



# **CUSTOMISATION GUIDE**

## **FROM THE GENERIC ETCS DRIVER'S HANDBOOK TO MODEL/NETWORK- SPECIFIC MANUALS**

1.1.1  
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120 Rue Marc Lefrancq  
BP 20392 / FR 59307  
Valenciennes, France  
Tel. +33 (0) 327 09 65 00  
[era.europa.eu](http://era.europa.eu)

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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 the generic ETCS driver's handbook [6] can be used as a template to produce model-specific manuals. The ETCS driver's handbook should be complemented with specific rolling stock information and other relevant information, e.g. which SRS version is installed, how to physically isolate the ETCS from the rolling stock brake system, the Driver Machine Interface (DMI) failure modes, operational and company rules and the Class B systems which operate through the ETCS DMI.

The generic ETCS driver's handbook collects all the harmonised ETCS functions included in the system specifications (e.g. levels, modes and DMI technology). However, some of this harmonised information will not be relevant for specific trains or networks. For example, there are clauses related to touch screen technology which will not be relevant for a train equipped with soft key technology. Additionally, other relevant information could be added such as the specific train process to power on the ETCS on-board.

This guide indicates how the relevant harmonised clauses from the generic ETCS driver's handbook for the specific train or network conditions can be identified. This is based on the ETCS on-board baseline, ETCS system version, level, DMI screen technology and vehicle/network dependant ETCS functions. Equally this guide explains how to remove clauses from the ETCS driver's handbook that are not applicable for the specific train or network conditions.

New clauses or sections may be considered by the author of the model-specific manual as necessary to complement the model-specific manuals, for example, national rules including non-harmonised operational rules, information specific to class B systems and rolling stock-specific information. This guide indicates how to add clauses and sections in a model-specific manual.

This guide covers the customisation of both the MS Word format and HTML format of the ETCS driver's handbook to produce model-specific manuals.

It is out of the scope of this document the customisation process of the ETCS driver's handbook for Baseline 2 on-boards or Baseline 3 on-boards other than B3 MR1 and B3 R2.

## 1.2 BACKGROUND: THE GENERIC ETCS DRIVER'S HANDBOOK

The generic 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 available, namely MS Word and HTML.

The generic 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 ETCS on-board, i.e. B3 Maintenance Release 1 and B3 Release 2, operated in applicable ETCS system versions (i.e. 1.0, 1.1, 2.0 or 2.1). The scope of the harmonised handbook does not include Class B systems even when operated through the ETCS DMI.

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

- System Requirements Specification (i.e. Subset-026, both v3.4.0 and v3.6.0),
- ETCS Driver Machine Interface (both v3.4.0 and v3.6.0)

- ERTMS Operational Principles and Rules (Appendix A to the TSI OPE)

Without excluding other uses, the generic ETCS driver's handbook is designed to be used as a template to produce model-specific manuals. A model-specific manual will be compiled by the rolling stock supplier or the Railway Undertaking (RU) operating the rolling stock. The model-specific manual will be provided to the drivers for each type of rolling stock. Any model-specific manuals will be adapted to include details of the specific rolling stock and other specific information (e.g. which SRS version is installed, how to physically isolate ETCS from the rolling stock brake system and DMI failure modes).

Model-specific manuals may also be complemented by the author of the model-specific manual further, by adding information such as conditions to be checked by the driver before performing some action on the DMI. Such information is usually defined by either operational or company rules. In addition, the model-specific manuals may be extended by the author of the model-specific manual to also cover Class B systems when operated through the ETCS DMI, i.e. by means of a Specific Transmission Module (STM).

The ETCS driver's handbook uses figures to aid understanding by showing examples of a DMI screen. There are specific DMI screenshots to reflect the characteristics of the standardised DMI technologies (i.e. softkey and touchscreen), baselines (i.e. B3MR1 and B3R2) and system versions (i.e. 1.0, 1.1., 2.0, 2.1). In addition, screenshots for both ETCS level 1 and ETCS level 2 have been included to provide context-specific figures that facilitate the customisation process.

