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Agricultural and forestry machinery — Electromagnetic compatibility —

Part 2: Additional EMC requirements for functional safety

~~Machines agricoles et forestières —~~ ~~Compatibilité électromagnétique —~~

~~Partie 2: Exigences CEM supplémentaires~~ ~~pour relatives à la sécurité fonctionnelle~~

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Foreword

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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).

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This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 2, *Common tests*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 144, *Agricultural machinery*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 2, *Common tests*.

This first edition of ISO 14982-2, together with ISO/FDIS 14982-1:—1), cancels and replaces ISO 14982:1998, which has been technically revised.

The main changes compared to the previous edition are as follows:

— the provisions have been brought up to date with technological change;

— normative references have been updated to the latest editions.

A list of all parts in the ISO 14982 series can be found on the ISO website.

¹⁾ Under development. Stage at the date of publication: ISO/FDIS 14982-1:2025.

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Introduction

This document is a type-C standard as stated in ISO 12100:2010.

This document is of relevance for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers;
- health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above mentioned stakeholder groups:

- machine users/employers;
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance;
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

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Agricultural and forestry machinery — Electromagnetic compatibility —

Part 2: Additional EMC requirements for functional safety

1 Scope

This document specifies test methods and acceptance criteria for evaluating the electromagnetic compatibility of tractors, and all kinds of mobile (including hand-held) agricultural machinery, forestry machinery, landscaping, and gardening machinery [referred to hereafter as machine(s)] as supplied by the machine manufacturer. It is applicable to machines and electrical/electronic sub-assemblies (ESA's) which are manufactured after the date of publication of this document.

It specifies additional EMC requirements under aspect of functional safety for machinery, ESA and separate ESAs.

This document is only relevant for functions of machine control system failures which when risk assessed to the relevant ISO-25119 part (or the equivalent when other electronic functional safety standards are used), are greater than or equal to AgPLr b (or the equivalent).

Electrical and electronic components or separate ESAs intended to be used in the applicable machinery control functions are also dealt with by this document.

The following electromagnetic disturbance phenomena are evaluated:

- radiated electromagnetic field by off-board sources with various field strength and frequency;
- radiated electromagnetic field by portable transmitters (antenna inside/outside) with various field strength and frequency;
- electrical field (wire conducted electrical fields);
- electrostatic discharge.

~~Annex A~~ Annex A provides additional information regarding the effects of life cycle and ageing on EMC performance.

~~Annex B~~ Annex B provides additional information for performing the portable transmitter test.

This document is not applicable to machines directly supplied with low voltage current from public electrical mains.

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.

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