



Institut luxembourgeois de la normalisation  
de l'accréditation, de la sécurité et qualité  
des produits et services

## ILNAS-EN 13232-4:2023

### **Railway applications - Track - Switches and crossings for Vignole rails - Part 4: Actuation, locking and detection**

Applications ferroviaires - Voie - Appareils  
de voie pour rails Vignole - Partie 4 :  
Manœuvre, blocage et contrôle

Bahnanwendungen - Oberbau - Weichen  
und Kreuzungen für Vignolschienen - Teil  
4: Umstellung, Verriegelung und  
Lageprüfung

10/2023



## National Foreword

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**Railway applications - Track - Switches and crossings for  
Vignole rails - Part 4: Actuation, locking and detection**

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pour rails Vignole - Partie 4 : Manœuvre, blocage et  
contrôle

Bahnanwendungen - Oberbau - Weichen und  
Kreuzungen für Vignolschienen - Teil 4: Umstellung,  
Verriegelung und Lageprüfung

This European Standard was approved by CEN on 23 October 2022.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 13232-4:2023) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2024, and conflicting national standards shall be withdrawn at the latest by April 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13232-4:2005+A1:2011.

This series of standards “*Railway applications – Track – Switches and crossings for Vignole rails*” covers the design and quality of switches and crossings in flat bottomed rail. The list of Parts is as follows:

- *Part 1: Definitions*
- *Part 2: Requirements for geometric design*
- *Part 3: Requirements for wheel/rail interaction*
- *Part 4: Actuation, locking and detection*
- *Part 5: Switches*
- *Part 6: Fixed common and obtuse crossings*
- *Part 7: Crossings with moveable parts*
- *Part 8: Expansion devices*
- *Part 9: Layouts*

Part 1 contains terminology used throughout all parts of this series. Parts 2 to 4 contain basic design guides and are applicable to all switch and crossing assemblies. Parts 5 to 8 deal with particular types of equipment including their tolerances. These use Parts 1 to 4 as a basis. Part 9 defines the geometric and non-geometrical acceptance criteria for inspection of layouts.

The changes in this document bring some improved clarity to the wording of the requirements and an update to several of the figures. The structure of the document remains similar to the previous revision.

This document has been prepared under a standardisation request addressed to [the relevant ESO] by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## 1 Scope

This document determines the interface between moveable parts and the actuation, locking and detection equipment, and defines the basic criteria for switches and crossing with moveable parts in respect of the interface.

It concerns:

- rules, parameters and tolerances for alternative positions of the moveable parts;
- criteria and limits for the forces which move and restrain the moveable parts.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13232-3:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 3: Requirements for wheel/rail interaction*

EN 13232-5:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 5: Switches*

EN 13232-6:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 6: Fixed common and obtuse crossings*

EN 13232-7:2023, *Railway applications – Track – Switches and crossings for Vignole rails – Part 7: Crossings with moveable parts*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1 General

**NOTE** The guidance of a wheelset through switches and crossings concerns mainly the lateral or horizontal dimensions of wheel, axle, and track. In Figures 6, 7, 8 and 9, the wheels are shown in a simplified form as ellipses at the gauge reference plane.

##### 3.1.1

##### **actuation system**

system that ensures the correct movement of the moveable parts of the switch and crossing

Note 1 to entry: The actuation system includes the rods, links and actuators needed to ensure the operation.

##### 3.1.2

##### **locking device**

device that ensures the moveable part of the switches and crossings stays in the desired position

Note 1 to entry: It guarantees the correct position of the moveable part.

##### 3.1.3

##### **detection device**

device that enables the verification of the correct positioning of the moveable part of the switch and crossing

Note 1 to entry: It enables the signalling to decide whether safe train passage can be guaranteed.

##### 3.1.4

##### **trailability**

ability of actuator and locking systems to permit the trailing of the switches and crossings by a vehicle

##### 3.1.5

##### **trailable device as non-standard operation**

device which permits trailing as a non-standard operation

Note 1 to entry: Parts of the switch may be slightly damaged.

Note 2 to entry: The switches and crossings will only be released for further operation after full inspection of switch and actuator.

##### 3.1.6

##### **trailable device as standard operation**

device which permits trailing at a defined maximum speed as a standard operation

Note 1 to entry: The actuator and locking system permits the trailing of the switches and crossings by a vehicle, without damaging any part of it.