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

GB/T 30966.4-2023

**Wind energy generation systems - Communication for
monitoring and control of wind power plants - Part 4: Mapping
to communication profile**

风力发电机组 风力发电场监控系统通信 第4部分：映射到通信规约

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Foreword

This document was issued on 17 March 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 October 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

It is classified under ICS 27.180, Chinese classification F11.

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 4 of GB/T 30966 "Wind Turbine Wind Farm Monitoring System Communication". GB/T 30966 has

The following parts have been published.

- Part 1. Principles and models;
- Part 2. Information model;
- Part 3. Information exchange model;
- Part 4. Mapping to communication protocol;
- Part 5. Conformance testing;
- Part 6. Logical node classes and data classes for status monitoring.

This document replaces GB/T 30966.4-2014 "Wind Turbine Wind Farm Monitoring System Communication Part 4. Mapping to

Compared with GB/T 30966.4-2014, in addition to structural adjustment and editorial

changes, the main technical changes of the Communication Protocol are as follows.

- a) Changed some terms and definitions (see Chapter 3, Chapter 3 of the.2014 edition);
- b) Change the service part of GB/T 30966.3 mapped to the protocol stack (see Table 1, Table 1 of the.2014 edition);
- c) Deleted the part of A.2 referenced documents for Web services (see A.2 of the.2014 edition);
- d) Deleted the abbreviation part of A.3 (see A.3 of the.2014 edition);
- e) Table A.2 has been changed (see Table A.2, Table A.2 of the.2014 edition);
- f) Part A.3 of the original table has been deleted (see Table A.3 of the.2014 edition);
- g) Added data attribute definition part (see A.2.3);
- h) Deleted the part of the data type class (see A.4.8 of the.2014 edition);
- i) Deleted the version control block class part (see A.4.9 of the.2014 edition);
- j) The cached report control block class, non-cached report control block class, log control block class, and log class parts have been deleted (see the.2014 edition A.4.10, A.4.11, A.4.12, A.4.13);
- k) Add the read all data value request and read all data value response parts (see A.3.4.2.4, A.3.4.2.5);
- l) Added report format part (see A.3.7.2);
- m) The time-activated operation termination request and time-activated operation termination response parts are added (see A.3.10.7.4, A.3.10.7.5);
- n) Added additional reason (AddCause) parameter response part (see A.3.10.8);
- o) Deleted the part of referenced documents for OPCXML-DA mapping in Appendix B (see B.2 of the.2014 edition);
- p) Deleted the abbreviations in Appendix B (see B.3 of the.2014 edition);
- q) Deleted the part of referenced documents in Appendix C (see C.2 of the.2014 edition);
- r) Deleted the abbreviations in Appendix C (see C.3 of the.2014 edition);
- s) Deleted the part of referenced documents in Appendix D (see D.2 of the.2014 edition);
- t) Deleted the abbreviations in Appendix D (see D.3 of the.2014 edition);
- u) Deleted the referenced documents in Appendix E (see E.2 of the.2014 edition);
- v) Deleted the abbreviations in Appendix E (see E.3 of the.2014 edition).

This document is equivalent to IEC 61400-25-4:2016 "Wind Turbine Generating Sets Part 25-4. Communication Mapping of Wind Farm Monitoring System

Shooting to the Communication Protocol.

The following minimal editorial changes have been made to this document.

--- In order to coordinate with existing standards, change the name of the standard to "Wind Turbine Wind Farm Monitoring System Communication Part 4.

Mapped to Communication Protocol.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

This document is proposed by China Machinery Industry Federation.

This document is under the jurisdiction of the National Wind Power Standardization Technical Committee (SAC/TC50).

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This document was first published in 2014, and this is the first revision.

Introduction

GB/T 30966 "Wind Turbine Wind Farm Monitoring System Communication" defines the information model and information exchange of wind farm monitoring.

It is possible to switch models, thereby enabling commonality of access between different clients and servers from different manufacturers and suppliers. GB/T 30966

The equivalent conversion is mainly based on the international document IEC 61400-25,

which defines the communication requirements of the wind farm monitoring system. IEC 61400-

25 chose the modeling approach of abstract definitions such as classes and services, thus making the specification independent of specific protocol stacks, implementation methods, and operating systems. this

The mapping of these abstract classes and services to specific communication protocols is outside the scope of this document, but will be discussed in Part 4 of IEC 61400-25.

GB/T 30966 (all parts) currently consists of the following 6 parts.

--- Part 1. Principles and models. The purpose is to study the general communication between the wind farm SCADA system and the wind turbine

sexual demands.

--- Part 2. Information Model. The purpose is to specify the summary description of the logical node class, the logical node class of the wind farm to the common logical node class definitions and requirements.

--- Part 3. Information exchange model. The purpose is to specify an information exchange model that can be used by clients and servers to access

The content and structure of the wind farm information model defined in GB/T 30966.2.

--- Part 4. Mapping to the communication protocol. The purpose is to specify a specific mapping oriented to the protocol stack, and provide a link between the client and the remote server.

Provide the required information encoding for information exchange between them.

--- Part 5. Conformance testing. The purpose is to specify the various components (such as wind turbines) and participants (such as wind turbines) in the wind farm

General requirements for communication between SCADA systems), detailing standard techniques for implementing conformance testing, and deterministic

Specific measurement techniques applied when parameters are available.

--- Part 6. Logical node classes and data classes for status monitoring. The purpose is to specify that the condition monitoring information model can represent the information provided by the sensor.

information provided or calculated.

Wind Turbine Wind Farm Monitoring System Communication

Part 4. Mapping to communication protocols