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DIN EN 15611

ICS 45.040

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DIN EN 15611:2011-01 and
DIN EN 15611 Corrigendum
1:2012-12

Railway applications – Braking – Relay valves; English version EN 15611:2020, English translation of DIN EN 15611:2020-06

Bahnanwendungen –
Bremse –
Relaisventile;
Englische Fassung EN 15611:2020,
Englische Übersetzung von DIN EN 15611:2020-06

Applications ferroviaires –
Freinage –
Relais pneumatiques;
Version anglaise EN 15611:2020,
Traduction anglaise de DIN EN 15611:2020-06

Document comprises 52 pages

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original shall be considered authoritative.

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A comma is used as the decimal marker.

National foreword

This document (EN 15611:2020) has been prepared by Technical Committee CEN/TC 256 “Railway applications” (Secretariat: DIN, Germany).

The responsible German body involved in its preparation was *DIN-Normenausschuss Fahrweg und Schienenfahrzeuge* (DIN Standards Committee Railway), Working Committee NA 087-00-03 AA “Braking”.

The DIN document corresponding to the international document referred to in this document is as follows:

ISO 2533 DIN ISO 2533

For current information on this standard, please go to DIN’s website (www.din.de) and search for the document number in question.

Amendments

This standard differs from DIN EN 15611:2011-01 and DIN EN 15611 Corrigendum 1:2012-12 as follows:

a) normative references have been updated;

b) terms and definitions have been revised;

c) requirements for design have been revised;

d) requirements for materials have been revised;

e) requirements for type testing have been revised;

f) requirements for in-service assessment have been revised;

g) requirements for markings have been revised;

h) annexes have been revised.

Previous editions

DIN EN 15611: 2010-07, 2011-01
DIN EN 15611 Corrigendum 1: 2012-12

National Annex NA
(informative)

Bibliography

DIN ISO 2533, *Standard atmosphere*

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15611

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ICS 45.040

Supersedes EN 15611:2008+A1:2010

English Version

Railway applications - Braking - Relay valves

Applications ferroviaires - Freinage - Relais pneumatiques

Bahnanwendungen - Bremse - Relaisventile

This European Standard was approved by CEN on 13 January 2020.

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European foreword

This document (EN 15611:2020) 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 October 2020, and conflicting national standards shall be withdrawn at the latest by October 2020.

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 15611:2008+A1:2010.

Compared to the previous edition, the following changes have been made:

a) normative references have been updated;

b) terms and definitions have been revised;

c) requirements on design have been revised;

d) requirements on materials have been revised;

e) requirements on type testing have been revised;

f) requirements on in-service assessment have been revised

g) requirements on markings have been revised;

h) annexes have been revised.

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

For relationship with EU Directive 2008/57/EC, 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, 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, Turkey and the United Kingdom.

1 Scope

This document is applicable to relay valves designated to control the brake cylinder pressure of compressed air brakes fitted to railway vehicles, in association with an air brake distributor valve or other control device. It covers one stage relay valves and relay valves adjusting the brake cylinder pressure in response to a change in vehicle speed or load that is either continuously variable or in two or more stages, i.e. empty – loaded.

Relay valves operating with other pressures, in particular the brake pipe pressure, are not included.

This document specifies the requirements for the design, manufacture and testing of relay valves.

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 14478:2017, *Railway applications — Braking — Generic vocabulary*

EN 15355:2019, *Railway applications — Braking — Distributor valves and distributor-isolating devices*

EN 15625:2008+A1:2010, *Railway applications — Braking — Automatic variable load sensing devices*

EN 45545-1:2013, *Railway applications — Fire protection on railway vehicles — Part 1: General*

EN 45545-2:2013+A1:2015, *Railway applications — Fire protection on railway vehicles — Part 2: Requirements for fire behaviour of materials and components*

EN 50125-1:2014, *Railway applications — Environmental conditions for equipment — Part 1: Rolling stock and on-board equipment*

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 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads —Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

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

3 Terms and definitions

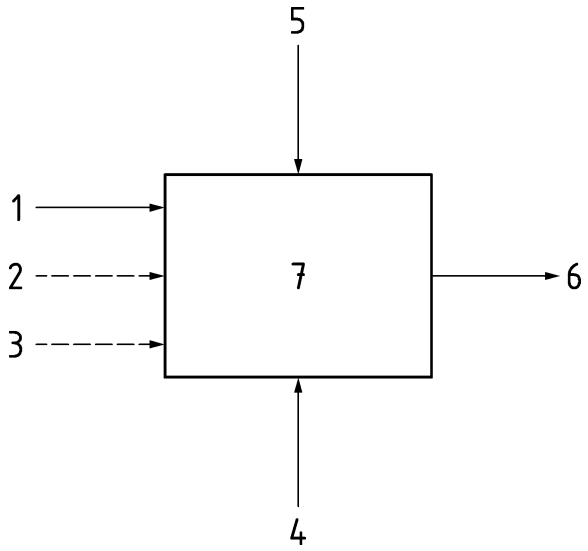
For the purposes of this document, the terms and definitions given in EN 14478:2017, EN 15355:2019 and the following apply.

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

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

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
relay valve
device, the main function of which is to control a pneumatic output pressure as a function of the variation of one or more input pressures (see Figure 1)



Key

1 first input pressure
2 second input pressure
3 third input pressure
4 control signal – continuous load sensing pressure (LCP), or control signal – empty/load signal pressure (LSP), or mechanical input (lever) or electrical input
5 auxiliary reservoir pressure, supply pressure (AR)
6 output pressure
7 relay valve

Figure 1 — Relay valve, pressures and signals

3.2
input pressure
control pressure received by the relay valve

Note 1 to entry: Pressure generally considered as being the output pressure from a distributor or a brake control unit; sometimes referred to as pilot pressure or dummy brake cylinder pressure.

3.3
output pressure
pressure output from the relay valve, generally considered as being the brake cylinder pressure

Note 1 to entry: This pressure can also be used as the input pressure to another relay valve. The output pressure can obtain one or more fixed levels or it can be changed continuously between a minimum and a maximum or vice versa.

3.4
relay valve ratio
ratio of the output pressure value to input pressure value