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Dimensions for the mounting of single-hole, bush-mounted, spindle-operated  
electronic components

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UDC: 621.38:62-2

KEY WORDS: Electronic components; fixing; mounting; bush; nut; washer;  
panel cut-out; dimensions

**DIMENSIONS FOR THE MOUNTING OF SINGLE-HOLE,  
BUSH-MOUNTED, SPINDLE-OPERATED ELECTRONIC  
COMPONENTS**

Dimensions concernant le montage  
des axes de commande des  
composants électroniques montés  
par le canon sur trou unique et  
munis d'un axe de commande

Maße für  
Gewindebuchsen für  
wellenbetätigte  
elektrisch-mechanische  
Bauelemente mit  
Zentralbefestigung

**BODY OF THE HD**

The Harmonization Document consists of:

- IEC 620 (1984) ed 2; IEC/SC 48C, not appended

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This Harmonization Document was approved by CENELEC on 1988-03-01.

The English and French versions of this Harmonization Document are provided by the text of the IEC publication and the German version is the official translation of the IEC text.

According to the CENELEC Internal Regulations the CENELEC member National Committees are bound:

to announce the existence of this Harmonization Document at national level by or before 1988-09-01

to publish their new harmonized national standard by or before 1989-03-01

to withdraw all conflicting national standards by or before 1989-03-01.

Harmonized national standards are listed on the HD information sheet, which is available from the CENELEC National Committees or from the CENELEC Central Secretariat.

The CENELEC National Committees are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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## ENDORSEMENT NOTICE

This Harmonization document consists of IEC 620 (1984) ed 2 and has been ratified by the 55 Technical Board.

Note: Inch dimensions are excluded from HD 391 S3.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
620

Deuxième édition  
Second edition  
1984-01

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**Dimensions concernant le montage des axes  
de commande des composants électroniques  
montés par le canon sur trou unique  
et munis d'un axe de commande**

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**Dimensions for the mounting  
of single-hole, bush-mounted,  
spindle-operated electronic components**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DIMENSIONS FOR THE MOUNTING  
OF SINGLE-HOLE, BUSH-MOUNTED,  
SPINDLE-OPERATED ELECTRONIC COMPONENTS**

## FOREWORD

- 1) The formal decisions or agreements of the I E C on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the I E C expresses the wish that all National Committees should adopt the text of the I E C recommendation for their national rules in so far as national conditions will permit. Any divergence between the I E C recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

**iTeh STANDARD PREVIEW**

## PREFACE

This standard has been prepared by Sub-Committee 48C Switches, of I E C Technical Committee No. 48: Electromechanical Components for Electronic Equipment.

This second edition replaces the first edition (1978) of I E C Publication 620 and its first supplement (Publication 620A). <https://standards.iteh.ai/catalog/standards/sist/85c9cb3d-f65b-4a66-a828-9cc78ec99277/sist-hd-391-s3-2003>

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

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
48C(CO)43	48C(CO)49 and 49A	48C(CO)50	48C(CO)55
48C(CO)54	48C(CO)57	48C(CO)58	48C(CO)60
48C(CO)64	48C(CO)70		
48C(CO)68	48C(CO)73	48C(CO)74	48C(CO)78

Further information can be found in the relevant Reports on Voting indicated in the table above.

## DIMENSIONS FOR THE MOUNTING OF SINGLE-HOLE, BUSH-MOUNTED, SPINDLE-OPERATED ELECTRONIC COMPONENTS

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### 1. Introduction

This standard gives the recommended fixing and spindle dimensions of spindle-operated, single-hole, bush-mounted electronic components and also the dimensions of the relevant panel cut-outs, fixing nuts, and associated washers. Figures 1 to 6, pages 8 to 18, give the relevant metric-based dimensions. Figures 7 to 11, pages 19 to 27, give the relevant inch-based dimensions.

All dimensions include finish requirements.

### 2. Scope

This standard specifies mounting dimensions for spindle-operated, single-hole, bush-mounted, components including switches, potentiometers and variable capacitors, primarily intended for use in equipment for telecommunications and in electronic devices employing similar techniques.

