

Connectors for electronic equipment —

Part 2-103: Circular connectors — Detail specification for a range of multipole connectors (type “XLR”)

The European Standard EN 61076-2-103:2004 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN 61076-2-103:2004. It is identical with IEC 61076-2-103:2004.

The UK participation in its preparation was entrusted by Technical Committee EPL/48, Electromechanical components and medical equipment, to Subcommittee EPL/48/2, Connectors for electronic equipment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Summary of pages

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Connectors for electronic equipment
Part 2-103: Circular connectors –
Detail specification for a range of multipole connectors (type 'XLR')
(IEC 61076-2-103:2004)

Connecteurs pour équipements
électroniques
Partie 2-103: Connecteurs circulaires -
Spécification particulière pour une gamme
de connecteurs multipolaires (type 'XLR')
(CEI 61076-2-103:2004)

Steckverbinder für elektronische
Einrichtungen
Teil 2-103: Rundsteckverbinder -
Bauartspezifikation für eine Reihe
von mehrpoligen Rundsteckverbindern
(Typ "XLR")
(IEC 61076-2-103:2004)

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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/1413/FDIS, future edition 1 of IEC 61076-2-103, prepared by 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 61076-2-103 on 2004-05-01.

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) 2005-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2007-05-01

Endorsement notice

The text of the International Standard IEC 61076-2-103:2004 was approved by CENELEC as a European Standard without any modification.

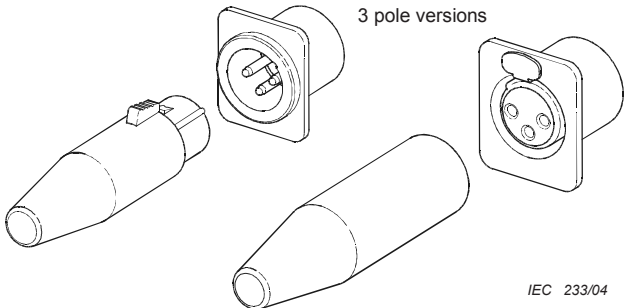
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CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 2-103: Circular connectors – Detail specification for a range of multipole connectors (type ‘XLR’)

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC SC 48B - Connectors	IEC 61076-2-103
ELECTRONIC COMPONENTS in accordance with IEC 61076-1: Generic specification	Blank detail specification IEC 61076-2-001
	A range of fixed and free circular multi-pole connectors, with common shell and mounting dimensions
	Fixed connectors are available in both panel and printed-board mounting versions. Also, versions are available with metal shells and others with moulded plastic shells
	Performance level(s): [Reserved] Assessment level(s): [Reserved] Combination of performance levels and assessment levels: [Reserved]
Information on the availability of components qualified to this detail specification is given in the qualified products list.	

1 General information

1.1 Scope

This part of IEC 61076 applies to a range of circular multi-pole connectors with or without latching device, having a nominal outer shell diameter of 19 mm, with 3 to 7 contacts (type 'XLR'). Fixed connectors are available in both panel-mounting and printed-board mounting versions.

These connectors are widely used in professional audio applications.

This part of IEC 61076 establishes uniform specifications, type testing requirements and quality assessment procedures for a subfamily of circular connectors. It should be used in conjunction with the applicable sectional specification, see 1.1 of IEC 61076-2.

1.2 Recommended method of mounting

For guidance on the application of connectors in mechanical structures, see IEC 60917-2-2.

Panel-mounted fixed connectors should normally be mounted using screws or bolts rather than rivets. Printed-board mounted connectors shall be mounted in accordance with the manufacturer's instructions. Cables shall be attached to free connectors in accordance with the manufacturer's instructions.

1.3 Number of contacts or contact cavities

This DS deals with connectors with 3 to 7 contacts.

1.4 Ratings and characteristics

Rated voltage: 50 V a.c.

Voltage proof: 1 000 V r.m.s.

Current rating at 70 °C: depends on version (see 4.2.3)

Insulation resistance:

initial: 10 GΩ

after damp heat: 500 MΩ

Climatic category: 25/070/04

Contact spacing: see drawings

1.5 Normative references

The following referenced documents are indispensable for the application 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 60352 (all parts), *Solderless connections*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 60917-2-2, *Modular order for the development of mechanical structures for electronic equipment practices – Part 2: Sectional specification – Interface coordination dimensions for the 25 mm equipment practice – Section 2: Detail specification – Dimensions for subracks, chassis, backplanes, front panels and plus-in units*

IEC 61076-1, *Connectors with assessed quality, for use in d.c., low frequency analogue and digital high speed data applications – Part 1: Generic Specification*

IEC 61076-2, *Connectors for use in d.c., low frequency analogue and digital high speed data applications – Part 2: Circular connectors with assessed quality – Sectional specification*

1.6 Marking

Each connector shall carry the following markings:

- mark of origin (manufacturer's name or mark);
- identification of the contact positions, in accordance with Clause 3;
- IEC type designation (see 1.7) or manufacturer's designation.

NOTE If a manufacturer's designation is used, a cross-reference list between manufacturer's and IEC designations should be included in the catalogue or specification sheet.

2 Technical information

2.1 Definitions

For the purpose of this part of IEC 61076, the definitions in 2.1 of IEC 61076-2 apply.

2.2 Survey of styles and variants

The first style letter designates the general form of the connector.

Table 1 – Designation of first style letter

Connector style	First style letter
Free, straight	A
Free, straight, for severe conditions (IP65)	B
Free, straight, with enhanced screening	C
Free, right-angle	D
Fixed, wire terminations	E
Fixed, wire terminations, with enhanced screening	F
Fixed, hybrid mounting, separable ^{a)}	H
Fixed, printed-board terminations	K
Fixed, printed-board terminations, with enhanced screening	L
Reserved for generic use ^{b)}	X
^{a)} The insert can be mounted on a printed board, while the shell is mounted to a panel. ^{b)} Where it is required to refer to all styles having V or H as the second letter, the designations XV or XH shall be used.	

The second style reference letter designates the orientation of mounting to a printed board:

Table 2 – Designation of second style letter

Orientation of mounting	Second style letter
Axis perpendicular to board surface	V
Axis parallel to board surface	H
Not a printed-board mounting style	X

2.3 Information on application

2.3.1 Complete connectors (pairs)

These connectors, especially 3 and 5 contact versions, are very widely used in the professional audio industry.

2.3.2 [Reserved]

2.3.3 [Reserved]

2.3.4 Accessories

2.3.4.1 Coding devices

Colour-coding rings and/or coloured cable bushings can be used with most styles of free connector.

2.3.5 Shielding/grounding

Some styles offer enhanced screening and a number of grounding options.

2.3.6 Shell finish

Some styles are available in either bright metal or black finish. Other finishes are possible.

2.3.7 Basic types of terminations

Three basic types of termination are standardised:

- solder bucket for wire termination
- solder tag for through-hole mounting on printed boards
- insulation-displacement

2.4 Contact arrangements

Five contact arrangements with 3 to 7 contacts are standardized. See 1.7 and 3.3.2.

3 Drawings and dimensions

3.1 General

Original dimensions in millimetres.

Drawings in first angle projection.

The shape of the connectors may deviate from those given in the following drawings as long as the specified dimensions are not influenced.