HTML GUIDE OF THE GENERIC ETCS DRIVER'S HANDBOOK

1.6.0

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Notice for use/Disclaimer

This Handbook may serve as the basis for a generic training material and reference guide for drivers being trained to drive under ETCS.

For driver certification purposes, it is recommended that users produce a more specific training manual by omitting from the Handbook any content that is not applicable in a particular on-board unit configuration and complementing the Handbook with information related to the specific rolling stock type on which the on-board unit is installed; the customized version of the Handbook may also be complemented with conditions enforced by relevant company rules on driver's actions involving the ETCS on-board unit.

Users should apply similar customization principles to generate type-specific versions of the Handbook to serve as user's manuals for specific rolling stock types operated by specific railway undertakings in specific areas of use.

In all cases, the users shall bear the full responsibility for any customization of the Handbook to meet any particular need.

The guide provided herewith is intended to facilitate the customization process, yet the Agency cannot be held liable for any adverse side-effect resulting from the omission of applicable content from, or the inclusion of non-harmonized content into, any customized version of the handbook.

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1 INTRODUCTION

1.1 Purpose and scope

The aim of this document is to explain how to install and use the HTML version of the generic ETCS driver's handbook.

1.2 Background: the harmonised etcs driver's handbook

The ETCS driver's handbook has been produced to provide a harmonised handbook on the use of the ETCS on-board equipment by the driver of a train fitted with this system. It has been produced in three languages: English, French and German. Additionally, there are two open source formats either MS Word or HTML.

The ETCS driver's handbook includes all the ETCS DMI features, options, configuration parameters, expected system reactions, system messages, degraded situations, etc. from the driver's viewpoint. Information which is not relevant to the driver has been omitted from this document.

The scope of the ETCS driver's handbook is limited to Baseline 3 & 4 ETCS on-board, i.e. B3 Maintenance Release 1 and B3 Release 2 and B4 Release 1, operated in applicable ETCS system versions (i.e. 1.1, 2.0, 2.1, 2.2, 2.3, 3.0). The scope of the harmonised handbook does not include Class B systems when operated through the ETCS DMI.

The clauses included in the ETCS driver's handbook are based on the following ETCS specifications:

- System Requirements Specification (i.e. Subset-026, v4.0.0),
- ETCS Driver Machine Interface (4.0.0)
- ERTMS Operational Principles and Rules (Appendix A to the TSI OPE)

1.3 Contents of this guide

This document has been structured in three main sections related to the HTML version of the ETCS driver's handbook:

- Section 2 describes the installation requirements that should be met by electronic devices and explains the installation process of the generic ETCS driver's handbook.
- Section 3 explains the main functionalities implemented in the HTML version that the ETCS driver's handbook users should know.

2 INSTALLATION GUIDELINES

2.1 Installation requirements

The electronic device, in which the generic ETCS Driver's Handbook application will be installed, should meet the following requirements:

2.1.1 HARDWARE REQUIREMENTS

- 300 MB of free space in the disk of the electronic device to host the application.
- In order to listen to the handbook sounds, the device must have a speaker.
- Display screen with a minimum resolution of 360x640 (wide x high).

2.1.2 SOFTWARE REQUIREMENTS

- Web navigator updated capable of batching HTML5 and JavaScript (Google Chrome, Microsoft Edge, Mozilla Firefox, Safari, Opera, etc..).
- In order to listen to the handbook sounds, the device must be able to reproduce audio files in MP3 format.
- If the display options are required to be saved inter-session, such as the option of showing/hiding the clauses name, it is necessary that the web navigator accepts the "Storage" object of JavaScript in local mode.

2.2 HTML handbook installation

This section describes the steps to follow for a third party to carry out the installation of the HTML application on electronic devices.
The application is provided in two ZIP files, as shown in the figure below.

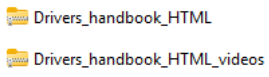


Figure 1. HTML application zipped.

To install an application version, it is necessary to extract the corresponding ZIP files, then the content will be copied to the device where the user wants to display the application.

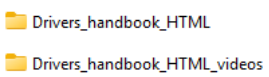


Figure 2. HTML application unzipped.

