



**SLOVENSKI STANDARD**  
**SIST EN 175101-809:2002**  
**01-september-2002**

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**Detail specification: Two-part connectors for printed boards having a grid of 2,54 mm, short version in compliance with CECC 75 101-801, with assessed quality**

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**iTeh STANDARD PREVIEW**

Spécification particulière: Connecteurs en deux parties pour circuits imprimés sur une grille de base de 2,54 mm, version simplifiée en conformité avec la CECC 75 101-801, pour l'assurance de la qualité

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**Ta slovenski standard je istoveten z: EN 175101-809:1999**

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**ICS:**

31.220.10 Xã ã Áã } ã Æ [ ] ^ ¢ !ã Plug-and-socket devices.  
Connectors

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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English version

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**short version in compliance with CECC 75 101-801,**  
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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

## Foreword

At the request of the Technical Committee CENELEC TC 48B, LF connectors, the text of CECC 75 101-809:1996, Issue 1, was submitted to the formal vote for conversion into a European Standard. It was approved by CENELEC as EN 175101-809 on 1999-10-01.

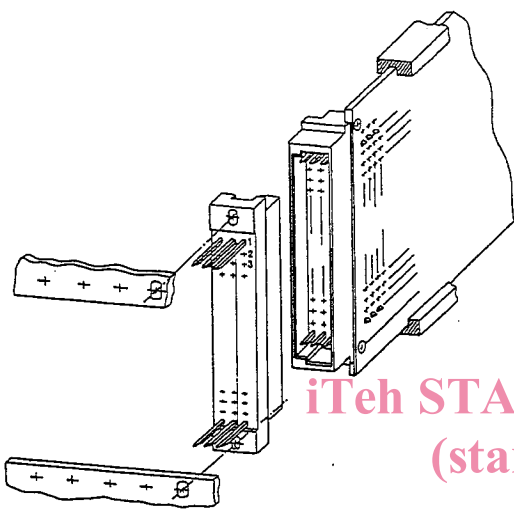
The following date was fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2000-10-01

This Detail Specification is to be used in conjunction with EN 61076-4:1996.

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|   |  |
|---|--|
| <p><b>CECC WG25: LF Connectors</b></p> <p>Specification available from the addresses shown on the inside cover.</p> <p><b>ELECTRONIC COMPONENTS OF ASSESSED QUALITY</b></p> <p>– DETAIL SPECIFICATION IN ACCORDANCE WITH EN 61076-4:1996</p>  | <p>EN 175101-809</p> <p>Page 3 of 37 pages</p>   |
| <p>See 5 for dimensions</p>  <p><b>iTeh STANDARD PREVIEW</b><br/>(standards.iteh.ai)</p> <p>SIST EN 175101-809:2002<br/><a href="https://standards.iteh.ai/catalog/standards/sist/dc0142b7-495-4061-b0a3-d51dd7e90c8e/sist-en-175101-809-2002">https://standards.iteh.ai/catalog/standards/sist/dc0142b7-495-4061-b0a3-d51dd7e90c8e/sist-en-175101-809-2002</a></p> | <p><b>1 SCOPE</b></p> <p>Two-part connectors for printed boards having a grid of 2,54 mm, short version in compliance with CECC 75 101-801 Issue 2 (1993), with assessed quality.</p> <p>Basic grid 2,54 mm, common mounting features, 16 to 48 contacts, normal (male contacts in free board connectors) and reversed versions</p> <p>Terminations: solder, press-in, wrap, press-in + wrap and press-in + wrap + rear plug up</p> <p>Performance levels (PL): 1, 2, 3</p> <p>Assessment levels: B and G (*)</p> <p>Combinations of performance and assessment levels: 1G, 2B, 2G, 3B</p> |

|                             |         |           |
|-----------------------------|---------|-----------|
| Climatic categories:        | PL1     | 55/125/56 |
|                             | PL2     | 55/125/21 |
|                             | PL3     | 40/080/00 |
| Electrical characteristics: | see 7.2 |           |
| Mechanical characteristics: | see 7.3 |           |
| Ordering information:       | see 10  |           |

(\*) see 8 and 9

Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200 (Register of Firms, Products and Services Approved under the CECC System).

