International Standard

ISO 10924-3

Road vehicles — Circuit breakers —

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

Véhicules routiers — Coupe-circuits —

Partie 3: Coupe-circuits miniatures avec languette (type languette), Forme CB11

Second edition
2025-03

Reference number
ISO 10924-3:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Marking, labelling, and colour coding **2**

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 4

5.5 Operating time-rating 4

5.5.1 Purpose 4

5.5.2 Tests 4

5.5.3 Requirements 4

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 5

5.8.3 Requirements 5

5.9 Breaking capacity 5

5.9.1 Purpose 5

5.9.2 Tests 5

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 6

5.12 Dielectric strength 7

5.12.1 Purpose 7

5.12.2 Tests 7

5.12.3 Requirement 7

6 Dimensions and designation examples **7**

6.1 Dimensions 7

6.2 Designation examples 8

6.2.1 Category B 8

6.2.2 Category C 9

6.2.3 Category D 9

6.2.4 Category F and G 10

6.2.5 Category H 11

© ISO 2025 – All rights reserved

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

This second edition cancels and replaces the first edition (ISO 10924-3:2015), which has been technically revised.

The main changes are as follows:

— in Table 2, the test sequence plans were modified for tests No 1, 7, 14, 15 and 19;

— the voltage test at 5.2.2 has been split into fast and standard versions of the circuit breaker;

— the tests for dielectric strength in 5.12.1 and the requirements in 5.12.2 have been clarified.

A list of all parts in the ISO 10924 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2025 – All rights reserved

Road vehicles — Circuit breakers —

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

1 Scope

This document specifies miniature circuit breakers with tabs (blade-type), Form CB11 for use in road vehicles. It establishes, for this circuit breaker form, the rated current, test procedures, performance requirements and dimensions.

This document is intended to be used in conjunction with ISO 10924-1 and 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 document.

This document is applicable to circuit breakers with a rated voltage of 14 V and/or 28 V, a current rating of ≤30 A and a breaking capacity of 2 000 A intended for use in road vehicles with a nominal voltage of 12 V and/or 24 V.

The circuit breakers are different in dimensions and functions, such as electric reset, automatic reset, manual reset and switchable.

NOTE This type of circuit breaker is intended to be used in similar applications as miniature fuse-links according to ISO 8820-3. While the tab dimensions and current ratings can be the same, there can be differences in performance which the user of these products is advised to consider.

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.

ISO 6722-1[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) Type C (medium), Type E (high current) and Type F (miniature)*

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

ISO 10924-2, *Road vehicles — Circuit breakers — Part 2: Guidance for users*

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.

1) Withdrawn document.

© ISO 2025 – All rights reserved