To ensure the videos are displayed correctly, follow these steps:

- Open the folder "*Drivers_handbook_HTML_videos*".
- Copy (or cut) the folder named "*video*".
- Paste it inside the folder "*Drivers_handbook_HTML*" in the following directory:

Drivers_handbook_HTML › Drivers_handbook_HTML › content ›

The first level of the directory structure of that content consists of the following elements:

- "*content*" directory: where the files needed for the operation of the handbook are located: html pages, style sheets, scripts, images and data.
- "*index.html*" file: It is the main page of the application and it should be opened with a web navigator so that the user can visualize the handbook. It is recommendable to create a direct link to this file in order to facilitate the access to the final user, either within the navigator in a bookmark or a shortcut where the file could be found easily, such as the desktop.
- It is important to maintain the directory structure as it is provided, otherwise the application will cease to work.

Note: If the content of the manual is wanted to be pre-customised (see section 3 in this document), it is recommended to perform the customisation in a computer before copying the application in the device.

In some cases, depending on the devices, it is necessary to carry out additional steps for the correct installation of the handbook. If the installation has not been performed correctly, follow the steps mentioned below:

- In some Android devices, after installing the handbook, it is necessary to open the Chrome browser and to write "file:///sdcard/" to visualize it. Then, when the directory structure of the device is displayed, browse to the installation directory of the handbook and press on "index.html". In this case, it is recommended to save the home page as favourite bookmarker to access directly the next time the handbook is opened.
- In IOS devices (iPhone/iPad), it is necessary to follow the following steps for the installation:
  - Copy the unzipped files from the application to the device using iTunes.
  - From the device, move those files inside the "Documents" application (or similar).
  - From the "Documents" application (or similar), open the "index.html" file.

3 USER GUIDE

3.1 Home screen

It is the web page that opens when the application starts. In addition to a decorative graphics, it consists of a Copyright Notice and a Notice for use/Disclaimer which must be agreed by the user to continue.
At the bottom of the home screen is available the button “I agree” that must be clicked by the user.

3.2 Configure your values

If the application has been pre-configured before the installation by an administrator (see section 3 of this document), this configuration screen will not be displayed and the application will automatically go to the index of the handbook. Otherwise, an attribute selection form will be displayed to filter handbook clauses.
By pressing the link of the edition, which is in the right of each attribute, a modal window will be opened to select the corresponding values to each attribute. All require a selection to be made except “Transition level”.
Once the values have been selected, the user must click “Go” to apply the filter and access to the following screen.

Note that the application does not allow to select more than one baseline, operated system version and DMI screen technology at the same configuration

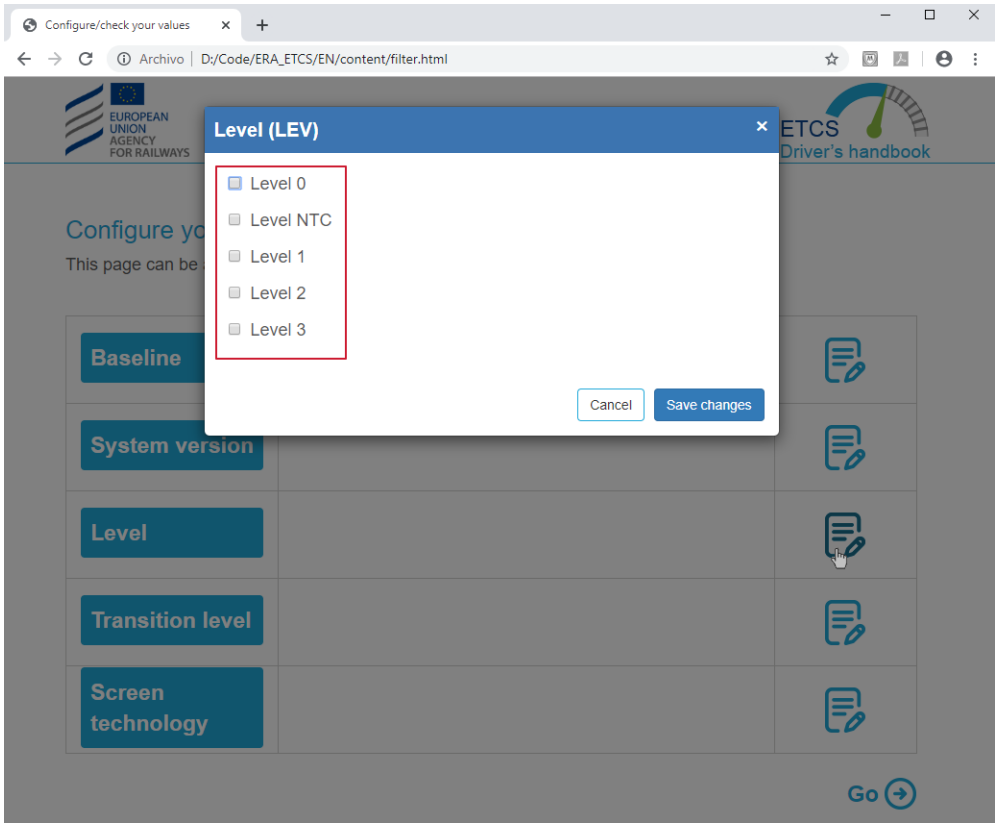


Figure 3. Configure your values. Highlighted in red is an example of the list of values in which the selection applies, in this case corresponding to the attribute Level (LEV).