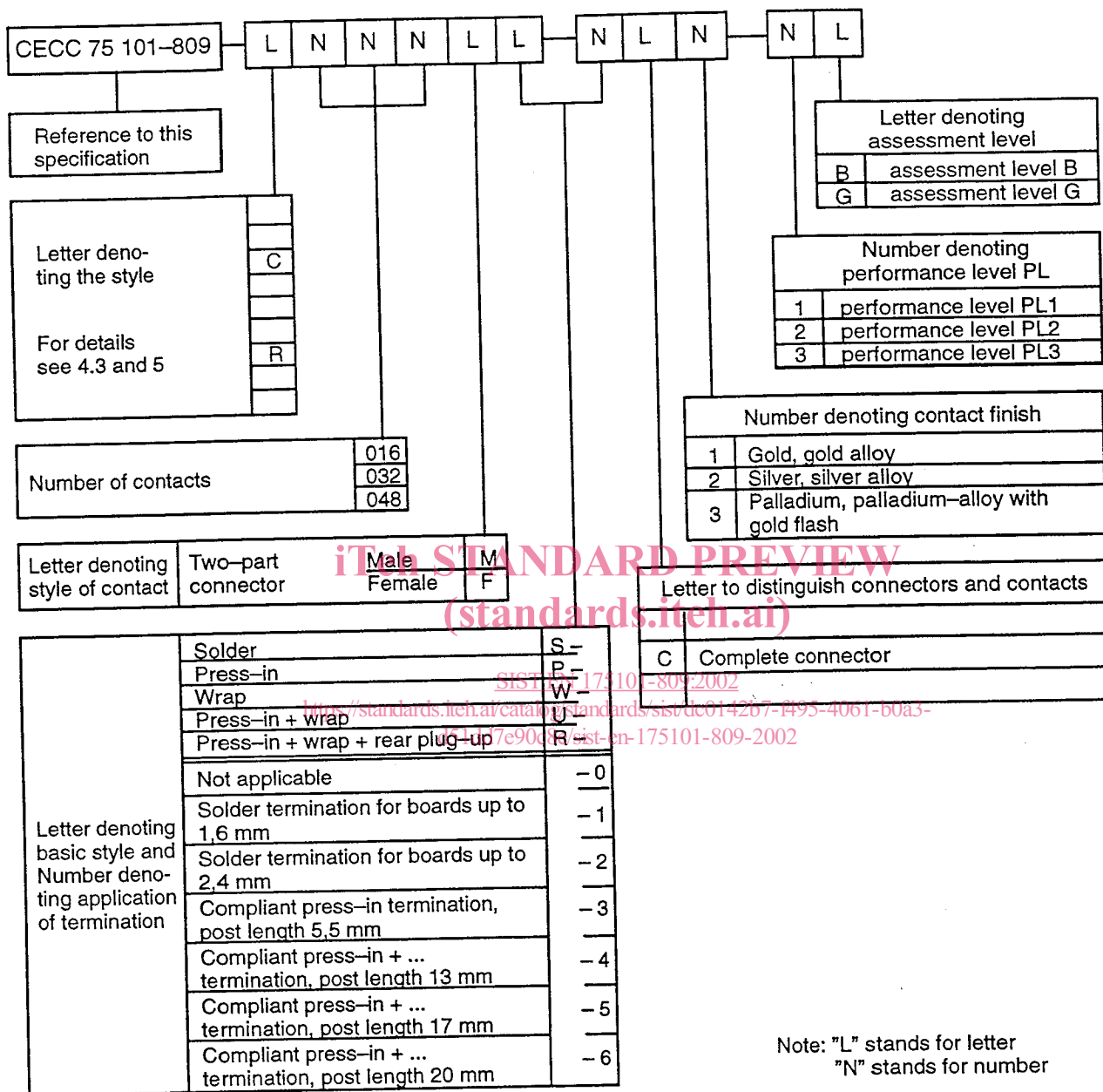
## 2 Related documents

The following documents contain provisions which, through reference in this text, constitute provisions of this specification. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

