
Connectors for electronic equipment - Part 2-102: Circular connectors with assessed quality - Detail specification for plugs and jacks for external low voltage power supply

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

SIST EN 61076-2-102:2003
<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

SIST EN 61076-2-102:2003

<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>

Connectors for electronic equipment
Part 2-102: Circular connectors with assessed quality -
Detail specification for plugs and jacks
for external low voltage power supply
(IEC 61076-2-102:2002)

Connecteurs pour équipements
électroniques

Partie 2-102: Connecteurs circulaires

sous assurance de la qualité -

Spécification particulière pour fiches et
embases pour le raccordement d'une

alimentation externe à basse tension
(CEI 61076-2-102:2002)

Steckverbinder für elektronische
Einrichtungen

Teil 2-102: Rundsteckverbinder

mit bewerteter Qualität -

Bauartspezifikation für Buchsen und
Stöpsel für externe

Niederspannungs-Stromversorgung
(IEC 61076-2-102:2002)

[SIST EN 61076-2-102:2003](https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003)

<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>

This European Standard was approved by CENELEC on 2002-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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

The text of document 48B/1206/FDIS, future edition 1 of IEC 61076-2-102, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61076-2-102 on 2002-07-01.

The following dates were 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) 2003-04-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-07-01

Les annexes appelées "normatives" font partie du corps de la norme.

Dans la présente norme, l'annexe ZA est normative.

L'annexe ZA a été ajoutée par le CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-2-102:2002 was approved by CENELEC as a European Standard without any modification.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 61076-2-102:2003](https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003)

<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	- ¹⁾	Environmental testing Part 1: General and guidance		
+ A1	- ¹⁾		EN 60068-1	1994 ²⁾
IEC 60410	- ¹⁾	Sampling plans and procedures for inspection by attributes	-	-
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	- ¹⁾	Connectors for electronic equipment - Tests and measurements Part 1-100: General - Applicable publications	EN 60512-1-100	2001 ²⁾
IEC 61076-1	- ¹⁾	Connectors with assessed quality, for use in d.c., low frequency analogue and in digital high-speed data applications Part 1: Generic specification - Capability approval	EN 61076-1	1995 ²⁾
IEC 61076-2	- ¹⁾	Connectors for use in d.c. low frequency analogue and digital high speed data applications Part 2: Circular connectors with assessed quality - Sectional specification	EN 61076-2	1999 ²⁾
ISO 1302	- ¹⁾	Technical drawings - Method of indicating surface texture	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 61076-2-102:2003

<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

61076-2-102

QC 480101XX0003

Première édition
First edition
2002-06

Connecteurs pour équipements électroniques –

Partie 2-102:

**Connecteurs circulaires sous assurance
de la qualité –**

**Spécification particulière pour fiches et embases
pour le raccordement d'une alimentation externe
à basse tension**

[SIST EN 61076-2-102:2003](https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-832e10000000/sist-en-61076-2-102-2003)

[https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-](https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-832e10000000/sist-en-61076-2-102-2003)

Connectors for electronic equipment –

Part 2-102:

**Circular connectors with assessed quality –
Detail specification for plugs and jacks
for external low voltage power supply**

© IEC 2002 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

V

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

FOREWORD	9
1 General information	15
1.1 Scope and object	15
1.2 Recommended method of mounting	15
1.2.1 Number of contacts	15
1.3 Rating and characteristics	15
1.4 Normative references	17
1.5 Marking	19
1.6 IEC type designation	19
1.7 Ordering information	21
2 Technical information	21
2.1 Definitions	21
2.2 Survey of styles	21
2.3 Information on application	21
2.3.1 Complete connector (pairs)	21
2.3.2 Jack (fixed connector)	21
2.3.3 Plug (free connector)	21
2.3.4 Accessories	23
2.3.5 Shielding/grounding	23
2.3.6 Basic type of termination	23
2.4 Contact arrangements	23
3 Dimensional information	23
3.1 General	23
3.2 Isometric view and common features	23
3.2.1 Common features	23
3.2.2 Reference system	25
3.2.3 Height dimensions	25
3.2.4 Width dimensions	25
3.2.5 Depth dimensions	25
3.3 Mating information	25
3.3.1 Mating direction	25
3.3.2 Perpendicular to the mating direction	25
3.3.3 Inclination	25
3.4 Jacks (fixed connector)	27
3.4.1 Dimensions	27
3.4.2 Terminations	29
3.5 Plugs (free connectors)	29
3.5.1 Dimensions	29
3.5.2 Terminations	33
3.6 Accessories	33
3.7 Mounting information for jacks (fixed connectors)	33
3.7.1 Hole pattern on printed boards	33
3.7.2 Mounting on panels	33
3.8 Mounting information for plugs (free connectors)	33

