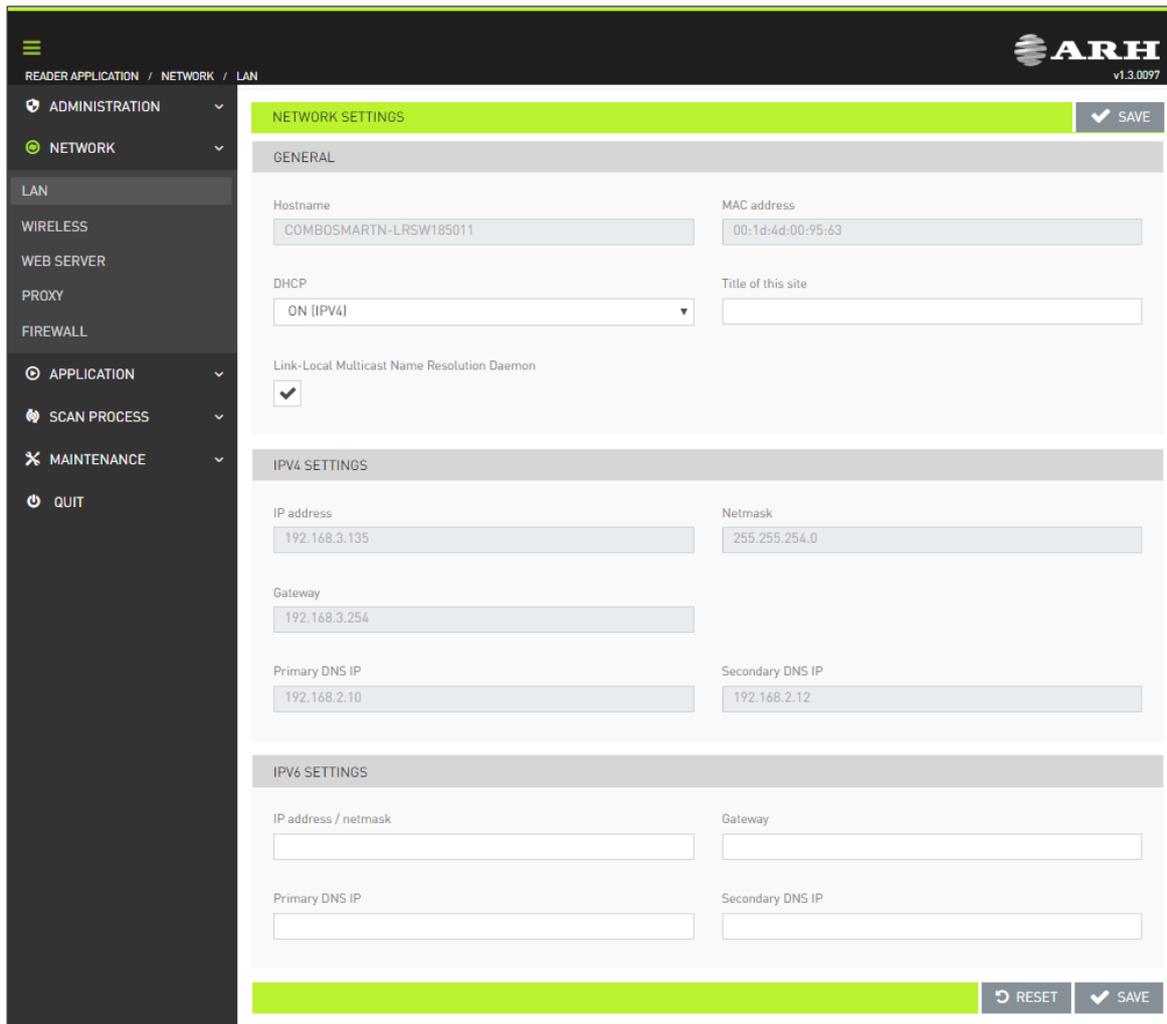
For availability and more information on OCR engines and software licenses, please contact your ARH sales representative.

NETWORK

1. LAN

In the **NETWORK** menu, you can inspect the **Hostname** and **MAC address** and also change **Netmask**, **DNS IP** as well as **IP address**-es of the Combo Smart N device.

Network parameters can be modified by users having owner or network admin privileges.



READER APPLICATION / NETWORK / LAN

ADMINISTRATION

NETWORK

LAN

WIRELESS

WEB SERVER

PROXY

FIREWALL

APPLICATION

SCAN PROCESS

MAINTENANCE

QUIT

NETWORK SETTINGS

GENERAL

Hostname: COMBOSMARTN-LRSW185011

MAC address: 00:1d:4d:00:95:63

DHCP: ON (IPv4)

Title of this site:

Link-Local Multicast Name Resolution Daemon:

IPV4 SETTINGS

IP address: 192.168.3.135

Netmask: 255.255.254.0

Gateway: 192.168.3.254

Primary DNS IP: 192.168.2.10

Secondary DNS IP: 192.168.2.12

IPV6 SETTINGS

IP address / netmask:

Gateway:

Primary DNS IP:

Secondary DNS IP:

RESET SAVE

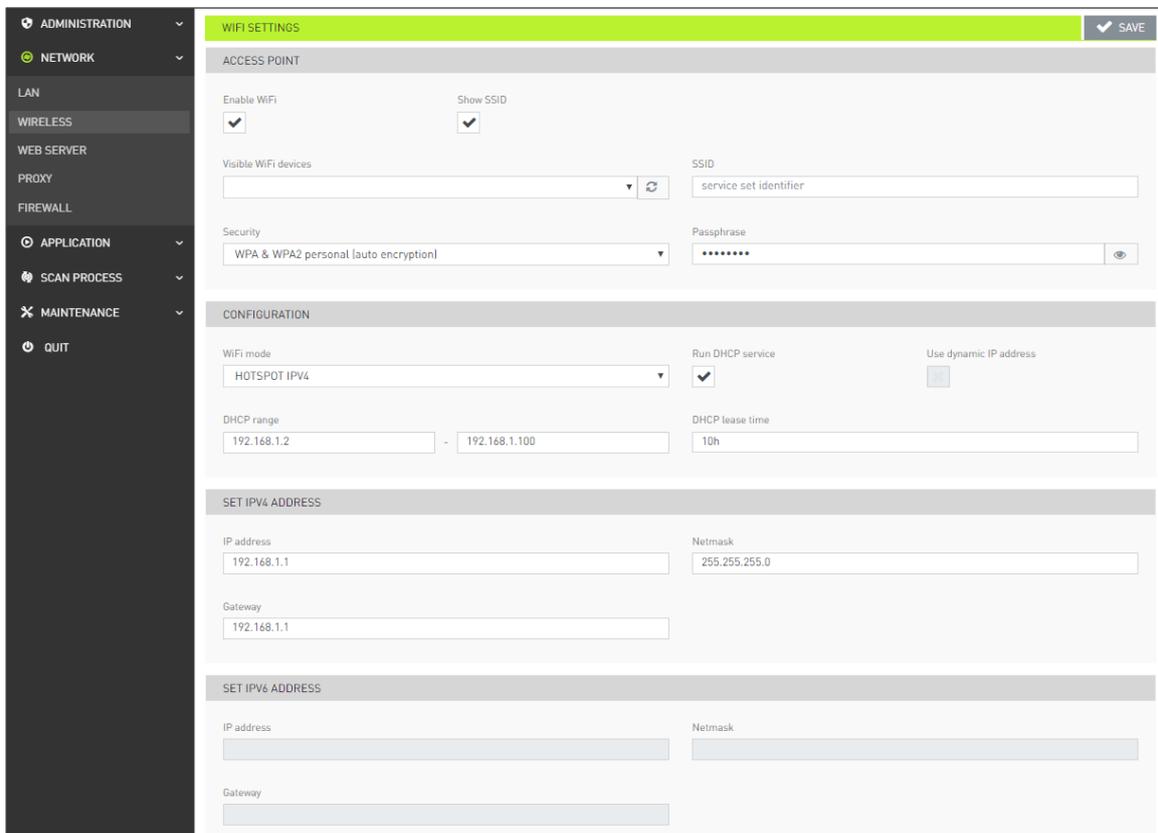
Once all the necessary changes have been made, click on **[SAVE]** to save your changes.

2. WIRELESS LAN

Note

WIRELESS LAN menu is present only if your device is equipped with WiFi module.

In the **WIRELESS LAN** menu, you can configure settings related to the wireless connection of the device. When using **STATION mode**, the Combo Smart N device connects to a network through WiFi (WiFi router) instead of Ethernet port. When using **HOTSPOT mode**, you may reach the device web interface via any WiFi device (mobile phone, tablet etc.) with a supported web browser.



