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PEOPLE'S REPUBLIC OF CHINA**

GB/T 30269.1-2015

**Information technology -- Sensor network -- Part 1: Reference
architecture and general technical requirements**
(English Translation)

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Foreword

GB/T 30269 Under the heading "Information Technology Sensor Network", the following sections have been planned or have been published.

- Part 2. Terminology (GB/T 30269.2-2013);
- Part 301. Communication and information exchange. low-speed wireless sensor networks Network layer and application support sub-layer specification (GB/T 30269.301-2014);
- Part 302. Communication and information exchange. Wireless sensor networks for high reliability applications Media access control and physical layer specification;
- Part 303. Communication and information exchange. IP - based network layer specification;
- Part 304. Communication and information exchange. Media-oriented control layer and physical layer specification for video;
- Part 401. Collaborative information processing. Services and interfaces supporting collaborative information processing (GB/T 30269.401-2015);
- Part 501. identification. sensor node identifier compilation rules (GB/T 30269.501-2014);
- Part 502. Identification. Sensor node identifier resolution and management specification;
- Part 503. Identification. Sensor node identifier registration procedures;
- Part 601. Information security. General technical specifications;
- Part 602. Information security. Network transmission security technical specifications;

- Part 701. Sensor interface. Signal interface (GB/T 30269.701-2014);
- Part 702. Sensor interface. Data interface;
- Part 801. Testing. General requirements;
- Part 802. Testing. Low - speed wireless sensor networks Media access control and physical layer;
- Part 803. Testing. low - speed wireless sensor networks - Network layer and application support sublayer;
- Part 901. Gateway. General technical requirements;
- Part 1001. Middleware. Sensor network node data exchange specification;

This part is part 1 of GB/T 30269.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the re-drafting method for reference ISO/IEC 29182-5.:2013 "Information technology sensor network. Sensor network reference body Structure Part 5. Interface definition "is not equivalent to ISO/IEC 29182-5.:2013.

Introduction

As one of the important supporting technologies of Internet of Things, sensor network has been developed rapidly since the end of the 20th century.

Promote the establishment of a number of domestic and foreign standards organizations and industry alliances to carry out related work.

The sensor network has a wide range of application prospects, but the current business model is not yet mature, as well as the complexity of the sensor network itself the problem has not yet resulted in large-scale application. The sensor network involves sensors, communications and networks, signal processing, electronic circuits, embedded systems Systems, information security and other technologies, application requirements are also very different, these problems lead to the design and development of the sensor network often need to be customized, the results and programs of the reusability is relatively poor. In recent years, a large number of practice gradually shows that there are many different sensor network applications Common features, including in the system architecture and functional modules and so on. This part of GB/T 30269 is designed for different sensor networks Development and integration to provide system structure reference and interoperability guidance, easy to module, between devices plug and play and replaceable, and between the system Interworking and collaborative application.

The reference architecture of this part of GB/T 30269 refers to the structure of the system as a whole, the hierarchical division, the cooperative relationship between the different

parts Description, design developers can be tailored according to the specific development needs.

Information technology - Sensor networks - Part 1.

Reference architecture and general technical requirements

1 Scope

This part of GB/T 30269 gives the system reference architecture of the sensor network, which specifies the general technical requirements of the sensor network.

This part is suitable for guiding the design, development and application of sensor network system.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

Information technology - Sensor networks - Part 2. Terminology GB/T 30269.2-2013
Information technology - Sensor networks - Part 301. Communication and information exchange. low - speed wireless sensing - GB/T 30269.301-2014 Network layer and application support sublayer specification GB/T 30269.501-2014 Information technology - Sensor networks - Part 501. Identification. Sensor node identifier compilation rules
Information technology - Sensor networks - Part 601. Information security. Generic specification GB/T 30269.601-2016 Information technology - Sensor networks - Part 701. Sensor interface. Signal interface - GB/T 30269.701-2014

3 Terms and definitions

The following definitions and definitions of the following definitions and definitions apply to this document in GB/T 30269.2-2013.

Physical entity

In the sensor network, the actual object with independent functions, including sensor nodes, sensor network gateway, local local area network, the foundation Support network, service platform and application terminal.

Functional entity

In a sensor network, a functional unit that implements a particular task or service.

Note: such as data storage, security management, information exchange and so on.

4.1.1 Refer to the architecture diagram

The system reference architecture of the sensor network is to describe the main things in the system from the physical entity that makes up the reference architecture hierarchy Inter-entity exchange and communication connection. According to the sensor network deployment and application characteristics, Figure 1 shows the sensor network system reference Architecture.