IEC 60320-2-1

Edition 3.0 2018-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Appliance couplers for household and similar general purposes – Part 2-1: Sewing machine couplers

Connecteurs pour usages domestiques et usages généraux analogues – Partie 2-1: Connecteurs pour machines à coudre

IEC 60320-2-1:2018-02(en-fr)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.120.30

ISBN 978-2-8322-5446-2

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CONTENTS

FOREWORD 3
INTRODUCTION 5
1 Scope 6
2 Normative references 6
3 Terms and definitions 6
4 General requirements 6
5 General notes on tests 6
6 Standard ratings 6
7 Classification of appliance couplers 7
8 Marking 7
9 Dimensions and compatibility 7
10 Protection against electric shock 8
11 Provision for earthing 8
12 Terminals and terminations 8
13 Construction 8
14 Moisture resistance 8
15 Insulation resistance and electric strength 8
16 Forces necessary to insert and to withdraw the connector/appliance outlet 9
17 Operation of contacts 9
18 Resistance to heating of appliance couplers for hot conditions or very hot conditions 9
19 Breaking capacity 9
20 Normal operation 9
21 Temperature rise 9
22 Cords and their connection 9
23 Mechanical strength 10
24 Resistance to heat and ageing 10
25 Screws, current-carrying parts and connections 10
26 Clearances, creepage distances and solid insulation 10
27 Resistance of insulating material to heat, fire and tracking 10
28 Resistance to rusting 11
29 Electromagnetic compatibility (EMC) requirements 11
Annex A (normative) Proof tracking test 12
Annex B (normative) Routine tests for factory wired appliance couplers related to safety 13
Annex C (normative) Test schedule 14
Annex D (informative) Comparison of typical conductor cross-sectional areas 15
Bilbliography 16

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES –

Part 2-1: Sewing machine couplers

FOREWORD

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International Standard IEC 60320-2-1 has been prepared by subcommittee 23G: Appliance couplers, of IEC technical committee 23: Electrical accessories.

This third edition cancels and replaces the second edition published in 2000. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Aligned with IEC 60320-1:2015.

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
23G/394/FDIS	23G/398/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-1 is to be used in conjunction with IEC 60320-1: *Appliance couplers for household and similar general purposes – Part 1: General requirements.* It was established on the basis of the third edition of that standard (2015).

The clauses of this standard supplement or modify the corresponding clauses of IEC 60320-1. When a particular subclause or annex of Part 1 is not mentioned in this Part 2-1, the subclause or annex of IEC 60320-1 applies without modification as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in IEC 60320-1 should be adapted accordingly.

Subclauses which are additional to those in Part 1 are numbered starting from 101.

In this particular standard the following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- explanatory matter: in smaller roman type.

A list of all parts in the IEC 60320 series, published under the general title, *Appliance couplers for household and similar general purposes,* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

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INTRODUCTION

Where in IEC 60320-1 the words "appliance coupler", "connector" or "appliance inlet" appear, they should be deleted and replaced by "sewing machine coupler", "sewing machine connector" or "sewing machine inlet", respectively.

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APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES –

Part 2-1: Sewing machine couplers

1 Scope

This clause of IEC 60320-1 is replaced as follows:

This part of IEC 60320 is applicable to special purpose appliance couplers for household sewing machines. These sewing machine couplers are for alternating current only and have a rated voltage not exceeding 250 V and a rated current not exceeding 2,5 A.

The sewing machine couplers can include two or more contacts depending on the control components or circuitry required to operate the sewing machine and can be with or without earthing contact.

2 Normative references

This clause of IEC 60320-1 applies with the following addition:

IEC 60320-1, *Appliance couplers for household and similar general purposes – Part 1: General requirements*

3 Terms and definitions

This clause of IEC 60320-1 applies with the following addition:

3.101
sewing machine coupler
appliance coupler used exclusively on sewing machines

Note 1 to entry:

It consists of two parts:

– the sewing machine connector, which is the part integral with, or intended to be attached to, the cord or cords;

– the sewing machine inlet, which is the part integrated in or incorporated in the sewing machine or its control or intended to be fixed to it.

4 General requirements

This clause of IEC 60320-1 applies.

5 General notes on tests

This clause of IEC 60320-1 applies.