|             |  |
|-------------|--|
| EN 61076-1  | (1995): Connectors with assessed quality, for use in d.c., low frequency analogue and in digital high-speed data applications<br>Part 1: Generic specification   |
| EN 61076-4  | (1996): Part 4: Sectional specification - Printed board connectors   |
| IEC 60068-1 | (1988): Basic environmental testing procedures<br>Part 1: General and guidance   |
| IEC 60097   | (1970): Grid system for printed circuits   |
| IEC 60194   | (1975): Terms and definitions for printed circuits   |
| IEC 60326-3 | (1991): Printed boards<br>Part 3: Design and use of printed boards   |
| IEC 60352-1 | (1983): Solderless connections<br>Part 1: Solderless wrapped connections – General requirements, test methods and practical guidance   |
| IEC 60352-5 | (Draft): Solderless connections<br>Part 5: Solderless press-in connections – General requirements, test methods and practical guidance   |
| IEC 60410   | (1973): Sampling plans and procedures for inspection by attributes   |
| IEC 60512-1 | (1984): Electromechanical components for electronic equipment; basic testing procedures and measuring methods<br>Part 1: General<br>Amendment No. 1 (1988)   |
| IEC 60512-2 | (1985): Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests   |
| IEC 60512-3 | (1976): Part 3: Current carrying capacity tests  |
| IEC 60512-4 | (1976): Part 4: Dynamic stress tests   |
| IEC 60512-5 | (1992): Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests   |
| IEC 60512-6 | (1984): Part 6: Climatic tests and soldering tests   |
| IEC 60512-7 | (1993): Part 7: Mechanical operating tests and sealing tests   |
| IEC 60512-8 | (1993): Part 8: Connector tests (mechanical) and mechanical tests on contacts and terminations   |
| IEC 60512-9 | (1992): Part 9: Miscellaneous tests  |
| IEC 60603-1 | (1991): Connectors for frequencies below 3 MHz for use with printed boards<br>Part 1: Generic specification – General requirements and guide for the preparation of detail specifications, with assessed quality<br>Amendment No. 1 (1992) |
| ISO 272     | (1982): Fastener hexagon products widths across flats  |

3 Style designation

Connectors according to this specification shall be designated by the following system:



Example: – Connector style C, having 48 male contacts with gold alloy contact finish with solder terminations. Complete free board connector for boards up to 1,6 mm, with performance level 2 and assessment level G: CECC 75 101-809-C048MS-1C1-2G

## 4 Common features

Not applicable.

### 4.1 Mounting dimensions

#### 4.1.1 Reference system

A line in the mounting plane of the fixed board connector and passing through the position of the centres of the mounting holes is used as a datum line. The nominal centre of the mounting hole near contact

No. 16 is used as datum point.

With reference to this datum system, the dimensions in 4.1.2 and 4.1.3 are defined.

#### 4.1.2 Fixed board connector

##### 4.1.2.1 Position of the terminations

The centre distances of the terminations shall be 2,54 mm or multiples thereof. The terminations shall be located so as to permit automatic wiring techniques.