At **ACCESS POINT** you can configure the SSID (name and password and visibility).

Under **CONFIGURATION** you can:

- Enable or disable WiFi
- Select the WiFi mode
- Configure the IP address and the Subnet Mask
- Select a range of IP addresses to be used for DHCP
- Select a lease time for the IP address provided via DHCP

Once all the necessary changes have been made, click on **[SAVE]** to save your changes.

2.1. WIFI TEST

With the WiFi test the device scans the WiFi networks and displays the ones available in the range in a list.

1. step: Main menu > NETWORK > WIRELESS

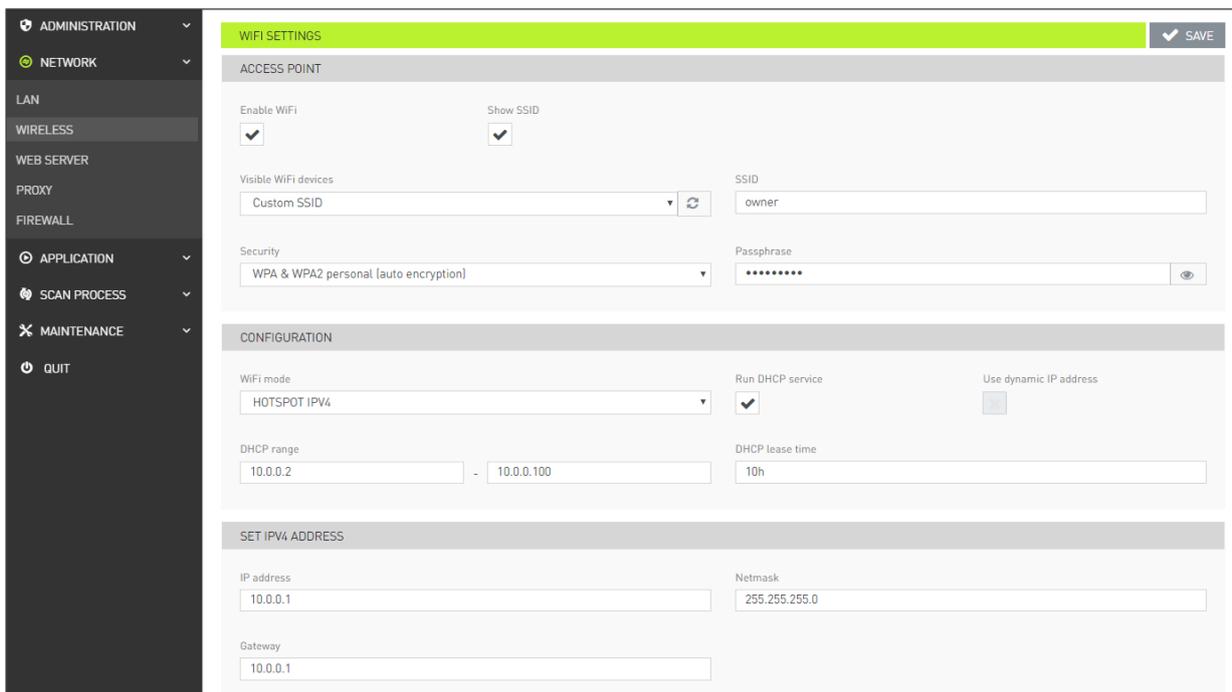
In the first place click on the **NETWORK** menu and select the **WIRELESS LAN** submenu.

At **ACCESS POINT** tick the boxes to **Enable WiFi** and **Show SSID**. Select Custom SSID from the dropdown menu of the **Visible WiFi devices**. Specify the **SSID** and the associated **Passphrase**. Choose WPA & WPA2 personal (auto encryption) from the dropdown menu of **Security**.

Under **CONFIGURATION** pick HOTSPOT IPV4 from the dropdown menu of **WiFi mode**. Tick the box to **Run DHCP service**. Type „10.0.0.2“ and „10.0.0.100“ into the **DHCP range** field and enter „10h“ into the **DHCP lease time** bracket.

At **SET IPV4 ADDRESS** type „10.0.0.1“ into the **IP address** field, as well as enter „10.0.0.1“ into the **Gateway** bracket and „255.255.255.0“ into the **Netmask** field.

Finally, click on the **[SAVE]** button and wait until the tick's color turns green to preserve the modifications.



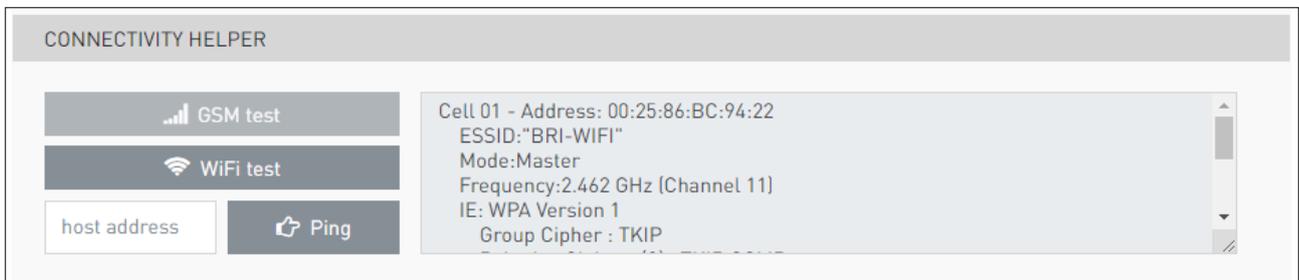
2. step: Main Menu > MAINTENANCE > SYSTEM INFORMATION

If you have set the settings above then click on the **MAINTENANCE** menu and select **SYSTEM INFORMATION** submenu.

Under **CONNECTIVITY HELPER** press the **[WiFi test]** button. In the rectangle next to that button you will get a list about the WiFi-s that the device has recognized. With this function the device scans the available WiFi networks which also means that the WiFi module works.

Note

If the device has not recognized any WiFi networks either it hasn't found other WiFi networks or the WiFi module hasn't worked well.



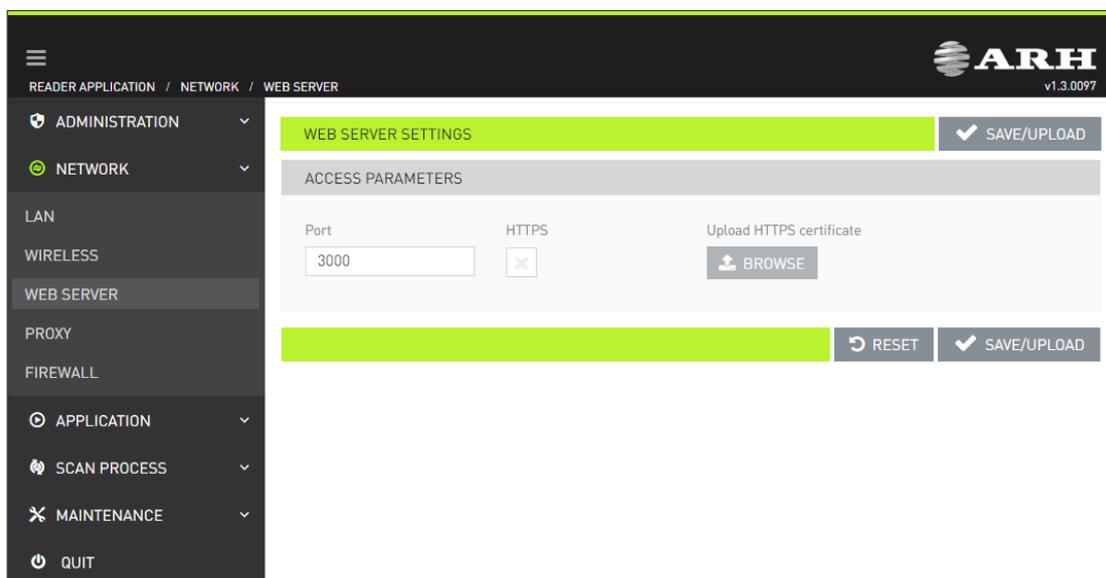
3. WEB SERVER

In the **WEB SERVER** menu, you can configure the parameters of accessing the web interface of the device. Such parameters include the following:

- set the port of the web server - this port value is present in browser address bar:



- enable or disable HTTPS (requires HTTPS cert. for both the web browser and web interface)
- upload a HTTPS certificate for accessing the web interface of the device



Port

To change the port number simply click into the **Port** text field and enter a desired port number. Make sure to click **[SAVE]** to apply any modified value.