The relevant part of each figure that is related to the clause of the ETCS driver's handbook has been highlighted with a red rectangle. It should be noted that other parts of the ETCS DMI screen can be different for specific situations. In general, the figure of the ETCS DMI screen could have several variants. However, for simplicity a single diagram has been used to illustrate the required information. For example, in the figure that explains how to activate the override procedure, the location of the Override button is marked on a DMI screenshot. In this figure the ETCS on-board mode is shown as being in FS mode. The relevant part of this figure is the location of the Override button, not the active mode because the override procedure can be activated in several different modes, e.g. SB, SR, FS or SH. Therefore, only a single figure has been used to highlight the relevant information for each clause.

### 1.3 CONTENTS OF THIS GUIDE

This document, the Customisation Guide, has the following structure:

- Section 2 explains the steps required to produce model-specific manuals.
  - o Sub-Section 2.1 describes how to identify clauses of the ETCS driver's handbook that are not applicable by considering the baseline, the ETCS system version, the ETCS levels, level transitions and the DMI screen technology.
  - o Sub-Section 2.2 explains how to complement the model-specific manuals with rolling stock specific information, in addition to the attributes considered in section 2.1.
  - o Sub-Section 2.3 explains how to complement the model-specific manuals with network specific information, in addition to the attributes considered in section 2.1.
- Section 3 explains how to add new clauses or sections into a model-specific manual. Also, an explanation of how to delete clauses or sections is given.
- Section 4 explains how clauses that include more relevant information for the driver are emphasised within the model-specific manual. These are clauses that the driver should pay special attention to or clauses related to a critical condition that could lead to a hazardous situation.

- Section 5 includes additional aspects to be considered in the compilation of a model-specific manual.

## 1.4 REFERENCE DOCUMENTS

- [1] Subset-026: System Requirements Specification, version 3.4.0.
- [2] Subset-026: System Requirements Specification, version 3.6.0.
- [3] ERA\_ERTMS\_015560: ETCS Driver Machine Interface, version 3.6.0.
- [4] ERA\_ERTMS\_015560: ETCS Driver Machine Interface, version 3.4.0.
- [5] ERA\_ERTMS\_OPE\_AppA\_5. Appendix A: ERTMS/ETCS operational principles and rules, version 5.0
- [6] ETCS driver's handbook. Version 1.1.0. Date: 12/12/2019

## 2 PRODUCING MODEL-SPECIFIC MANUALS

The generic ETCS driver's handbook covers all the harmonised ETCS functions included in the ETCS specifications. However, parts of the generic ETCS driver's handbook will not be relevant for specific vehicles or networks (e.g. clauses related to touch screen technology are not relevant in case of a train equipped with soft key technology). Also, other information could be relevant and will need be added, for example the specific train process to power on the ETCS on-board.

The generic ETCS driver's handbook can be used as a template to produce model-specific manuals following the steps indicated in this section:

- Identifying non-applicable harmonised clauses by considering the relevance of the baseline, system version, level, level transitions and DMI screen technology.
- Complementing the model-specific manuals with rolling stock specific information.
- Complementing the model-specific manuals with network specific information.

Note: The HTML version of the generic ETCS driver's handbook has been created following the same structure as the Word version. Any modifications made to the MS Word version shall be manually reflected in the HTML files, in order to ensure that both versions of the model-specific manuals have the same information. This task has to be undertaken by the person responsible for the model-specific manual and is entirely under his/her own responsibility.

### 2.1 IDENTIFYING NON-APPLICABLE HARMONISED CLAUSES

The clauses included in the generic ETCS driver's handbook are characterised by the following attributes: baseline, ETCS system version, ETCS level, level transitions, DMI screen technology and type of requirement. This characterisation information is included in the codification of each clause according to the clause codification principles indicated in Annex A: Clause codification principles.

The non-applicable clauses should be identified when customising the ETCS driver's handbook. This subsection explicates how to identify clauses in the generic ETCS driver's handbook, which are not applicable for a specific rolling stock and/or network by considering the ETCS on-board baseline, ETCS system version, the ETCS level, level transitions and the on-board DMI screen technology.

In the MS Word format of the ETCS driver's handbook, the non-applicable clauses have to be identified and deleted manually by the person that compiles the model-specific manual.

In the HTML format of the ETCS driver's handbook, the non-applicable clauses are identified and hidden automatically by the user, by selecting the relevant attributes in the HTML configuration page.

The general criteria applicable when filtering the clauses are the following:

- **CCS Baseline of the ETCS on-board.** There are two excluding options: B3 MR1 and B3 R2. Clauses that are only applicable for B3 MR1 are coded as "B3M1" and those only applicable for B3 R2 are coded as "B32" (see Annex A: Clause codification principles).

