COGNEX

DataMan® Handheld WebUI

Reference Manual

2025 December 17

Legal Notices

Symbols

The following symbols indicate safety precautions and supplemental information:

WARNING: This symbol indicates a hazard that could cause death, serious personal injury or electrical shock.

CAUTION: This symbol indicates a hazard that could result in property damage.

Note: This symbol indicates additional information about a subject.

Tip: This symbol indicates suggestions and shortcuts that might not otherwise be apparent.

Table of Contents

Getting Started

This section provides general information about the DataMan WebUI.

About the DataMan WebUI

The DataMan WebUI provides an intuitive interface for managing your DataMan 8700 readers. The WebUI streamlines configuration and monitoring tasks. Key features include:

- Live code review: View real-time images of the codes being read by your DataMan reader directly within the WebUI.
- Unified platform: The DataMan 8700 WebUI is consistent across all models, simplifying deployment by consolidating common controls into a single page.
- Real-time impact: Explore how different options affect the reader or base station in real time.
- No additional downloads required: You no longer need to download and install additional software.
- Fast setup: Save time by not having to download and install software. Systems take just a few minutes to deploy.

You can access the WebUI from the following browsers:

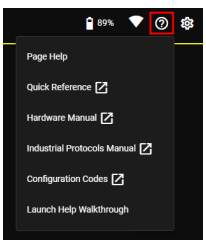
- Google Chrome
- Microsoft Edge
- Apple Safari
- Mozilla Firefox
- Opera

The following table lists the models supported with the WebUI. The WebUI is supported for all DM8700 DX, DQ, HD, and LX models.

Model	Type		Communication
DMR-8700DX-USB	Corded reader with USB slide-in and power supply		USB A and C
DMR-8700DX-E	Corded reader with Ethernet slide-in		Ethernet
DMR-8700DX-B-USB	Bluetooth reader with USB base, battery and PSU	**Note**: Bluetooth readers must be paired with the base station to display the WebUI.	USB A and C
DMR-8700DX-B-E	Bluetooth reader with Ethernet base and battery		Ethernet

Note: The Bluetooth Direct Connect, RS-232, and Wi-Fi communication types are not supported with the WebUI.

You can access help information from the WebUI by clicking the Help (**?**) icon:



About This Release

This release focuses on introducing the WebUI, an easy User Interface for DataMan 8700 readers and making the setup time faster than before.

Connecting to the DataMan WebUI

Perform the steps described to connect to your DataMan 8700 WebUI. These steps apply to both Ethernet and USB readers.

Note: USB readers always receive a random link local IPv4 address automatically to connect with.

Turn on your handheld reader and connect it to a PC. There are two ways of connecting your reader to the WebUI: using MAC address or IP address.

MAC address

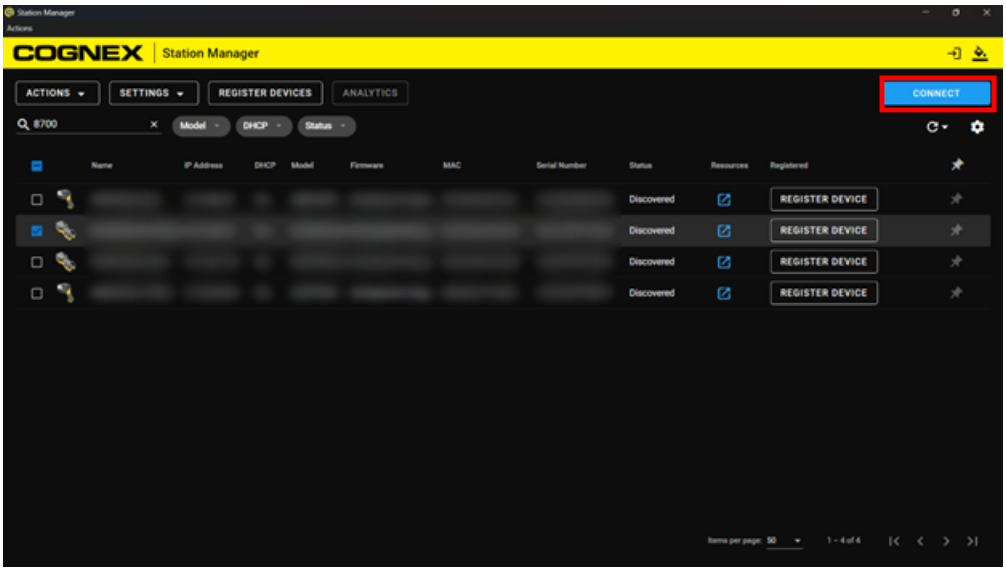
1. The MAC address can be found on the sticker of your reader:

2. Type in the MAC address into the web browser followed by `.local`. For example: `00D0243139DC.local`.

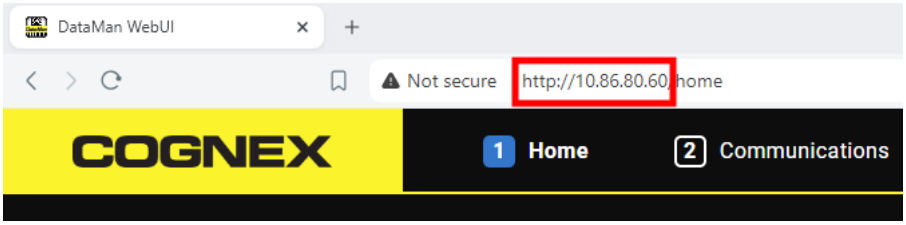
IP address

1. You can find the IP address on the OLED screen or in the Cognex Device Discovery Utility:
   a. OLED screen: Turn on the reader by pressing one of the buttons on the back. Navigate to the left of the main screen.

   b. Cognex Station Manager: Additional software download needed, please see the Cognex Support site for more information. Use the Cognex Station Manager tool to connect to mycognex.com and register all your Cognex readers. You can manage all your readers, view and find the IP address on the network. Type the IP address directly into the search bar, or click **Connect**.



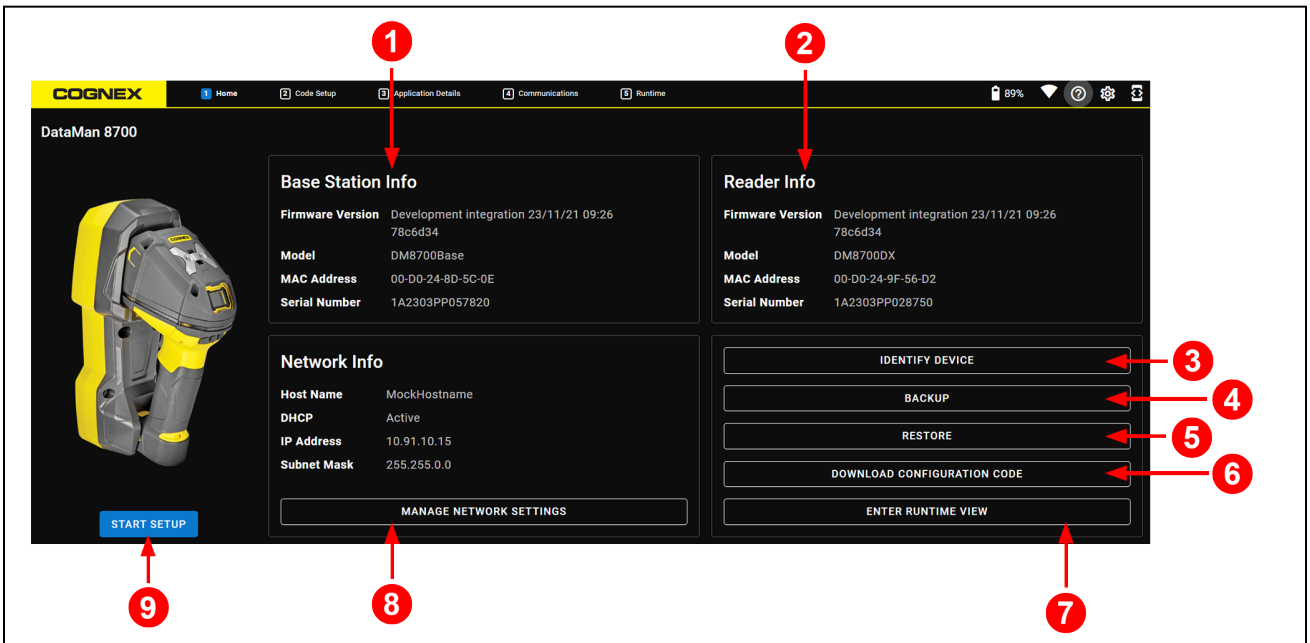
2. Type your IP address into the web browser: For example: `10.86.80.60`



Home

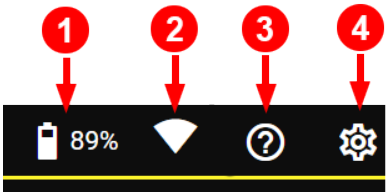
The **Home** step provides an overview of your reader and serves as a central hub for reader management and configuration.

Note: For wireless readers, the reader tab is grayed out if the reader is out of range or not connected to the base station.



Number	Element
1	Information about the base station. **Note**: This panel is not present with corded readers.
2	Information about the reader.
3	The **Identify Device** button activates the ring light indicator of the reader.
4	The **Backup** button saves the configuration to a backup file.
5	The **Restore** button opens the window to upload the selected backup file.
6	The **Download Configuration Code** button downloads the current reader configuration as a 2D code.
7	The **Enter Runtime View** button takes you to the **Runtime** step, where you can see the reader reading barcodes in real time.
8	Information about the network. Click **Manage Network Settings** to open the connectivity settings panel.
9	The **Start Setup** button takes you to the **Code Setup** step where you can configure your code.

The top right corner has the following options:



Number	Element
1	The battery percentage of your reader. Only available on Bluetooth models.
2	The wireless signal status. Only available on Bluetooth models.
3	The available help information, including page help and documentation.
4	The **Settings** panel.

Code Setup

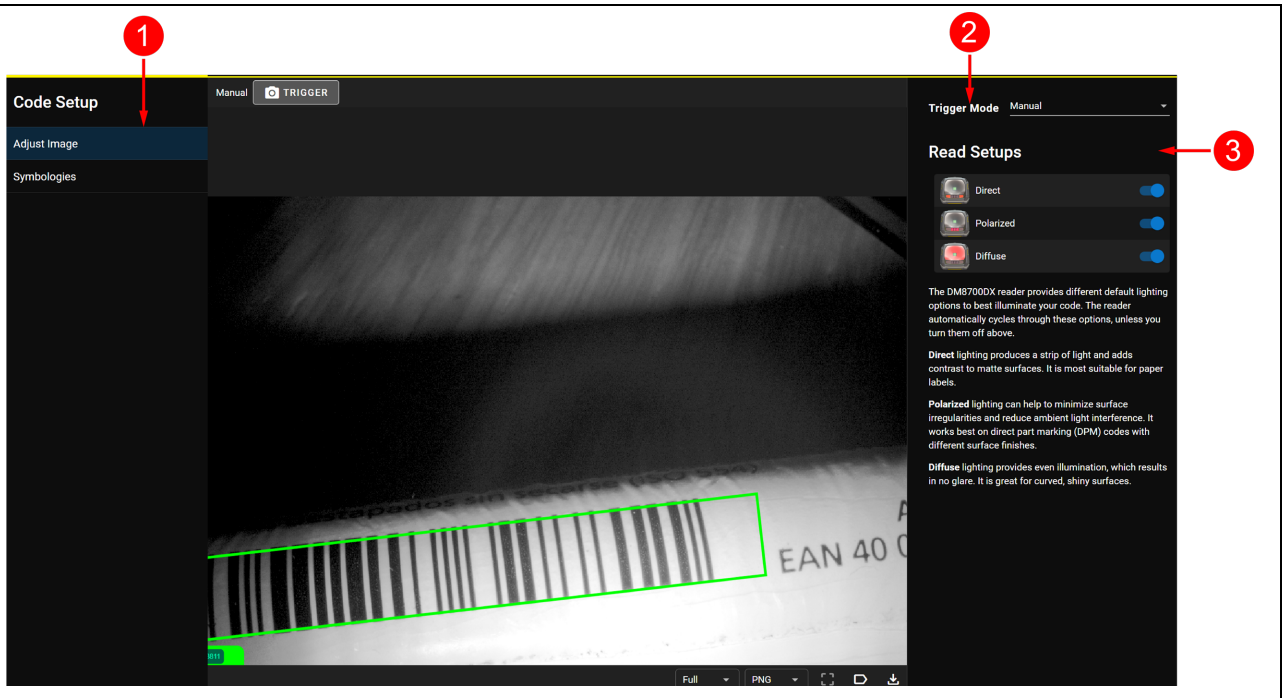
In the **Code Setup** step, you can configure triggering, read setups, and the barcodes that your reader recognizes.

Adjust Image

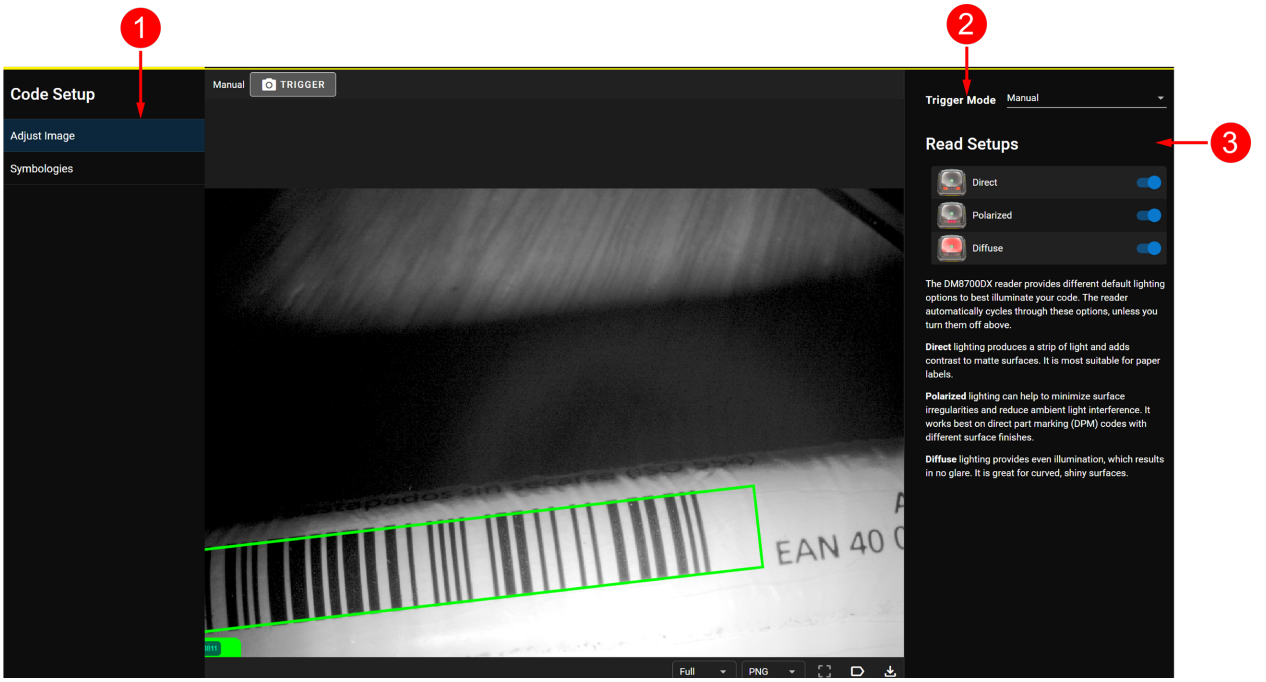
In the **Adjust Image** substep, you can manually trigger the reader, change the trigger mode, and adjust the read setups.