3.3 Index of the handbook

The index of the handbook is the page that displays the contents of the ETCS Driver's Handbook. By default, it is collapsed showing only the first level topics. Pressing them, the page of the content of the selected theme is accessed.

If a topic consists of a second level of subtopics, a "+" icon is displayed on the right. Pressing it, a menu with subtopics will be deployed below the main topic.

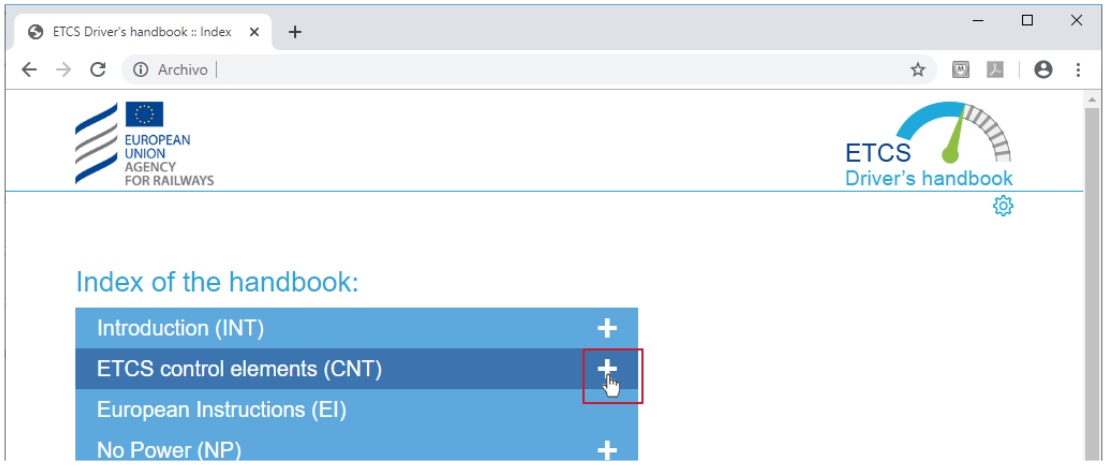


Figure 4. Index of the handbook. Highlighted in red is the icon to press to expand the chapter into its subtopics

The topic content page is accessed by pressing each second level subtopics, focusing on the selected second level subtopic on the screen.

If a subtopic of second level consists of third level subtopics, a "+" icon is displayed on its right. Pressing it, a menu with subtopics will be deployed. The topic content page is accessed by pressing in theses last ones, this will show the selected third level subtopic on the screen.

Once a subtopic has been expanded, the "+" icon changes by "-" icon, the expanded subtopic is collapsed again pressing on the "-" icon.