Depending on the CCS Baseline of the ETCS on-board, some clauses of the generic ETCS driver's handbook are not applicable.

For example, the clauses characterised as only applicable for B3 R2 ETCS on-board are not applicable in the model-specific manual of a B3 MR1 ETCS on-board.



- **ETCS system version.** There are four non excluding options: 1.0, 1.1, 2.0 and 2.1. For clauses applicable to specific ETCS system versions, the applicable ETCS system version is indicated in the clauses codification, i.e. version 1.0 with “10”, version 1.1 with “11”, version 2.0 with “20” and version 2.1 with “21” (see Annex A: Clause codification principles).

From the on-board point of view, the on-board supported ETCS system versions are specified by the CCS baseline, i.e. B3 R2 on-boards support these four versions but the B3 MR1 on-boards do not support the system version 2.1.

This attribute is more relevant for customising the ETCS driver’s handbook by considering the networks where the ETCS on-board is going to run. In that case, the input should be the ETCS system version operated by the trackside infrastructure (e.g. version 1.0 in case of baseline 2 networks).

For example, the clauses characterised as only applicable for system version 2.0 and 2.1 are non-applicable in the customised handbook of a network operated with system version 1.0 or 1.1.

- **ETCS level.** There are five non excluding options: level 0, level NTC, level 1, level 2 or level 3. For clauses not applicable to all ETCS levels, the applicable ETCS level is indicated in the clauses codification, i.e. level 0 with “0”, level NTC with “N”, level 1 with “1”, level 2 with “2” and level 3 with “3” (see Annex A: Clause codification principles).

When complementing the model-specific manuals with rolling stock specific information, the ETCS levels available for use by the on-board<sup>1</sup> should be considered.

In addition, by considering the networks where the ETCS on-board is going to run, only the ETCS levels implemented in these networks that are available for use by the ETCS on-board should be considered in a model-specific manual.

For example, the clauses characterised as only applicable for levels 2 or 3 are non-applicable in the model-specific manual of an ETCS on-board that considers only level 0 and level 1 as available for use.

Note: the ETCS driver’s handbook includes representative screenshots applicable for both Level 1 and Level 2. If both levels are applicable, then either one or both screenshots could be included in the model-specific manual.

- **ETCS level transition.** There are five non excluding options: transition to level 0, transition to level NTC, transition to level 1, transition to level 2 or transition to level 3. For clauses applicable to specific ETCS level transitions, the applicable ETCS level transition is indicated in the clauses codification, i.e. level 0 with “0”, level NTC with “N”, level 1 with “1”, level 2 with “2” and level 3 with “3” (see Annex A: Clause codification principles).

When complementing the model-specific manuals with rolling stock specific information, the ETCS levels available for use by the ETCS on-board should be considered.

In addition, by considering the networks where the ETCS on-board is going to run, only the ETCS level transitions implemented in these networks should be considered in the model-specific manual.

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<sup>1</sup> Clause 5.10.2.4.1 in the Subset-026 v3.4.0 and 3.6.0 indicates the conditions under which an on-board equipment considers an ETCS level as “available for use”



For example, the clauses characterised as only applicable for level transitions to NTC are non-applicable in a model-specific manual of a network where level NTC is not implemented.

Note: In case of transitions to a level not available for use by the ETCS on-board, the model-specific manuals should include the procedures for degraded situations because if none of the ordered level(s) is available for use by the ETCS on-board, the ETCS on-board nevertheless makes the transition to the ordered level with the lowest priority<sup>2</sup>.

- **DMI screen technology.** There are two excluding options either soft key technology or touch screen technology. All the clauses are characterised as being applicable to both DMI screen technologies or to a specific DMI screen technology. Clauses that are only applicable for soft key technology are coded with “S” and those only applicable for touch screen technology are coded with “T” (see Annex A: Clause codification principles).

For example, the clauses characterised as only applicable for soft key technology are non-applicable in the model-specific manual of an ETCS on-board that implements touch screen technology.

## 2.2 COMPLEMENTING WITH ROLLING STOCK SPECIFIC INFORMATION

This sub-section explains how to complement a model-specific manual with rolling stock specific information, in addition to the attributes considered in the section 2.1, i.e. the attributes baseline, ETCS system version, ETCS level, level transitions and DMI screen technology.