HTTPS

To enable or disable the use HTTPS protocol for device communication, simply check or uncheck the checkbox next to **HTTPS**.

HTTPS Certificate

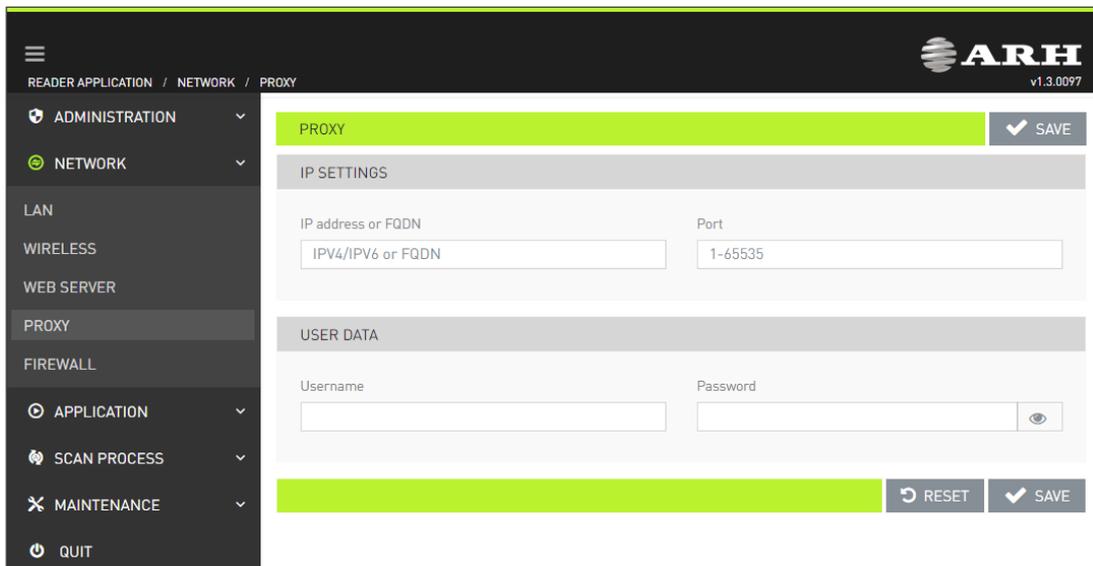
To upload a HTTPS certificate, click on the **[BROWSE]** button and select the certificate by clicking on that you want to upload by clicking on **[Choose file]**.

Note

In order to appear admin interface of the device as trusted website, your certificate must be installed to your web browser manually.

4. PROXY

When uploading any image or data to a remote server, there might be a need to configure a proxy server - if such server is used to establish connection between the device and the target network then its parameters can be set in the **PROXY** menu:

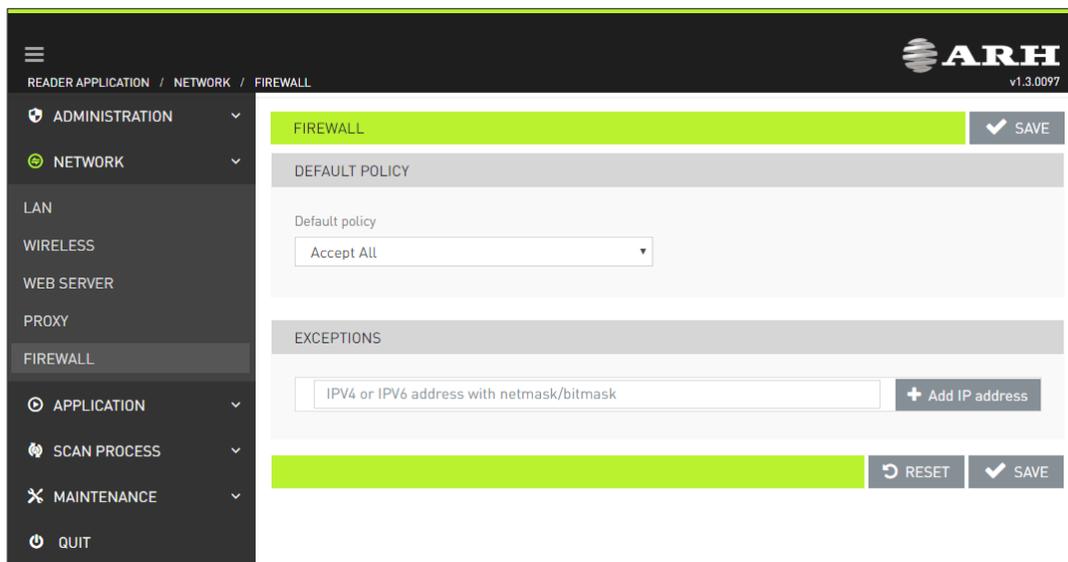


IP address or FQDN and **Port** of the Proxy server can be set in the corresponding text fields by simply typing the desired values. If the Proxy server requires authentication, set the **Username** and **Password** in the **USER DATA** section. Make sure to click **[SAVE]** to apply any new values.

5. FIREWALL

The **FIREWALL** menu is designed to limit access to the web interface of the device by allowing connections only from specific IP addresses. In order to activate this feature, just select **Reject All** at the **Default Policy** option and make sure to add at least one valid IP address that can be used to access the device at **EXCEPTIONS** section. After typing the IPV4/6 address with netmask/bitmask, click **[+Add IP address]** to add exception to the white list.

If **Accept All** is selected and an exception is specified, then the device allows connection from any IP address except from the one at **EXCEPTIONS**.



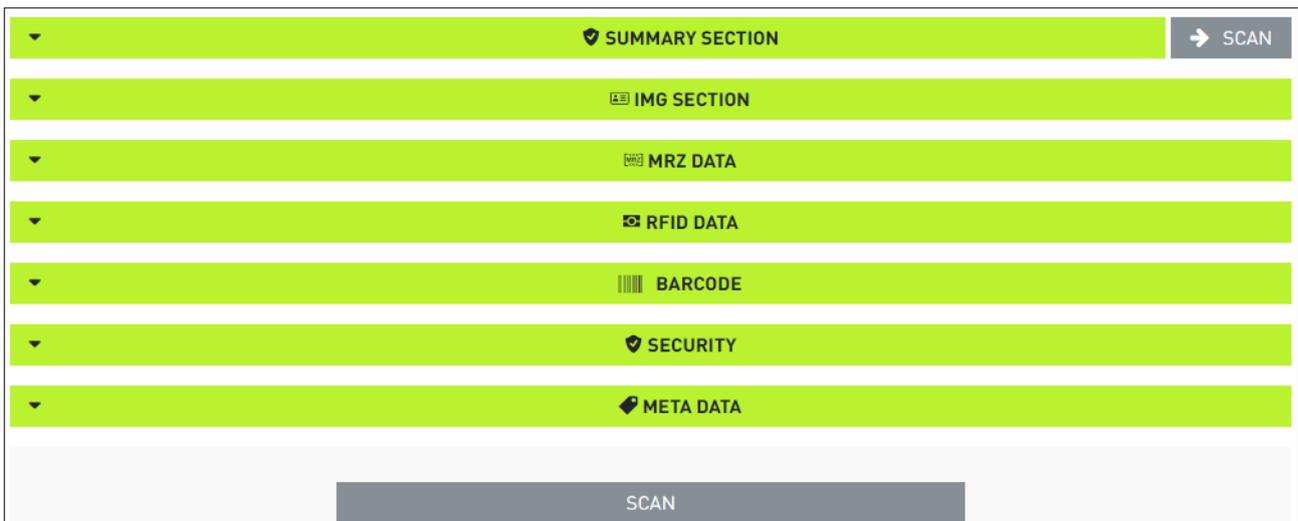
! Important

If no exception is specified for the **Reject All** option, the device will be no longer accessible via its web interface. Make sure to add at least one exception when using the **Reject All** mode.