By default, all read setups are enabled on the DM8700DX and DM8700W. On these readers, holding the trigger button makes all illumination (direct, polarized, and diffused) cycle through while scanning a code. The reader reads the code with the most suitable light for the particular code.

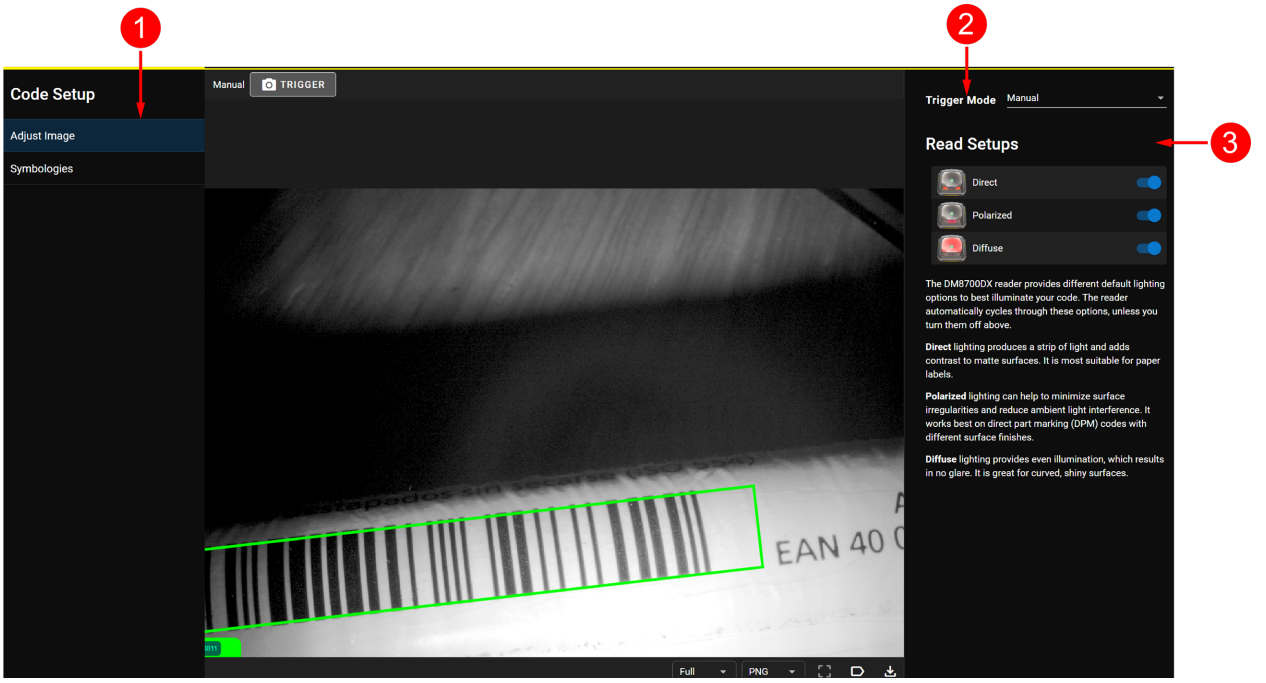
The DM8700HD, DM8700LX, and DM8700DQ models have one illumination and fixed focus lens, and therefore only support a single read setup.



Number	Element
1	You can choose between the **Adjust Image** and **Symbologies** substeps.



2	The following trigger modes are available:
	• **Manual**: Read codes with the trigger of the reader or the **Manual Trigger** button on the UI.
	• **Presentation**: The reader turns on and scans for a symbol when it detects motion. When the reader detects no motion, the LED aimer and the lights turn off. The reader relies on an internal timing mechanism to acquire images. Adjust the mechanism by configuring the following:
	  • Enable the **Detect Motion** toggle to activate the reader when it detects motion.
	  • Choose the **Timeout** when the reader turns off the LED aimer and lights after a set period of no motion.
	  • **Sensitivity**: Choose how sensitive the trigger is to motion, from Low to Ultra High.
	  • Enable **Don't reread same code based on symbology** to avoid reading multiple codes with the same symbology.
	  • Enable **Never read same code twice in a row** to prevent the reader from rereading the same code in one image.
	  • **Don't reread last N codes** prevents the reader from reading codes that were read in the last N number of reads. If you provide a value of 0, the option is disabled. The option applies to all read codes within one trigger sequence.
	  • The **Delay Mode** option allows you to set a code re-reading delay either the **After First Read** or the **After Last Read**. With **Code reread delay**, you can specify the delay between read attempts. Providing a non-zero value for this delay can help prevent data from



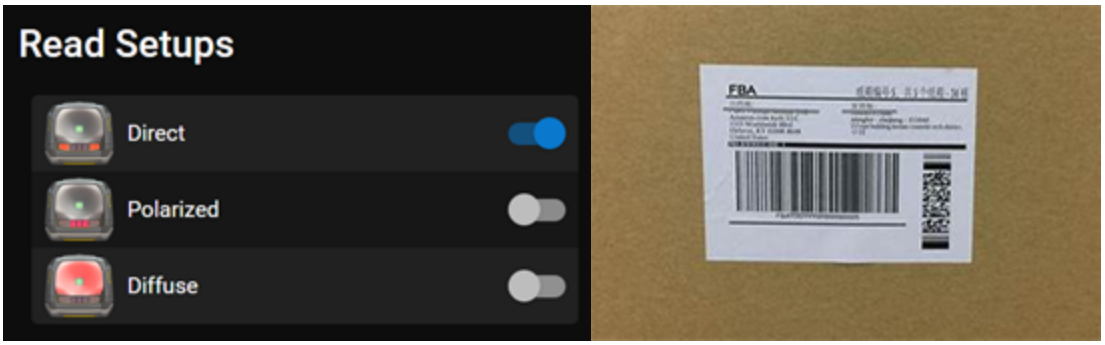
3	DM8700DX models only. Enable or disable the following lighting types. • **Direct** lighting produces a strip of light and adds contrast to matte surfaces. It is most suitable for paper labels. • **Polarized** lighting can help to minimize surface irregularities and reduce ambient light interference. It works best on direct part marking (DPM) codes with different surface finishes. • **Diffuse** lighting provides even illumination, which results in no glare. It is great for curved, shiny surfaces.

Read Setups for Different Applications

Different setups work better with different surfaces or codes.

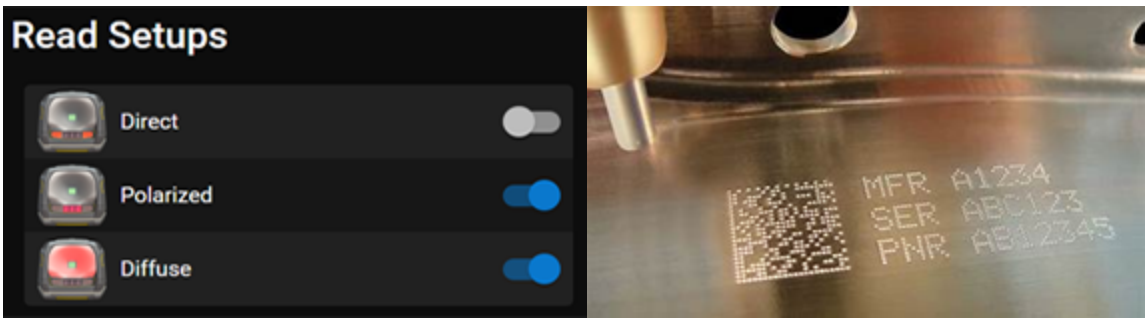
Labeling Reading Setup

Label reading are printed codes. To set up label reading on your reader, enable **Direct**. **Direct** lighting adds contrast to matte surfaces and is most suitable for paper labels.



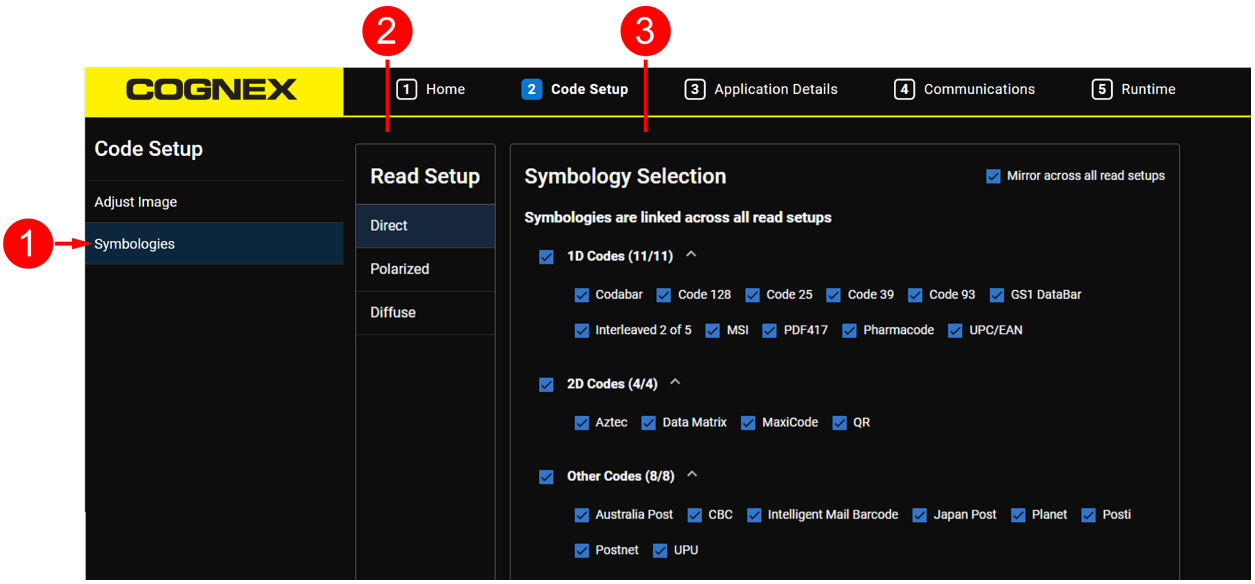
Direct Part Mark (DPM) Reading Setup

DPMs are markings that appear directly on a part or surface, for example on metal or ceramics. To set up DPM reading on your reader, enable **Polarized** and **Diffuse**. **Polarized** lighting minimizes surface irregularities, while **Diffuse** lighting provides even illumination with no glare.



Symbologies

In the **Symbologies** substep, you can configure the barcodes that your reader recognizes.



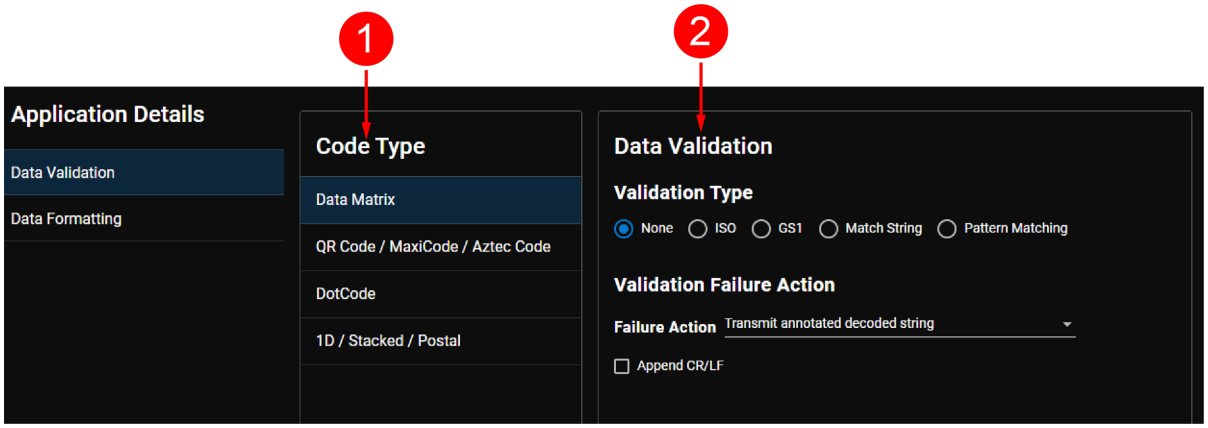
Number	Element
1	Select the **Symbologies** substep to configure the barcodes your reader recognizes.
2	The available read setups: • Direct • Polarized • Diffuse Different read setups can have different symbologies enabled.
3	The barcodes available for your reader to recognize. Select or deselect a barcode by checking the box next to the symbology.

Application Details

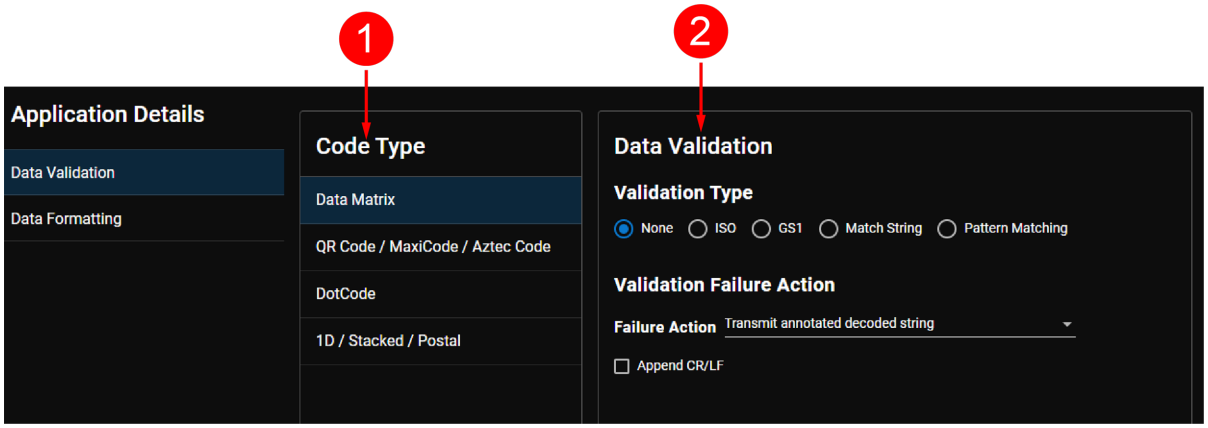
The **Application Details** step allows you to configure the details of your application. Follow the substeps in the menu on the left side to configure your application.

