

ICS 27.010
CCS F 20



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

GB/T 31960.12-2024

**Technical specification of power energy efficiency monitoring
system-Part 12: Construction guidelines**

电力能效监测系统技术规范 第12部分：建设导则

Issued on: March 15, 2024

Implemented on: October 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
Introduction	IV
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Construction Principles	1
5 General Requirements	2
6 Preliminary preparation for construction	2
7 Construction Implementation	2
8 System trial run	3
9 Acceptance	4

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 12 of GB/T 31960 Technical Specification for Power Energy Efficiency Monitoring System. GB/T 31960 has published the following part.

- Part 1: General;
- Part 2: Master station functional specification;
- Part 3: Communication protocol;
- Part 4: Substation functional design specifications;
- Part 5: Master station design guidelines;
- Part 6: Technical requirements for power energy efficiency information centralization and interactive terminals;
- Part 7: Technical requirements for power energy efficiency monitoring terminals;
- Part 8: Safety protection specifications;
- Part 9: System inspection specification;
- Part 10. Inspection specification for power energy efficiency monitoring terminals;

- Part 11. Power energy efficiency information concentration and interactive terminal inspection specification;
- Part 12. Construction Guidelines;
- Part 13. Technical specifications for field handheld equipment.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the China Electricity Council.

This document was drafted by: China Electric Power Research Institute Co., Ltd., State Grid Hunan Electric Power Co., Ltd., Yuanguang Software Co., Ltd.

Nanjing Linyang Electric Power Technology Co., Ltd., Nanjing Xinlian Electronics Co., Ltd., Shanghai Yidian Building Technology Co., Ltd., Hunan Weishengxin Information Technology Co., Ltd., State Grid Information and Communication Industry Group Co., Ltd., State Grid Corporation of China, China Electronics Technology Group Corporation No. 50 Institute, Shenzhen Keman Information Technology Co., Ltd., State Grid Inner Mongolia Eastern Electric Power Co., Ltd., Beijing Boton Yunlian Technology Co., Ltd.

Company, State Grid Shandong Electric Power Company.

The main drafters of this document are: Zhong Ming, Luo Zhikun, Geng Yuhong, Jin Lu, Li Dezhi, Wen Hui, Tian Shiming, Qin Jian, Li Li, Chen Songsong, Miao Changhai, Huang Wei, Li Guosheng, Jia Sujin, He Sheng, Ma Liang, Zhang Xinhe, Xiang Hao, Chen Guowei, Qu Bo, Li Chenyang, Wang Zhiliang.

Introduction

In order to further standardize and guide the construction of power energy efficiency monitoring system, promote the marketization and industrialization of power energy saving industry, and improve the The standardization level of energy efficiency monitoring system is to meet the needs of improving energy efficiency, reducing energy consumption per unit of gross domestic product (GDP) and supporting energy conservation in China.

This series of standards is compiled to meet the needs of implementing policies such as assessment and subsidies.

GB/T 31960 comprehensively covers the main station, substation, terminal, communication, operation, inspection and testing, safe communication and other business links, and puts forward a unified The technical requirements are intended to provide a reference for the design, construction, operation, maintenance, testing and acceptance of power energy efficiency monitoring systems. constitute.

- Part 1: General. The purpose is to standardize the general technical requirements of the

power energy efficiency monitoring system and determine the general It includes the overall architecture, technical system and basic functions, and provides compilation guidance for the subsequent parts.

- Part 2: Master station function specification. The purpose is to standardize the overall requirements of the national, provincial and municipal master stations of the power energy efficiency monitoring system, Functional and technical requirements, etc., provide standardized and reasonable guidance for the design, development and operation and maintenance of the main station of the power energy efficiency monitoring system.

- Part 3: Communication protocol. The purpose is to standardize the communication format and transmission rules and guide the various parts of the power energy efficiency monitoring system Divided into communication and interaction methods.

- Part 4: Substation functional design specifications. The purpose is to standardize the functional structure, performance indicators, etc. of the power energy efficiency monitoring system substation.

It meets the requirements of various aspects and provides standardized and reasonable guidance for the design, development and operation and maintenance of power energy efficiency monitoring system substations.

- Part 5: Master station design guidelines. The purpose is to standardize the design principles, system architecture, performance indicators, and other aspects of the master station of the power energy efficiency monitoring system.

Standards and safety protection requirements are used to guide the development, construction, operation and maintenance of the master station system.

- Part 6: Technical requirements for power energy efficiency information collection and interactive terminals. The purpose is to clarify the information collection and interactive terminals of power energy efficiency monitoring systems.

The technical requirements and test methods for terminals between collection and interaction are used to guide the manufacture, inspection and use of collection terminals.

- Part 7: Technical requirements for power energy efficiency monitoring terminals. The purpose is to clarify the information collection and perception terminals of the power energy efficiency monitoring system.

The technical requirements and test methods of the end-user are designed according to the site requirements and cost saving to facilitate promotion.

There are five types of terminals, namely, power type, basic power type, harmonic power type and power quality type, which are used to guide the manufacturing, inspection and Use, etc.

- Part 8: Safety protection specification. The purpose is to propose safety protection

specifications for the main station, substation and acquisition subsystem of the power energy efficiency monitoring system.

The protection requirements can be used as a basis for guiding the system's security protection construction and security assessment.

- Part 9: System inspection specification. The purpose is to standardize the inspection methods and inspection rules of the power energy efficiency monitoring system, but it does not constitute a system inspection method.

Inspection regulations are set for specific products of the system as a condition for system engineering acceptance and final acceptance to ensure project quality and safety.

- Part 10: Inspection specification for power energy efficiency monitoring terminals. The purpose is to standardize the inspection rules and test procedures for power energy efficiency monitoring terminals.

Methods, etc., can better ensure the safe, economical and stable operation of the terminal and facilitate the promotion of the monitoring terminal.

- Part 11: Inspection specification for power energy efficiency information concentration and interactive terminals. The purpose is to standardize the inspection specification for power energy efficiency information concentration and interactive terminals.

Inspection rules and test methods are established to ensure the safe, economical and stable operation of energy-efficient centralized and interactive terminals, and facilitate the promotion of terminals.

- Part 12: Construction Guidelines. The purpose is to standardize the construction scope, construction principles, and system implementation requirements of the power energy efficiency monitoring system.

Provide guidance for system planning, design, implementation, trial operation and acceptance.

- Part 13: Technical specifications for on-site handheld devices. The purpose is to standardize the technical requirements of on-site handheld devices for power energy efficiency monitoring systems.

Requirements and functional requirements make it easy to perform on-site setup, copying and daily maintenance of terminal equipment.

Technical Specifications for Power Energy Efficiency Monitoring System Part
12. Construction guidelines

1 Scope

This document establishes the system construction principles of the power energy