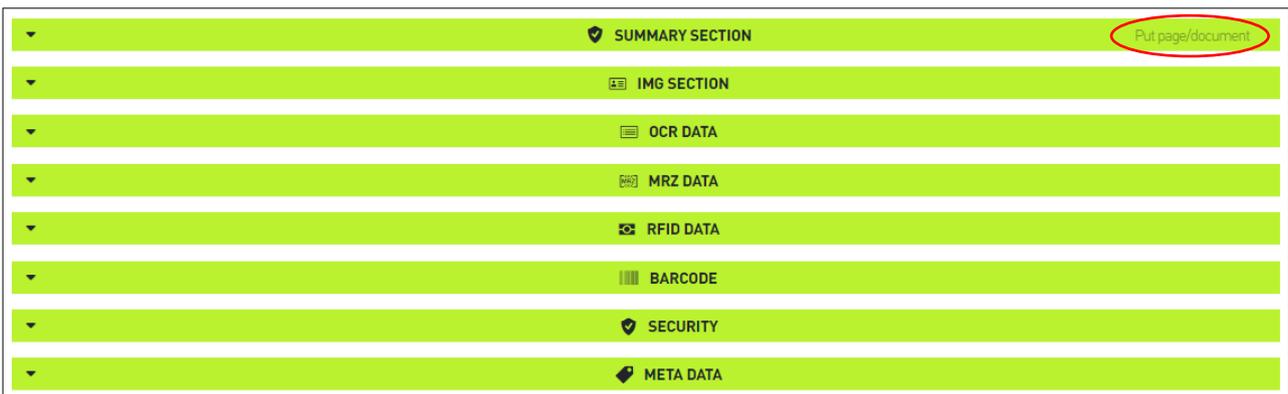
APPLICATION

1. START APP

The Combo Smart N device includes a built-in application to scan document images, perform OCR and authentication, read barcodes and RFID chip information and to send the results to a specific target. In **Interactive** scan mode (see on [Page 29](#)) just click **[SCAN]** to scan & process a document.



In **AutoScan** mode (see on [Page 29](#)) just wait until **Put page/document** can be seen on the screen (in the line of **SUMMARY SECTION**).



Note

The pictograms appearing in the upper right corner indicate the phases of the reading process depending on the given scanning mode. For more details on the pictograms and their meanings see [Reading Phases](#).

Acquired information from a document scan is organized into different sections, based on the content of the read data. By default, the **Application** displays the following sections:

1.1. SUMMARY SECTION

The **SUMMARY SECTION** reflects the overall status of document validity. Here you can inspect the image of the document as well as segmented MRZ data and RFID image (if available). The **Data extracted** and **Document genuine** sections provide feedback on whether the read data is correct (valid values with correct checksum) and genuine (result of security checks including RFID authentications).

If any of the check fails, the **Data extracted** and/or **Document genuine** sections turn to red.

If either the **Data extracted** and/or **Document genuine** section is red, the color of **SUMMARY SECTION** tab also turns to red.

▲
✔ SUMMARY SECTION
Remove page/document 📄

	<table border="0" style="width: 100%;"> <tr> <td style="width: 40%;">Name</td> <td>MUSTERMANN ERIKA</td> <td></td> </tr> <tr> <td>Gender</td> <td>F</td> <td></td> </tr> <tr> <td>Birth date</td> <td>640812</td> <td></td> </tr> <tr> <td>Issue country</td> <td>D</td> <td></td> </tr> <tr> <td>Issue date</td> <td>-</td> <td></td> </tr> <tr> <td>Expiry date</td> <td>270719</td> <td></td> </tr> <tr> <td>Document number</td> <td>C01XYN1JL</td> <td></td> </tr> </table>	Name	MUSTERMANN ERIKA		Gender	F		Birth date	640812		Issue country	D		Issue date	-		Expiry date	270719		Document number	C01XYN1JL	
Name	MUSTERMANN ERIKA																					
Gender	F																					
Birth date	640812																					
Issue country	D																					
Issue date	-																					
Expiry date	270719																					
Document number	C01XYN1JL																					

✔ Data extracted
✔ Document genuine

1.4. RFID DATA

In the **RFID DATA** section, data read from the RFID chip of the document is displayed. These data include segmented MRZ line information (DG1 in ePassports) as well as RFID face image (DG2 in ePassports).

▲
RFID DATA



P	D	C01XYN1JL	MUSTERMANN
D	640812	-	F
-	-	270719	

1.5. BARCODE

If you scan a document with barcode on it, image of the barcode and its decoded data is displayed in this section. Make sure to configure which barcodes would you like to read in the **SCAN PROCESS / BARCODE SETTINGS** menu before capturing a document with barcodes.