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https://standards.iteh.ai/catalog/standards/sist/dc0142b7-f495-4061-b0a3-d51dd7e90c8e/sist-en-175101-809-2002](https://standards.iteh.ai/catalog/standards/sist/dc0142b7-f495-4061-b0a3-d51dd7e90c8e/sist-en-175101-809-2002)

#### 4.1.3 Printed board assembly

##### 4.1.3.1 Position of the grid of the printed board

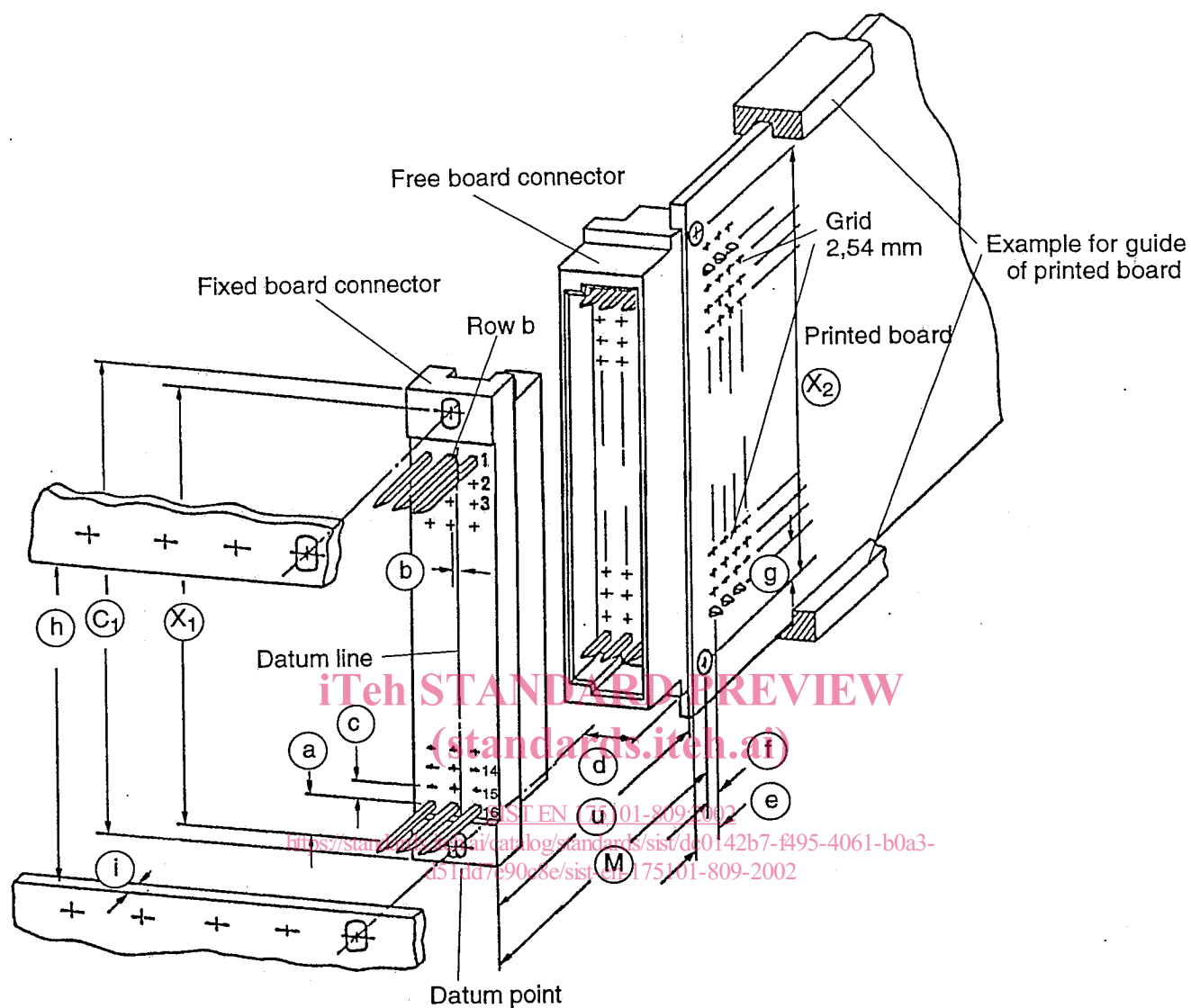
The termination of the free board connectors shall fit into holes in the printed board according to IEC 326-3, located on a grid of 2,54 mm according to IEC 97.