The clauses included in the harmonised handbook which depend on the specific ETCS on-board implementation are identified and classified as vehicle dependant. For example, the following topics have been classified as vehicle dependant. Note this is not an exhaustive list:

- Clauses related to optional buttons positioned on the driver’s desk, e.g. additional buttons to access the language window, volume window or brightness windows.
- Clauses and sections related to specific non-harmonised on-board processes, e.g. how to power on/off the ETCS on-board, open/close the desk, complete an internal test or how to enter/exit the isolation mode.
- Clauses related to the track conditions that could either be automatically executed by the ETCS on-board or manually executed by the driver, e.g. lowering the pantograph or changing the traction system.
- Clauses related to the ETCS on-board configuration for train data entry, i.e. fixed, flexible or mixed.
- Clauses related to the national functions implemented by the ETCS on-board.
- Clauses related to the Class B system implemented by the ETCS on-board.

Clauses that are vehicle dependant are coded as “V” (see Annex A: Clause codification principles). These clauses should be identified and complemented in the model-specific manual based on specific vehicle characteristics for both the Word version and HTML version of a model-specific manual.

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<sup>2</sup> Subset-026 v3.4.0 and 3.6.0: §5.10.2.7 and §5.10.2.7.1

In addition, in case of other aspects outside the scope of the harmonised specifications implemented by the ETCS on-board (e.g. additional buttons in the Setting window for additional DMI technical functions), these other aspects should be included in the model-specific manuals.

The author of a model-specific manual is responsible for not including information from the ETCS driver's handbook that they consider either too detailed or unnecessary. An explanation of how to add or delete clauses or sections is given in section 3.

## 2.3 COMPLEMENTING WITH THE NETWORK SPECIFIC INFORMATION

This sub-section details how to complement model-specific manuals with network specific information, in addition to the attributes considered in the section 2.1, i.e. the attributes baseline, ETCS system version, ETCS level, level transitions, DMI screen technology.

The clauses included in the generic ETCS driver's handbook which relate to requirements that the driver has to take into account but that are different depending on the network where it is running, the railway operator, etc. are classified as network dependant. For example, the following topics have been classified as network dependant. Note this is not an exhaustive list:

- Clauses related to National values, e.g. the driver can modify the adhesion factor only if national values of the network allow it.
- Clauses that indicate that the driver must do something according to non-harmonised rules, e.g. driver selection of shunting.
- The clause that introduces the indicative format for the European instructions included in the Appendix C2 to the TSI OPE, e.g., there is no obligation to display a field in the European instruction if it is not used in a Member State.
- Network specific procedures, e.g. indicating how to manage an absence of the mode transition.

Clauses that are network dependant are coded as "N" (see Annex A: Clause codification principles). These clauses should be identified and complemented in the model-specific manuals based on specific network characteristics for both the Word version and the HTML version.

Additionally, other relevant information should be included in the model-specific manuals. For example, specific company rules and uncommon operational situations identified in the Safety Management System (SMS), e.g. awakening of an ETCS on-board after having crossed the national borders in NP mode should be included in the model-specific manuals.

The general ETCS functions (e.g. track conditions, track ahead free, etc.) and ETCS modes (e.g. Limited supervision, Shunting, etc.) are not classified as being network dependant. In case of the networks where the rolling stock running does not implement an ETCS function or mode, they can be deleted from the model-specific manual.

The author of a model-specific manual is responsible for not including information from the ETCS driver's handbook that they consider either too detailed or unnecessary. An explanation of how to add or delete clauses or sections is given in section 3.

## 3 HOW TO ADD OR DELETE CLAUSES AND SECTIONS

This section explicates how to complement model-specific manuals by adding or deleting clauses and sections from the ETCS driver's handbook.

### 3.1 ADDING NEW CLAUSES

New clauses can be included in a model-specific manual to complement the information of the ETCS driver's handbook.

New and modified clauses should be characterised as additional clauses, i.e. use the code "A" in the "Type of requirement" (see Annex A: Clause codification principles). This indicates an additional requirement that does not exist in the generic ETCS driver's handbook. Note that this does not guarantee that the same code has not been used in another model-specific manual for another additional clause.

Optionally, the new clauses could be characterised by using the other attributes defined in the Annex A, i.e. baseline, ETCS system version, ETCS level, level transitions and DMI screen technology (see Annex A: Clause codification principles). Including the characterisation of new clauses could be useful if it is expected that the driver will filter the HTML version of a model-specific manual. Otherwise, characterisation of new clauses is not necessary.