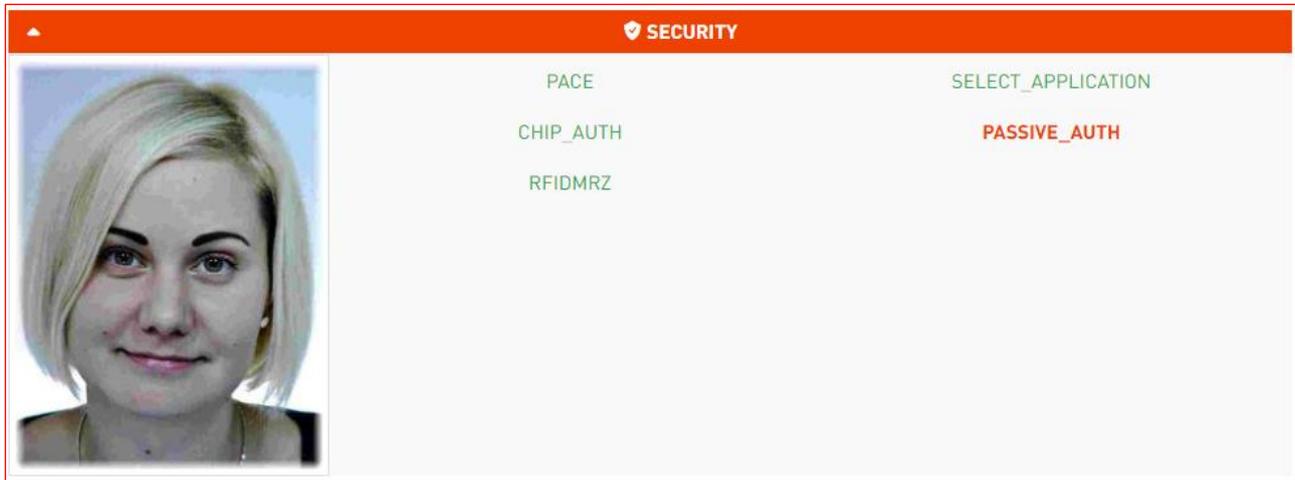
▲
BARCODE



9348000000031165693/

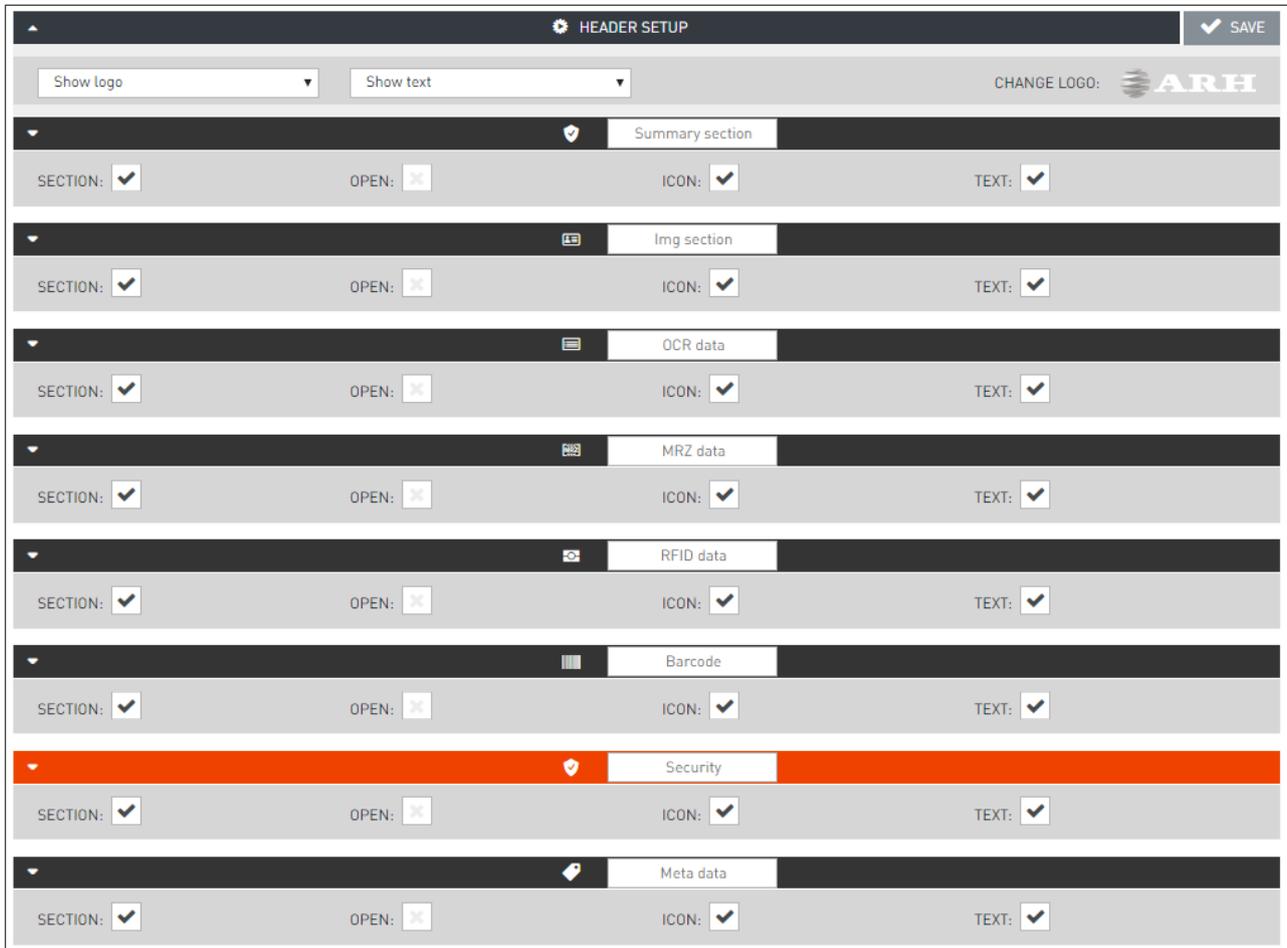
1.6. SECURITY

The **SECURITY** tab displays the result of all security checks performed on the document. If any of them fails, it is displayed in red.



2. EDIT APPLICATION

In order to meet different user requirements, the reader Application can be fully customized using the **EDIT APPLICATION** option.



HEADER SETUP				
Show logo	Show text	CHANGE LOGO:	ARH	
Summary section				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
Img section				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
OCR data				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
MRZ data				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
RFID data				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
Barcode				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
Security				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	
Meta data				
SECTION: <input checked="" type="checkbox"/>	OPEN: <input type="checkbox"/>	ICON: <input checked="" type="checkbox"/>	TEXT: <input checked="" type="checkbox"/>	

Starting with the header of the Application (**Show logo**, **Show text** and **CHANGE LOGO** options), each section can be customized in the following aspects:

SECTION: If selected, the section is present in the Application.

OPEN: If selected, the Application shows the contents of the section by default.

ICON: If selected, the icon - next to the title of the section – is displayed in the Application.

TEXT: If selected, the title of the section is displayed.

Besides the above options, the fonts and colors used in the Application can also be customized at the **COLOR SETUP** and **FONT SETUP** sections.

COLOR SETUP								✓ SAVE
Original	Header	Page	Section title	Status line	ABC	ABC	ABC	ABC
Yellow	Header	Page	Section title	Status line	ABC	ABC	ABC	ABC
Blue	Header	Page	Section title	Status line	ABC	ABC	ABC	ABC
Black	Header	Page	Section title	Status line	ABC	ABC	ABC	ABC

FONT SETUP				✓ SAVE
<input checked="" type="checkbox"/> DINPro	<input type="checkbox"/> TimesNewRoman	<input type="checkbox"/> ArialBold	<input type="checkbox"/> LucidaConsole	
Sample text...	Sample text...	Sample text...	Sample text...	

3. HISTORY

The Combo Smart N device is equipped with internal storage space to save images and data of scanned documents. This feature can be activated by selecting the local_database option in the **SCAN PROCESS / RESULT UPLOAD** menu and together with zip format (**PACKAGE FORMAT** menu).

Note

The available storage space highly depends on the number of installed OCR engines. Refer to the **SYSTEM INFORMATION / DISK** section on detailed information on used disk space.

Once documents are saved, they can be browsed in the **HISTORY** by using multiple filter criteria. For filtering time periods, use the date format of the MRZ lines (e.g. 210919 stands for 2021 September 19).

BROWSE HISTORY

SEARCH OPTIONS

Surname	<input type="text"/>	Given names	<input type="text"/>
Validity period	<input type="text"/> - <input type="text"/>	Type	<input type="text"/>
Date of birth	<input type="text"/> - <input type="text"/>	Nationality	<input type="text"/>

Besides document fields like **Surname**, **Given names**, validity **Period**, **Type**, **Nationality** and **Date of birth**, advanced searches can also be performed to list documents according to the following criteria:

- Documents with OCR error
- Documents with security issue
- Documents belonging to male and female bearers
- Documents having a specific document number

▲ ADVANCED SEARCH

OCR error <input style="width: 90%;" type="text" value="Each"/>	Security error <input style="width: 90%;" type="text" value="Each"/>
Document No <input style="width: 90%;" type="text"/>	Sex <input style="width: 90%;" type="text" value="Each"/>
Metadata <input style="width: 90%;" type="text"/>	

			SEARCH
30 items			
P ADAPTIVE RECOGNITION HUNGARY SAMPLE 910214 / A00000003	2020-01-30 16:08:51	✓	👁 Load
P KARPATI VIKTORIA 920228 / HU1234560	2020-01-30 16:05:13	⚠	👁 Load
P BEN DAVID HADAR 780119 / 00000000	2020-01-30 16:04:19	⚠	👁 Load
I MESZAROS BRIGITTA ERZSEBET 790815 / 000378AE	2020-01-30 16:02:58	✓	👁 Load
P MUSTERMANN ERIKA 640812 / C01XYN1JL	2020-01-30 16:01:43	✓	👁 Load

4. FILE UPLOAD

The Combo Smart N device provides support to upload and process document packages that have been created earlier, using zip format (**SCAN PROCESS / PACKAGE FORMAT**).

The zip format includes document images, OCR-, and RFID data as well.

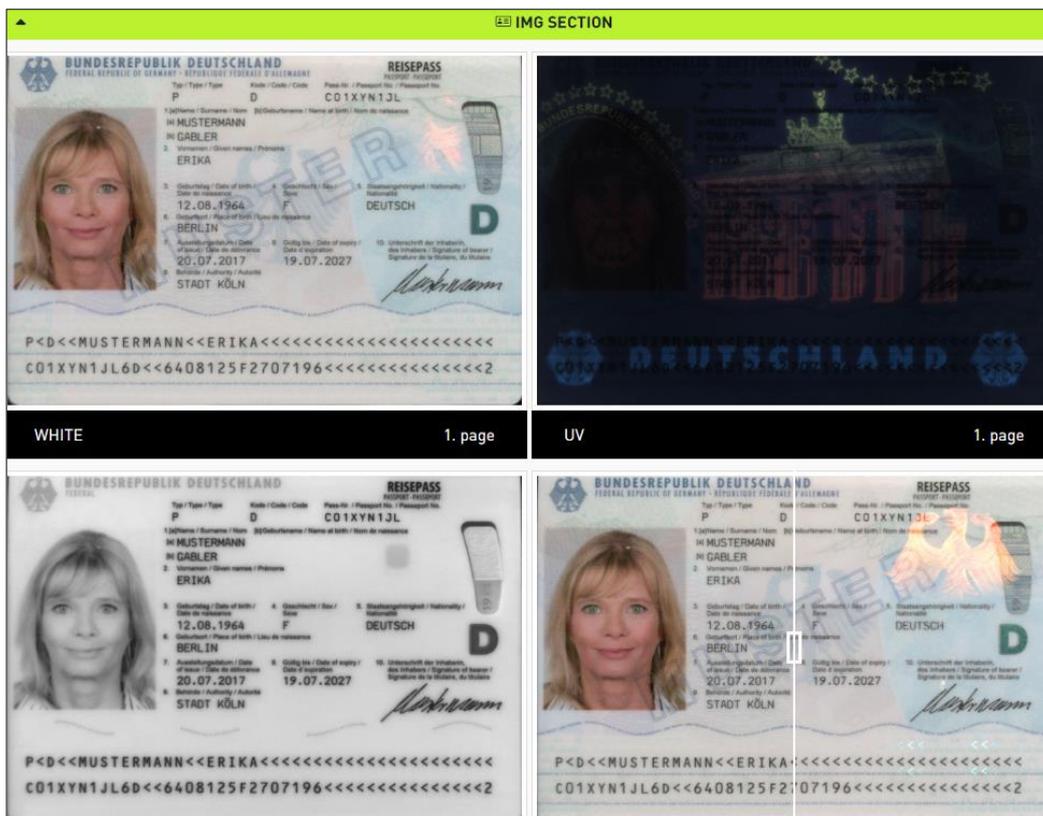
Note

Only those zip files can be loaded that have been saved by Combo Smart N devices.