Data Validation

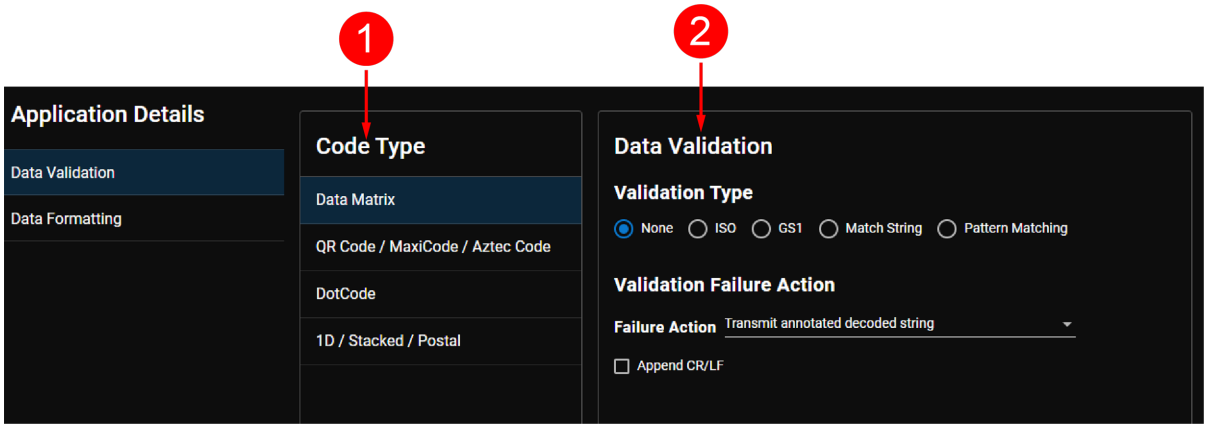
The **Data Validation** substep allows you to confirm that the data encoded by a symbol is in the correct format for a particular company, industry, or international standard. The settings shown on the page depend on the **Validation Type** you choose.



Number	Element



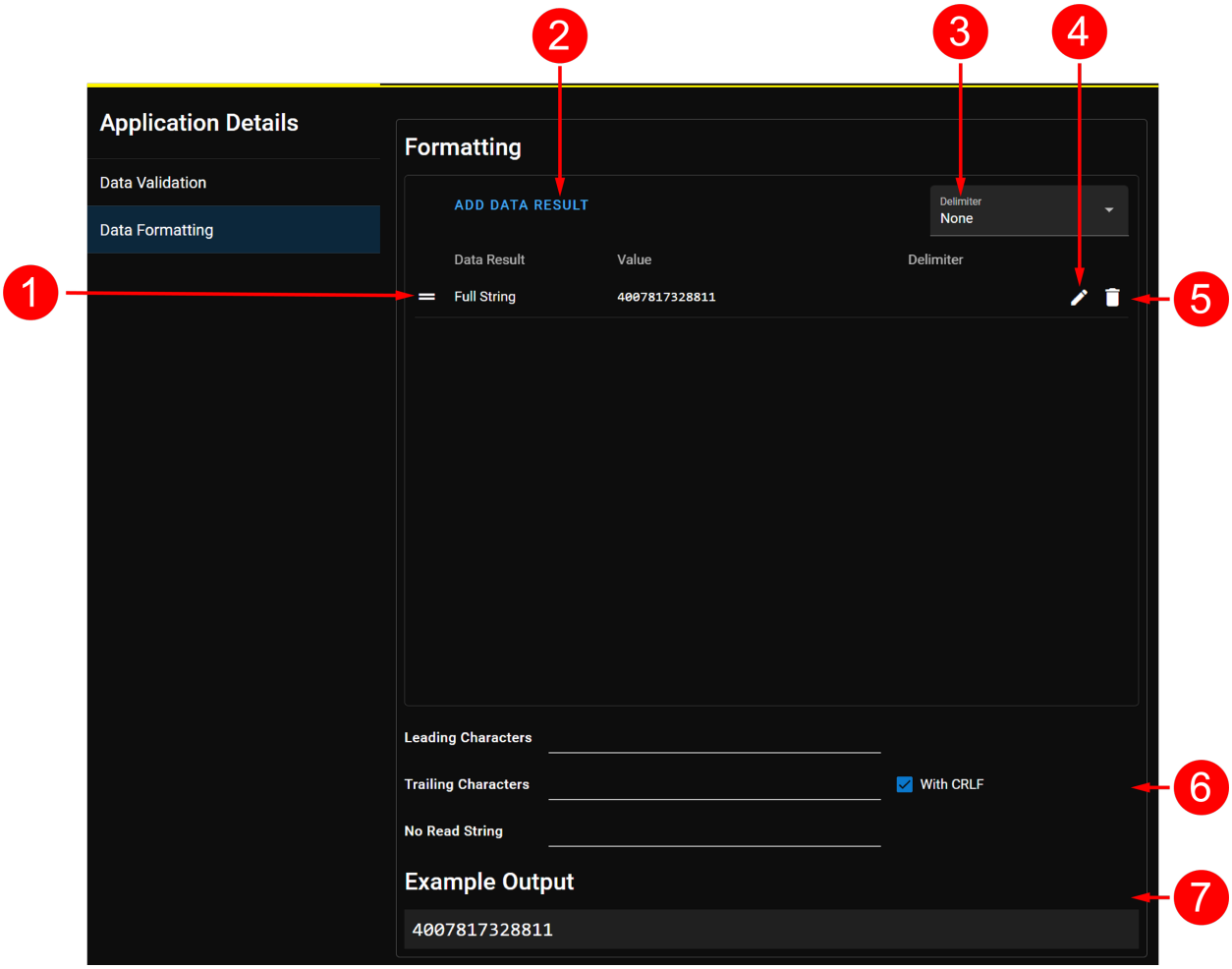
1	Select the **Code Type** and assign a **Validation Type** to it.
	• Use the **None** option if there is no need for any validation type.
	• Use the **ISO** option to specify an ISO standard for the strings.
	• Use the **GS1** to specify an application identifier for the strings.
	  • In addition to the list of specific AIs that you can select, the following special tokens are available:
	  • <AI(.)> to signify AI
	  • <AI(*)> for an arbitrary number of AIs
	  • DataMan software supports GS1 Digital Link but only for syntax checking. With GS1 Digital Link enabled, the reader ignores any specified pattern, as if the pattern was set to <AI(*)>.
	• Use the **Match String** option to specify an exact string to match against the string encoded by the symbol. Only symbols containing a string that matches the specified string generate a **Pass** result.
	• Use the **Pattern Matching** option to input a regular expression to confirm if the data string includes a specific string of characters.
	Note: The **Match String** function is case sensitive.



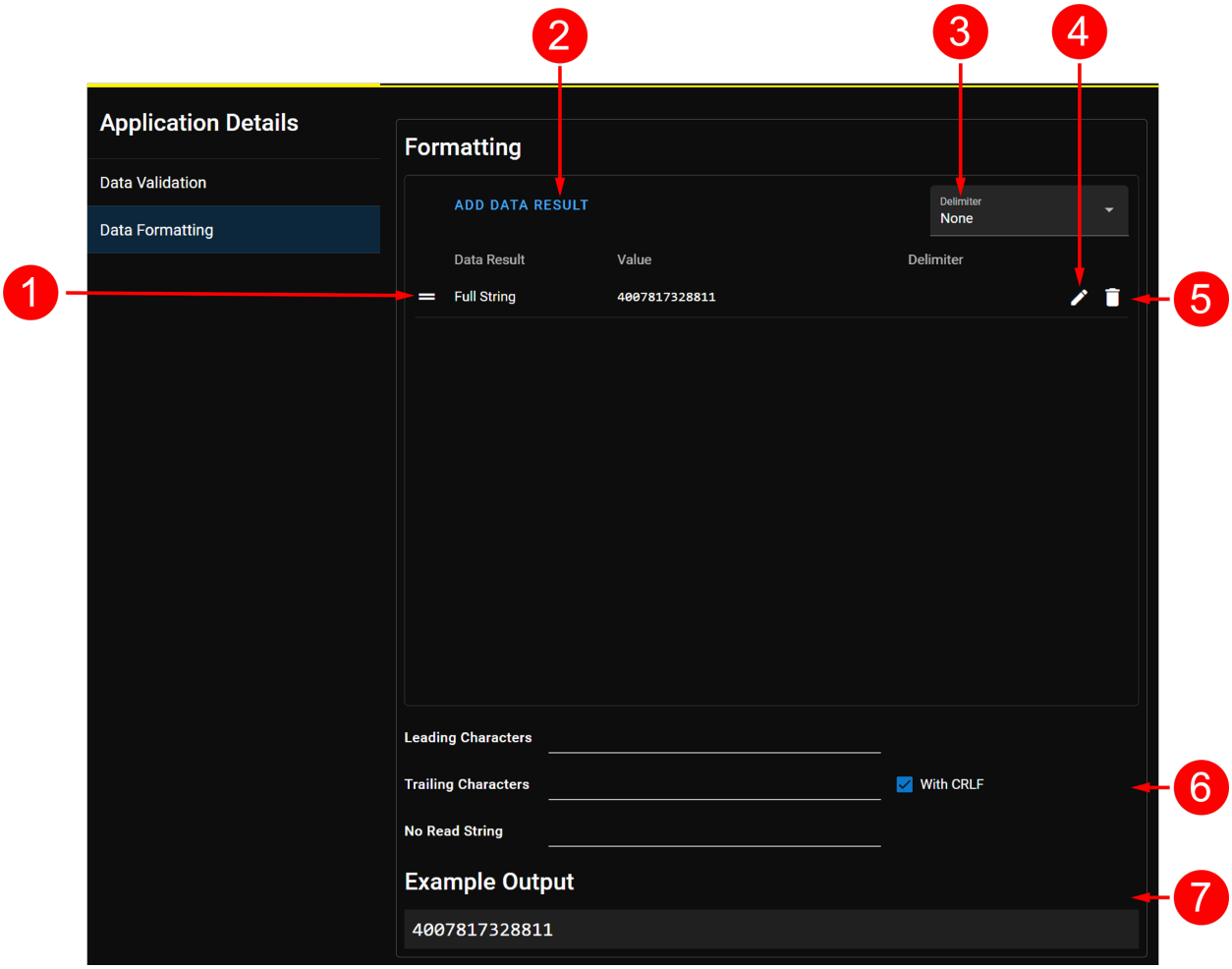
2	If a code fails validation, you can configure the reader to output a specific string in the **Outputs** substep. Choose one the following options for the Validation Failure Action: • **Transmit "Validation Failure"**: The reader outputs the string *"Validation Failure"* after a code fails validation. • **Transmit "Validation Failure" + decoded string**: The reader outputs the string *"Validation Failure"* followed by the complete decoded string. • **Transmit "Validation Failure" + quoted decoded string**: The reader outputs the string *"Validation Failure"* followed by the quoted part of the decoded string. • **Transmit annotated decoded string**: The reader outputs the decoded string along with information on the error type and error location in the string. • **Transmit nothing**: The reader outputs no information when data validation fails.

Data Formatting

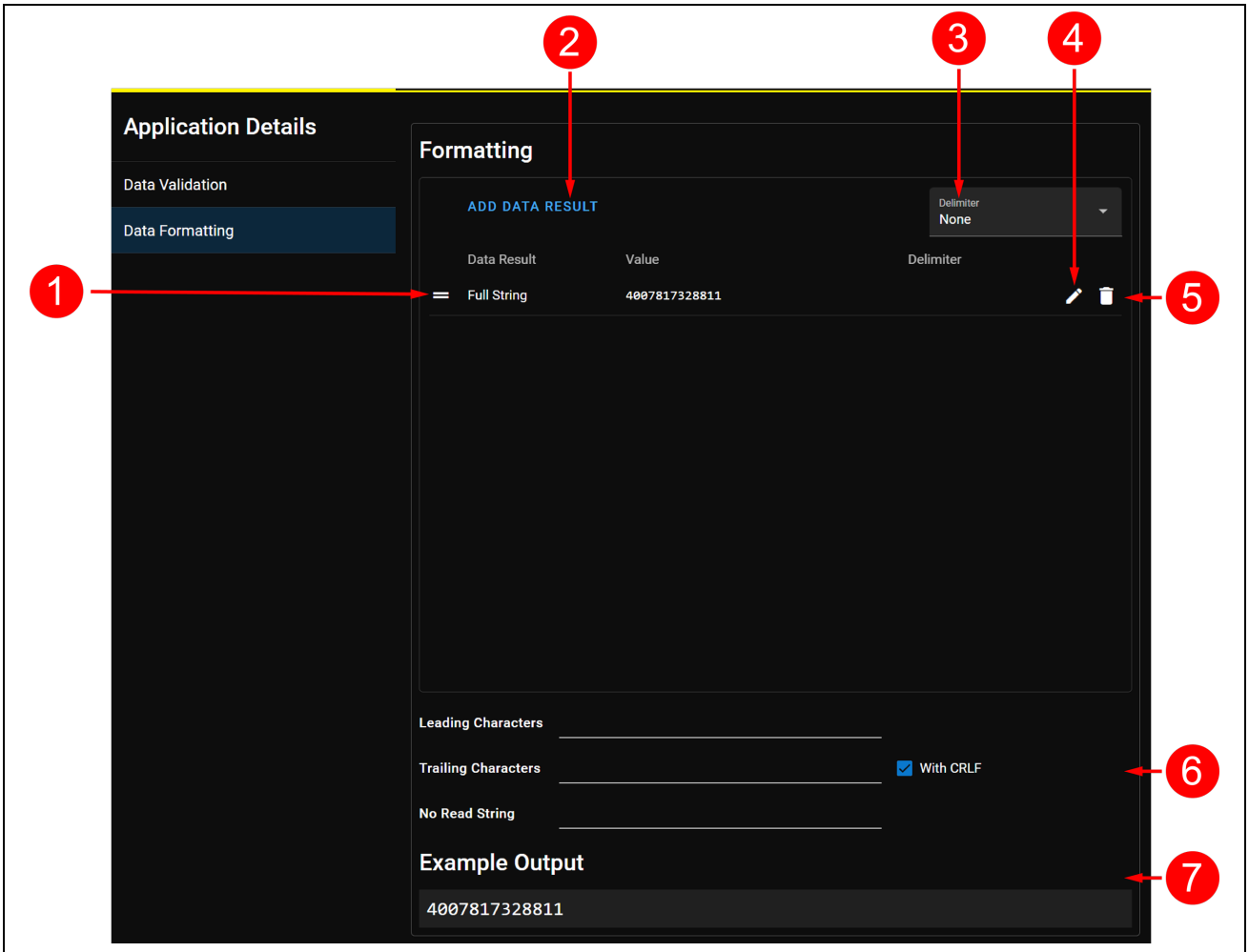
In the **Data Formatting** step, you can construct a customized output string using pre-defined building blocks. You can also test your output before proceeding to the next step.