The clause codification should include a reference to the section from where the clause was included within the model-specific manual, i.e. letters to identify the title of the section (see Annex A: Clause codification principles).

If a clause is added to an existing section, it will take the code that the existing section has. This code is usually characterised by two or three letters that represent and identify a simplified version of the section title. If a clause is in a section that belongs to another higher-level section, the clause will acquire the codification of both the section and the sub-section. The code of title, chapter and section is always separated by a full stop as indicated in Annex A.

If the clause to be added requires a new section in the manual, the author of the model-specific manual should follow the steps included in the section 3.3.

### 3.2 DELETING CLAUSES

The author of a model-specific manual is responsible for the deletion of any clauses included in the ETCS driver's handbook.

If the deletion of a clause does not affect the numbering of existing clauses, the clause can be deleted. However, if the deletion of a clause does affect the numbering of existing clauses, then the clause should be maintained, and the clause text should be replaced with "*Intentionally deleted*".

### 3.3 ADDING NEW SECTIONS

New sections can be added to a model-specific manual to complement the information of the ETCS driver's handbook.

If it is necessary to add a new section to the structure provided by the ETCS driver's handbook, the author of the model-specific manual shall:

- Select a title for the section that does not match an existing one.
- Define a code with 2 or 3 letters which easily identifies the title of the section or chapter and does not match any existing title to prevent similar clauses codes.
- If it is a sub-section included in another section, the code will include both the code of the higher-level section and the sub-section separated by a full stop.



### 3.4 DELETING SECTIONS

Deleting sections included in the ETCS driver's handbook when producing model-specific manuals is a decision that could be taken by the author of the model-specific manual depending on the information they want to provide to drivers.

The modular and flexible structure of the ETCS driver's handbook allows the author of the model-specific manual to delete a section without affecting the codification of the other sections. However, cross-references to the deleted section could still exist within the document. Redundant cross-references should be checked and deleted from the model-specific manuals.

## 4 HOW TO HIGHLIGHT RELEVANT CLAUSES

Clauses that require special attention from the driver should be highlighted in the model-specific manuals. Two different icons have been used to make the driver aware of the importance of these clauses.

Warning icon	Meaning
	Attention icon. This icon highlights clauses that provide relevant information for the driver. The driver must pay special attention to these clauses.
	Safety icon. This icon alerts the driver of a critical condition that can lead to a hazardous situation.

Note: Only the Attention icon has been included in the ETCS driver's handbook.

Both Attention and Safety icons should be included in model-specific manuals to highlight relevant clauses. The safety critical clauses must be identified by the author of the model-specific manual, based on a safety evaluation which is to be performed under their Safety Management System (SMS).

Each time the author of the model-specific manual identifies a clause that must be emphasised, the author shall:

- Add a border to the clause. In the Word version, the "Borders" command is used to add or remove border in a selected object.
- Add the corresponding icon (Attention icon or Safety icon). This is placed on the left-hand side of the clause.

## 5 ADDITIONAL COMMENTS

The following additional aspects should be considered when using the generic ETCS driver's handbook as a template to produce model-specific manuals:

- The generic ETCS driver's handbook has been created following a modular and flexible structure (see Annex A: Clause codification principles). However, model-specific manuals could use their own codification (e.g. numbering sections and deleting the clause attributes information). This is a decision for the author of the model-specific manuals.

- In a similar way, the figures included in the handbook use the codification defined in Annex A. Figures in model-specific manuals could be numbered sequentially. This is a decision for the author of the model-specific manuals.
- The digital Word file of the ETCS driver's handbook contains cross-references which are in blue text and underlined. These cross-references do not work in the printed version. Therefore, the cross-references could be removed, and the text changed to an appropriate colour (e.g. grey).
- After producing a model-specific manual, a pagination review should be made to ensure that no clause extends across more than one page or a figure linked to a clause is shown in another page (by using page breaks where appropriate).
- The MS Word handbook has been drafted as an A4 document; the font size was however selected in order to allow the handbook to be perfectly readable when printed in A5 format. It can be printed in a carry-on size (A5) through the printer settings window (e.g. by selecting A5 as output paper) or using the Word option to print multiple pages per sheet (e.g. using the special pagination sequencing allowing the printout to be assembled in a booklet). Warning: in case of changing the size paper to A5 in the Word document itself, the current format will be damaged.