Just browse a .zip file that was saved before and click **[UPLOAD]**. After that, click on **[VIEW]** to display the results in the Application:



After clicking **[VIEW]**, the images and data from the .zip file is displayed as if it were a result of a live scanning process:



SCAN PROCESS

1. MAIN CONFIGURATION

Under the **MAIN CONFIGURATION** menu, users can set the following:

- SCANNING OPTIONS

- When **Interactive** scanning mode is selected, capturing a document is triggered manually by the user, upon click on **[SCAN] (START APP)** menu).
- When **AutoScan** mode is selected, reading of a document is automatic, based on the built-in motion detection feature of the Combo Smart N.
- The **Number of pages** option specifies the number of pages to be scanned from the same document. For ID card scanning, it can be set to 2 while for passports it should be 1.

Note

In the case of documents with 2 pages you must choose the illumination types of the 2nd page too.

- Switch on/off **Automatic document cropping and rotation** and **logging** (the latter should be used for troubleshooting purposes involving ARH support team).



The screenshot shows the 'MAIN CONFIGURATION' screen with a 'SAVE' button in the top right. Under the 'SCANNING OPTIONS' section, there are several settings: 'Scan mode' is a dropdown menu currently showing 'AutoScan'; 'Number of pages' is a text input field containing the number '2'; 'Document cropping and rotation' is a checkbox that is checked; 'Face comparison' is another checked checkbox; and 'Log level' is a text input field containing '0-9'.

- PACKAGE UPLOAD OPTIONS

- By using the **Auto** mode at **AutoSend**, every scanned document is automatically uploaded via the protocol selected at **Communication protocol**, in a format selected at **Package Type**. If **Approve** mode is selected, document is uploaded only upon user confirmation, by clicking on the **[Approve]** button, at the bottom of the App.

Note

Configuration of any upload protocol can be done in the **RESULT UPLOAD** menu, by clicking on the corresponding **[Edit]** button.

- The uploaded package contains **Image type** as specified in the corresponding checkbox. If ".jpeg" is selected, its compression is configured as specified at **Jpeg compression**.
- The **Email notification** option is designed to send automatic emails upon scanning a document. Make sure to configure parameters of Email notification at **SCAN PROCESS / RESULT UPLOAD** in order to use this function.

PACKAGE UPLOAD OPTIONS

AutoSend <input style="width: 90%; border: 1px solid #ccc;" type="text" value="Auto"/>	Package type <input style="width: 90%; border: 1px solid #ccc;" type="text" value="zip"/>
Image type <input style="width: 90%; border: 1px solid #ccc;" type="text" value=".png"/>	Jpeg compression <input style="width: 90%; border: 1px solid #ccc;" type="text" value="1-100"/>
Communication protocol <input style="width: 90%; border: 1px solid #ccc;" type="text" value="local database (Local database)"/>	Email notification <input style="width: 30px; height: 20px; border: 1px solid #ccc;" type="checkbox"/>

- **SITE OPTIONS**

Users can also change the **Site title** of Combo Smart N web interface website in browsers.

SITE OPTIONS

Site title

↻ RESET

✓ SAVE

2. LIGHT SETTINGS

In the **LIGHT SETTINGS** menu, users can select the illumination types of the image capturing process.

Note

In order to perform complete OCR and authentication tasks, images should be captured under **INFRA**, **WHITE** and **UV** lights as well.

The **Flip timeout** value specifies a time interval between capturing two sides of the same document. If the time specified here is up before entering the second page of a document, then scanning is performed automatically. This feature is designed to avoid endless waiting if second page of a document is not scanned for some reason.

CONFIGURE LIGHT SETTINGS
✓ SAVE

SELECTED ILLUMINATIONS

1. page

WHITE: UV: INFRA: OVD:

2. page

WHITE: UV: INFRA: OVD:

FLIP SETTINGS

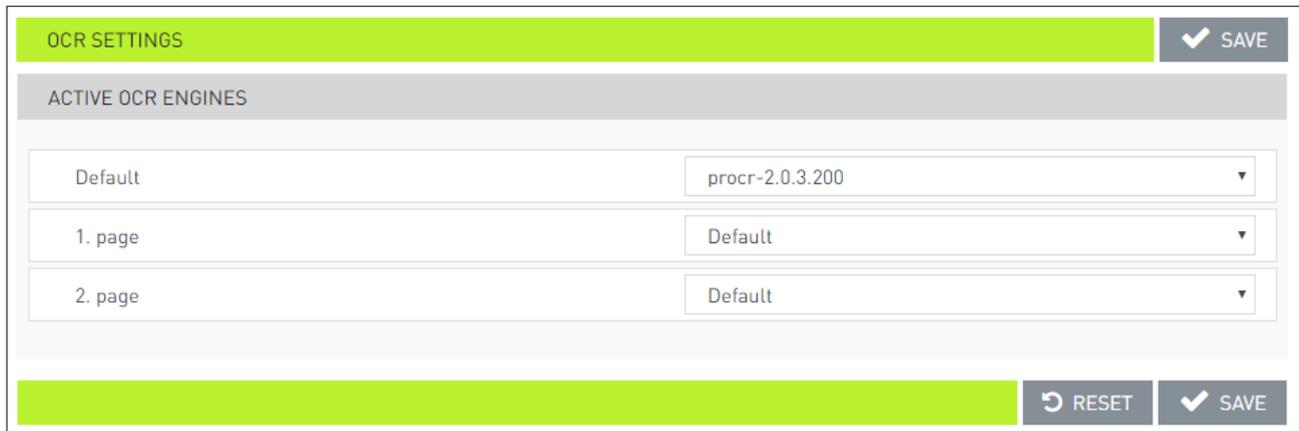
Flip timeout (seconds)

↺ RESET
✓ SAVE

3. OCR SETTINGS

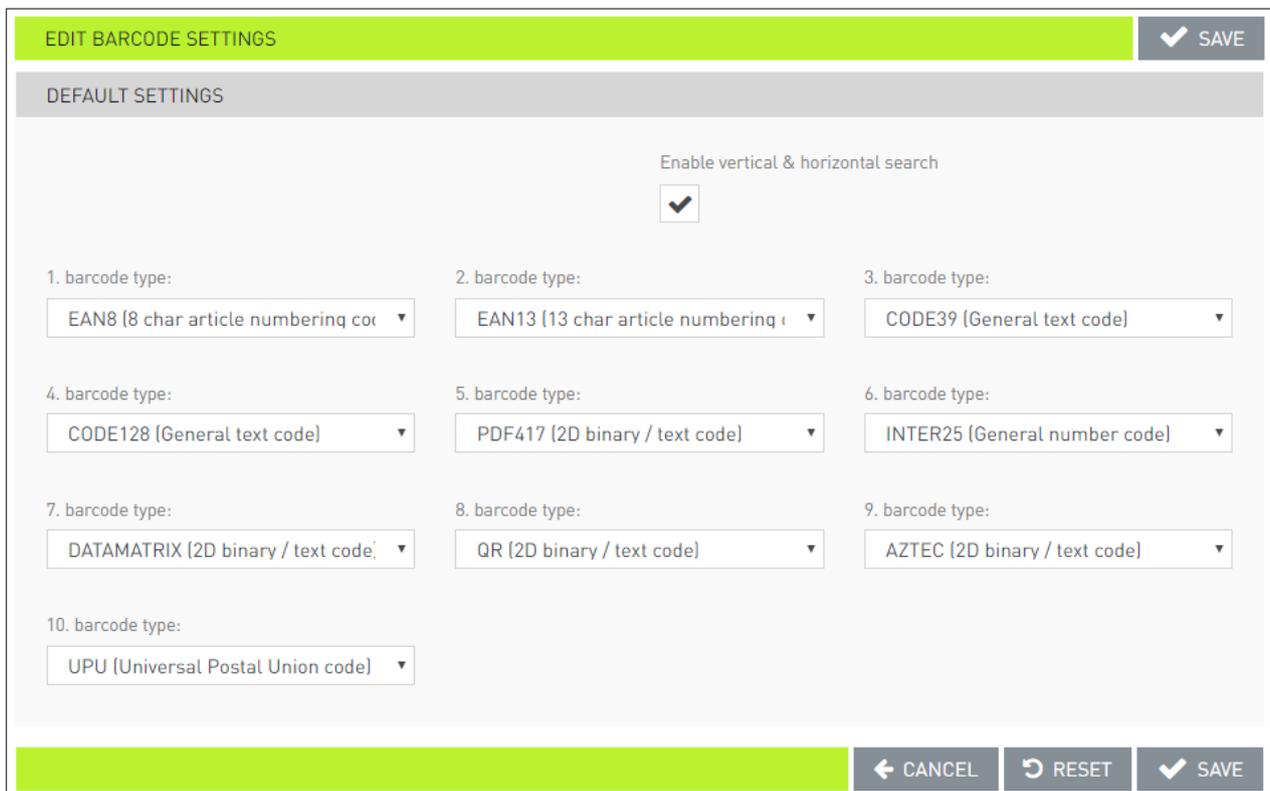
Using the **OCR SETTINGS** menu, users can configure which OCR is used for scanning the 1st and the 2nd page (front side & back side) of document.

