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First edition
2005-06

Dimensions of half pot-cores made of ferrite for inductive proximity switches

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIMENSIONS OF HALF POT-CORES MADE OF FERRITE FOR INDUCTIVE PROXIMITY SWITCHES

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International Standard IEC 62323 has been prepared by IEC technical committee 51: Magnetic components and ferrite materials.

This standard cancels and replaces IEC/PAS 62323 published in 2002. This first edition constitutes a technical revision.

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

FDIS	Report on voting
51/817/FDIS	51/825/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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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

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- amended.

A bilingual version of this publication may be issued at a later date.

DIMENSIONS OF HALF POT-CORES MADE OF FERRITE FOR INDUCTIVE PROXIMITY SWITCHES

1 Scope

This International Standard lays down the important dimensions for the mechanical interchangeability of a preferred half pot-core series of ferrite, intended to be used in inductive proximity switches.

2 Normative references

The following referenced documents are indispensable for the applicatiuon of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60424-1:1999, *Ferrite cores – Guide on the limits of surface irregularities – Part 1: General specification*

3 Dimensions

3.1 Nomenclature of dimensions

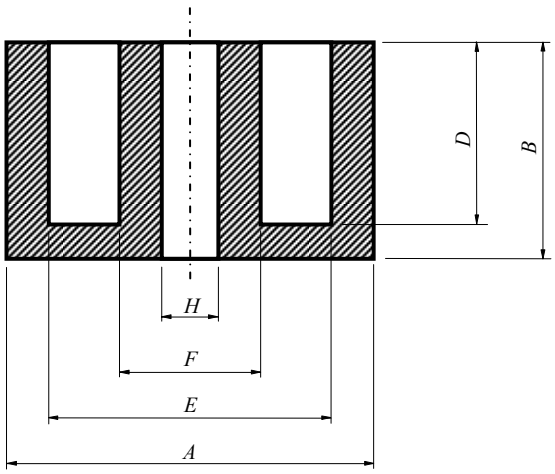

Figure 1 – Nomenclature of dimensions

3.2 Dimensions and tolerances

The main dimensions and tolerances shall be as given in Table 1.

Table 1 — Dimensions and tolerances

Dimensions in millimetres

Core type	Dimensions	*A*		*B*		*D*		*E*		*F*	
		Dim.	Tol.	Dim.	Tol.	Dim.	Tol.	Dim.	Tol.	Dim.	Tol.
PS 3,3	3,3 x 1,3	3,35	–0,15	1,3	–0,2	0,85	+0,2	2,5	+0,1	1,20	–0,1
PS 5,6	5,6 x 1,7	5,6	–0,25	1,7	–0,2	1,1	+0,2	4,5	+0,15	2,5	–0,1
PS 7,35	7,35 x 3,6	7,35	–0,25	3,6	–0,2	2,8	+0,2	5,8	+0,2	3,0	–0,15
PS 9,0	9,0 x 3,5	9,0	–0,4	3,5	–0,2	2,6	+0,2	7,3	+0,3	3,9	–0,25
PS 11	11,3 x 3,3	11,3	–0,4	3,3	–0,1	2,2	+0,15	9,0	+0,4	4,7	–0,2
PS 14	14,3 x 4,25	14,3	–0,5	4,25	–0,15	2,8	+0,2	11,6	+0,4	6,0	–0,2
PS 25	24,8 x 8,9	24,8	–1,0	8,9	–0,2	5,9	+0,3	20,5	+0,8	11,3	–0,5
PS 30,5	30,5 x 10,2	30,5	–1,0	10,2	–0,3	7,0	+0,35	25	+0,8	13,5	–0,4
PS 35	35 x 10,8	35	–1,0	10,8	–0,35	7,2	+0,4	29,4	+0,8	15,7	–0,5
PS 47	47 x 14	47	–1,3	14	–0,5	9,5	+0,5	39	+1,1	20	–0,6
PS 68	68 x 14,5	68	–2,2	14,5	–0,6	9,0	+0,6	57,5	+1,8	29,5	–1,0

NOTE 1 The core may have up to two slots in order to realize the wire connection feed-through holes.

NOTE 2 A centre hole (H) is allowable.

NOTE 3 Chamfers are allowable as long as they do not limit the winding space.

4 Requirements

In order to avoid damage to the coils and their interconnection wires, the cores shall be delivered without burrs. Flashes according to 3.3 of IEC 60424-1 shall not be present either on the winding area limiting surfaces including edges or on the wire connection feed-through holes.

5 Marking

A manufacturer specific marking is mandatory from PS 7,35 and larger, preferably on the bottom of the core.

Bibliography

The following literature gives additional information.

IEC 60133:2000, *Dimensions of pot-cores made of magnetic oxides and associated parts*

IEC 60424-2:1997, *Guidance of the limits of surface irregularities of ferrite cores – Part 2: RM-cores*

IEC 61332:1995, *Soft ferrite material classification*

IEC 62044-1:2002, *Cores made of soft magnetic materials – Measuring methods – Part 1: Generic specification*

IEC 62044-2:2005, *Cores made of soft magnetic materials – Measuring methods – Part 2: Magnetic properties at low excitation level*

IEC 62044-3:2000, *Cores made of soft magnetic materials – Measuring methods – Part 3: Magnetic properties at high excitation level*

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