



ISO WG3 Summary on the Evolution of Microchip Technology for Companion Animals
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ISO 11784/11785 a Brief Historical Overview.

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Introduction:

The International Standard Organization (ISO) is a worldwide association that produces guidelines for a wide range of products. Since June 7th 1991 there is an ISO working group standardizing electronic systems for identification (RFID) of animals. During this first meeting representatives from: Great Britain, Netherlands, Germany, Belgium, Norway, France, Denmark, Canada and USA were present.

Development of the ISO 11784 and ISO 11785 standards:

In 1994 resolution 22-1994, "Standardization of tractors, machines and equipment used in agriculture and forestry, including electronic identification for all categories of animals" was approved in the ISO/TC23 meeting. The standardisation organisations of the following countries voted in favour of this resolution: South Africa, Germany, Bulgaria, Canada, China, Republic of Korea, France, India, Israel, Italy, Netherlands, Philippines, Poland, Romania, United Kingdom, Czech Republic and USA. Votes against the resolution were there from: Belgium, Finland, Portugal and Sweden.

In January 1996 the DIS 11784 (revision of ISO 11784) was approved. The standardization organizations of the following countries voted in favour:

Austria, Belarus, Belgium, Canada, China, Czech Republic, Denmark, Ecuador, Egypt, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Romania, Russian Federation, South Africa, Sweden, Switzerland, United Kingdom and USA.

The Japanese standard organization was the only organization that voted against the DIS 11785.2. In August 1996 the ISO 11784 second edition was published.

In January 1996 the DIS 11785.2 was approved. The standardization organizations of the following countries voted in favour:

Austria, Belarus, Belgium, Canada, China, Czech Republic, Denmark, Ecuador, Egypt, Finland, France, Germany, Iceland, Ireland, Italy, Netherlands, Portugal, Romania, Russian Federation, South Africa, Sweden, Switzerland, United Kingdom and USA.

The Japanese standard organization was the only organization that voted against the DIS 11785.2. In October 1996 the ISO 11785 first edition was published.

In November 1998 a proposal: "Request for Suspension of ISO 11784 and ISO 11785 and their return to WG3 for modification" was disapproved by a majority of Australia, Belgium, Denmark, Finland, France, Germany, Ireland, Japan, Netherlands, New Zealand, Switzerland and UK.

Votes in favour of the proposal came from: Austria, Brazil, Canada, Chile, China, Czech Republic, Hungary, Iceland, Italy, Romania, Russian Federation and Slovakia.

Unique number:

The code structure of ISO 11784 reserves 1024 (ISO 3166 numeric-3 country code) combinations for country codes (The International Committee for Animal Recording ICAR grants codes to manufacturers in this code area from 900 to 998) and 274,877,906,944 combinations for national

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identification codes. In combination with a country code it is national responsibility of that specific country to ensure the uniqueness of the transponders identification code. If a transponder has a manufacturer code then it is the manufacturers responsibility to guarantee the uniqueness of the code.

Intentional Duplication of ID Numbers:

In principle it is possible to program illegally a transponder with an ISO number. If this transponder is used to provide an animal with a false identity then this will be a fraudulent and illegal action. Most of the chips that are used in the transponder have an extra internal number that can be read only with a special reader. In case of fraud this number can be used to prove the transponders (and so the animals) origin.

Code display:

The Country code/identification code can be displayed in a hexadecimal or decimal format. In both case a unique number will be displayed.

Code structure:

A 15 digit (3 digit for country code and 12 digit for national id code) number is specified in ISO 11784 to ensure the uniqueness of the code all over the world for a period of thirty years. Because the number is electronically read the error chance is very low. The data transmission takes for an ISO HDX transponder less then 15 ms and for an ISO FDX-B transponder less then 35 ms, the reader field is activation cycles might delay the data transmission for an ISO HDX transponder 50 ms and for an ISO FDX-B 20 ms. The reading speed that can be achieved is for both ISO technologies sufficient for reading numbers in a walk through situation.

ISO technology in the USA

In the USA, the majority of national veterinary and shelter associations have adopted position statements favouring the use of ISO technology.

Intellectual property:

The following patent holder has assured ISO that he will not exert its patent rights concerning FDX-B technology: NEDAP Agri BV.

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, Datamars SA, Texas Instruments Limited and TROVAN Limited.

At the moment there are worldwide more then 40 manufacturers that have received a manufacturer code of ICAR and more then 60 types of transponders have been certified by ICAR. So the ISO technology is widely available.

Installed reader base:

In order to allow a smooth transition from different transponders that were in use to those complying with the ISO 11785 standard, transponders meeting the requirements that are mentioned in annex A of the ISO 11785 standard were allowed to be applied for a transition period of two years from the date of the first edition of the ISO 11785 standard.

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In the WG3 meeting in Malaga on May 3 and 4, 2001 was concluded that:
Backward compatibility of 'ISO readers' for a period of 30 years as described in Annex A in ISO11785 is an essential option to be provided by manufacturers of FDX-A technology.

Conformance and performance tests:

At the moment there are ICAR conformance test available for transponder and transceivers. In 2004 there also will be performance tests available for transponders and transceivers. The ISO products have time proven performance capabilities and account for the large number of daily recoveries all over the world.

Recommendations chipping pets:

The worldwide ISO11784 and 11785 standard is developed in cooperation with companies that are active on the animal RFID market and 95% of the standard organisations voted in favour off these standards (USA and Canada included). Especially in the pet market the ISO 11784 and 11785 transponders are worldwide large scale applied and the recovery of lost animals if well organised. There are a lot of companies active on this market so there is a large scale of different reader and transponder equipment available on the market.

Conclusion:

If you like to travel and want to take your pet with you, then chip your pet with an ISO transponder! If your pet gets lost this is the best guarantee your pet will find its way back to you.

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