For more information on OCR engines, please contact your ARH sales representative.



4. BARCODE SETTINGS

In the **BARCODE SETTINGS** menu, users can also specify which barcode types should be searched for on the first and second pages of scanned documents. Just click on **[Edit]** to customize the settings of the **1. page**, **2. page** or both (**Default:**).



If the **Enable vertical & horizontal search** option is disabled, barcodes are read only if positioned on the document window in horizontal direction. Such settings enable very fast barcode reading option e.g. for boarding passes.

In order to configure the Application to read any barcode, all the available types should be selected in the **barcode type** textboxes. The barcode reading algorithm first searches for barcodes specified in **1. barcode type** then for ones specified in **2. barcode type** and so on.

5. RFID SETTINGS

In the **RFID SETTINGS** menu, users can

- Select the RFID scanning mode (**Off/Default/Advanced**)
- Select which RFID authentication should be performed (**PA, AA, CA, TA**)
- Which RFID files should be read from eDocuments (**DG1...DG16**)
- Upload RFID certificate usable for Passive Authentication (PA)

RFID SETTINGS
✓ SAVE

GENERAL

RFID reading mode

AUTHENTICATION OPTIONS

Passive authentication <input checked="" type="checkbox"/>	Active authentication <input checked="" type="checkbox"/>	Chip authentication <input checked="" type="checkbox"/>	Terminal authentication <input checked="" type="checkbox"/>
---	--	--	--

FILE OPTIONS

DG 1 <input checked="" type="checkbox"/>	DG 2 <input checked="" type="checkbox"/>	DG 3 <input checked="" type="checkbox"/>	DG 4 <input checked="" type="checkbox"/>
DG 5 <input checked="" type="checkbox"/>	DG 6 <input checked="" type="checkbox"/>	DG 7 <input checked="" type="checkbox"/>	DG 8 <input checked="" type="checkbox"/>
DG 9 <input checked="" type="checkbox"/>	DG 10 <input checked="" type="checkbox"/>	DG 11 <input checked="" type="checkbox"/>	DG 12 <input checked="" type="checkbox"/>
DG 13 <input checked="" type="checkbox"/>	DG 14 <input checked="" type="checkbox"/>	DG 15 <input checked="" type="checkbox"/>	DG 16 <input checked="" type="checkbox"/>

↺ RESET
✓ SAVE

rfid_cert/GermanMasterList20190618.cer ✖

UPLOAD CERTIFICATE

Upload

✓ UPLOAD

6. LED CONFIG

When the scanner is used in **AutoScan mode**, the users can follow the process of document processing with the help of the status LEDs. Every step of automatic scanning can be configured to display a specific combination of status LEDs, for a specific time:

LED CONFIGURATION			
Ethernet error		   	 Edit
Before establishing connection		   	 Edit
After establishing connection		   	 Edit
Client Unauthorized		   	 Edit
Motion detection before 1st page		   	 Edit
Scanning 1st page		   	 Edit
Motion detection after 1st page		   	 Edit
Motion detection before 2nd page		   	 Edit
Scanning 2nd page		   	 Edit
Motion detection after 2nd page		   	 Edit
RFID chip reading		   	 Edit
Before package upload		   	 Edit
After package upload	1 x 5000ms	   	 Edit
Error		   	 Edit
Before waiting for removing document	2 x 5000ms	   	 Edit
After waiting for removing document		   	 Edit

For more details on the automatic document scanning process, see [Appendices](#).

Upon clicking on any **[Edit]** button, each stage can be configured according to the following:

CONFIGURE LED BEHAVIOR
✓ SAVE

BEFORE ESTABLISHING CONNECTION

<p>Green</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Off ▼</div>	<p>Orange</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Off ▼</div>
<p>Red</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Off ▼</div>	<p>Blue</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Blink ▼</div>
<p>Beep</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">0-100</div>	<p>Beep length</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">0-60 000</div>

← CANCEL
↺ RESET
✓ SAVE

Just select **On** or **Blink** to activate a LED. For the LED signal, the Combo Smart N can also assign a **Beep** sound to signal the current state of the document reading process. The number of **Beeps** can be max. 100 per LED status. The maximum **Beep length** is 60.000 milliseconds. The length of pauses among each beep is equal to the set beep length.

7. CLIPBOARD COPY

The **CLIPBOARD COPY** feature is designed to copy OCR-ed fields to the clipboard automatically, after scanning a document. This function can be customized for different document types:

CLIPBOARD COPY CONFIGURATION	
Default (default)	 Edit
Passport (P)	 Edit
Identity card (I)	 Edit
Driving licence (D)	 Edit

Upon clicking **[Edit]**, the feature can be activated by selecting the **Enable clipboard copy** option and the document fields to be copied to clipboard can be selected (**Basic field** – if only one field is required), **First...Fourth field** – if more than one field is required.

EDIT CLIPBOARD (PASSPORT)
 SAVE

BASIC SETTING

Use default settings

Enable clipboard copy

COPYABLE BASIC FIELD

Basic field

Surname

COPYABLE DOCUMENT EXTRACT

First field

Given names

Second field

Nationality

Third field

Date of birth

Fourth field

Place of birth

 CANCEL
 RESET
 SAVE

8. PACKAGE FORMAT

The Combo Smart can upload images and data to remote targets packed into different formats:

- The Combo Smart N-specific **zip** includes images OCR-, and RFID data as well, packed into a single zip file. This kind of package can also be uploaded to the Application and displayed like results of any live scan.
- The **csv** format contains RFID and OCR data (text) only as a comma separated list
- The **PDF** format includes OCR, RFID information as well as document images including cropped face photo. This format is optimized for printing.

PACKAGE FORMAT CONFIGURATION	
zip (zip)	<input checked="" type="checkbox"/>
csv (csv)	<input type="checkbox"/>
PDF (pdf)	<input type="checkbox"/>

! Important

Please select the package format in the **SCAN PROCESS** menu at the **MAIN CONFIGURATION** ([PACKAGE UPLOAD OPTIONS](#)).

9. RESULT UPLOAD

The Combo Smart N supports numerous saving options and communication protocols for uploading document images and data to remote targets. Configuration of each protocol can be performed in this menu.

RESULT UPLOAD	
Local database	✓ Edit
WS	Edit
WSS	Edit
FTP	Edit
SFTP	Edit
FTPS	Edit
SMTP	Edit
SMB	Edit
WebDav	Edit

The Combo Smart N built-in storage offers a feature to save scanned information to the device directly.

In order to activate this function, click on **[Edit]** in the line of the **Local database**, then just type "local_database.db" into the **Local database URL** field and specify a **Row limit** for your database. Also, make sure to select Local database at **Communication protocol** option ([MAIN CONFIGURATION](#)).

EDIT RESULT-UPLOAD		✓ SAVE
LOCAL_DATABASE [LOCAL DATABASE]		
Local database URI	Row limit	
<input type="text" value="local_database.db"/>	<input type="text" value="30"/>	
		← CANCEL ↺ RESET ✓ SAVE

Besides uploading data to remote hosts, the Combo Smart N also supports sending automatic Email notifications on scanned documents.

EMAIL NOTIFICATION

From <input style="width: 95%;" type="text" value="sender@email.com"/>	To <input style="width: 95%;" type="text" value="recipient@email.com"/>
Subject <input style="width: 95%;" type="text" value="Notification email test"/>	Carbon Copy (cc) <input style="width: 95%;" type="text"/>
Body <div style="border: 1px solid #ccc; padding: 5px; min-height: 60px;">Test body content</div>	

↻ RESET
✓ SAVE

Just fill in the standard email parameters and configure SMTP settings in **SCAN PROCESS / RESULT UPLOAD / SMTP** menu as well as make sure to enable the **EMAIL NOTIFICATION** option in the [MAIN CONFIGURATION](#) menu.

📌
Note

For setting up communication protocols, please contact your IT department or system integrator.

10. SOAP

With the **SOAP** function you can exchange messages through web commands. In the **SCAN PROCESS / SOAP** menu you can turn on/off this function.

📌
Note

This functionality is currently under development.