## 4.1.4 Isometric view and values

Table 1 – Isometric view and values

| Reference letter | Dimension mm   | Legend   |
|------------------|----------------|--|
| Ⓒ <sub>1</sub>   | 55 max.        | Maximum length of the fixed board connector  |
| Ⓜ                | 17,2<br>15,6   | Range of electrical engagement (see KEIN MERKER)<br><i>Note: For information only</i>  |
| ⓧ <sub>1</sub>   | 50,1<br>49,9   | Distance between the two mounting holes of the fixed board connector   |
| ⓧ <sub>2</sub>   | 48,36<br>48,16 | Distance between the two mounting holes of the free board connector<br><i>Note: The mounting holes are also located on the grid of 2,54 mm according to IEC 97</i>                                       |
| Ⓐ                | 5,95           | Distance between datum point and a line through the centres of the termination no. 16 of the fixed board connector   |
| Ⓑ                | 0,3            | Distance between datum line and a line through the centres of the termination row "b" of the fixed board connector   |
| Ⓒ                | n x 2,54       | Pitch of the termination of the fixed board connector<br><i>Note: Where a pitch of 2 x 2,54mm = 5,08mm is used, the terminations shall be located on even-numbered positions 2, 4, 6 ... 14, 16 only</i> |
| Ⓓ                | 3,55           | Distance between datum line and component side of the printed board  |
| Ⓔ                | 5,3            | Distance between the edge of the printed board and the first row of component holes for the free board connector   |
| Ⓕ                | 2,54           | Distance between the mounting holes and the first row of component holes for the free board connector  |
| Ⓖ                | 5,08           | Distance between a mounting hole and the component hole for the termination no. 1 or No. 16 of the free board connector  |
| Ⓗ                | 44,36          | Minimum length of mounting cut-out or minimum distance between mounting bars for the fixed board connector   |
| Ⓘ                | 2,5            | Maximum thickness of mounting panel or bars for the fixed board connector  |
| Ⓤ                | 14,2<br>12,4   | Range in which reliable contact is ensured<br><i>Note: see 4.2 for mating information</i>  |



**Figure 1**  
(shown: style C, 48 ways)

#### 4.2 Mating information

See 4.2 of IEC 603-2 (draft 3. edition)

## 4.3 Survey of styles

Table 2 – Survey of styles

|   |                               |           |        |        |
|---|-------------------------------|-----------|--------|--------|
| Connector style and number of contacts  | standard styles <sup>1)</sup> | C048      | C032   | C016   |
|   | reversed styles <sup>1)</sup> | R048      | R032   | R016   |
| Smallest pitch of adjacent connectors   |                               | 12,7 mm   |        |        |
| Current-carrying capacity at 70 °C (see 7.2.3)  |                               | 1 A       |        |        |
| Performance level   |                               | 1, 2, 3   |        |        |
| Minimum creepage and clearance distances <sup>2)</sup>  |                               |           |        |        |
| between contacts and chassis  | creepage                      | 1,8 mm    |        |        |
|   | clearance                     | 1,6 mm    |        |        |
| between adjacent  | within a row                  | creepage  | 1,2 mm | 3,0 mm |
|   |                               | clearance | 1,2 mm | 3,0 mm |
| between rows  | creepage                      | 1,2 mm    | 3,0 mm |        |
|   | clearance                     | 1,2 mm    | 3,0 mm |        |
| <p>1) Standard styles: free board connectors with male contacts<br/>Reversed styles: fixed board connectors (see Scope) with male contacts</p> <p>2) Application information: Permissible operating voltage depends on the application and the applicable or specified safety requirements. Reductions in creepage or clearance distances may occur due to the printed board or the wiring used and shall duly be taken into account.</p> |                               |           |        |        |

## 5 Dimensions

## 5.1 General

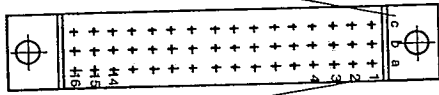
See 5.1 of IEC 603-2 (draft 3. edition)

