

ICS 29.020
CCS K 00



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

GB/Z 32501-2016

**General requirements for communication system of smart grid
user side**

智能电网用户端通信系统一般要求

(English Translation)

Issued on: February 24, 2016

Implemented on: September 1, 2016

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of People's Republic of China, China National Standardization
Administration**

Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms, definitions and abbreviations	
4 Smart grid client communication system architecture and composition	
5 Smart grid client communication system requirements	
6 Smart grid client communication system inspection	
7 Communication system information security protection requirements	
Appendix A (informative) smart grid client energy management system architecture diagram	
Reference	

Foreword

The core content of the smart grid is the two-way interaction between the client and the power supply side, as well as the full exploitation and utilization of distributed energy at the client end.

International and domestic research and development of communication systems to achieve interoperability between client devices and systems is growing, with many exemplary applications, but not yet Have formed a unified international standards. This guidance document is based on the abstraction model of the smart grid client system, Line classification, put forward specific technical requirements.

This guideline is for reference only. The suggestions and opinions on this technical document are directed to the standardization administration under the State Council Department reflected.

This guidance document is proposed by China Electrical Equipment Industry Association.

The guidance of technical documents by the National Electrical Equipment Network Communication Interface Standardization Technical Committee (SAC/TC411) and responsible for Explanation.

The main drafting of this technical guidance document. Shanghai Electric Institute of Science and Technology, China Electric Power Research Institute, Beijing Ding Shi Innovation and Technology Limited, Shanghai Electric Power Institute.

The guidance of technical documents to participate in the drafting unit. Yantai East

Weisidun Electric Co., Ltd..

1 Scope

This guidance document is based on the abstract model of the smart grid client communication system and defines various types of communication networks on the smart grid client.

It specifies the general requirements for communication protocols, security, openness, interoperability and subsystem data interface equipment for all types of networks.

This Guidance Document is applicable to the internal energy management of power users in industrial enterprises, commercial buildings, public buildings and residential buildings.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/Z 32500 Smart Grid client system data interface general requirements GB/T 22239 Information security technology Information system security level protection basic requirements GB/T 25069 Information security technology terms

3 Terms, definitions and abbreviations

The following terms, definitions and abbreviations apply to this document.

3.1 Terms and definitions

3.1.1

User user

Electricity and other energy consumers.

3.1.2

User end userside, customer to enter the meter as a boundary, the assets belong to the user part of the grid.

3.1.3

User energy management system usersideenergymanagementsystem Information systems used by users to monitor and manage energy.

3.1.4

Sub user subcustomer Energy consumption within the client independent accounting unit,

which can be commercial tenants, business parks within the park, squad and other groups.

3.1.5

Master masterstation A computer network system that includes software and hardware, a management center for client-side energy management systems, data transfer for management systems, Data processing, data applications, as well as the operation and security of the system, managing data exchange with subsystems and external third-party systems. Subsystem Department of data transmission, processing, applications managed by the subsystem.

3.1.6

Subsystem

A system with independent data acquisition and/or control capabilities within the client. Typical subsystems include construction equipment control systems, public electromechanics