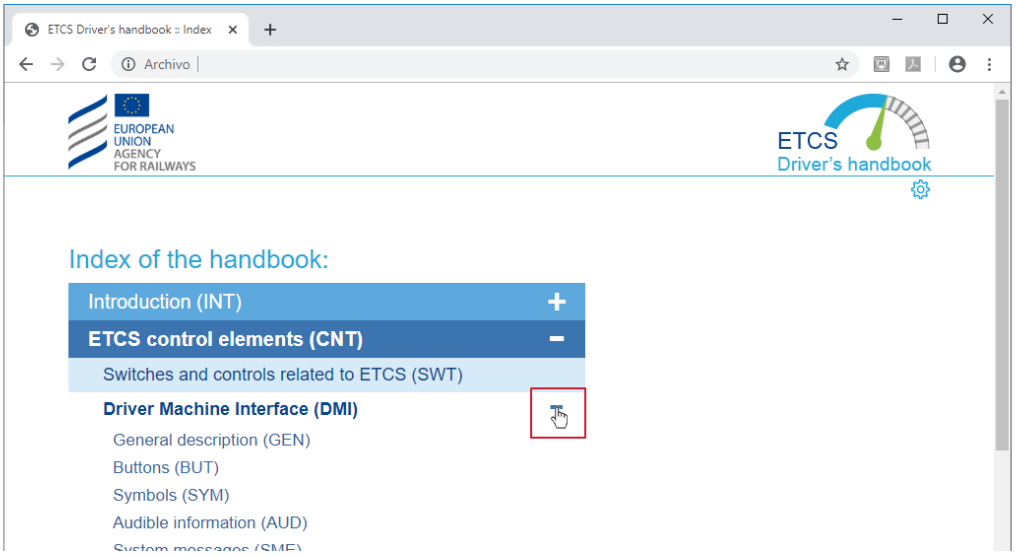


Figure 5. Index of the handbook. Highlighted in red is the icon to press to collapse the subtopics of the chapter.

3.4 Content pages

These pages present the clauses of the ETCS Driver's Handbook, with the filtered clauses corresponding to the selected index element.
In addition to these contents, at the top of the screen and below the header with the logos, the following icons with links are located:

- "Home" icon: pressing it returns to the topic index page.

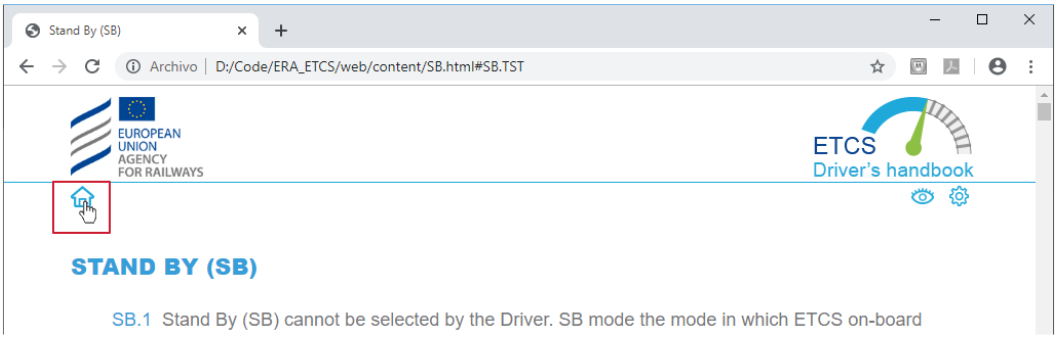


Figure 6. Content page. Highlighted in red is the "home" icon to return to the topic index page.

- "Eye" icon: the clause codes are shown and hidden by successively pressing the icon.

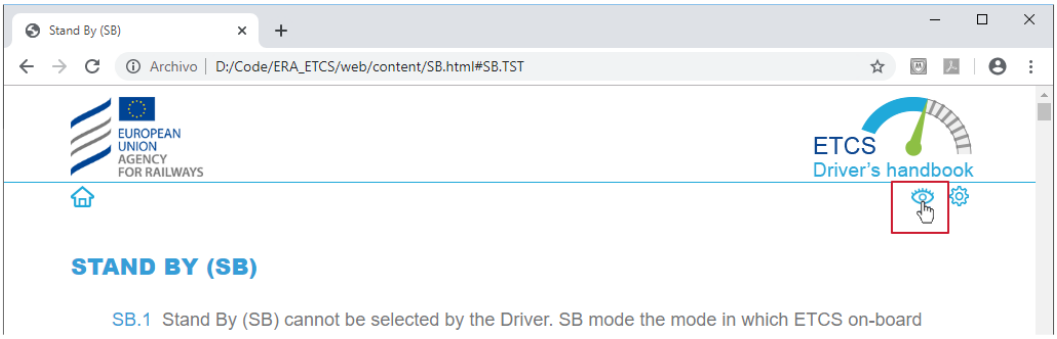


Figure 7. Content page. Highlighted in red is the "eye" icon to show/hide the clauses code.

- "Settings" icon: pressing it, if the application has not been preconfigured before installation by an administrator, the attributes configuration page is returned in order to inspect and/or change the filtering values of the clauses of the manual.
- Otherwise, if the application has been preconfigured, the access to the screen for displaying the filter values is explained in the section 2.5.

