

ICS 25.040
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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45388.2-2026

**Industrial-process measurement, control and automation - Part
2: Internet of things - Application framework for industrial
facility demand response energy management**

工业过程测量、控制和自动化 第2部分：物联网 工业设施需求响应能源管理应用
框架

(English Translation)

Issued on: July 2, 2026

Implemented on: February 1, 2027

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative References	
3 Terms and Definitions	
3.1 General	
3.2 Automation Mode	
4 Abbreviations	6.
5 Objectives	8.
6 General methods for DR	
6.1 General Rules	
6.2 Price-based demand response in industrial energy management	
7 IoT Application Framework for Demand Response Energy Management in Industrial Facilities	
7.1 Framework Description	
7.2 System Element Description	
7.3 Functional Component Description	
7.4 IoT Application Framework Corresponding to the IoT Reference Architecture	
7.5 Target Object Domain (PED)	
7.6 Sensing and Control Domain (SCD)	
7.7 Resource Access and Switching Domain (RAID)	
7.8 Application and Services Domain (ASD)	
7.9 Operations and Management Domain (OMD)	
7.10 User Domain (UD)	
8 Functional Component Use Case	
8.1 Overview	
8.2 Participants and Responsibilities	
9 Internet of Things Protocol	
9.1 Overview	
9.2 Communication Stack Layer	
9.3 Information Model	
9.4 Service	

10 Communication Requirements of the Application Framework

10.1 Overview

10.2 Service-related requirements

10.3 QoS Requirements

10.4 Bandwidth requirement

10.5 Security Requirements

Appendix A (Informative) Facility Information Model for Smart Grids (FSGIM)

A.1 Overview

A.2 Applying FSGIM within the Industrial FDREM Application Framework

Appendix B (Informative) STN Model for DR of Industrial Facilities

B.1 Overview

B.2 STN Model for DR of Industrial Facilities

References

Foreword

Drafting.

This document is Part 2 of GB/T (Z)45388 "Industrial Process Measurement, Control and Automation". GB/T (Z)45388 has been published.

The following section.

---Part 1: System Interfaces Between Industrial Facilities and Smart Grids;

---Part 2: IoT Application Framework for Demand Response Energy Management in Industrial Facilities this document is equivalent to IEC 62872-2:2022 "Industrial process measurement, control and automation - Part 2: Internet of Things industrial facilities".

Demand Response Energy Management Application Framework.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

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

1 Scope

This document specifies the general methods for power grid management, the IoT-based industrial facility demand response energy management application framework, and

functional components.

Use cases, IoT protocols, communication requirements of application frameworks, etc.

This document applies to the IoT application framework for industrial facility demand response energy management (FDREM) in smart grids, utilizing the Internet of Things (IoT).

Related communication technologies enable efficient information exchange between industrial facilities.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/Z 45388.1-2025 Industrial process measurement, control and automation - Part 1: Systems between industrial facilities and smart grids Interface (IEC TS62872-1:2019, IDT)
Note. GB/T 33474-2025 Internet of Things Reference Architecture (ISO/IEC 30141:2024, NEQ)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 General

3.1.1

Internet of Things (IoT) and information from the virtual world.

[Source. ISO/IEC 20924:2024, 3.2.8] 3.1.2 facilities industrial facilities the site or area within the site, including resources within the location or area, and activities relating to the use of those resources.

[Source. GB/T 20720.1-2019, 3.1.21, with modifications] 3.1.3 industry profile One or more sets of basic standards (where applicable) determine the selected categories, subsets of standards that conform to the standards, and these basic standards required to accomplish a specific function.