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Railway application - Communication, signalling and processing system - Test requirements for signalling and telecommunication equipment

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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# EUROPEAN STANDARD
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**EN 50736**

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ICS 45.060.01

English Version

# Railway application - Communication, signalling and processing system - Test requirements for signalling and telecommunication equipment

Applications ferroviaires - Systèmes de signalisation, de télécommunication et de traitement - Exigences de test pour les équipements de signalisation et de télécommunication

Bahnanwendungen - Telekommunikationstechnik, Signaltechnik und Datenverarbeitungssysteme - Prüfanforderungen für Signal- und Telekommunikationsgeräte

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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



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# European foreword

This document (EN 50736:2025) has been prepared by CLC/SC 9XA “Communication, signalling and processing systems” of CLC/TC 9X “Electrical and electronic applications for railways”.

The following dates are fixed:

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|---|---|---|
| • latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2026-12-31 |
| • latest date by which the national standards conflicting with this document have to be withdrawn | (dow) | 2028-12-31 |

This document has been prepared according to Decision 57/5 taken during the SC 9XA meeting.

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

# Introduction

The environmental conditions for signalling and telecommunication equipment are specified by EN 50125-3:2003, without defining test requirements and their related performance/acceptance criteria.

This document contains test requirements and performance/acceptance criteria for most of the mentioned environmental conditions likely to be experienced in the railway applications and published in EN 50125-3:2003. Furthermore, it clearly indicates for which environmental conditions no test methods are known and therefore no meaningful test requirements can be defined.

Test requirements for the type test defined in this document consider the severity of the environmental parameters provided for by EN 50125-3:2003, but those test requirements remain applicable even if the severity levels requested by the customer differ.

This document has been prepared in the form of a Product Standard.

Where possible, direct references are given to other existing standards to obtain a high degree of acceptance and to reduce additional effort for testing.

# 1 Scope

This document applies to railway signalling and telecommunication trackside equipment.

This document does not cover signalling and telecommunication equipment mounted in vehicles; these are covered by EN 50155:2021.

This document covers the type testing phases of the equipment for signal and telecommunication (S&T) systems (including power supply systems belonging to S&T), in order to ensure compliance with specified requirements already defined in the customer specifications or by the involved parties.

In particular this document intends to define test requirements with related performance / acceptance criteria, considering only the environmental conditions stated by the EN 50125-3:2003, and considering the severities of the environmental parameters herein defined.

Safety considerations are not covered by this document.

# 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 50121-4, *Railway applications - Electromagnetic compatibility - Part 4: Emission and immunity of the signalling and telecommunications apparatus*

EN 50124-1:2017, *Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment*

EN 50125-3:2003,[1] *Railway applications - Environmental conditions for equipment - Part 3: Equipment for signalling and telecommunications*

EN 60068-2-2, *Environmental testing - Part 2-2: Tests - Test B: Dry heat (IEC 60068-2-2)*

EN IEC 60068-2-5:2018, *Environmental testing - Part 2-5: Tests - Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering*

EN 60068-2-27, *Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock (IEC 60068-2-27)*

EN 60068-2-47, *Environmental testing - Part 2-47: Tests - Mounting of specimens for vibration, impact and similar dynamic tests (IEC 60068-2-47)*

EN 60068-2-64:2008,[2] *Environmental testing - Part 2: Tests - Test Fh: Vibration, broadband random and guidance (IEC 60068-2-64:2008)*

EN 60068-2-75, *Environmental testing - Part 2-75: Tests - Test Eh: Hammer test (IEC 60068-2-75)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN 61180:2016, *High-voltage test techniques for low-voltage equipment - Definitions, test and procedure requirements, test equipment (IEC 61180:2016)*

EN 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) (IEC 62262)*



[1] As impacted by EN 50125-3:2003/corrigendum May 2010.
[2] As impacted by EN 60068-2-64:2008/A1:2019.