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GB/T 26831.3-2012

Society energy metering for reading system specification—Part3: Dedicated application layer

社区能源计量抄收系统规范 第 3 部分：专用应用层

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Foreword

GB/T 26831 *Society Energy Metering for Reading System Specification* is composed of the following four parts:

— Part 1: Data exchange;

— Part 2: Physical layer and link layer;

— Part 3: Dedicated application layer;

— Part 4: Wireless meter reading.

The Part is Part 3 of GB/T 26831.

This standard is drafted according to European standard EN 13757. Thereof, Part 1, Part 2 and Part 3 applied the corresponding part in EN 13757-1, EN 13757-2 and EN 13757-3. Part 4 is revised greatly, combing domestic wireless meter reading technical condition and relative national wireless communication standards.

The translation method of this part is the similar to Part three of EN 13757-3:2004 *Meter and Remote Metering Reading System-Part 3: Dedicated Application Layer*.

This Part is drafted according to the rules specified in GB/T 1.1-2009.

Please note that some contents in this document may involve in patents. The issued institution of this document shall not bear the responsibility to identify these patents.

This Part is proposed by China Machinery Industry Federation.

This Part is under the jurisdiction of National Standards Technical Committee Electrical Measuring Instruments (SAC/TC 104).

The drafting units of this Part are: Harbin Electrical Meter Research Institute, Hangzhou Honghu Electronics Co., Ltd., Beijing Nasi Electricity Co., Ltd., Ningbo Donghai Group, Shenyang Hangfa Heat Metering Technology Co., Ltd., Tangshan Huizhou Instrument Co., Ltd., Changsha Weisheng Information and Technology Co., Ltd., Jiangsu Linyang Electronics Co., Ltd., Shenzhen

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Introduction

Along with the scientific improvement, economic development and people's requirement on energy use and management has consistently improved, the technical application of community (building and residential zones) energy demand (water, electricity, gas, heating) remote metering reading and management enters a rapid development stage and a batch of various products and technical proposals have arisen, using various communication technique and involving each metering areas. Product manufacturer and user desperately hope these products or system will comply with the unified standard.

Therefore, ever since 1999, International Electrotechnical Commission published IEC 62056 series standard in succession; Domestic formulated and published GB/T 19882 series standards based on its content. This standard is open system, better solving the inter-connectivity and inter-operative requirement. This standard system is drafted by several independent parts, therefore benefiting the consistent development of this standard. This scientific method and the content of this standard provide a good example for the forming of national standard *Society Energy Metering For Reading System Specification*.

Meanwhile, obviously, community energy metering reading system have many similar or common content with automatic metering reading system. They also share connected demand in real product. The formulating of *Society Energy Metering for Reading System Specification* should take GB/T 19882 in consideration. This standard system is formulating under the above background. Knowing this background is beneficial for understanding the formulating thinking and standard content.

This standard system contains application management and basement communication in community energy metering reading system. In application management, the main content is COSEM (Companion Specification for Energy Metering) uses meter object identification and joint object method to build a mode and further describe the specific application layer used for meter and remote meter reading. In basement communication, it involves specification regarding twisted pair basement (M-BUS) and short distance two kinds physical and link layer.

This part belongs to EN 13757 series which is applicable to meter and remote meter reading communication system. Part 1 includes general description and communication agreement. Part 2 includes the physical layer and link layer of twisted

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pair base band (M-BUS). Part 4 (to be consulted) describes wireless communication.

Generally, EN 1434-3 bus communication system is called M-Bus. Its application layer describes the standard mainly used for meter reading.

It can be jointly used with various physical layer, link layer and network layer which support to transfer binary system transparent message with variable length. Generally, either physical layer or link layer of EN 13757-2 (twisted pair base band) and prEN13757-4C wireless) or EN13757-1 will be used.

The general idea of meter communication system and its further identification is given in EN 13757-1.

This part is consistent with the extension of Article 6.4 to 6.6 of the original standard EN 1434-3: 1997. In addition to statement and implementation, this standard also contains the optional extension applicable for combined meter. Due to technical development, this standard does not support some variables (fixed form and mode 2=the first long byte).

It is noteworthy that this part only contains the guides (instructions) how to code the data. It surpasses the task defined by application layer standard which is which data by which type of subordinate station transfer or what response will be when which date is transfer to the subordinate station. Therefore, according to this standard, a general master station software (including all optional characteristics) is used to ensure the co-existent, public communication and reading capacity with the subordinate station. However, this standard can not ensure the metering function or communication exchange. As for several meter models and types, one group remote heating user has already provided the application description needed for complete exchange. They can get access through the service http://www.m-bus.com/files/default.html of m-bus user community (document name WG4N99R4.EXE, this is a extensible document

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Society Energy Metering for Reading System Specification

Part 3: Dedicated application layer

1 Scope

This part defines the specific application layer of meter communication system and remote meter reading.

This part is applicable to meter communication system and remote meter reading.

2 Normative references

The following documents are indispensable for the application of this Document. For dated references, only the dated edition is applicable to this reference. For undated references, the latest version (including all modification lists) is applicable to this Document.

GB/T 26831.2—2012 Society Energy Metering for Reading System Specification-Part 2: Physical layer and link layer.

3 Terms, definitions and abbreviations and markings

3.1 Terms and definitions

The terminology and identification defined in GB/T26831.2-2012 is applicable to this document.

3.2 Abbreviations

The following abbreviations are applicable for this document.

DES: (Data Encryption Standard)

DRH: (Data Record Header)

DIB: (Data Information Block)

DIF: (Data Information Field)

DIFE: (Data Information Field Extensions)

VIB: (Value Information Block)

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