Number	Element
1	Reorder your data by dragging items to their new position.
2	Click **Add Data Result** to add a new item to the data formatting.
3	Click the **Delimiter** dropdown to select the delimiter. You can choose from the following: • None • Space • Comma • Tab • Label • XML



4	Click the pencil icon to edit your data results. You can write and customize a more complex data result, such as skipping several characters in the middle and displaying all remaining characters. 



5	Click the trashbin icon to delete your data results.
6	Define the leading characters, trailing characters, and No Read string you want to use.
7	Make sure to review your final output in the **Example Output** field before moving on to the next step. To see the example output, trigger the reader first.

Data items to construct your output string:

Category	Data	Description
Result	Full string	All of the characters encoded in the symbol.
	Sub-string	A sub-string of the characters encoded in the symbol. You must specify a range for the sub-string when using this data. In **Simple** mode, you have to provide the index of starting and ending characters to construct the sub-string. In **Advanced** mode, you can provide a range, such as *1-3,5,8,10-*, for selecting the characters from the full string.
	Symbology	The symbology of the decoded symbol.

Formatting	Space	A space character.
	CR/LF	Carriage Return with Line Feed.
	Tab	A tab character.
Result Details	Symbology Identifier	The symbology identifier as specified by ISO/IEC 15424:2008.
	Symbol Size	The size of the symbol in pixels.
	Module Size	The width or height, in pixels, of each module in the symbol.
	Code Position	The image coordinates of each corner of the decoded symbol.
	Code Center	The image coordinates of the center of the decoded symbol.
	Code Orientation	The orientation of the decoded symbol reported in degrees. Clockwise rotations of the decoded symbol are indicated as positive changes in orientation.
	Contrast	A value, between 0 and 1, to indicate the total amount of contrast within the decoded symbol. A high value indicates the light and dark modules in the symbol have a wide range of grey values, while a low value indicates the light and dark modules consist of similar grey values.
	Unused Error Correction	The amount of available unused error correction in the symbol. Error correction is a method of reconstructing or replacing data that is lost through symbol damage. A value of *100* is ideal. A 1D symbol always returns *-1*.
TruCheck™	TruCheck™ Application Standard Name	The name of the application standard that is used for grading the code.
	TruCheck™ Application Standard Result	The result based on the application standard.
	TruCheck™ Grading Standard Name	The name of the grading standard.
	TruCheck™ Overall Grade Letter	The letter of the overall grade, for example, A.
	TruCheck™ Overall Grade Value	The value of the overall grade, for example, 3.9.
	TruCheck™ XDimension (mil)	The value of the custom X dimension in mils.

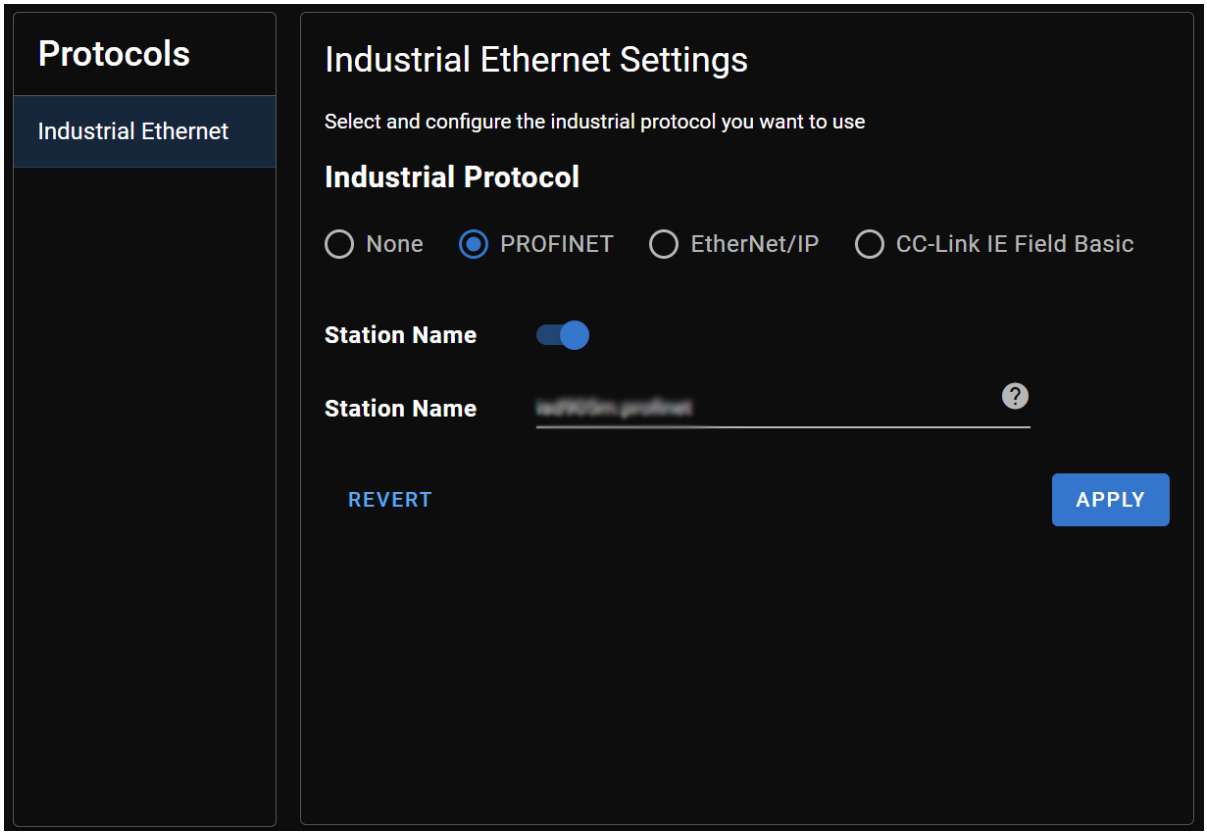
Metadata	Input string	The received serial or Ethernet input string.
	Passed Validations	The number of validation attempts the decoded symbol passed.
	Failed Validations	The number of validation attempts the decoded symbol failed.
	Result source	The name of the reader.
	Code Quality Grade	The grade that the code receives during validation.
Timing	Decode time	The amount of time, in milliseconds, it took the reader to decode the symbol. This period of time does not include image acquisition, pending image processing, communication time and additional processing such as data formatting.
	Trigger time	The amount of time, in milliseconds, that elapses between receiving the trigger and completing the decode operation.
	Filter time	The duration of filtering in milliseconds.
Timestamp	Trigger Creation Local Time	The local time when the reader created the trigger.
	Trigger Creation UTC Time	The UTC time when the reader created the trigger.
	Trigger Execution Local Time	The local time when the reader executed the trigger.
	Trigger Execution UTC Time	The UTC time when the reader executed the trigger.
	Image Acquisition Local Time	The local time when the reader acquired the image of the symbol.
	Image Acquisition UTC Time	The UTC time when the reader acquired the image of the symbol.
	Subresult Creation Local Time	The local time when the reader created the subresult.
	Subresult Creation UTC Time	The UTC time when the reader created the subresult.
	Current Local Time	The current local time.
	Current UTC Time	The current UTC time.

Communications

The **Communications** step allows you to configure the communication protocols of your reader.

The available communication settings depend on the communication of your reader. For Ethernet, you can configure the industrial communications protocols for communicating to your PLC.

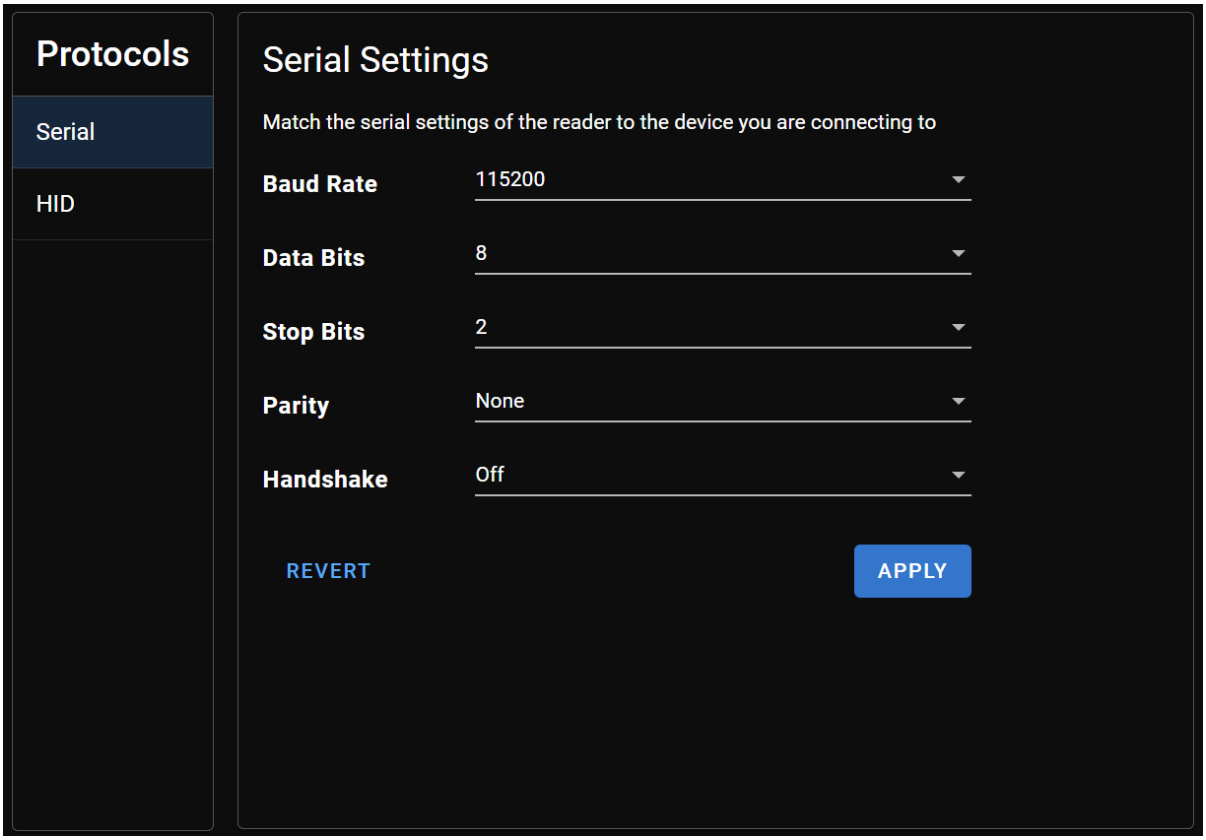
Industrial Ethernet Settings



1. Select **Industrial Ethernet**.
2. Select the Industrial Protocol you want to use.
3. Turn on the **Station Name** toggle and change the name to display on the PLC.
4. Click **Apply** to save your changes.
5. If you want to set the configuration back to default, click **Revert**.

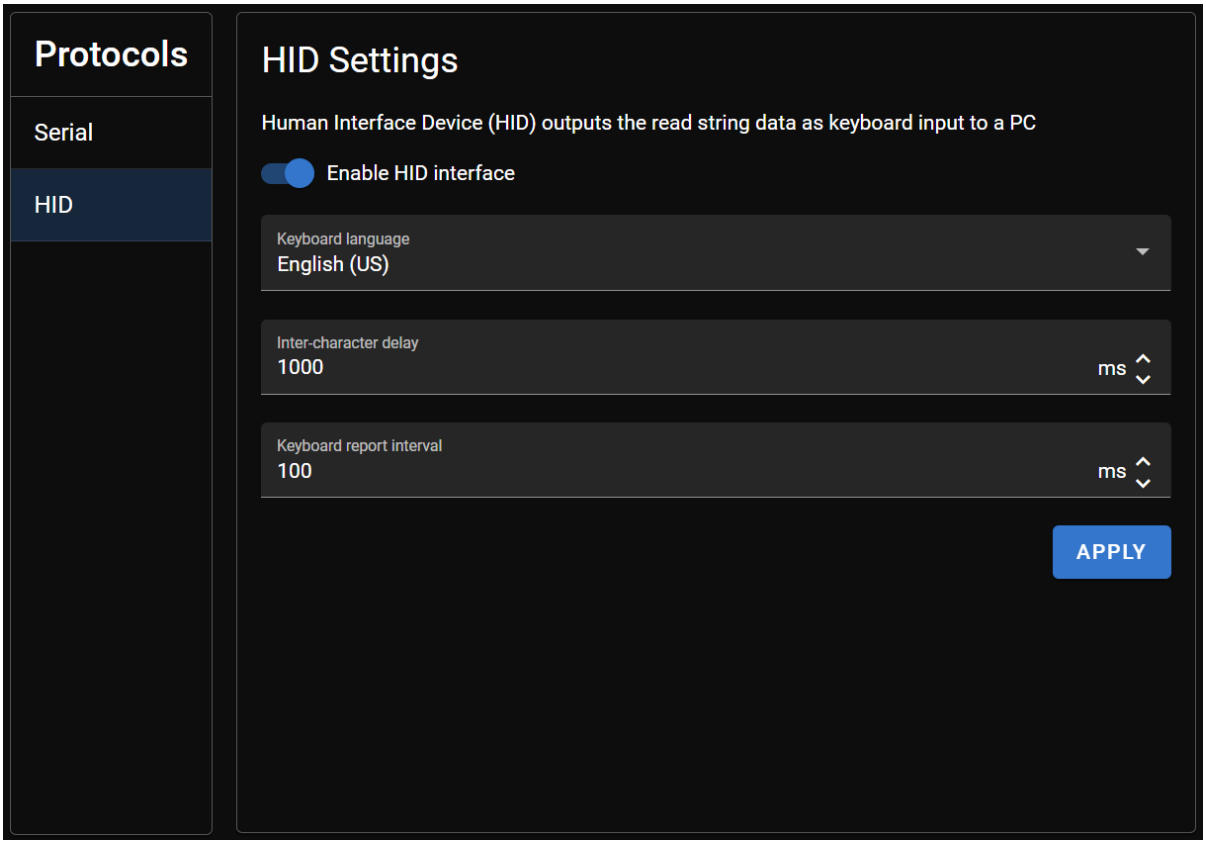
Note: To change the IP address, click **Manage Network Settings** or open Network Settings from the **Settings** panel.