## ANNEX A: CLAUSE CODIFICATION PRINCIPLES

### General Code Structure

All the clauses within the ETCS driver's handbook are identified by a code identification which precedes each clause. This code provides information about the section where the clause is included and clause attributes that provide information about the applicability of the clause.

Each clause code has the following structure: TIT.CHA.SEC-[BLS.VER.LEV.LTR.TEC.TYP].N

Section information	Clauses attributes	Number
TIT - CHA - SEC - [	BLS . VER . LEV . LTR . TEC . TYP ]	N

Note: BLS, VER, LEV, LTR, TEC and TYP only apply when a specific attribute must indicate a baseline-specific, system version-specific, level-specific, level transition-specific, screen technology-specific or a type of requirement different than "common", respectively. For every clause, only the non-universally applicable attributes will be included. Therefore, clauses related to universally applicable cases will not include the clause attributes part of the code identification.

#### Section information:

- TIT: 3 or 2 letters to identify the title of the high level section.
- CHA: 3 or 2 letters to identify the title of the medium level section, if applicable.
- SEC: 3 or 2 letters to identify the title of the low level section, if applicable.

#### Clause attributes:

- BLS: Baseline. This attribute indicates for which baseline(s) the clause is applicable to. The full baseline code shall be preceded by the letter "B" in order to prevent misunderstanding with the ETCS system version.
- VER: ETCS system version. This attribute indicates for which ETCS system version(s) the clause is applicable to.
- LEV: ETCS level. This attribute indicates for which ETCS level(s) the clause is applicable to. The full level code shall be preceded by the letter "L" in order to prevent misunderstanding with the ETCS system version.
- LTR. This attribute indicates which level transition is relevant to a clause. The full level code shall be preceded by the letter "T" in order to prevent misunderstanding with the ETCS system version.
- TEC: DMI screen technology. This attribute indicates for which type of screen technology the clause is applicable to.
- TYP: Type of requirement. This attribute indicates if a clause is a common, vehicle, network or additional requirement.

#### Numbering:

- N: Number starting at 1 for numbered clauses within the same section information and applicability information.

## Attribute Codes

The tables shown below list the possible combinations of values for each clause attribute and their codification.

- **Baseline (clause attribute BLS)**

Baseline Code	Meaning
3M1	B3MR1
32	B3R2

Note: in case of clauses relevant for both B3MR1 and B3R2, the attribute “BLS” is omitted.

- **System version (clause attribute VER)**

System version Code	Meaning
10	1.0
11	1.1
20	2.0
21	2.1

Note 1: in case of clauses relevant for several system versions, the system version codes will be written in increasing order as indicated in the table without spaces. For example, a clause applicable for v1.0 and v1.1 will be codified as “1011”.

Note 2: in case of relevant clauses for all the system versions, the attribute “VER” is omitted.

- **Level (clause attribute LEV)**

Level Code	Meaning
0	Level 0
N	Level NTC
1	Level 1
2	Level 2
3	Level 3

Note 1: in case of clauses relevant for several ETCS levels, the system version codes will be written in increasing order as indicated in the table without spaces. For example, a clause applicable for level 0, NTC and 1 will be codified as “L0N1” and a clause applicable for level 2 and 3 will be codified as “L23”.



- **ETCS level transitions (clause attribute LTR)**

Level transition Code	Meaning
0	Level transition to level 0
N	Level transition to level NTC
1	Level transition to level 1
2	Level transition to level 2
3	Level transition to level 3

Note 1: in case of clauses relevant for several level transitions, the level transition codes will be written in increasing order as indicated in the table without spaces.

Note 2: in case of relevant clauses for all the level transitions, the attribute “LTR” is omitted.

- **Screen technology (clause attribute TEC)**

Screen technology Code	Meaning
S	Soft key
T	Touch screen

Note: in case of clauses relevant for both Soft key and Touch screen technologies, the attribute “TEC” is omitted.

- **Type of requirement (clause attribute TYP)**

Type of requirement Code	Meaning
V	Vehicle
N	Network
A	Additional

Note 1: in case of common requirements, the attribute TYP is omitted.

Note 2: for this attribute only one type could be chosen, e.g. a clause added by the author of the model-specific manual shall always be codified with “A”.