5.2 Fixed board connectors

5.2.1 Style C

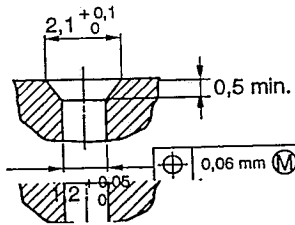
5.2.1.1 Dimensions

Marking of contact rows: letters a, b, c

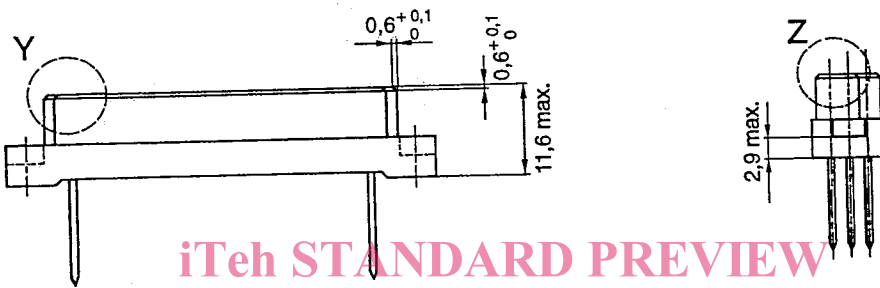
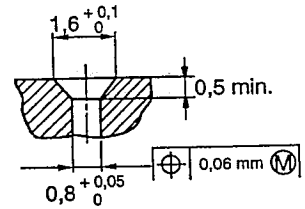


Marking of contact position within a row: numbers 1, 2, 3 ... 16  
in case of lack of space at least numbers 1 and 16  
Marking of contact position

Detail Y



Detail Z



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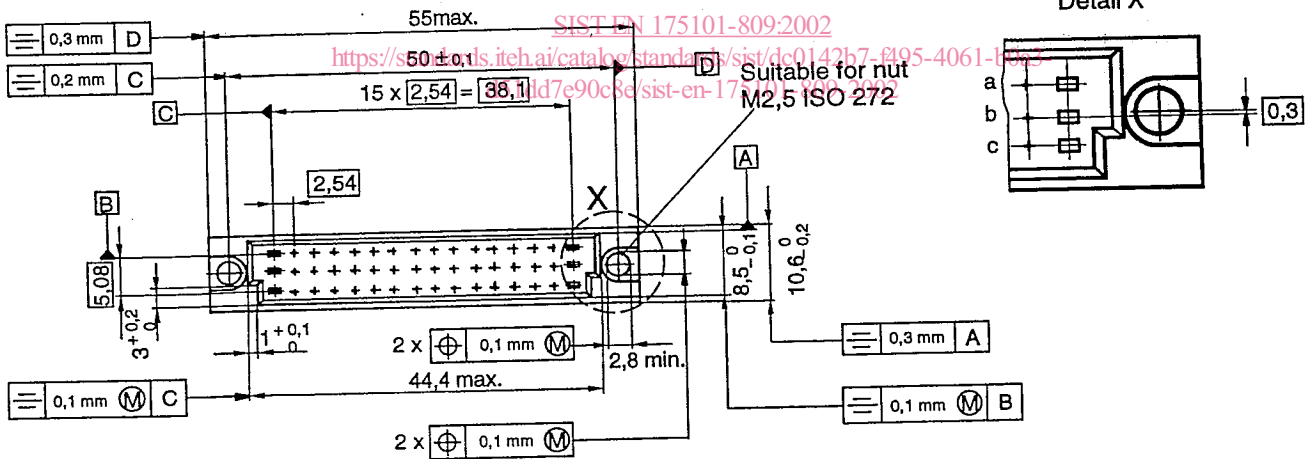


Figure 2 – Style C

5.2.1.2 Terminations

For dimensions of terminations, see Table 4