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

GB/T 23360-2009

Method of evaluating the thermal performance of enclosures

机壳热特性的估算方法

(English Translation)

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Foreword

This standard is identical with IEC 62194:2005 "Estimation cabinet thermal characteristics" (in English).

This standard is equivalent translation IEC 62194:2005.

For ease of use, this standard made the following editorial changes.

--- Delete foreword international standards;

--- Decimal point "," to "." Appendix A of this standard is a normative appendix, Appendix B, Appendix C, Appendix D is an informative annex.

The standard electrical and electronic equipment by the National Standardization Technical Committee integrated structure (SAC/TC34) and focal points.

Introduction

When installing the cabinet with electronic components, since the functions of the electronic device is affected by the ambient temperature, the climatic conditions are very important of. Since the thermal load and solar radiation, the cabinet becomes hot. Because the surface of the heat transfer through the enclosure is not sufficient, you may need climate control unit to maintain tolerable conditions inside the cabinet. For the design of the cabinet, the solar radiation or by estimating the solar constant, or heat Additional load a fixed value. More accurate observations of solar radiation can be more accurate estimate of the thermal characteristics of the chassis, more economical method.

Standard environmental conditions existing regulations are. for outdoor GB/T 19183.5 (IEC 61969-3) and EN300019, for households Within GB/T 4798.3 (IEC 60721-3-3) 1), EN300019 and GB/T 18663.1 (IEC 61587-1).

Standards related to the size of the outdoor enclosure is GB/T 19183.1 (IEC 61969-1) and GB/T 19183.2 (IEC 61969-2), households Size standards within the enclosure is GB/T 19520.2 (IEC 60297-2), EN300019 and IEC 60917-2.

Due to the needs of users and manufacturers must draw heat unified metrics empty chassis control features. This standard establishes a mechanism Shell thermal characteristics estimation method.

1) IEC original mistaken for IEC 60721.

GB/T 23360-2009/IEC 62194:2005 Estimation of thermal properties of the enclosure

1 Scope

This standard provides an estimate in line with GB/T 19290 and GB/T 19520 empty indoor housing, and in line with GB/T 19183 of the method of thermal performance of outdoor enclosure empty.

This standard contains the following basis for determining the heat absorption coefficient.

--- Cabinet design principles;

--- Internal heat load;

---Sun radiation.

Housing absorption coefficient is used to compare and choose according to the criteria established in this enclosure provides a common evaluation value.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 4797.4-2006 Environmental conditions for electric and electronic products natural solar radiation and temperature (IEC 60721-2-4:2002, IDT) GB/T 19183 (all parts), the mechanical structure of electronic equipment - Outdoor enclosures [IEC 61969 (all parts), IDT] GB/T 19290 (all parts) in the development of mechanical structures for electronic equipment modulus sequence [IEC 60917 (all parts), IDT] GB/T 19520 (all parts), electronic equipment mechanical structure 482.6mm (19in) series of mechanical structure size [IEC 60297 (the Part), IDT]

3 Terms, definitions, symbols and abbreviations

Definition 3.1 chassis design principles Case design heat flow impact. 1, define the following types of housing.

A single wall;

B double wall (with heat insulation/without thermal insulation layer/intramural airflow or no airflow);

C single wall sunshade;

D has a double-walled visor (with heat insulation/without thermal insulation layer/intramural airflow or no airflow).

Figure 1 enclosure type

GB/T 23360-2009/IEC 62194:2005