Serial Settings



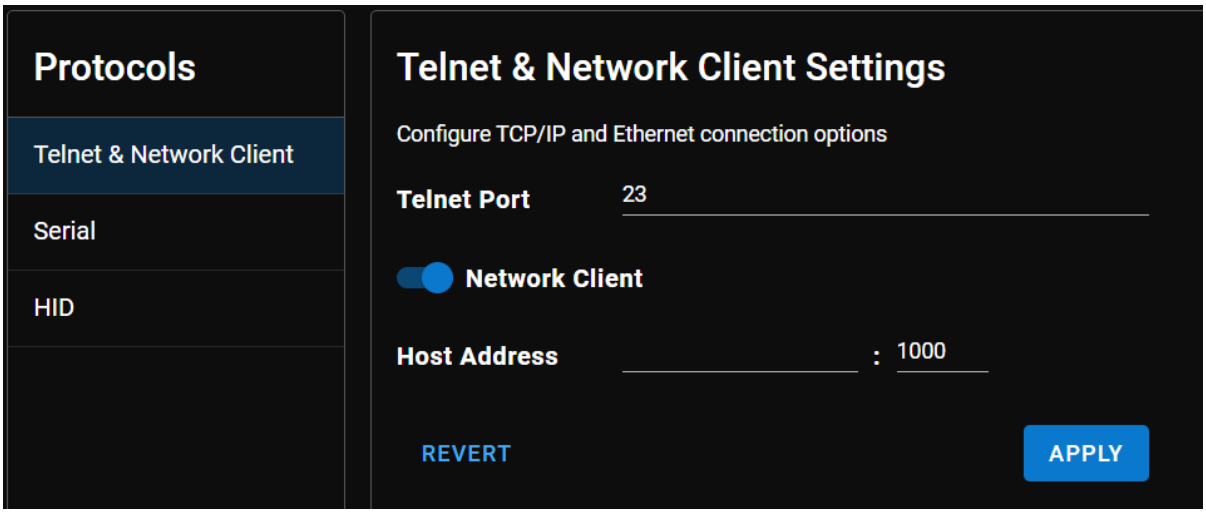
1. Select **Serial** to configure the Serial settings.
2. Change the RS-232 settings to match the external device you are connecting to.
3. Click **Apply** to save your changes.
4. If you want to set the configuration back to default, click **Revert**.

HID Settings



1. Select **HID** to configure the read data string output.
2. Click the **Enable HID interface** toggle and set your configuration.
3. Click **Apply** to save your changes.

Telnet & Network Client



To use Telnet:

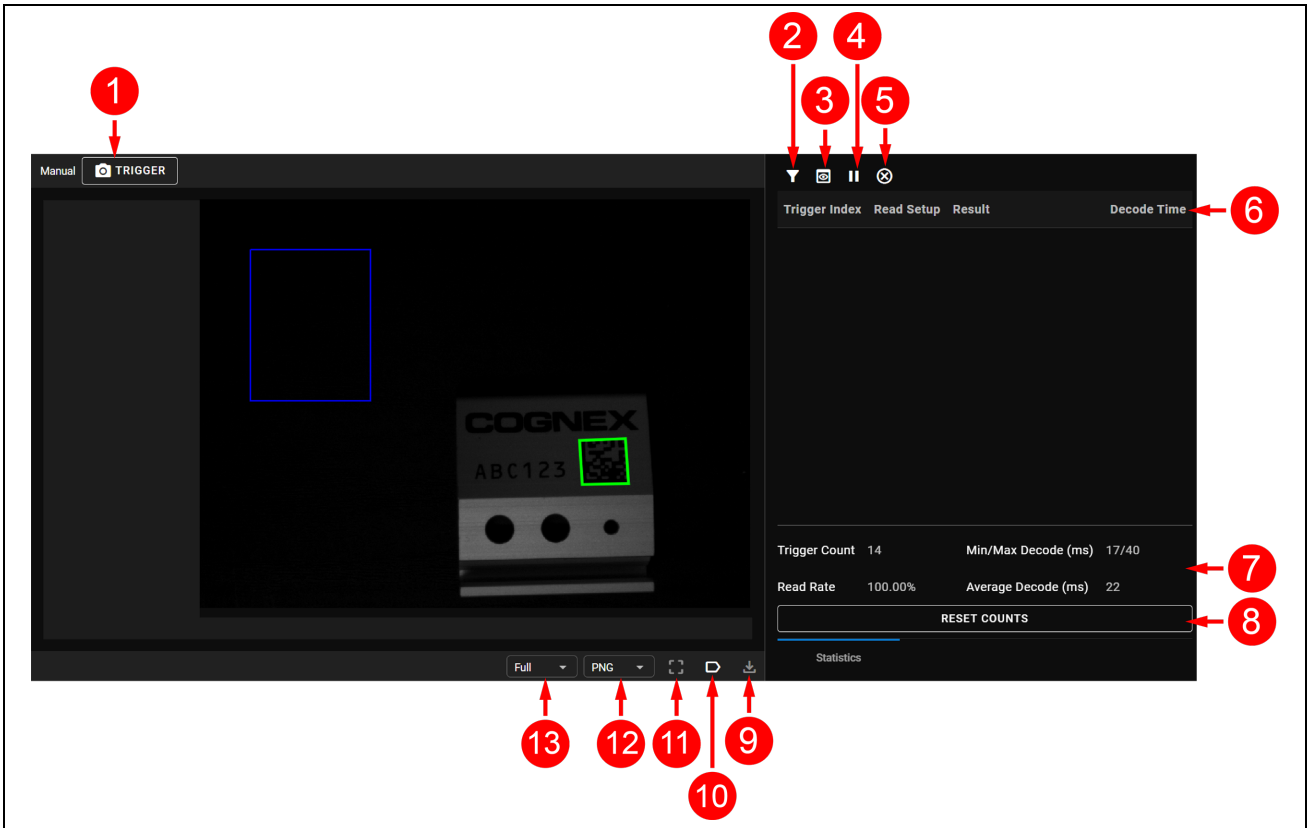
1. Configure the **Connection Port** to be used for Telnet communication.
2. Click **Apply** to save your changes.

To use the network client functionality:

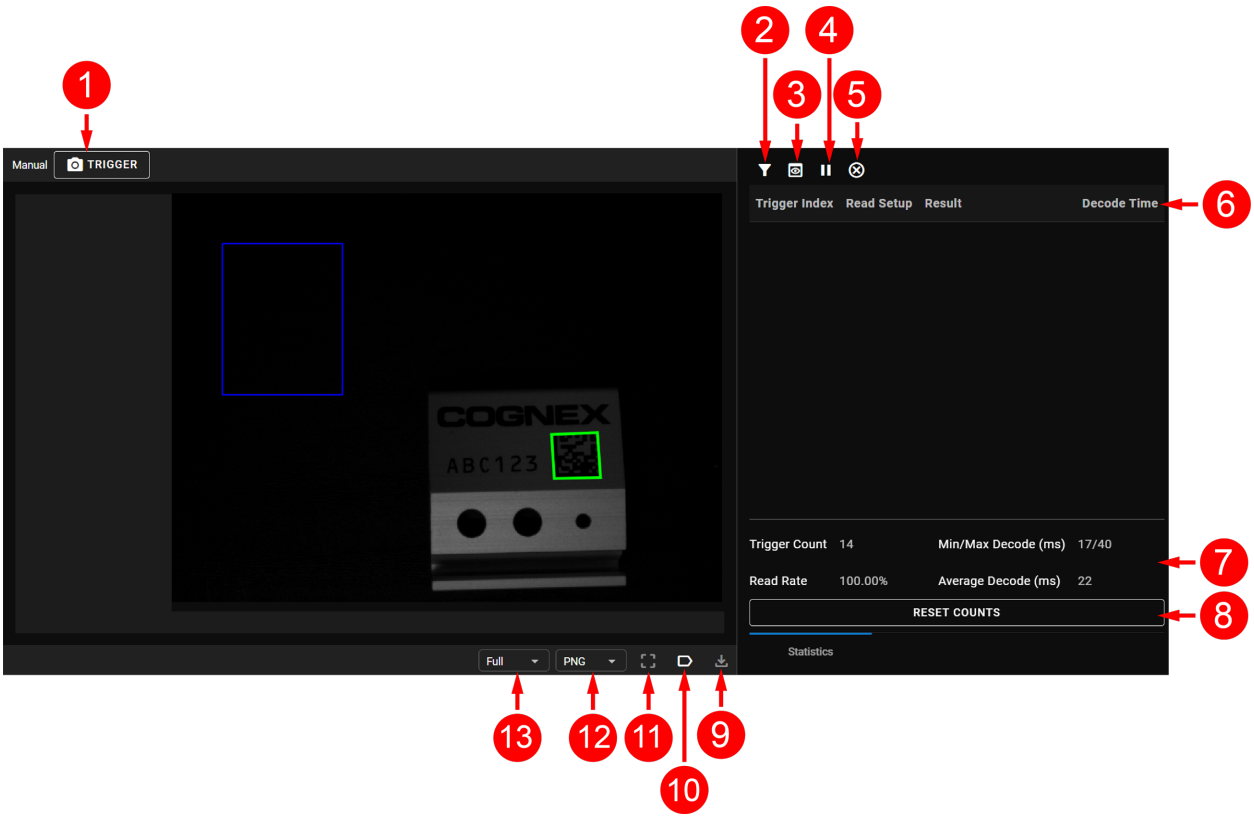
1. Enable the **TCP Client** toggle.
2. Provide the **Server Address** of the network device you want to connect to the reader.
3. Click **Apply** to save your changes.

Runtime

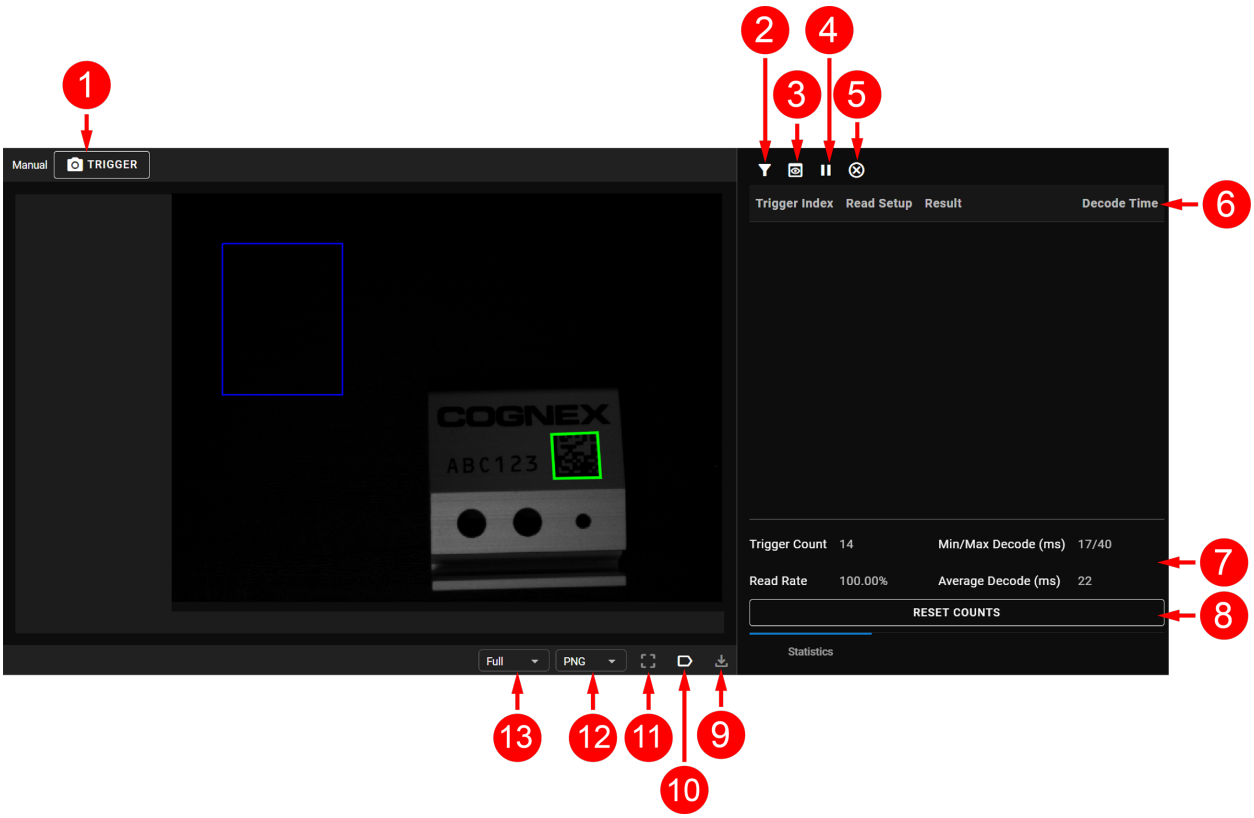
The **Runtime** step allows you to track the performance of the reader.



Number	Element
1	The **Manual Trigger** button triggers image acquisition through the WebUI.
2	The **Filter** button filters the results. You can choose from the following: • Good Read • No Read • Validation Error Click **Clear Filters** to delete the filters.
3	Click **Display Configuration** for more detailed status information.
4	You can play, pause, or resume the incoming result data. When you select a result image, the display pauses so the result list does not update if new results arrive, until you click **Play** again.
5	Click to clear results.



6	Result information: • The result trigger index is the value of reference of the stored data. • The read setup shows the type of lighting. • The result shows how many codes are found. • The result decode time is how long it takes for the reader to decode the symbology.
7	The results display. You can customize this table by clicking **Display Configuration**.
8	Click **Reset Counts** to reset the results.
9	The icon to download the full resolution image. The downloaded file format is bitmap (BMP).
10	Click to display the result on the image.
11	The icon to fit the image to your screen.