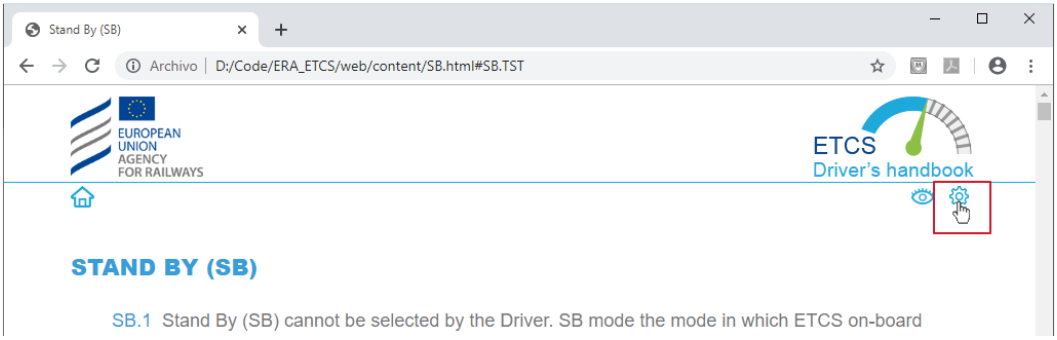


Figure 8. Content page. Highlighted in red is the “settings” icon to access to the page for displaying/modifying clause filter values.

3.5 Check your values

In this page, which can be accessed by pressing on the "Settings" icon, the values of each attribute are visualized, by which the filtering of the clauses of the manual is performed.
The values shown correspond to a pre-configuration performed by their administrator and they cannot be modified from within the application.

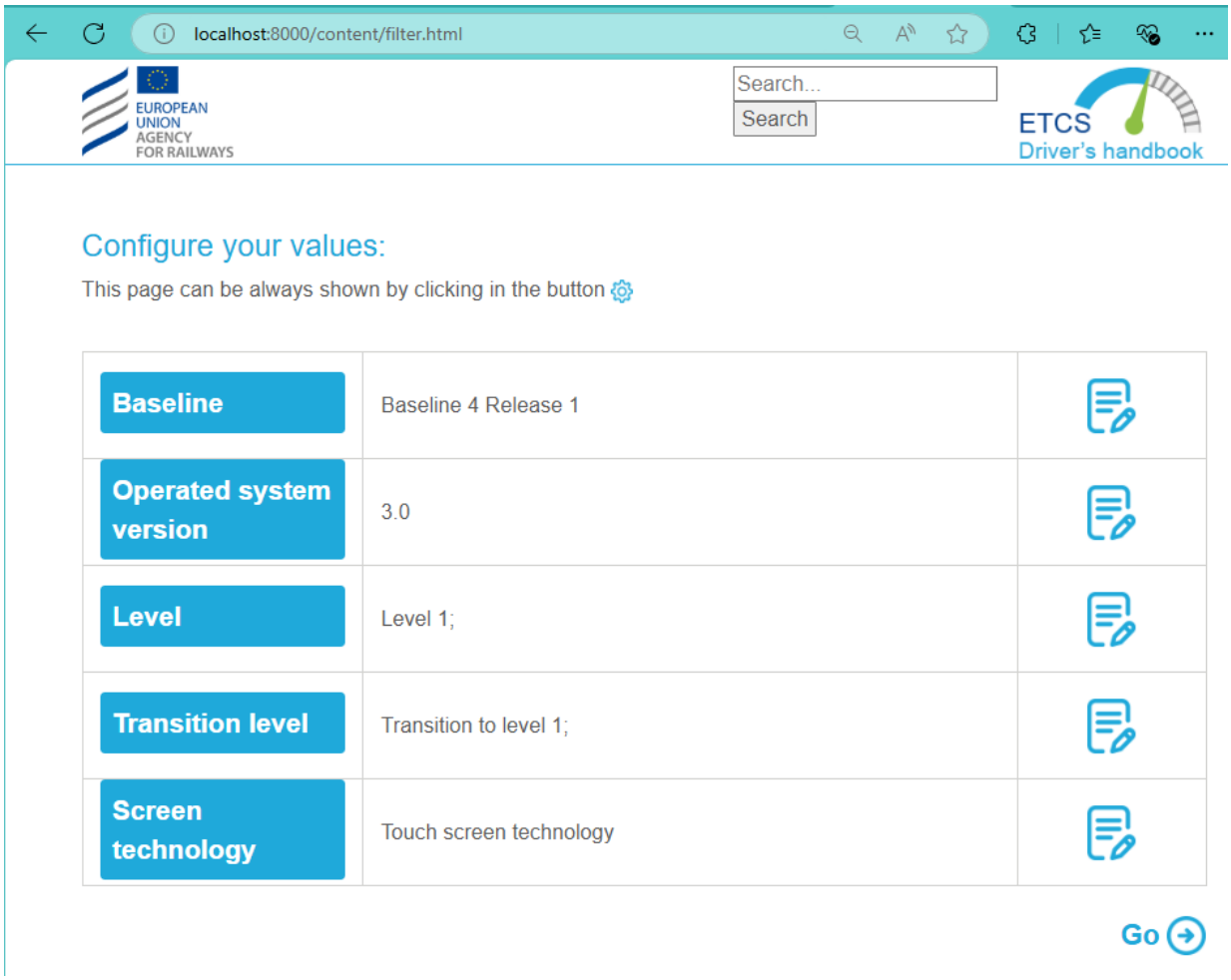


Figure 9. Check your values. Query screen of the preconfigured parameters.