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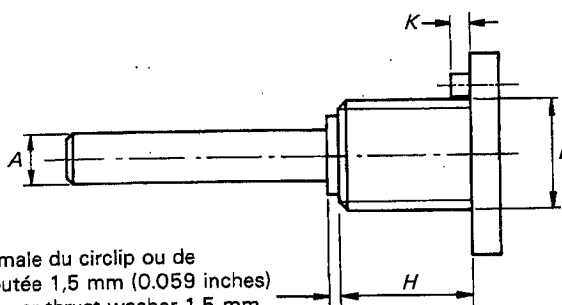
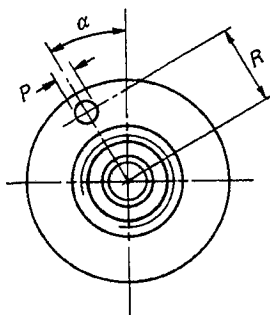


FIG. 1. — Montage par le canon sur trou unique avec ergot sur la face d'appui (avec filets dont les dimensions d'origine sont en millimètres).

FIG. 1. — Single-hole bush mounting with panel lug on mounting face (with metric threads).

Composant

Component



Epaisseur maximale du circlip ou de la rondelle de butée 1,5 mm (0.059 inches)  
Thickness of clip or thrust washer 1,5 mm (0.059 inches) maximum

465/84

Découpe du panneau

Panel cut-out

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466/84

Notes :

Notes :

1. — La position angulaire de l'ergot ( $\alpha$ ) sera spécifiée par la feuille particulière de la norme de la CEI, applicable au composant.
2. — Deux ergots symétriques peuvent être utilisés.
3. — La forme de l'ergot n'est pas définie ; elle doit satisfaire à la dimension  $P$ .
4. — L'épaisseur minimale du panneau sera spécifiée par la feuille particulière de la norme de la CEI, applicable au composant.
5. — Si la feuille particulière de la norme de la CEI, applicable au composant, le prescrit, l'ergot peut être supprimé ; dans ce cas, la découpe du panneau peut être simplifiée.
6. — Des valeurs plus basses pour les dimensions  $N$  peuvent être données dans la feuille particulière de la norme de la CEI applicable au composant.

1. — The angular position of the lug ( $\alpha$ ) shall be specified by the relevant sheet of the IEC standard for the component.
2. — Two symmetrical lugs may be used.
3. — The shape of the lug is optional within dimension  $P$ .
4. — The minimum panel thickness shall be specified by the relevant sheet of the IEC standard for the component.
5. — If required by the relevant sheet of the IEC standard for the component, the lug may be omitted, in which case the panel cut-out would be simplified.
6. — Smaller values for dimensions  $N$  may be given in the relevant sheet of the IEC standard for the component.

FIGURE 1 (suite/continued)