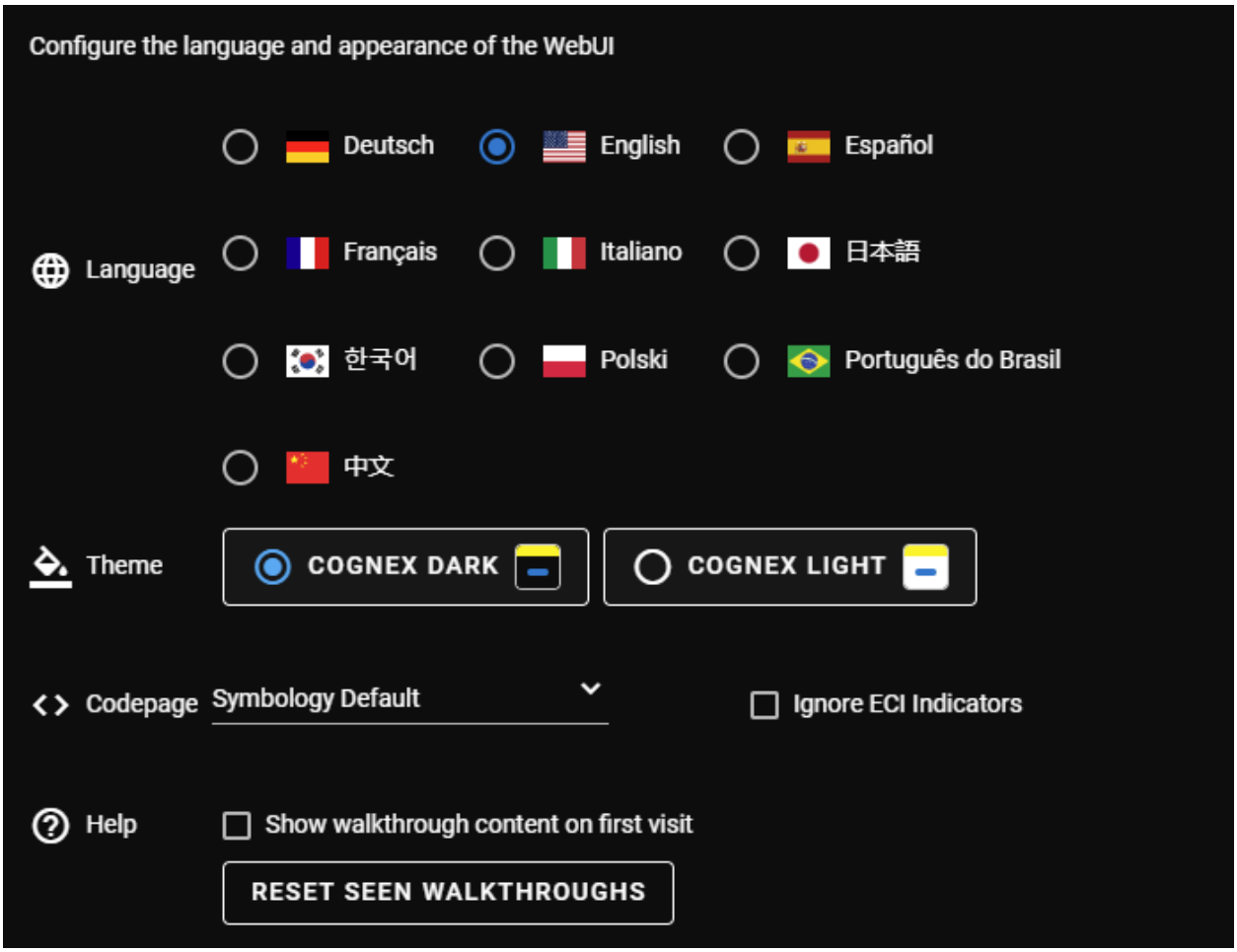


12	The image format the reader transfers to the display. A compressed image format takes up less bandwidth and can allow for a higher display update frequency. The default setting is PNG. You can choose from the following formats: • BMP • JPEG • PNG
13	The image resolution the reader transfers to the display. A lower image resolution takes up less bandwidth and can allow for a higher display update frequency. You can choose from the following: • Full • Quarter • 1/16 • 1/64

Settings

Overview

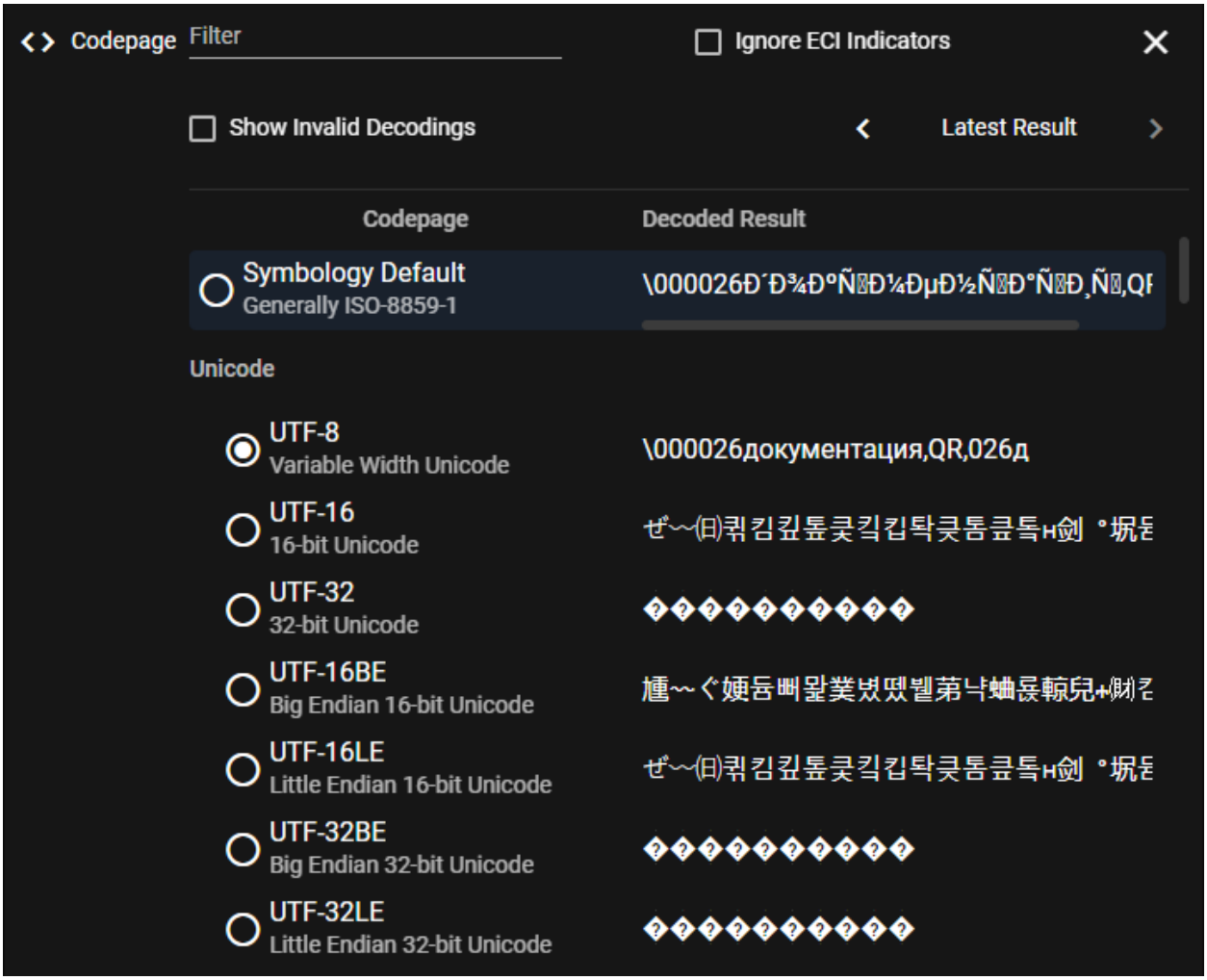
In the **Overview** tab of **Settings**, you can set up the language and theme of the WebUI. You can also customize the behavior of the in-application help.



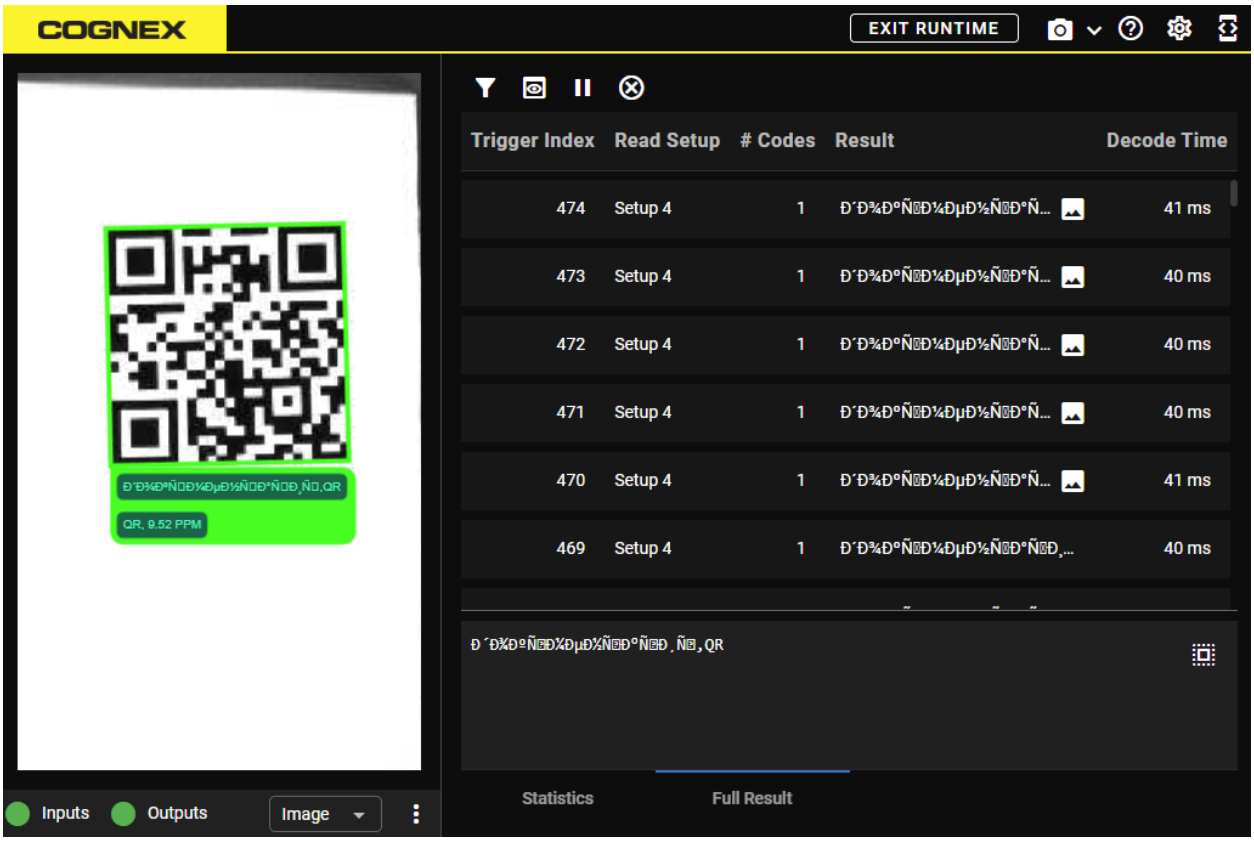
Configure Codepage

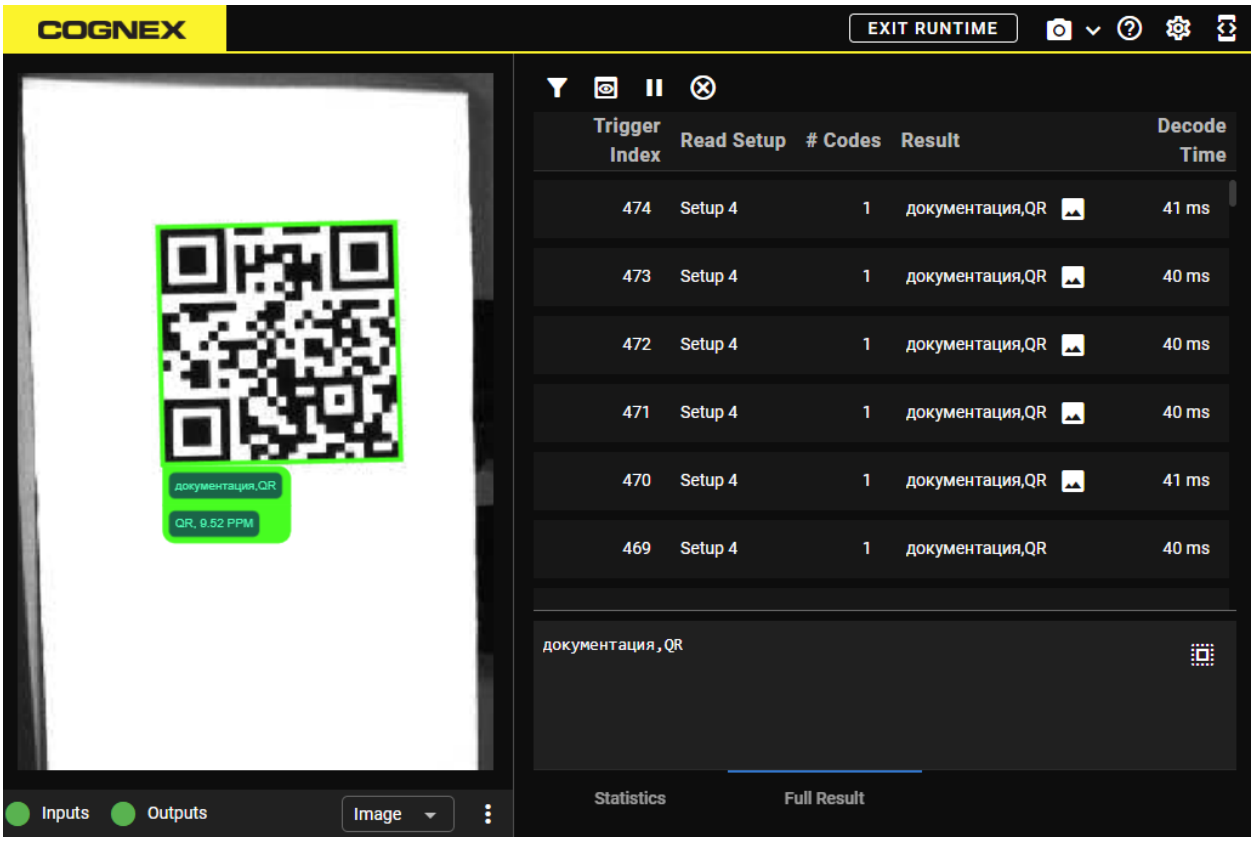
You can change the codepage to be able to decode non-ASCII characters.

Click **Symbology Default** to open the drop-down of available codepages and select one of the options. Read at least one non-ASCII code and use the **Decoded Result** column to help determine which codepage is the right one for your reading. You can also use the **Filter** field to narrow down the list of available options or disable the **Show Invalid Decodings** checkbox to only show valid codepages.