3.6 Search function

Following user feedback, a research function has been added as per the Baseline 4 Release 1 update. This function is useful to locate where certain terms are mentioned in the Handbook. However, due to common restrictions on web browsers and file explorers, it is not directly possible to implement it when opening the index.html.

To get around this issue, the user should have a local (virtual) server running to allow for searching in the contents of multiple files at a time.

The easiest solution requires the user to install Python, a free programming language, that handles the starting of the local server. For Windows computers, it can be installed via the Microsoft Store, which typically does not require the user to have administrator rights on his or her computer.

Once Python is installed the user has two options. Either:

- Start the local server manually. This is done by:
  - Opening the Command Prompt (search “cmd” in the Windows search bar)

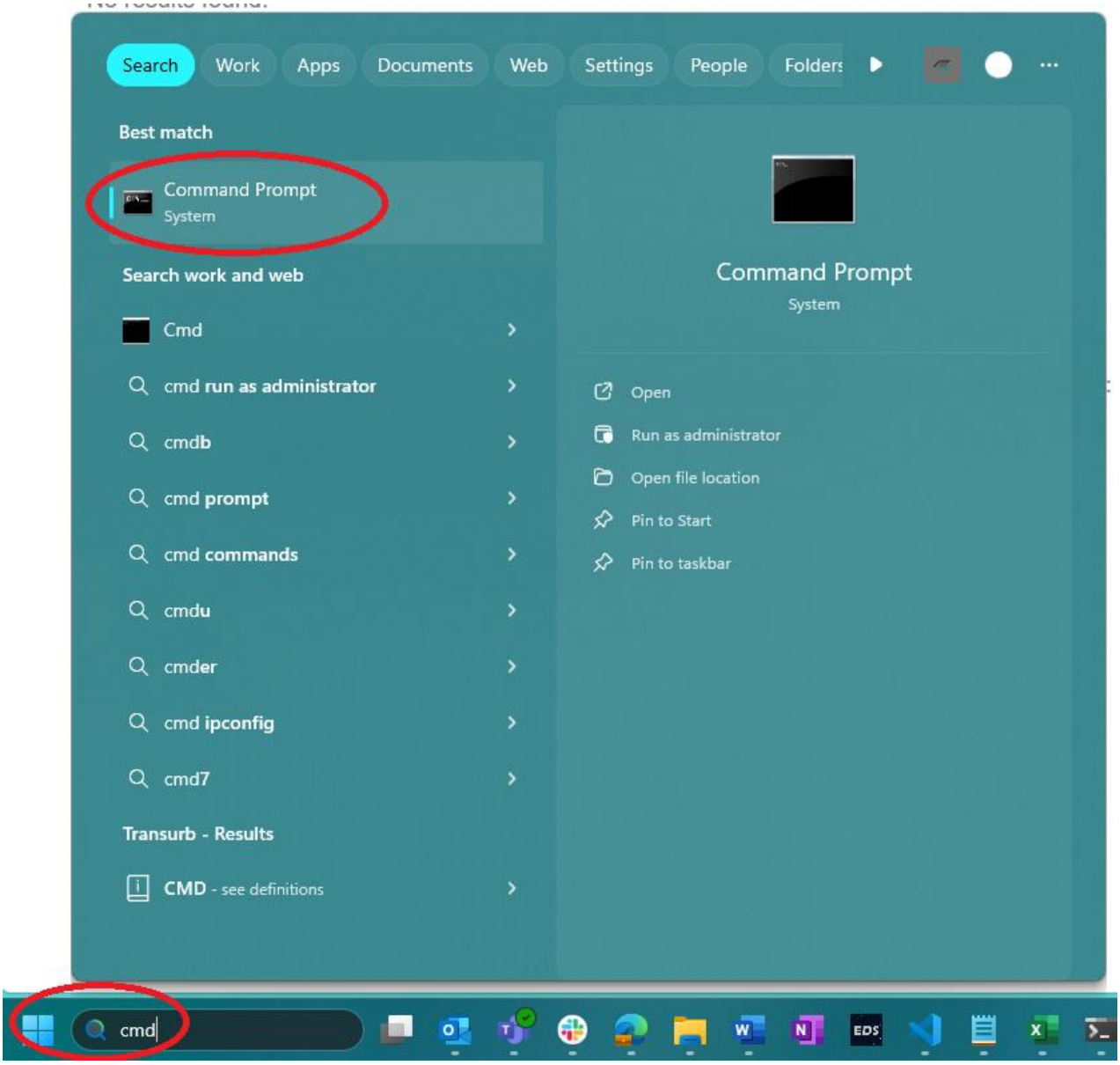
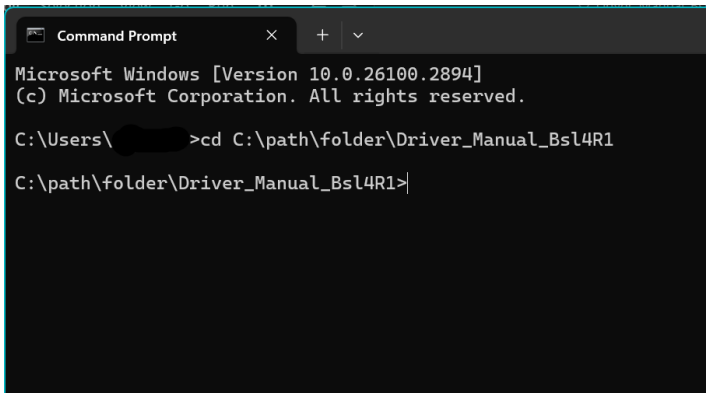