Dimensions d'origine en millimètres

Original dimensions in millimetres

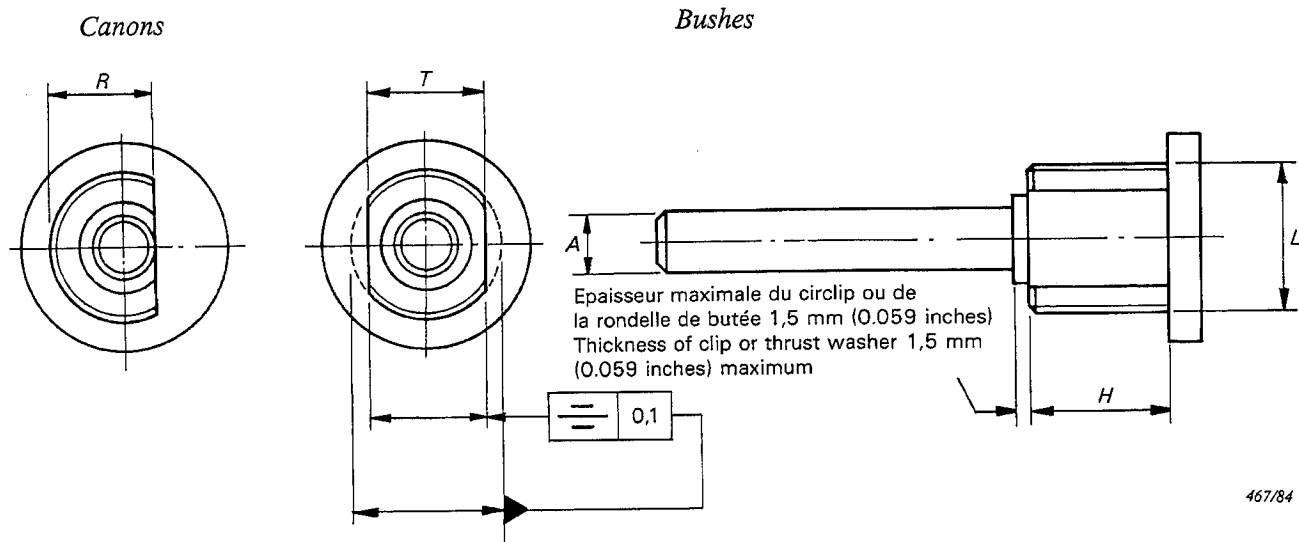
Dimension de l'axe Spindle dimension <i>A</i>	Composant - Component				Découpe du panneau - Panel cut-out		
	Dimension du filetage Thread dimension <i>L</i>	Dimension <i>H</i>	Dimension <i>K</i>	Dimension <i>P</i> et/and <i>R</i>	Dimension <i>M</i>	Dimension <i>J</i>	Dimension <i>N</i>
2	M5 × 0,5	4 ± 0,5 5 ± 0,5 6 ± 0,5 8 ± 0,5 10 ± 0,5 12 ± 0,5	1,0 ± 0,2	Seront spécifiées par la feuille particulière de la norme de la C E I, applicable au composant, pour que la tolérance angulaire n'exécède pas ± 2½° (± 4° pour <i>A</i> = 2) et que la possibilité de montage soit assurée.  Shall be specified by the relevant sheet of the I E C standard for the component such that the angular tolerance does not exceed ± 2½° (± 4° for <i>A</i> = 2) and such that mountability is ensured	5,1 <sup>+0,12</sup> <sub>-0</sub>	2,0 <sup>+0,1</sup> <sub>-0</sub>	6,0 ± 0,1
3	M6 × 0,75 M7 × 0,75		1,0 ± 0,2 1,5 ± 0,2		6,1 <sup>+0,15</sup> <sub>-0</sub> 7,1 <sup>+0,15</sup> <sub>-0</sub>	3,5 <sup>+0,12</sup> <sub>-0</sub>	9,5 ± 0,1
4	M7 × 0,75 M8 × 0,75		1,0 ± 0,2 1,5 ± 0,2 2,0 ± 0,2		7,1 <sup>+0,15</sup> <sub>-0</sub> 8,1 <sup>+0,15</sup> <sub>-0</sub>	3,5 <sup>+0,12</sup> <sub>-0</sub>	9,5 ± 0,1
6	M9 × 0,75 M10 × 0,75		1,0 ± 0,2 1,5 ± 0,2 2,0 ± 0,2		9,1 <sup>+0,18</sup> <sub>-0</sub> 10,1 <sup>+0,18</sup> <sub>-0</sub>	3,5 <sup>+0,12</sup> <sub>-0</sub> 4,5 <sup>+0,12</sup> <sub>-0</sub>	9,5 ± 0,1 13,5 ± 0,1 15,0 ± 0,1
8	M12 × 0,75		1,0 ± 0,2 1,5 ± 0,2 2,0 ± 0,2		12,1 <sup>+0,18</sup> <sub>-0</sub>	3,5 <sup>+0,12</sup> <sub>-0</sub> 4,5 <sup>+0,12</sup> <sub>-0</sub>	13,5 ± 0,1 15,0 ± 0,1
10	M15 × 1,0 M16 × 1,0		1,0 ± 0,2 1,5 ± 0,2 2,0 ± 0,2		15,1 <sup>+0,18</sup> <sub>-0</sub> 16,1 <sup>+0,18</sup> <sub>-0</sub>	3,5 <sup>+0,12</sup> <sub>-0</sub> 4,5 <sup>+0,12</sup> <sub>-0</sub>	13,5 ± 0,1 15,0 ± 0,1

Dimensions (sauf *L*) en inches  
(dérivées des dimensions en millimètres)Dimensions (except *L*) in inches  
(derived from original dimensions in millimetres)

