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**General technical requirements for agricultural internet of
things-Part 4: Livestock and poultry breeding**

农业物联网通用技术要求 第4部分：畜禽养殖

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 4 of GB/T 44985 General Technical Requirements for Agricultural Internet of Things. GB/T 44985 has been published as follows part.

- Part 1: Field planting;
- Part 3: Aquaculture;
- Part 4: Livestock and poultry farming.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

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This document was drafted by: China Agricultural University, Nongxin (Nanjing) Smart Agriculture Research Institute Co., Ltd., Beijing Academy of Agricultural and Forestry Sciences Information Technology Co., Ltd.

Technical Research Center, China National Institute of Standardization, Beijing Institute of Animal Husbandry and Veterinary Medicine, Chinese Academy of Agricultural Sciences, China Electronics Technology Standards Institute, Liaocheng University.

The main drafters of this document are: Li Daoliang, Li Zhenbo, Zhao Ran, Duan Qingling, Sun Ming, Sun Longqing, Liu Chunhong, Chen Yingyi, Wei Yaoguang, Wang Cong, Wang Yun, Dong Mengping, Ding Tao, Lu Xianqi, Chen Tianen, Liu Peng, Xi Xingjun, Yang Liang, Yang Hong, Han Shihao, and Liu Guiqin.

Introduction

GB/T 44985 "General Technical Requirements for Agricultural Internet of Things" is intended to support the development of agricultural Internet of Things, agricultural

informatization and agricultural modernization The construction is planned to consist of the following 10 parts.

- Part 1: Field planting. The purpose is to establish general technical requirements for the Internet of Things applicable to field planting applications.
- Part 2: Facility Horticulture. The purpose is to establish common technical requirements for the Internet of Things applicable to facility horticulture applications.
- Part 3: Aquaculture. The purpose is to establish common technical requirements for the Internet of Things applicable to aquaculture applications.
- Part 4: Livestock and poultry farming. The purpose is to establish general technical requirements for the Internet of Things applicable to livestock and poultry farming applications.
- Part 5: Agricultural machinery operation. The purpose is to establish general technical requirements for the Internet of Things applicable to agricultural machinery operation applications.
- Part 6: Orchard and tea plantation production. The purpose is to establish general technical requirements for the Internet of Things applicable to orchard and tea plantation production.
- Part 7: Agricultural products processing and circulation. The purpose is to establish general Internet of Things technologies applicable to agricultural products processing and circulation applications Require.
- Part 8: Agricultural materials circulation management. The purpose is to establish the general technical requirements of the Internet of Things applicable to agricultural materials circulation management.
- Part 9: Agricultural product quality and safety monitoring. The purpose is to establish general Internet of Things technology applicable to agricultural product quality and safety monitoring. Technical requirements.
- Part 10. Agricultural resource and environmental monitoring. The purpose is to establish general IoT technologies applicable to agricultural resource and environmental monitoring Require.

General technical requirements for agricultural Internet of Things Part 4: Livestock and Poultry Farming

1 Scope

This document establishes the overall architecture of the livestock and poultry farming agricultural Internet of Things, stipulates the overall requirements of the livestock and

poultry farming Internet of Things, as well as the sensor control, transmission Technical requirements for transmission, application, and security.

This document is applicable to environmental monitoring, perception data analysis and decision-making, Internet of Things system construction and related equipment testing and development of livestock and poultry farming. application.

2 Normative references

GB/T 2423.18

GB/T 4208-2017

GB 4793

GB/T 5465.2

GB 4943.1-2022

GB/T 5271.1

GB/T 5271.4

GB/T 9254.1-2021

GB/T 20014.1

GB/T 20984

GB/T 22239

GB/T 30269.2

GB/T 30269.701

GB/T 30269.702

GB/T 30269.901

GB/T 33745

GB/T 35319-2017

GB/T 36951

GB/T 37024

GB/T 37025

GB/T 37044

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