Figure 10. Command Prompt.

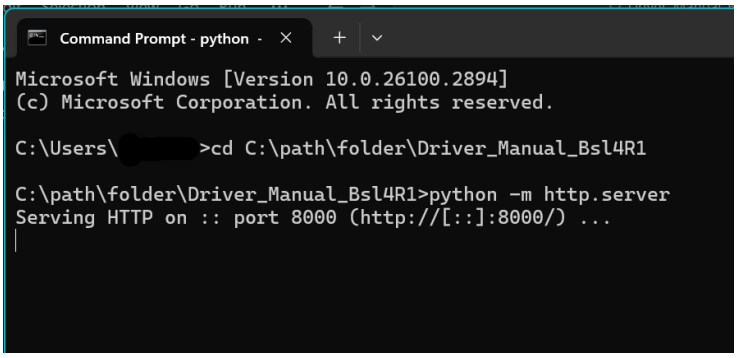
  - Navigating in the environment to the location where the HTML folder is unzipped (copy and paste the following line in the command window, but adapting to the folder containing the HTML, then press enter):

```
cd C:\path\folder\Driver_Manual_Bsl4R1\
```



- Running (copy and paste the following line in the command window, then press enter):

```
python -m http.server
```



- Opening the local server by copying and pasting the following address in the web browser and pressing enter:

http://localhost:8000/

- After selecting the values, try searching any term (for example, "DMI").

- Start the server with the batch file. The user can run the file start_html_with_server.bat found in the main folder.

It should be noted that the second option may be automatically blocked by company IT policy. If searches still do not return any results after launching the bat file, refer to the first option.

This explanation is always provided to the user in case the search returns no results.

3.7 TRACK CONDITIONS-RELATED CHRONOGRAMS

To ease user undertesting of the behaviour of the DMI when the train is approaching, going over and passing an announced track condition, chronograms, extracted from Subset 026 chapter 5 have been added in the HTML version of the handbook.

The user can click on the chronogram which:

