BS ISO 10924-4:2015

BSI Standards Publication

Road vehicles — Circuit breakers

Part 4: Medium circuit breakers with tabs (Blade type), Form CB15

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National foreword

This British Standard is the UK implementation of ISO 10924-4:2015. It supersedes BS ISO 10924-4:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AUE/16, Data Communication (Road Vehicles).

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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INTERNATIONAL STANDARD

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2015-08-01

Road vehicles — Circuit breakers —

Part 4: Medium circuit breakers with tabs (Blade type), Form CB15

Véhicules routiers — Coupe-circuits —

Partie 4: Coupe-circuits moyens à languettes (de type lame), forme CB15

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Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Marking, labelling and colour coding ... **1**

5 Tests and requirements ... **2**
5.1 General ... 2
5.1.1 General test conditions ... 2
5.1.2 Test sequence plan ... 2
5.1.3 Test cable sizes ... 3
5.2 Voltage drop ... 4
5.2.1 Purpose ... 4
5.2.2 Tests ... 4
5.2.3 Requirements ... 4
5.3 Maximum housing temperature ... 4
5.4 Environmental conditions ... 5
5.5 Operating time-rating ... 5
5.5.1 Purpose ... 5
5.5.2 Tests ... 5
5.5.3 Requirements ... 5
5.6 Current steps ... 5
5.7 No current trip and reset temperature ... 5
5.8 Absolute breaking capacity ... 5
5.8.1 Purpose ... 5
5.8.2 Tests ... 6
5.8.3 Requirements ... 6
5.9 Breaking capacity ... 6
5.9.1 Purpose ... 6
5.9.2 Tests ... 6
5.9.3 Requirements ... 6
5.10 Strength of terminals ... 6
5.11 Endurance ... 6
5.11.1 Purpose ... 6
5.11.2 Tests ... 6
5.11.3 Requirements ... 7
5.12 Dielectric strength ... 7
5.12.1 Purpose ... 7
5.12.2 Tests ... 7
5.12.3 Requirement ... 7

6 Dimensions and designation example ... **7**
6.1 Dimensions ... 7
6.1.1 Category A ... 8
6.1.2 Category B ... 9
6.1.3 Category C ... 9
6.1.4 Category D ... 10
6.1.5 Category E ... 10
6.1.6 Category F and G ... 11
6.1.7 Category H ... 11
6.1.8 Category J ... 12
6.1.9 Category K ... 12
6.2 Designation example ... 13

Bibliography ... **14**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electric and electronic components and general system aspects*.

This second edition cancels and replaces the first edition (ISO 10924-4:2009), which has been technically revised.

ISO 10924 consists of the following parts, under the general title *Road vehicles — Circuit breakers*:

— *Part 1: Definitions and general test requirements*

— *Part 2: User's guide*

— *Part 3: Miniature circuit breakers with tabs (Blade type), Form CB11*

— *Part 4: Medium circuit breakers with tabs (Blade type), Form CB15*

— *Part 5: Circuit breakers with tabs with rated voltage of 450 V*

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INTERNATIONAL STANDARD ISO 10924-4:2015(E)

Road vehicles — Circuit breakers —

Part 4:
Medium circuit breakers with tabs (Blade type), Form CB15

1 Scope

This part of ISO 10924 specifies medium circuit breakers with tabs (Blade type), Form CB15, for use in road vehicles. It establishes, for this circuit breaker form, the rated current, test procedures, performance requirements and dimensions.

This part of ISO 10924 is intended to be used in conjunction with ISO 10924-1 and with ISO 10924-2. The numbering of its clauses corresponds to that of ISO 10924-1, whose requirements are applicable, except where modified by requirements particular to this part of ISO 10924.

This part of ISO 10924 is applicable to circuit breakers with a rated voltage of 14 V d.c. or 28 V d.c. or 58 V d.c., a current rating of no greater than 40 A and a breaking capacity of 2 000 A, intended for use in road vehicles with a nominal voltage of 12 V d.c. or 24 V d.c. or 48 V d.c.

Circuit breakers differ in terms of dimensions and functions, e.g. electrically reset, automatic reset, manual reset and switchable.

NOTE This type of circuit breaker is intended to be used in applications such as medium fuse-links in accordance with ISO 8820-3. While the tab dimensions and current ratings can be the same, there might be differences in performance, which it is advisable that the user of these products take into consideration.

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.

ISO 6722-1, *Road vehicles — 60 V and 600 V single-core cables — Part 1: Dimensions, test methods and requirements for copper conductor cables*

ISO 8820-3, *Road vehicles — Fuse links — Part 3: Fuse links with tabs (Blade type)*

ISO 10924-1, *Road vehicles — circuit breakers — Part 1: Definitions and general test requirements*

ISO 16750-4, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 4: Climatic loads*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10924-1 apply.

4 Marking, labelling and colour coding

See ISO 10924-1 and Table 1.

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Table 1 — Colour code

Rated current I_R A	Colour code
5	tan/light brown
7,5	brown
10	red
15	blue
20	yellow
25	white
30	green
35	dark green
40	orange

5 Tests and requirements

5.1 General

5.1.1 General test conditions

In addition to carrying out the test procedures in accordance with ISO 10924-1, the following criteria shall apply.

— Tests shall be performed following the test sequences in Table 2.

— The test fixture for electrical tests shall be designed in accordance with Type C as shown in ISO 8820-3. The connection resistance shall be 0,8 mΩ max. to ensure the proper function of the test fixture.

— The ambient temperature range for circuit breakers according to this part of ISO 10924 shall be: (-40 to 85) °C, Code G, according to ISO 16750-4.

5.1.2 Test sequence plan

Table 2 — Test sequence plan

No.	Test	Clause	Sample groups[a]						
			1	2	3	4	5	6	7
1	Dimensions	6	X	X	X	--	--	--	--
2	Marking, labelling and colour coding	4	X	X	X	X	X	X	X
3	Operating time rating 2,0 I_R	5.5	X	X	X	X	X	X	X
4	Current steps	5.6	--	--	--	--	X	--	--
5	Voltage drop	5.2	X	X	X	X	X	X	X
6	Maximum housing temperature	5.3	--	--	--	X	--	--	--
7	No current trip and reset temperature	5.7	--	--	--	--	X	--	--
8	Strength of terminals	5.10	X	X	X	--	--	--	--

-- - Not required.

[a] Five circuit breakers for each rated current rating per sample group.

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