Dimension de l'axe Spindle dimension <i>A</i>	Composant - Component				Découpe du panneau - Panel cut-out		
	Dimension du filetage Thread dimension <i>L</i> (mm)	Dimension <i>H</i>	Dimension <i>K</i>	Dimension <i>P</i> et/and <i>R</i>	Dimension <i>M</i>	Dimension <i>J</i>	Dimension <i>N</i>
0,079	M5 × 0,5	0,157 ± 0,020 0,197 ± 0,020 0,236 ± 0,020 0,315 ± 0,020 0,394 ± 0,020 0,472 ± 0,020	0,039 ± 0,008	Seront spécifiées par la feuille particulière de la norme de la C E I, applicable au composant, pour que la tolérance angulaire n'exécède pas ± 2½° (± 4° pour <i>A</i> = 2) et que la possibilité de montage soit assurée.  Shall be specified by the relevant sheet of the I E C standard for the component such that the angular tolerance does not exceed ± 2½° (± 4° for <i>A</i> = 2) and such that mountability is ensured	0,201 <sup>+0,005</sup> <sub>-0</sub>	0,079 <sup>+0,004</sup> <sub>-0</sub>	0,236 ± 0,004
0,118	M6 × 0,75 M7 × 0,75		0,039 ± 0,008 0,059 ± 0,008		0,240 <sup>+0,006</sup> <sub>-0</sub> 0,280 <sup>+0,006</sup> <sub>-0</sub>	0,138 <sup>+0,005</sup> <sub>-0</sub>	0,374 ± 0,004
0,158	M7 × 0,75 M8 × 0,75		0,039 ± 0,008 0,059 ± 0,008 0,079 ± 0,008		0,280 <sup>+0,006</sup> <sub>-0</sub> 0,319 <sup>+0,006</sup> <sub>-0</sub>	0,138 <sup>+0,005</sup> <sub>-0</sub>	0,374 ± 0,004
0,236	M9 × 0,75 M10 × 0,75		0,039 ± 0,008 0,059 ± 0,008 0,079 ± 0,008		0,358 <sup>+0,007</sup> <sub>-0</sub> 0,398 <sup>+0,007</sup> <sub>-0</sub>	0,138 <sup>+0,005</sup> <sub>-0</sub> 0,177 <sup>+0,005</sup> <sub>-0</sub>	0,374 ± 0,004 0,531 ± 0,004 0,591 ± 0,004
0,315	M12 × 0,75		0,039 ± 0,008 0,059 ± 0,008 0,079 ± 0,008		0,476 <sup>+0,007</sup> <sub>-0</sub>	0,138 <sup>+0,005</sup> <sub>-0</sub> 0,177 <sup>+0,005</sup> <sub>-0</sub>	0,531 ± 0,004 0,591 ± 0,004
0,394	M15 × 1,0 M16 × 1,0		0,039 ± 0,008 0,059 ± 0,008 0,079 ± 0,008		0,594 <sup>+0,007</sup> <sub>-0</sub> 0,634 <sup>+0,007</sup> <sub>-0</sub>	0,138 <sup>+0,005</sup> <sub>-0</sub> 0,177 <sup>+0,005</sup> <sub>-0</sub>	0,531 ± 0,004 0,591 ± 0,004

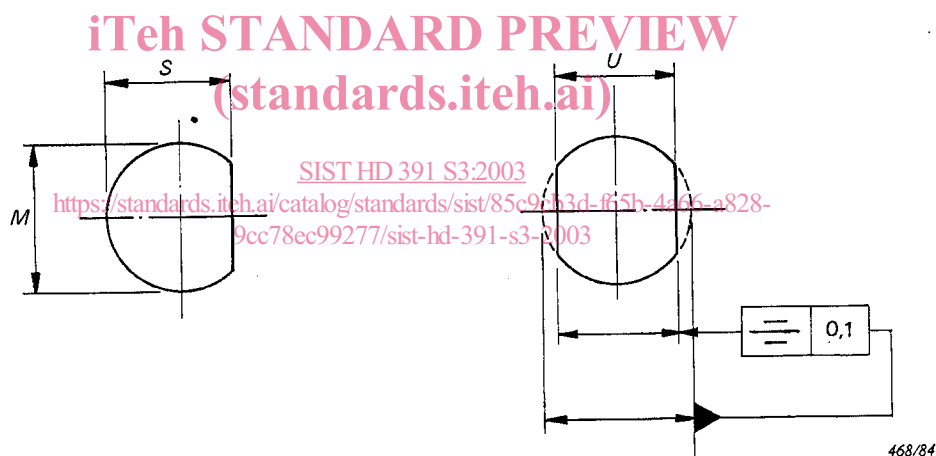
FIG. 2. — Variantes pour montage par le canon à simple et double plats (avec filets dont les dimensions d'origine sont en millimètres).

FIG. 2. — Alternative proposals for single and double flatted bush mounting (with metric threads).



*Découpe du panneau*

*Panel cut-out*



*Notes :*

1. — La position angulaire du ou des plats sur le canon, par rapport à la partie du composant montée derrière le panneau, sera spécifiée par la feuille particulière de la norme de la CEI applicable au composant.
2. — Le canon à double plat est le montage préférentiel. Avec ce montage, le jeu angulaire ne devrait pas excéder  $\pm 4^\circ$ .

*Notes :*

1. — The angular position of the flat(s) on the bush, with respect to the part of the component mounted behind the panel, shall be specified by the relevant sheet of the IEC standard for the component.
2. — The double flatted bush is the preferred mounting. With this mounting, the angular play should not exceed  $\pm 4^\circ$ .