



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

GB/T 35132.2-2020

**Automation system and integration. Manufacturing system
energy efficiency and other environmental impact factors - Part
2: Environmental performance evaluation process**

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Foreword

GB/T 35132 "Assessment of energy efficiency of automation systems and integrated manufacturing systems and other environmental impact factors" is divided into the following section.

- Part 1.Overview and general rules;
- Part 2.Environmental performance evaluation process;
- Part 3.Environmental performance evaluation data aggregation process;
- Part 4.The allocation and loading process of indirect impact and CRR impact;
- Part 5.Environmental performance evaluation data.

This part is Part 2 of GB/T 35132.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

The translation method used in this part is equivalent to ISO.20140-2.2018 ``Energy efficiency of automation systems and integrated manufacturing systems and other Evaluation of Environmental Impact Factors Part 2.Environmental Performance Evaluation Process.

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows.

---GB/T 35132.1-2017 Assessment of energy efficiency and other environmental impact factors of automation systems and integrated manufacturing systems

Assessment Part 1.Overview and general rules (ISO.20140-1.2013, IDT).

This section has made the following editorial changes.

---Introduction is added before the items in B.1, B.2, and B.4 of Appendix B.

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

This part was proposed by China Machinery Industry Federation.

This part is under the jurisdiction of the National Automation System and Integration Standardization Technical Committee (SAC/TC159).

Drafting organizations of this section. Beijing Institute of Machinery Industry Automation Co., Ltd., Zhejiang University.

Introduction

GB/T 35132 specifies the evaluation methods for energy efficiency and other environmental impact factors of manufacturing systems, such as energy consumption, loss and emission.

GB/T 35132 can be used for discrete manufacturing, batch manufacturing and continuous manufacturing manufacturing systems.

GB/T 35132 focuses on a hierarchical manufacturing system.

GB/T 35132 can be used for.

---As a benchmark to measure the environmental performance of a general reference manufacturing system, or to compare the environmental performance of two different manufacturing systems;

--- Alternative research to improve environmental performance;

---Set environmental performance improvement goals;

---Visually show the environmental performance of the running manufacturing system.

The intended users of GB/T 35132 include.

---The manager responsible for the environmental conditions of the manufacturing system;

---Engineers who design product manufacturing process;

---Engineers designing and manufacturing systems;

---Engineers and supervisors responsible for manufacturing products.

Automation system and integrated manufacturing system energy

Evaluation of efficiency and other environmental impact factors

Part 2.Environmental Performance Evaluation Process

1 Scope

This part of GB/T 35132 is based on the general principles described in GB/T 35132.1 and specifies the environment for the activities performed by the manufacturing system

Performance evaluation process. This process uses environmental performance evaluation data based on GB/T 35132.5.

This section does not specify any specific evaluation process specifically implemented by the manufacturing system.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

ISO.20140-1 Assessment of energy efficiency and other environmental impact factors of automation systems and integrated manufacturing systems Part 1.Overview and general principles

3 Terms and definitions

The following terms and definitions defined by ISO.20140-1 apply to this document.

ISO and IEC maintain a terminology database for standardization at the following website.

3.1

Aggregated EPE data

In a given type and mode of environmental impact, the environmental impact (3.3) caused by the manufacturing process is expressed as a numerical value.

3.2

energy efficiency

The ratio or other numerical relationship between an output of performance, service, commodity, or energy and an input of energy.

[Source. GB/T 23331-2012, 3.8, deleted examples and notes]

3.3

environmental impact

The result of a manufacturing process that can cause environmental effects and be considered in the entire life cycle of the manufacturing system related to the process.

Note. Environmental impacts, such as energy consumption and carbon dioxide emissions, can lead to environmental effects, such as global warming and sea level rise.

Examples. power consumption; carbon dioxide emissions; hazardous substances emissions.

3.4

Environmental KPI

Key performance indicators (3.7) that represent environmental performance (3.5).