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

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**Input/output protocols and electronic interfaces for water
meters -- Requirements**

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1 clock cycle per bit

1 clock cycle per bit, or 1200 bit/s

16 clock cycles per bit

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1 cubic meter

2 liters

3 US gallons

4 inch gallons

5 cubic feet

6 acre feet

7 hectares

1 second

2 minutes

3 hours

4 days

5 years

5.5 Non-addressable two-wire asynchronous mode with sensor board and sensing probe readings

- 1 --- reading sensor board;
- 2 --- cable;
- 3 --- register;
- 4 --- data line;
- 5 --- public line;
- 6 --- low pass filter;
- 7 --- digital data;
- 8 --- AC drive;
- 9 --- reading sensing probe (showing internal details);
- 10 --- This standard defines points;

5.6 Non-addressable three-wire asynchronous mode for direct connection of repeater/bus nodes

Foreword

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

This standard uses the translation method equivalent to ISO 22158.2011 "water meter input and output protocol and electronic interface requirements."

The documents in China that have a consistent correspondence with the international documents referenced in this standard are.

--- GB/T 14048.15-2006 Low-voltage switchgear and control equipment - Part 5-6. Control circuit electrical and switching components

DC interface (NAMUR) for proximity sensors and switching amplifiers (IEC 60947-5-6.1999, IDT);

--- GB/T 18657.1-2002 Telecontrol equipment and systems - Part 5. Transmission Profiles Part 1. Transmission frame format

(IEC 60870-5-1..1990, IDT);

--- GB/T 18657.2-2002 Telecontrol equipment and systems - Part 5. Transmissions

Then (IEC 60870-5-2..1992, IDT);

--- GB/T 26831.2-2012 Community Energy Metering and Copying System Specification Part 2. Physical Layer and Link Layer (EN13757-

2.2004, IDT);

--- GB/T 26831.3-2012 Community Energy Metering and Copying System Specification Part 3. Dedicated Application Layer (EN13757-3.

2004, IDT).

This standard was proposed by the China Machinery Industry Federation.

This standard is under the jurisdiction of the National Industrial Process Measurement Control and Automation Standardization Technical Committee (SAC/TC124).

This standard was drafted. Shanghai Industrial Automation Instrumentation Research Institute Co., Ltd., Ningbo Water Meter Co., Ltd., Sanchuan Smart Technology Unit

Co., Ltd., Ningbo Donghai Instrument Waterway Co., Ltd., Chongqing Smart Water Co., Ltd., Suzhou Waterworks Co., Ltd., Wuxi Water Meter

Limited Liability Company, Yangzhou Hengxin Instrument Co., Ltd., Zhejiang Institute of Metrology, Henan Institute of Metrology, Ningbo Metrology

Research Institute, Jinan Ruiquan Electronics Co., Ltd., Jiangyin Lixin Intelligent Equipment Co., Ltd., Ningbo Jingcheng Technology Co., Ltd., Qingdao

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Water Meter Co., Ltd., Hunan Changde Brand Water Meter Manufacturing Co., Ltd., Shandong Chenhui Electronic Technology Co., Ltd., Zhirun Technology Co., Ltd., Zhejiang Gold

Long Automatic Control Equipment Co., Ltd.

Introduction

Currently, the need for communication between metering devices and metering systems has become increasingly apparent. This standard is intended to address the correlation between water meter and metering system communication.

Problem, this standard can also be used in conjunction with other metering systems that use common interfaces and protocols, such as gas and power metering systems.

In recent years, more and more electronic devices have been used in water meters, such as.

---Pulse output system;

---Absolute coding system;

--- Bidirectional addressable bus system.

At present, no matter whether the hardware interface or protocol of such a system is clearly defined, this standard attempts to solve the problems arising therefrom.

Existing water meter communication technologies can be divided into the following three different types.

---Pulse output water meter, which is called A type in this standard;

--- Non-addressable water meter, which is called B type in this standard;

--- Addressable water meter, which is called C type in this standard.

This standard describes the general requirements for water meter input and output protocols and electronic interfaces. Its purpose is to set up the water meter register and meter reading equipment.

The staff provides the necessary guidance.

The relevant provisions are determined by analysing the applications currently in use and by consulting the water supply industry. Of course, the applications listed are not

Comprehensive and detailed.

Water meter input and output protocol and electronic interface requirements

1 Scope

This standard specifies the minimum communication requirements for water meters that can exchange or provide data via electronic interfaces.

This standard only specifies the interface conditions of the electrical and electronic connection device of the water meter. It is not specified to be connected to the water meter for automatic meter reading or far.

The requirements for special equipment such as transponders and sensing units of the meter reading.

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.

ISO 1155 Information Processing uses vertical parity check bits to detect information message errors (Informationprocessing-Useof