SOAP

SOAP FILE TRANSFER SETTING

SOAP status <input style="width: 95%;" type="text" value="SOAP turned off"/>	Port <input style="width: 95%;" type="text" value="8080"/>
---	---

↻ RESET
✓ SAVE AND REBOOT

MAINTENANCE

The **MAINTENANCE** section provides device information for support team and engineers upon any troubleshooting process.

1. SYSTEM INFORMATION

The Combo Smart N is equipped with a built-in PC. Current status of different elements of this PC can be observed here.

2. UPDATE

The purpose of the **UPDATE** menu is to provide an easy-to-use device firmware update feature for users with **Owner** privileges. Update files can be browsed and uploaded after clicking on the corresponding buttons. For availability of device updates, please contact your sales representative.

3. BACKUP

The **BACKUP** option is designed to offer a feature to save all device settings and to load it back in the future, at any time. Backup options helps to avoid data loss upon any mayor software or hardware damage.

4. RESTART

Use the **RESTART** option to apply any new network-, or operation related change in device configuration. On restart, all application of the device is restarted but its operating system remains fully operable.

5. REBOOT

Reboots the operating system of the device together with all its application. After reboot, all modules and programs are started automatically.

QUIT

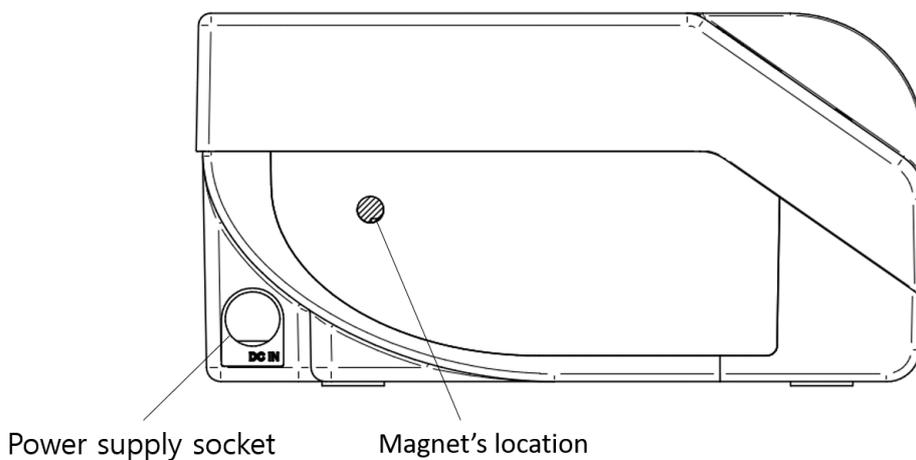
Use the **QUIT** option to log out from the device.

SYSTEM RECOVERY

With the System Recovery the original manufacturer settings are restored, therefore every saved and stored data is erased.

To perform System Recovery by magnetization, do the following:

1. Turn the power switch off.
2. Touch a magnet (not included) to the left side of the device, to the point exactly as seen below and hold it in position.



3. Turn the power switch on.
4. You have to wait while the blue LED on the front of the device flashes (about 4-5 minutes starting from the flashing of the LED) in case the magnet is in the right place.
5. Remove the magnet if the blue LED is continuously on.

Note

You can also remove the magnet if the blue LED has flashed 6-7 times.

6. Afterwards the factory settings are valid so you only can reach the device via its default IP address. Before accessing the web interface of the device wait about 1-2 minutes.
7. After the first scanning it is recommended to restart the device (**MAINTENANCE / RESTART**).

Note

The recommended strength of the magnet is 1210 mT (millitesla).

READING PHASES

1. MARK OF THE READING PHASES IN INTERACTIVE MODE



- **Arrow icon:** the **SCAN** button is clickable, by clicking on it the reading process begins
- **Card icon:** the document reading is in progress
- **Plug icon:** waiting for standby status
- **Transmission tower icon:** placing the result of the reading in upload queue
- **Upload icon:** upload is in progress

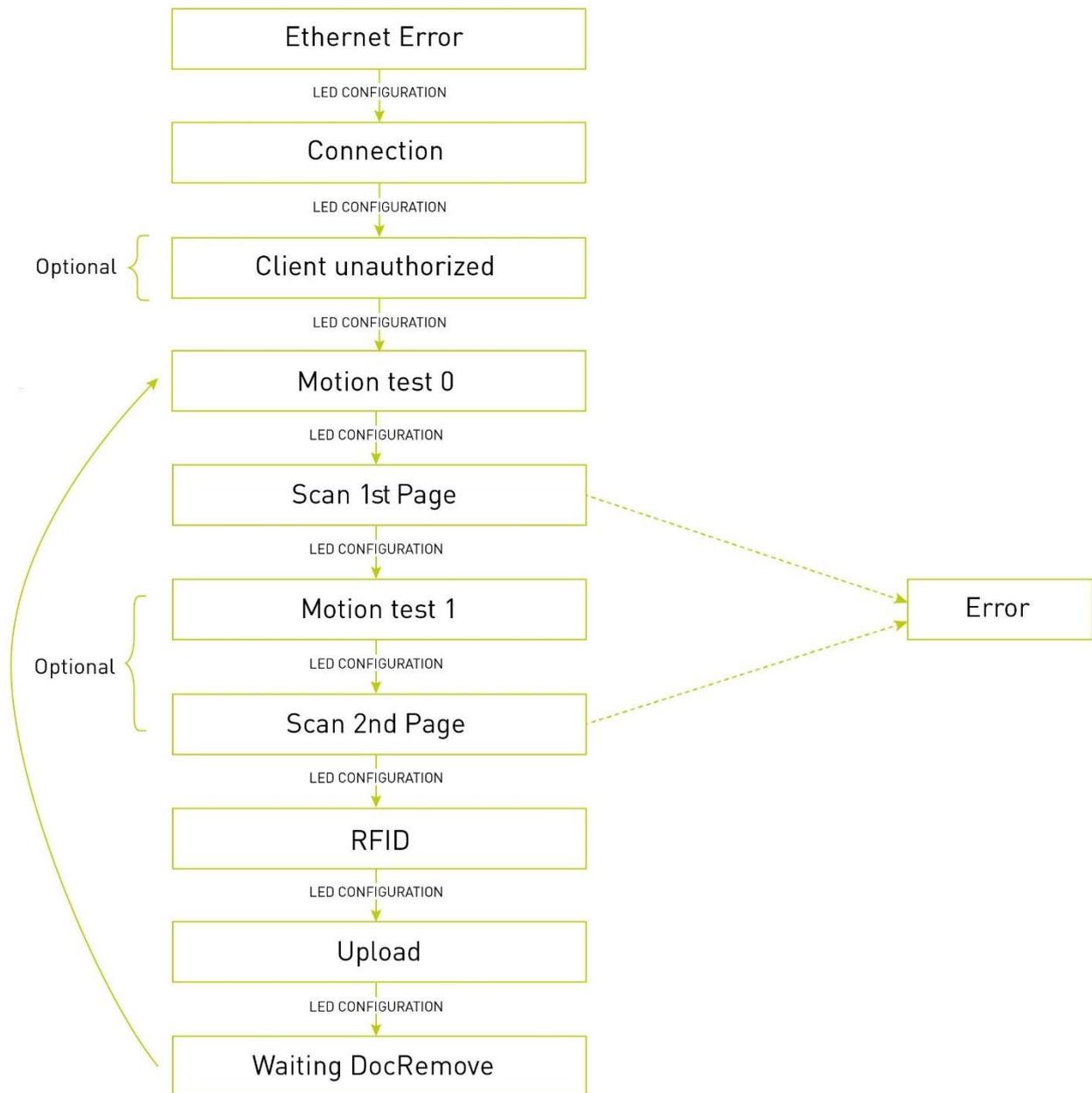
2. MARK OF THE READING PHASES IN AUTOSCAN MODE



- **Plug icon:** waiting for standby status
- **Transmission tower icon:** placing the result of the reading in upload queue
- **"Remove page/document":** waiting for the removal of the document
- **"Put page/document":** waiting for the insertion of the document
- **Card icon:** the document reading is in progress
- **Upload icon:** upload is in progress

APPENDICES

AUTOMATIC DOCUMENT PROCESSING STAGES



CONTACT INFORMATION

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ARH Technical Support System (ATSS) is designed to provide you the fastest and most proficient assistance, so you can quickly get back to business.

Information regarding hardware, software, manuals and FAQ are easily accessible for customers who previously registered to enter the dedicated ATSS site. Besides offering assistance, the site is also designed to provide maximum protection while managing your business information and technical solutions utilized.

New User

If this is your first online support request, please create an account by clicking on this [link](#).

Returning User

All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.

If you need assistance with login or registration, please contact atsshhelp@arh.hu for help.