

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Boxes and enclosures for electrical accessories for household and similar fixed electrical installations –**

**Part 24: Particular requirements for enclosures for housing protective devices and other power dissipating electrical equipment**

**Boîtes et enveloppes pour appareillage électrique pour installations électriques fixes pour usages domestiques et analogues –**

**Partie 24: Exigences particulières pour enveloppes pour appareillages de protection et autres appareillages électriques ayant une puissance dissipée**



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CODE PRIX

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **BOXES AND ENCLOSURES FOR ELECTRICAL ACCESSORIES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –**

#### **Part 24: Particular requirements for enclosures for housing protective devices and other power dissipating electrical equipment**

#### FOREWORD

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International Standard IEC 60670-24 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories.

This second edition cancels and replaces the first edition published in 2005 and constitutes a technical revision.

The following major changes from the first edition are introduced:

- new definition for basic, general purpose enclosures (GP enclosure) and enclosures for pre-determined equipment (PD enclosure);
- new classification and marking for general purpose enclosure (GP enclosure) and enclosure for pre-determined equipment (PD enclosure);
- required data for instruction sheet and/or documentation according to the type of enclosure;

- adequate space to allow mounting and connection of the accessories (fully equipped) as declared by the manufacturer;
- requirements for general purpose enclosure (GP enclosure) as in Clause 101;
- requirements for enclosure for pre-determined equipment (PD enclosure) as in Clause 102;
- instructions to be given by the manufacturer of the GP enclosure to the installer how to integrate accessories and example of calculation given in Annex AA;
- instructions to be given by the manufacturer of the PD enclosure to the installer how to integrate accessories given in Annex BB.

The text of this standard is based on the following documents:

FDIS	Report on voting
23B/982/FDIS	23B/992/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This standard shall be used in conjunction with IEC 60670-1. It lists the changes necessary to convert that standard into a specific standard for housing protective devices and other power dissipating electrical equipment.

Where this Part 24 states "addition", "modification" or "replacement", the relevant requirement, test specifications or explanatory matter in Part 1 shall be adapted accordingly.

Clauses and subclauses, notes, figures or tables which are additional to those in Part 1 are numbered starting from 101.

Additional annexes to Part 1 are numbered AA, BB, etc.

In this publication the following print types are used:

- requirements proper: in roman type.
- *test specifications: in italic type.*
- notes: in smaller roman type.

A list of all the parts in the IEC 60670 series, under the general title *Boxes and enclosures for electrical accessories for household and similar fixed electrical installations*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## BOXES AND ENCLOSURES FOR ELECTRICAL ACCESSORIES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

### Part 24: Particular requirements for enclosures for housing protective devices and other power dissipating electrical equipment

#### 1 Scope

##### *Replacement:*

This part of IEC 60670 applies to enclosures and parts of them for housing protective devices and other power dissipating electrical equipment intended to be used with a rated voltage not exceeding 400 V and a total incoming load current not exceeding 125 A for household and similar fixed electrical installations.

These enclosures are intended to be installed where unskilled persons have access. They are intended to be integrated with electrical equipment on site by skilled persons (installers).

They are intended to be installed where the prospective short circuit current does not exceed 10 kA unless they are protected by current limiting protective devices with a cut-off current not exceeding 17 kA.

Enclosures complying with this standard are suitable for use, after installation, at ambient temperature not normally exceeding 25 °C, but occasionally reaching 35 °C over 24 h, max. 40 °C and min. –5 °C.

An enclosure which is an integral part of an electrical accessory and provides protection against external influences (e.g. mechanical impacts, ingress of solid objects or of water), is covered by the relevant standard for such an accessory.

This standard does not apply to a low-voltage switchgear and controlgear assembly (ASSEMBLY) as defined in the IEC 60439 or IEC 61439 series of standards nor to a main entrance panel which may or may not be part of the distribution board.

NOTE 1 A main entrance panel is a set composed by a panel or an enclosure equipped with a meter and/or the main incoming device. Main entrance panels comply with their appropriate standards or the requirements of the local supplier if any.

NOTE 2 In the following country this standard cannot be used in installations with a 230 V single-phase supply rated up to 100 A that is under the control of ordinary persons. Integration of mechanical and electrical devices into an enclosure must be verified by compliance with IEC 60439-3 [British standard EN 60439-3]: UK.

NOTE 3 In the following country this standard can only be used for GP enclosures with the instructions according to Annex A. For the other types of enclosures the integration of mechanical and electrical devices into an enclosure is verified by compliance with DS EN 60439-3: DK.

#### 2 Normative references

##### *Addition:*

IEC 60417, *Graphical Symbols for Use on Equipment*

IEC 60898-1, *Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Part 1: Circuit-breakers for a.c. operation*

IEC 61008-2-1, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCB's) - Part 2-1: Applicability of the general rules to RCCB's functionally independent of line voltage*

IEC 61009-2-1, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBO's) - Part 2-1: Applicability of the general rules to RCBO's functionally independent of line voltage*

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

### 3 Definitions

*Addition:*

#### 3.101

##### **basic enclosure**

##### **BE**

enclosure containing only mounting means

#### 3.102

##### **general purpose enclosure**

##### **GP enclosure**

empty enclosure or basic enclosure where integration of mechanical and electrical devices has been verified by tests carried out by the manufacturer according to the present standard and where the installer has to verify the installed equipment by information given in Annex AA

#### 3.103

##### **enclosure for pre-determined equipment**

##### **PD enclosure**

empty enclosure or basic enclosure where the capability to integrate pre-determined mechanical and electrical equipment has been verified according to design rules and tests according to the present standard carried out by the manufacturer where the installer has to verify the installed equipment following the design instruction declared by the manufacturer according to Annex BB

#### 3.104

##### **manufacturer's design instructions**

instructions in accordance to Annexes AA and BB leading to a configuration of the enclosure ensuring the necessary heat dissipation. Standards can be part of those manufacturer design instructions.

#### 3.105

##### **maximum capability to dissipate power**

##### **$P_{de}$**

maximum capability of the enclosure to dissipate in normal use the power losses of the installed devices, as declared by the manufacturer

NOTE  $P_{de}$  is expressed in watts (W).

#### 3.106

##### **rated current**

##### **$I_n$**

current assigned by the manufacturer of the enclosure corresponding to the highest rated current of the incoming device(s) to be installed in the enclosure