

ICS 35.240.99
CCS B 20

LS

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

LS/T 1808-2017

**Grain information terminology. General
(English Translation)**

Issued on: March 10, 2017

Implemented on: June 1, 2017

Issued by: National Grain Administration

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the National Grain Administration.

This standard is under the jurisdiction of the National Grain and Oil Standardization Technical Committee (SAC/TC270).

This standard was drafted. Nanjing University of Finance and Economics, Jiangsu Grain and Oil Information Center, National Grain Bureau Science Research Institute, Nanjing climbing information technology Technology Co., Ltd., Zhongshang Grain Chengdu Grain Storage Science Research Institute, Zhejiang Zhongkong Technology Co., Ltd.

1 Scope

This standard specifies the definition of the perception layer, transport layer, data analysis layer, platform layer and application layer involved in the informationization of the grain industry.

This standard applies to the information design, development, construction, implementation and maintenance management of the food industry.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 5271.1-2000 Information technology vocabulary Part 1. Basic terms GB/T 8567-2006 computer software documentation specification GB 50395-2007 Video Security Monitoring

System Engineering Design Specification GA/T 644-2006 Electronic Inspection System Technical Requirements

3 Perception layer terminology

Electronic tag Consisting of coupling elements and chips, each tag has a unique electronic code, and high-capacity electronic tags have user-writable storage. Between, attached to the object to identify the target object.

Radio frequency identification system radiofrequency identification system; **RFID** A non-contact automatic identification technology, which automatically recognizes target objects through radio frequency signals, and counts the number of items in the grain storage and storage According to the automatic acquisition. The RFID system is mainly composed of an electronic tag, an antenna, a reader/writer and a host.

EPC product electronic code electronicproductcode; **EPC** the carrier of EPC is an RFID electronic tag and realizes the transmission of information by means of the Internet. EPC is used to build a global, open product the standard of labeling enables the tracking and traceability of single-piece products on a global scale, thus effectively improving the level of supply chain management and reducing logistics.

cost.

Sensor

Can feel the external physical quantity (such as light, heat, humidity, etc.), chemical quantity (such as smoke, gas, etc.), biomass, etc.

A signal that converts it into an analog amount of power. Can be used to sense the temperature and humidity of the grain depot, food quality changes, etc.

Situation detection.

Portable wireless terminal the portable wireless data processing terminal can be used for registration of information such as grain purchase, storage and transportation, and the like.

Wireless sensor node Integrated wireless communication module for transmitting grain information and sensor module for sensing grain information to realize the week of deployment Perceived by the environment, the sensory data can be processed and transmitted at the same time.

Wireless sensor network; WSN A multi-hop, self-organizing network formed by wireless communication means consisting of sensor nodes deployed in the food monitoring area the purpose of the system is to collaboratively perceive, collect, and process information about the perceived objects in the network coverage area.

Ground sense coil vehicle detector sensecoilbasedvehicledetector an inbound and

outbound vehicle information detecting device based on the ground coil technology.

Fingerprint reader A sophisticated electronic instrument that uses human fingerprints to have different characteristics for identification, including fingerprinting and extraction Features such as patterning, saving data, and fingerprint matching.

3.10

Video surveillance equipment videosurveillanceequipment A device that uses video to monitor and record information on a target.

3.11

Digital video recording device digitalvideorecorder; DVR Digital recording medium using standard interface, digital compression algorithm for digital recording, monitoring and playback of video (audio) frequency information Video device.

3.12

QR code quickresponsecode A black and white graphic that is distributed in a plane (two-dimensional direction) according to a certain pattern with a specific geometric figure. It uses symbols to mark items Achieve the description and automatic identification of food.

3.13

Inventory identification code stockidentificationcode Taking the cargo space as the basic unit, record the unique identification of information such as grain purchase, storage, processing and circulation.

3.14

Infrared sensor A sensor that uses the physical properties of infrared light to measure the intrusion of humans and the invasion of living things such as pests.

3.15

Satellite positioning system satellitepositioningsystem Provide global, versatile, all-weather navigation and positioning, timing, speed measurement and other functions to track the location of the grain transportation process.

3.16

Inspection information acquisition device A device for collecting, storing, and processing patrol information in an offline electronic patrol system.

3.17

Reader device

Inspecting information offline electronic patrol system, used to read, collect, store patrol information, and communicate with the management terminal (wired/no Line) equipment.

3.18

Identification object in the online electronic patrol system, the reading device identifies the carrier of the patrol information.

3.19

Inspection management terminal A device that collects, stores, processes, and displays patrol information.

4 Transport layer terminology

Data transmission terminal the sensing layer data is transmitted to the terminal module of the corresponding storage and processing platform, which can be used for collecting different stages such as grain storage and storage.

The transmission of data.

Local server A local computer used to store and process data information sent by food data transmission terminals and provide services to users, generally running Inside the local area network of the food business unit.

Cloud computing server Based on the Internet, it runs on remote network nodes for food information data storage and processing.

Wired communication A communication method that uses a tangible medium such as a metal wire or an optical fiber to exchange information.

Wireless communication A communication method that uses information that electromagnetic wave signals can propagate in space.

Near field communication; NFC Short-range wireless communication technology it is based on RFID and interconnect technology, allowing non-contact point-to-point data transmission and exchange between electronic devices for use in food Identity authentication in the warehousing department and electronic payment in the grain sales segment.

Communication protocol the rules and conventions that must be followed by an entity to complete a communication or service.

Zigbee protocol Zigbeeprotocol A short-range, low-power wireless transmission protocol based on the IEEE802.15.4 standard, suitable for nodes in a grain depot wireless sensor network Coordinated communication between.

Virtual private network; VPN Based on data packet encryption, data packet destination address translation and other technologies, a private network established on the public network can be used in the food business department.

The door personnel or industry supervisors remotely access the server resources of the intranet.