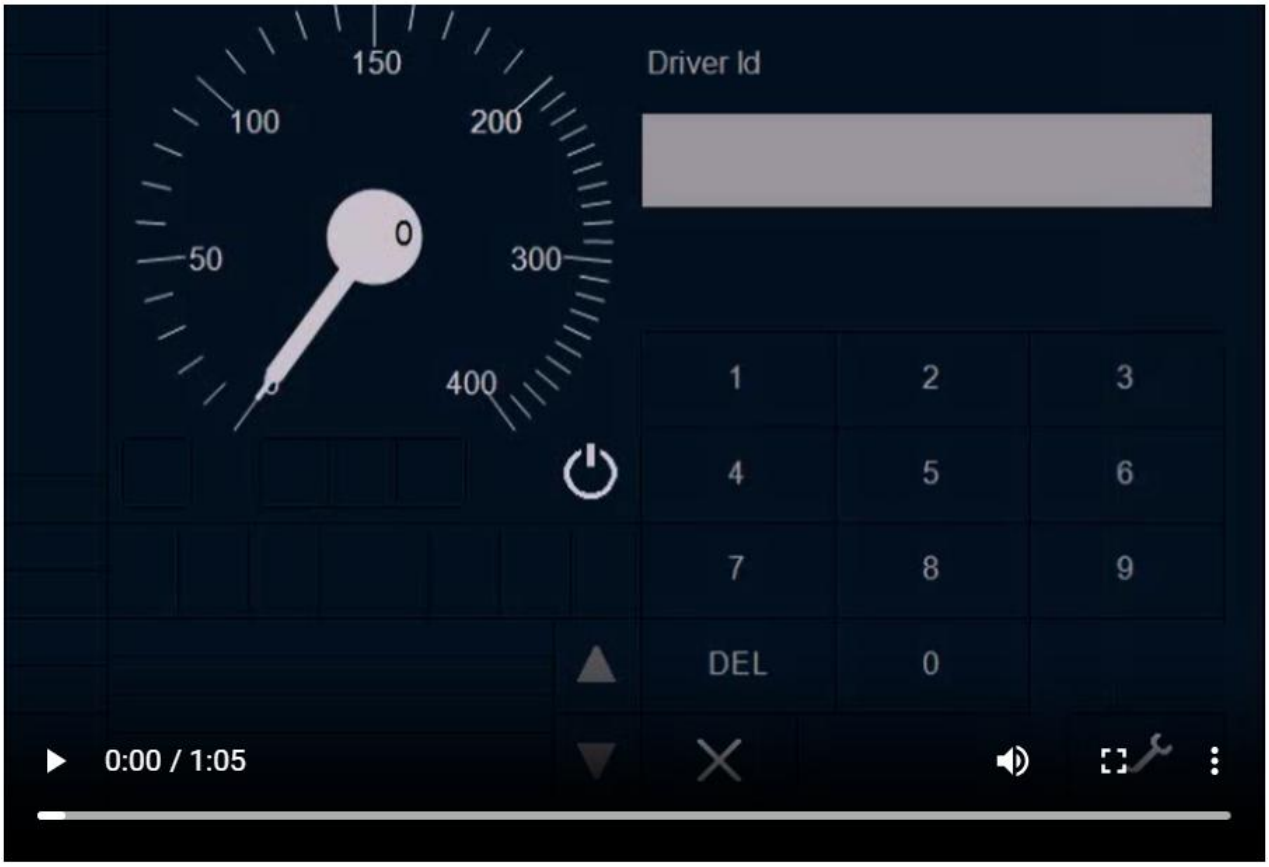
- Modifies the position of a schematic train
- Adapts the associated DMI that the driver should observe in relation to the train (front end) position.

Using a left-click of the mouse, the train will move forward in sequence, and using a right-click of the mouse, the train will move backwards.

Note: right- click functionality may not work when using a touchscreen device such as a tablet.

3.8 VIDEO PLUG-INS

To ease user undertesting of the sequence of actions by the driver, examples of DMI procedures are illustrated with video plug-ins. As for the figures, these videos are filtered and displayed according to level and screen technology. The user can use basic control such as play/pause, full-screen playing, sound enabling and, by using the menu represented by 3 dots, activate additional functions such as different playback speed and casting to a nearby screen. See example below:



Video: VBC entering (touch screen technology)

Figure 11. Video plug-in

3.9 TROUBLESHOOTING

When switching between several versions of the HTML (for example between the English and French version, or between the 2020 and the 2025 version), the web browser may keep some elements as stored data in the form of cookies. This may lead to inconsistent display of the HTML, where for example some images are not displayed. It is recommended in this case to try of the two following options:

1. Clear the cookies and cache files. This can be done by navigating to the settings of the web browser. The user should be able to select the period for which to delete the files.
2. Open the HTML in a private navigation window. This can usually be done by checking the settings of the browser or using the appropriate shortcuts. For example for Mozilla Firefox: Ctrl + Shift + P (Windows/Linux) / ⌘ + Shift + P (Mac) and for Google Chrome: Ctrl + Shift + N (Windows/Linux) / ⌘ + Shift + N (Mac). The index.html can then simply be dragged on the opened window. This should clear any previously stored cookie.