

# SVENSK STANDARD

## SS-EN 15220:2017



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### **Järnvägar – Bromsindikatorer**

### **Railway applications – Brake indicators**

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Denna standard ersätter SS-EN 15220-1:2008+A1:2011, utgåva 1.

The European Standard EN 15220:2016 has the status of a Swedish Standard. This document contains the official version of EN 15220:2016.

This standard supersedes the Swedish Standard SS-EN 15220-1:2008+A1:2011, edition 1.

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EUROPEAN STANDARD

**EN 15220**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2016

ICS 45.060.01

Supersedes EN 15220-1:2008+A1:2011

English Version

## Railway applications - Brake indicators

Applications ferroviaires - Indicateurs de freins

Bahnanwendungen - Bremsanzeigevorrichtungen

This European Standard was approved by CEN on 12 June 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**SS-EN 15220:2017 (E)**

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## **SS-EN 15220:2017 (E)**

### **European foreword**

This document (EN 15220:2016) 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of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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 15220-1:2008+A1:2011.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of 2008/57/EC.

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

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



## 1 Scope

This European Standard specifies the requirements for the design, dimensions, performance and testing of single double and multiple brake indicators. It applies to pneumatically and electrically operating brake indicators visible from the outside of the vehicle.

NOTE Brake indicators are for giving information about release and application of the brake.

This European Standard applies to brake indicators on railway vehicles used on the main national networks, urban networks, underground railways, trams and private networks (regional railways, company railways etc.).

This document does not apply to brake indicator for magnetic track brake or eddy current brake.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14478, *Railway applications - Braking - Generic vocabulary*

EN 45545-2, *Railway applications — Fire protection on railway vehicles — Part 2: Requirements for fire behaviour of materials and components*

EN 50121-3-2, *Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock – Apparatus*

EN 50125-1, *Railway applications — Environmental conditions for equipment — Part 1: Equipment on board rolling stock*

EN 50155, *Railway applications - Electronic equipment used on rolling stock*

EN 60529:1991 + A1:2000 + A2:2013 *Degrees of protection provided by enclosures (IP Code)* (IEC 60529:1989 + A1:1999 + A2:2013)

EN 60721-3-5:1997, *Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 5: Ground vehicle installations* (IEC 60721-3-5:1997)

EN 61373:2010, *Railway applications - Rolling stock equipment - Shock and vibration tests* (IEC 61373:2010)

EN ISO 228-2, *Pipe threads where pressure-tight joints are not made on the threads - Part 2: Verification by means of limit gauges (ISO 228-2)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

ISO 5208, *Industrial valves — Pressure testing of metallic valves*

ISO 8573-1:2010, *Compressed air — Part 1: Contaminants and purity classes*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14478 and the following apply.

## SS-EN 15220:2017 (E)

### 3.1 brake indicator

apparatus for visual indication of the brake status of a vehicle by means of a red indication (brake applied) with black line or black dot, and the release status by means of a green indication that can be driven by electrical or pneumatic energy

Note 1 to entry: Pneumatically applied brake indicator can be equipped with electric switches for remote indication

### 3.2 single brake indicator and single parking brake indicator

device indicating the application or release status of a single brake system, normally either air brake or parking brake system, with or without electrical switches for remote indication

Note 1 to entry: Examples for single brake indicators are contained in Figure A.1, Figure A.2 and Figure A.4.

### 3.3 double brake indicator and double parking brake indicator

device indicating the application or release status of two brake systems (normally either air brake or parking brake system) or of two different entities of the same brake system (two different axles), with or without electrical switches for remote indication

Note 1 to entry: Examples for double brake indicator and double parking brake indicator are contained in Figure A.3 and Figure A.5.

### 3.4 multiple brake indicators

device indicating the application or release status of more than two brake systems or of more than two different entities of the same brake system (more than two different axles), with or without electrical switches for remote indication

### 3.5 uncertain status of the parking brake

parking brake indication becoming uncertain in case of isolated parking brake with possibility of manual release or lack of air pressure in the brake control system

Note 1 to entry: This status does not need for remote indication.

### 3.6 application status of the air brake

condition which indicates that the brake is applied or not completely released in which the brake indicator air pressure exceeds its set value

### 3.7 application status of the parking brake

condition of pressure reflecting that the brake is applied or not completely released in which the brake indicator air pressure is below its set value

Note 1 to entry: This applies to both: stored energy systems requiring release by air pressure and mechanical systems sensing pneumatically.

### 3.8

#### **release status of the air brake**

condition which indicates that the brake is released and the pressure in the brake indicator is below its set value

### 3.9

#### **release status of the parking brake**

condition of pressure reflecting that the brake is not applied in which the brake indicator air pressure exceeds its set value

Note 1 to entry: This applies to both: stored energy systems requiring release by air pressure and mechanical systems sensing pneumatically.

### 3.10

#### **connector**

component, to which wire may be connected, for the transmission of the electric signal

### 3.11

#### **temperature range**

range of the temperature within which the apparatus shall be able to operate in accordance with the requirements of this European Standard

### 3.12

#### **leakage**

leakage of the compressed air from the brake indicator to the atmosphere

### 3.13

#### **life expectancy**

#### **service life declared**

working period during which a component or system will maintain a specified level of performance under specified conditions

### 3.14

#### **RAL**

colour standardisation system of the German Institute for Quality Assurance and Certification e.V

## 4 Symbols and abbreviations

$U_n$  nominal voltage

UV ultraviolet (UV irradiation)

“ inch

IP International Protection Marking as defined in EN 60529.

NOTE IP is a coding system to indicate the degrees of protection provided by an enclosure against access to hazardous particles, ingress of solid foreign objects, ingress of water and to give additional information in connection with such protection.