6 Standard ratings

This clause of IEC 60320-1 applies amended as follows:

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6.2 *Replacement:*

The rated current of sewing machine couplers shall be not higher than 2,5 A.

7 Classification of appliance couplers

This clause of IEC 60320-1 applies amended as follows:

7.1 *Replacement*:

Sewing machine couplers are for cold conditions only (maximum pin temperature of the sewing machine inlet not exceeding 70 °C).

7.2 *Replacement*:

Sewing machine couplers are classified according to the type of sewing machine to be connected:

– sewing machine couplers for class I sewing machines;
– sewing machine couplers for class II sewing machines.

8 Marking

This clause of IEC 60320-1 applies.

9 Dimensions and compatibility

This clause of IEC 60320-1 applies amended as follows:

9.3 *Addition:*

For sewing machine couplers no standard sheets have been included, but the following dimensional requirements apply.

In sewing machine connectors, the socket contacts shall be recessed so as to comply with the distances specified in Clause 26. This dimension shall be equal, if possible, to the dimension specified on the standard sheet in IEC 60320-3 for a similar connector.

A sewing machine connector with entry holes having a diameter or a width not exceeding 3 mm and recessed not less than 3 mm, as measured from the engagement face, is considered to be acceptable, if these dimensions are similar to those given in Standard Sheets C1, C5 and C7 of IEC 60320-3.

The internal length of the socket contact shall be such that the contact overlap between the socket contact and the corresponding pin of the sewing machine inlets is not less than 4 mm.

Additional subclause (following 9.5):

9.101 Interchangeability

Sewing machine couplers shall not be interchangeable with connectors or appliance inlets complying with the standard sheets in IEC 60320-3.

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10 Protection against electric shock

This clause of IEC 60320-1 applies.

11 Provision for earthing

This clause of IEC 60320-1 applies.

12 Terminals and terminations

This clause of IEC 60320-1 applies amended as follows:

12.2 *Addition:*

Rewirable sewing machine connectors shall have terminals with a rated connecting capacity of 1 mm^2 for flexible conductors.

Additional subclause (following 12.2):

12.101 The terminal(s) in rewirable sewing machine connectors to which more than one conductor shall be connected, shall be checked with the number of conductors to be connected.

13 Construction

This clause of IEC 60320-1 applies with the following additions:

Additional subclauses (following 13.1):

13.101 Location of contacts

Sewing machine connectors shall not have contacts which are recessed in grooves or the like.

NOTE This requirement applies in all cases, even if the contacts are not accessible with the standard test finger.

Compliance is checked by inspection.

13.102 Connectors with additional SELV contacts

Sewing machine connectors containing contacts both for the supply voltage and for SELV shall be non-rewirable.

Compliance is checked by inspection.

14 Moisture resistance

This clause of IEC 60320-1 applies.

15 Insulation resistance and electric strength

This clause of IEC 60320-1 applies.

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16 Forces necessary to insert and to withdraw the connector/appliance outlet

This clause of IEC 60320-1 applies.

17 Operation of contacts

This clause of IEC 60320-1 applies.

18 Resistance to heating of appliance couplers for hot conditions or very hot conditions

This clause of IEC 60320-1 does not apply.

19 Breaking capacity

This clause of IEC 60320-1 applies.

20 Normal operation

This clause of IEC 60320-1 applies.

21 Temperature rise

This clause of IEC 60320-1 applies.

22 Cords and their connection

This clause of IEC 60320-1 applies amended as follows:

22.1 *Table 9 is replaced by the following table:*

Type of connector	Type of cord [a]	Nominal cross – sectional area mm^2
Sewing machine connector	60227 IEC 52 60245 IEC 53	0,75 0,75
NOTE Cords with cross-sectional area of 0,5 mm^2 can be used for cord lengths not exceeding 2 m according to IEC 60335-1 and IEC 60335-2-28. [a] Other cable or cord with equivalent properties may also be used.		

22.2.3 *Addition to the test specifications*:

If a sewing machine connector is provided with, or is intended to be fitted with, more than one cord, the test shall be made as follows:

– *non-rewirable sewing machine connectors shall be tested with the cords as delivered;*
– *rewirable sewing machine connectors shall be tested using the sizes and types of cords recommended by the manufacturer;*
– *the sewing machine connector shall be tested with each cord separately, any other cord being cut back to a length of approximately 100 mm.*

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