AS 5019:2025

Australian STANDARD®

STANDARDS Australia

Electronic animal identification — Radiofrequency methods (ISO 11785:1996, MOD)

AS 5019:2025

This Australian Standard® was prepared by EL-070, Animal Identification. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 13 June 2025.

This Standard was published on 27 June 2025.

The following are represented on Committee EL-070:

Agriculture Victoria
AusAgritech Association
Australian Veterinary Association
Consumers' Federation of Australia
Department of Defence (Australian Government)
Harness Racing Australia
Integrity Systems Company

This Standard was issued for comment as DR AS 5019:2024

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ISBN: 978 1 76175 277 3

Australian Standard®

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Originated as AS 5019—2001.
Second edition 2025.

How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

This Standard is a modified adoption of an International Standard. It makes changes to the international text.

The changes to the international text are listed in an appendix at the end of the Standard. This appendix is called Appendix ZZ.

To use this Standard in Australia/New Zealand, the changes in Appendix ZZ need to be followed.

Preface

This Standard was prepared by the Standards Australia Committee EL-070, Animal Identification, to supersede AS 5019:2001.

The objective of this document is to provide manufacturers and users of radiofrequency-based animal identification systems with a set of product specifications for the design, deployment and use of radiofrequency transponder technology.

This document is an adoption with national modifications, and has been reproduced from ISO 11785:1996 *Radiofrequency identification of animals — Technical concept*.

The modifications set out in Appendices ZZ, ZA, ZB and ZC are additional requirements, which have been added at the end of the source text.

Appendix ZZ lists the modifications to ISO 11785:1996, for the application of this document in Australia.

Appendix ZA specifies additional requirements for implantable transponders and readers in dogs and cats for Australian conditions.

Appendix ZB provides considerations relating to dog and cat registries for Australian conditions.

Appendix ZC specifies complaints handling procedures.

As this document is reproduced from an International Standard, the following applies:

(a) In the source text "this International Standard" should read "this Australian Standard".

(b) A full point should be substituted for a comma when referring to a decimal marker.

The terms "normative" and "informative" have been used in this document to define the application of the appendices or annexes to which they apply. A "normative" annex is an integral part of a Standard, whereas an "informative" annex is only for information and guidance.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

Contents

Page

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11785 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry,* Subcommittee SC 19, *Agricultural electronics.*

Annexes A and B form an integral part of this International Standard. Annex C is for information only.

Introduction

The technical concept of animal identification described is based upon the principle of radio-frequency identification (RFID). ISO 11785 is applicable in connection with ISO 11784 which describes the structure and the information content of the codes stored in the transponder.

The International Organization for Standardization (ISO) draws attention to the fact that compliance with clause 6 and annex A of this International Standard may involve the use of patents concerning methods of transmission.

ISO takes no position concerning the evidence, validity and scope of these patent rights.

The following patent holder has assured ISO that he will not exert its patent rights concerning FDX B technology:

NEDAP Agri BV

Postbus 9

NL-7255 ZG Hengelo

Tel. + 31 575 46 38 00

Fax + 31 575 46 37 25

The following patent holders have assured ISO that they are willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holders of these patents rights are registered with ISO:

Destron Fearing Corporation

490 Villaume Avenue

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Tel. + 1 612 455 1263

Fax + 1 612 455 0413

Datamars SA

Via Ponteggia

CH-6814 Cadempino-Lugano

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Texas Instruments Limited

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GB Northampton NN4 7YL

Tel. + 44 1604 663 000

Fax + 44 1604 663 001

TROVAN Limited

c/o Gruenguertelstr. 12

D-50996 Cologne

Tel. + 49 221 391 431

Fax + 49 221 395 893

Attention is moreover drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights other than those identified above. ISO shall not be held responsible for identifying any or all such patent rights. In that connection, additional correspondences were received from two other companies (AVID and EID) not willing to forward pertinent declaration in accordance with the current ISO Directives.

Copies of declarations and statements received from all the above mentioned companies are available upon request to the ISO Central Secretariat.

Australian Standard®

Electronic animal identification — Radiofrequency methods (ISO 11785:1996, MOD)

1 Scope

This International Standard specifies how a transponder is activated and how the stored information is transferred to a transceiver.

2 Conformance

Transponders are in conformance with this International Standard provided they meet the requirements given in Clause 6 of this International Standard. Transceivers are in conformance with this International Standard provided they meet the requirements given in Clause 6 and Annex A, if the latter is applicable.

In order to allow a smooth transition from the different transponders presently in use to those complying with this International Standard, transponders meeting the requirements of Annex A may be applied for a transition period of two years from the date of the first edition of this International Standard.

3 Normative references

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 11784:2024, *Radio frequency identification of animals — Code structure*

4 Definitions

For the purposes of this International Standard, the following definitions apply.

4.1
activation field
Electromagnetic field transmitted by a transceiver to energize and/or activate a transponder

4.2
activation frequency
Frequency of the activation field

4.3
activation period
Time duration of the activation signal

4.4
bit rate
Number of bits transmitted per second

4.5
differential bi-phase encoding
Method of encoding in which data bit 0 is represented by a mid-bit transition; data bit 1 is represented by no transition; and there is always a transition in between two bits