3.9	Gauges	33
3.9.1	Sizing gauges and retention force gauges	33
3.9.2	Endurance, insertion and withdrawal force gauges	33
3.9.3	Probes.....	35
3.9.4	Contact resistance gauge.....	35
3.9.5	Test panel (for voltage proof test)	35
4	Characteristics.....	37
4.1	Climatic category.....	37
4.2	Electrical	37
4.2.1	Creepage and clearance distance	37
4.2.2	Voltage proof	37
4.2.3	Current-carrying capacity	37
4.2.4	Initial contact resistance	37
4.2.5	Initial insulation resistance	39
4.3	Mechanical	39
4.3.1	Mechanical operation	39
4.3.2	Insertion and withdrawal forces	41
4.3.3	Contact retention in insert	41
4.3.4	Polarizing method	41
5	Test schedule	41
5.1	General	41
5.1.1	Arrangement for contact resistance measurement.....	43
5.1.2	Arrangement for dynamic stress tests	43
5.1.3	Arrangement for testing static load, axial.....	43
5.1.4	Wiring of specimens.....	43
5.2	Test schedules	45
5.2.1	Basic (minimum) test schedule.....	45
5.2.2	Full test schedule.....	45
6	Quality assessment procedures	57
6.1	Qualification approval testing	57
6.1.1	Method 1	57
6.1.2	Method 2	57
6.2	Quality conformance inspection	59
6.2.1	Lot-by-lot tests	59
6.2.2	Periodic tests	59
6.3	Delayed delivery, re-inspection	61
Figure 1a	– Style A.....	23
Figure 1b	– Style B.....	25
Figure 2a	– Jack style A	27
Figure 2b	– Jack style B	27
Figure 3a	– Plug style A	29
Figure 3b	– Plug style B	31
Figure 4a	– Plug gauge style A	33
Figure 4b	– Plug gauge style B	35
Figure 5	– Test arrangement: contact resistance of centre electrode.....	39
Figure 6	– Test arrangement: contact resistance of outside electrode	39

Table 1 – Survey of styles	21
Table 2 – Description of jack	27
Table 3 – Dimensions of jack	29
Table 4 – Descriptions of plug	31
Table 5 – Dimensions of plug	31
Table 6 – Dimensions of plug gauge	33
Table 7 – Dimensions of plug gauge	35
Table 8 – Climatic category	37
Table 9 – Insertion and withdrawal forces	41
Table 10 – Number of specimens	43
Table 11 – Test group P	45
Table 12 – Test group AP	47
Table 13 – Test group BP	53
Table 14 – Test group LP	55
Table 15 – Qualification approval tests – Number of specimens	57
Table 16 – Quality conformance inspection, lot-by-lot tests	59
Table 17 – Periodic tests	61
Table 18 – Re-inspection	61

ITeH STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61076-2-102:2003

<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT –

**Part 2-102: Circular connectors with assessed quality –
Detail specification for plugs and jacks for external
low voltage power supply**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61076-2-102 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

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

FDIS	Report on voting
48B/1206/FDIS	48B/1226/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 3.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated when a new edition is prepared.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 61076-2-102:2003

<https://standards.iteh.ai/catalog/standards/sist/c82ac0de-50fb-4c1b-b54a-4a1d25cc9368/sist-en-61076-2-102-2003>