See the example below of a code result in the default codepage compared to a codepage that can decode the characters:


COGNEX
EXIT RUNTIME
Trigger Index
Read Setup
Codes
Result
Decode Time
474 Setup 4 1 41 ms
473 Setup 4 1 40 ms
472 Setup 4 1 40 ms
471 Setup 4 1 40 ms
470 Setup 4 1 41 ms
469 Setup 4 1 40 ms
QR, 9.52 PPM
Inputs
Outputs
Image
Statistics
Full Result

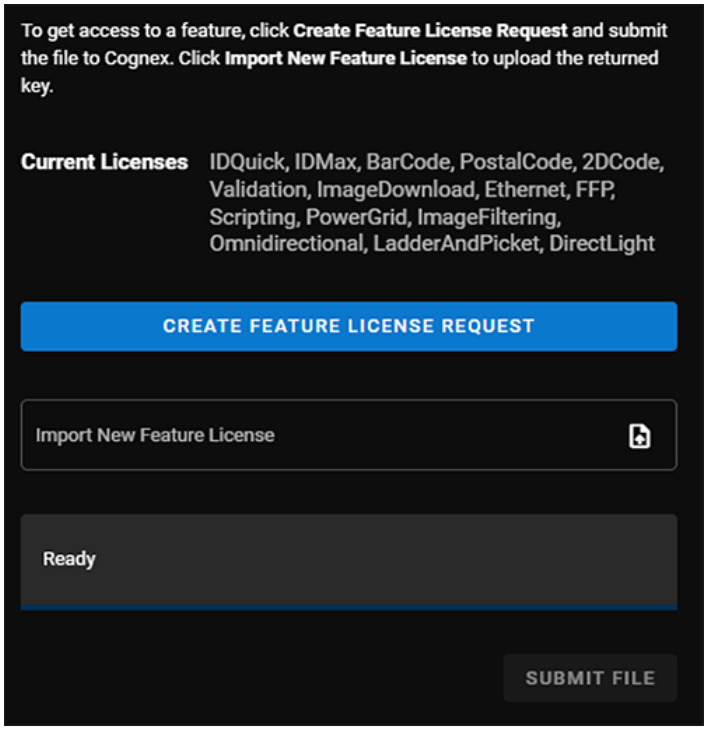


By default, the WebUI recognizes Extended Channel Interpretation (ECI) indicators compliant with AIM ECI standards. When reading compliant codes, this allows the WebUI to automatically identify and use the correct codepage. Check the **Ignore ECI Indicators** box to disable support for ECI indicators, so the WebUI uses the configured codepage instead.

Note: The WebUI has limited support for non-codepage ECI indicators. The WebUI still attempts to display codes with these indicators, but correct interpretations are only possible in the expected downstream program.

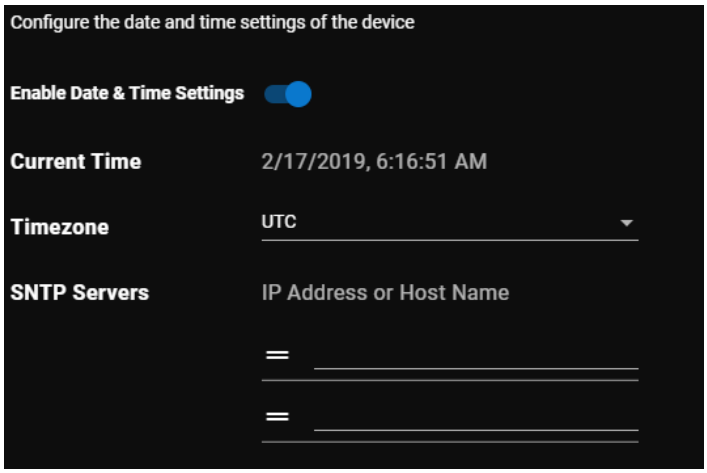
Licenses

In the **Licenses** tab of **Settings**, you can view and manage the Feature Keys of your reader.



Date & Time

In the **Date & Time** tab of **Settings**, you can configure date and time settings for your reader by clicking on **Enable Date & Time Settings**.

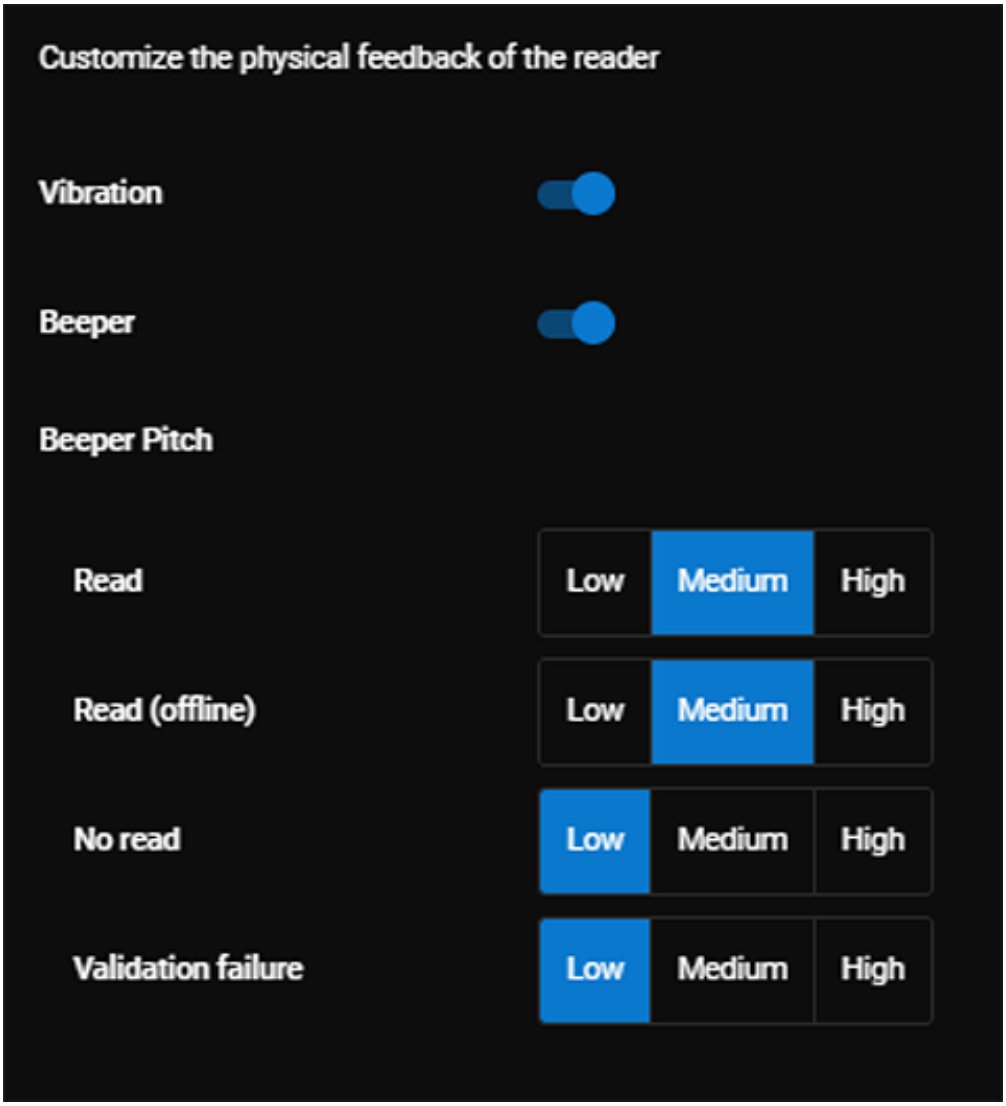


If you choose **SNTP Service**, you can configure clock time sources between your servers. Choose **Timezone** and enter the IP Addresses or Host Names of the servers.

Note: You have to configure an SNTP server to add timestamps to the output string. For more information on the output string, see *Data Formatting* on page 17.

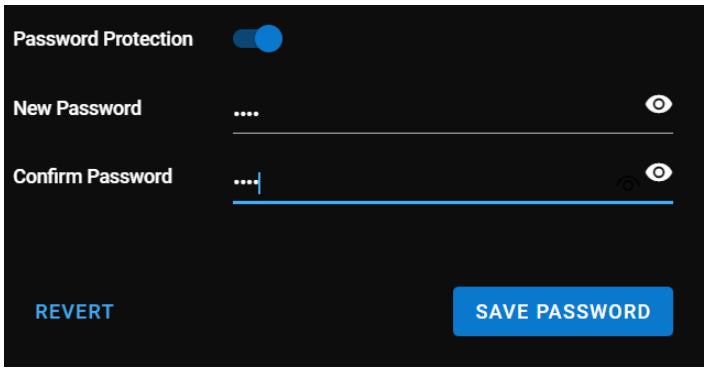
Sound & Haptic

In the **Sound & Haptic** tab of **Settings**, you can configure whether the reader vibrates or produces sound. You can also customize the pitch of the sound output for various events.



Password Protection

In the **Password Protection** tab of **Settings**, you can set up a password for the reader. When you enable password protection and lock the WebUI, users cannot modify the reader configuration without a password. Use this feature to protect your settings from unwanted changes.



Turning on Password Protection

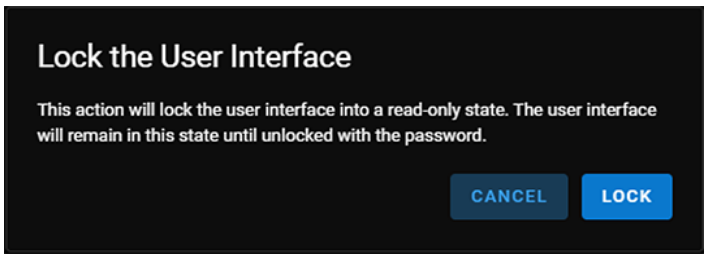
To turn on password protection:

1. Enable the **Password Protection** toggle.
2. Enter the new password in the **New Password** and **Confirm Password** fields.
3. Click **Save Password**.

Application Lock

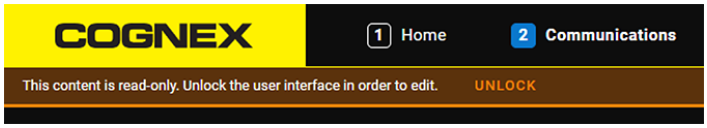
To lock the application:

1. Turn on password protection.
2. Click on the lock icon at the top right of the screen. The **Lock the User Interface** dialog appears.



3. Click **Lock**.

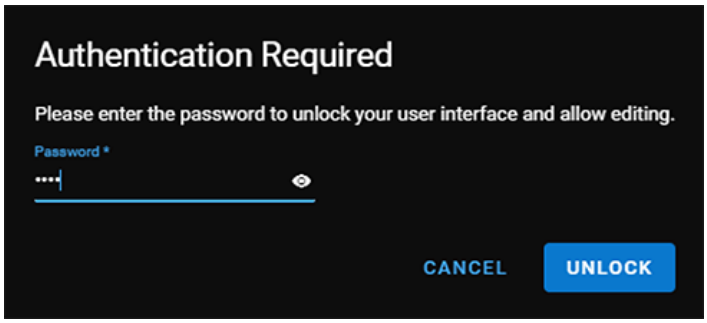
   The application is locked, and you cannot modify any settings:



To unlock the application:

1. Click **Unlock**.

   The **Authentication Required** dialog appears:



2. Fill in the **Password** field and click **Unlock**.

Note: The WebUI locks you out after a few minutes of inactivity.

Forgotten Password

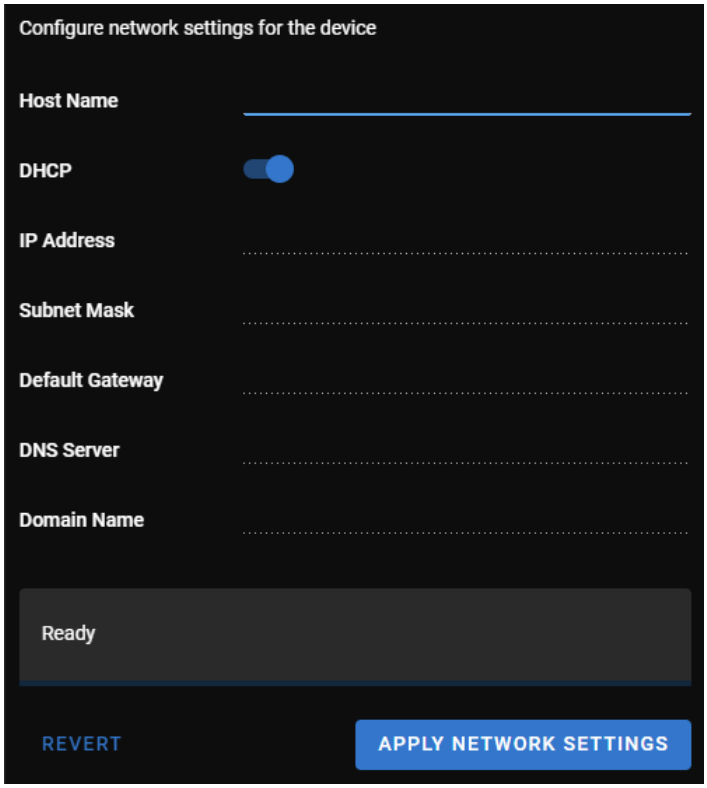
Reset your DataMan reader to factory settings. For more information, see *Factory Reset* on page 39.

Removing the Password

Disable the **Password Protection** toggle, then click **Turn off** on the pop-up.

Network Settings

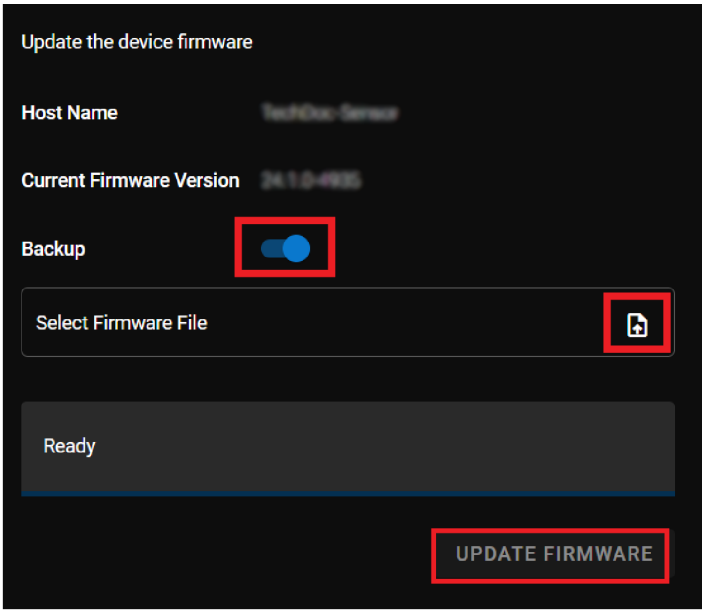
In the **Network Settings** tab of **Settings**, you can configure network settings for your reader. To save network settings, click on **Apply**.



Firmware Update

In the **Firmware Update** tab of **Settings**, you can update the firmware of your reader by uploading the firmware file from your PC and then clicking on **Update Firmware**.

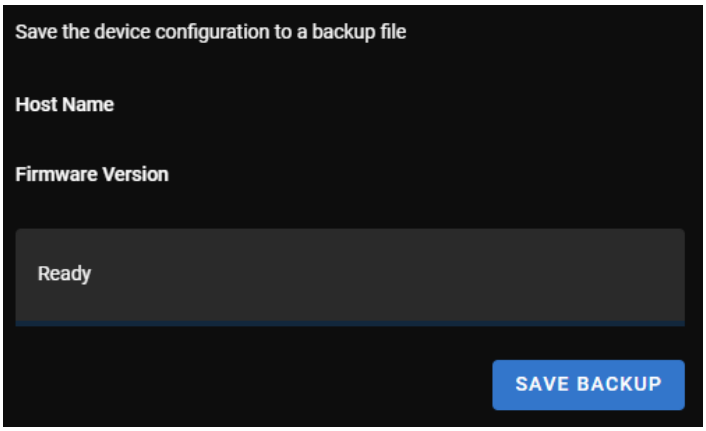
Turn on the **Backup** toggle to save a backup file before the update.



Backup Device

In the **Backup** tab of **Settings**, you can save the reader configuration to a backup file by clicking on **Save Backup**.

Note: Secure Connection settings are not included.



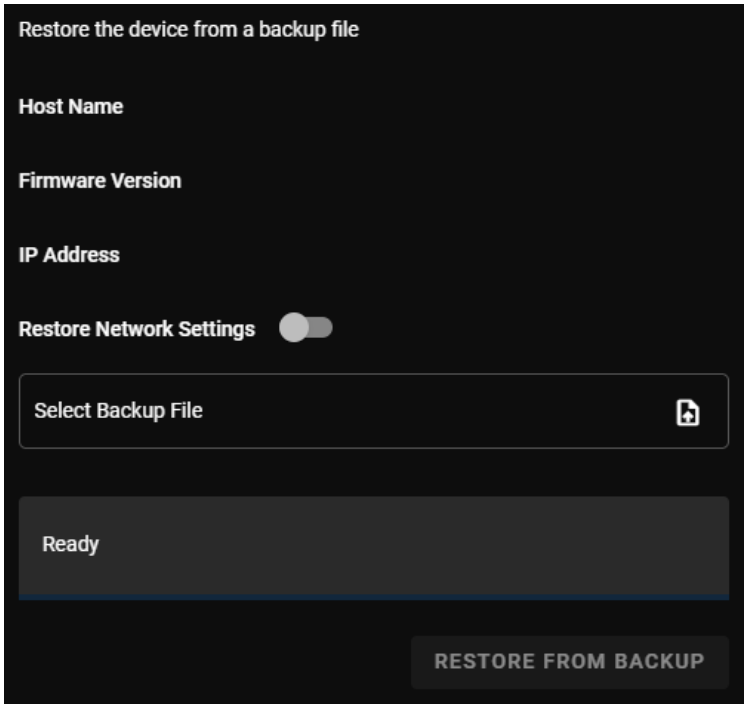
Restore Device

In the **Restore Device** tab of **Settings**, you can restore the reader from a backup file by selecting your backup file and clicking on **Restore**.

Switching on the **Restore Network Settings** is optional. Switch the toggle on if you want to override the current network settings of the device with the network settings of the backup file.

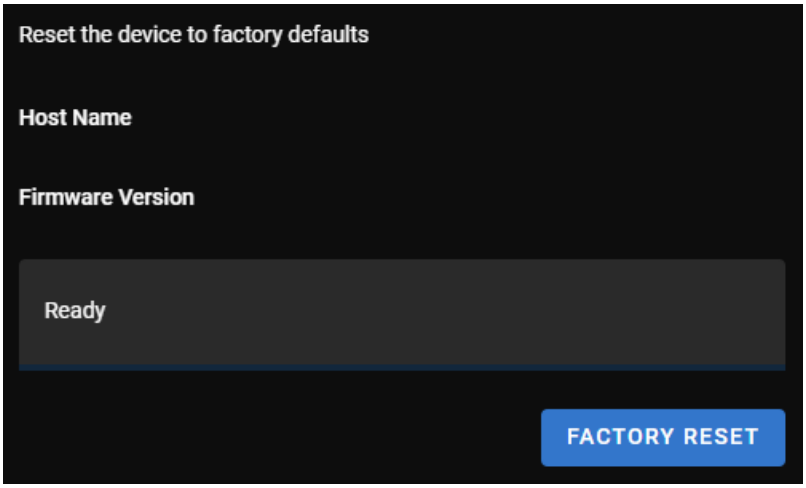
Note:

- If you enable the **Restore Network Settings**, the *Secure Connection* on page 41 settings are copied from the backup file to the target reader.
- The Secure Connection files are only restored if the **Restore Network Settings** toggle is enabled.



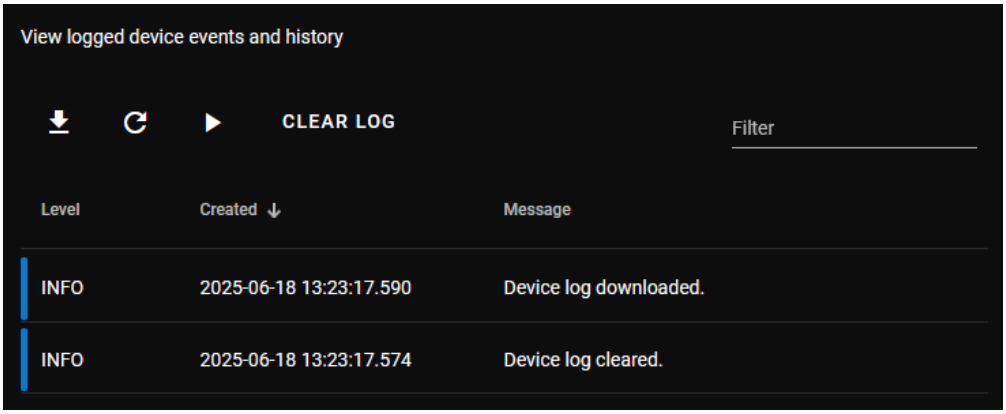
Factory Reset

In the **Factory Reset** tab of **Settings**, you can reset the reader to factory settings by clicking **Factory Reset**.



Device Log

In the **Device Log** tab of **Settings**, you can access the device log of your reader.



The reader generates logged events with timestamps. The WebUI displays these events in the device log.

The reader fetches the device log automatically when you open the **Device Log** tab. Click **Refresh** to retrieve any updates manually, or the **Play** button to start receiving updates automatically.

The device log contains the following message types:

- **Info**: general information about the reader.
- **Warning**: a non-critical issue.
- **Error**: a problem that needs to be resolved.

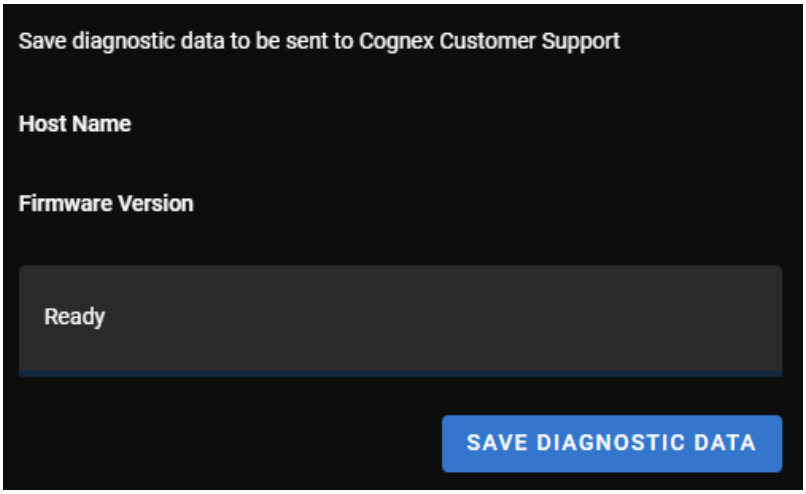
> **Note**: Error events trigger the error LED on the reader. Configure the pulse duration of the error LED on the **Outputs** substep.

The following actions are available in the **Device Log** tab:

- Download: download the log in *.csv* format.
- Refresh: get the latest log entries.
- Clear: remove all entries from the log.
- Filter: input any string to filter the displayed log entries.
- Sort: click on a column header to sort the log entries in descending or ascending order.

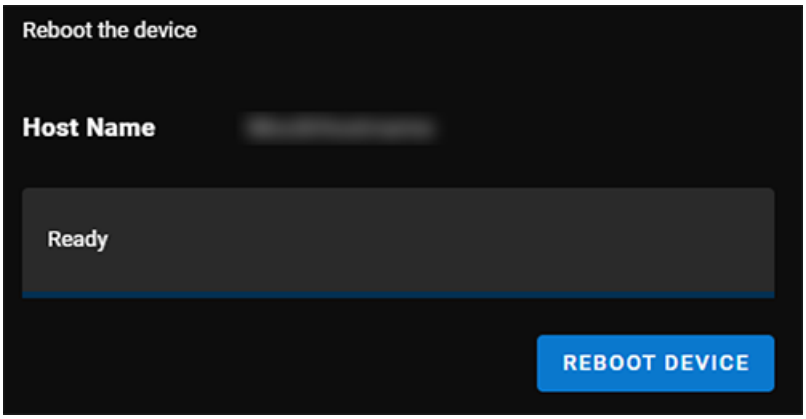
Field Diagnostics

In the **Field Diagnostics** tab of **Settings**, you can save diagnostics data by clicking on **Save Diagnostic Data**. If necessary, you can send this data to Cognex Customer Support.



Reboot

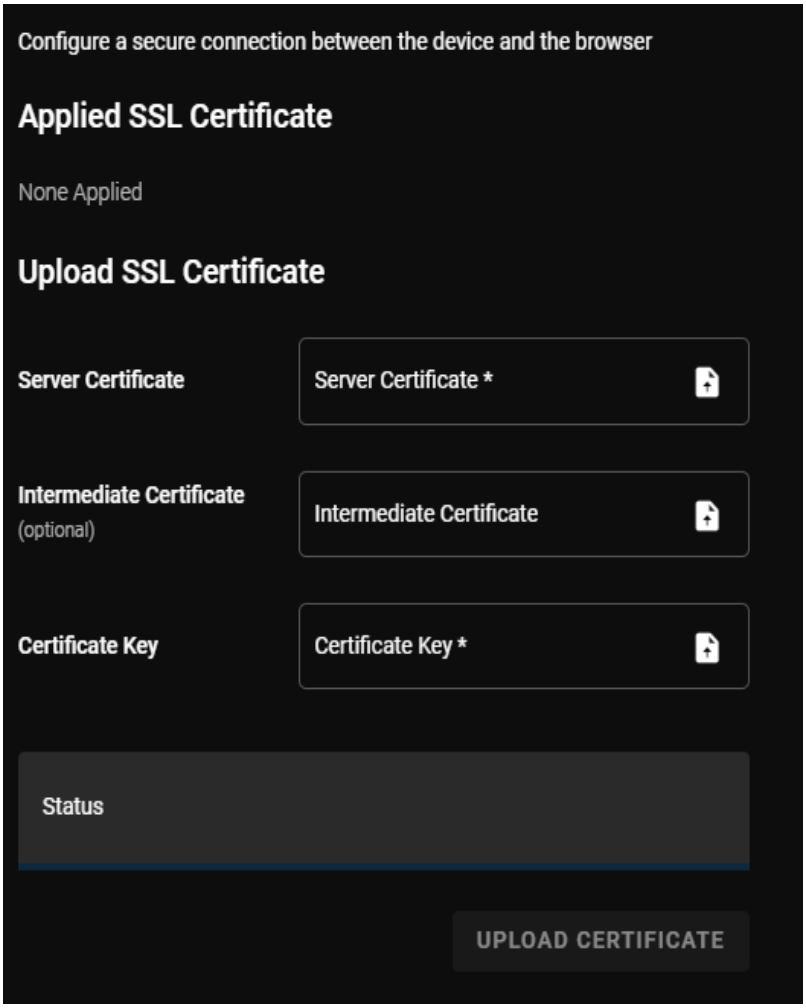
In the **Reboot** tab of **Settings**, you can reboot the device.



After clicking **Reboot Device**, the screen confirms that the reader initiated the reboot. Rebooting takes a few seconds to finish.

Secure Connection

In the **Secure Connection** of **Settings**, you can set up a secure communication channel between the reader and the browser by uploading and using an SSL certificate.



The **Applied SSL Certificate** shows you which SSL certificate you are currently using.

To upload an SSL certificate, click on the **Upload** button and select the following files from your computer:

- **Server Certificate**
- **Intermediate Certificate (optional)**
- **Certificate Key**

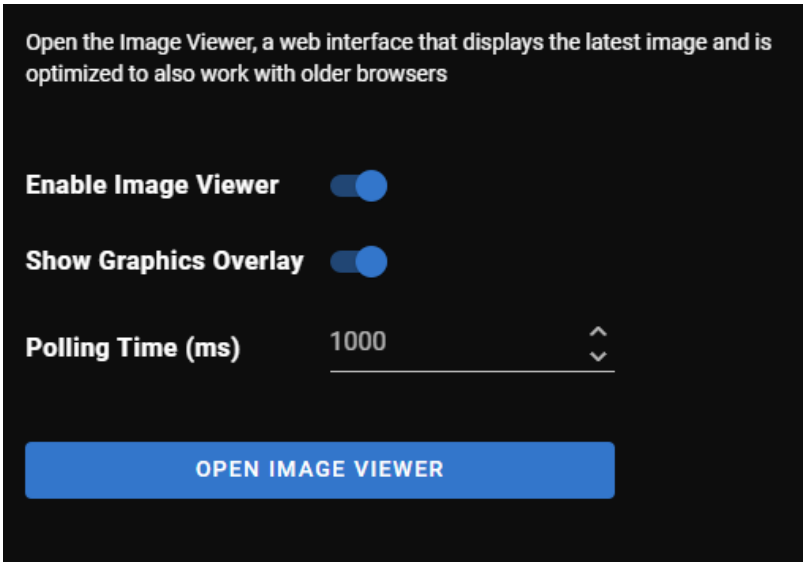
The **Status** shows the statuses of the uploaded files.

Click on **Upload Certificate** to upload the chosen files.

Note: If you delete your certificate, your connection is no longer secure. In this case, you need to manually remove the "s" from the protocol in the URL to reconnect to the reader.

Image Viewer

In the **Image Viewer** tab of **Settings**, you can configure and open the Image Viewer, which is accessible outside of WebUI. The Image Viewer is a HMI that displays the latest image captured by the reader with optional overlay graphics. The Image Viewer is optimized to also work with older browsers.



The **Polling Time (ms)** defines how often the web interface displays a new image. The minimum value is 500 ms. Modern browsers ignore the polling time and display the latest trigger.