

**Harmonized system of quality assessment
for electronic components**

Sectional specification: Rectangular connectors for frequencies below 3 MHz

This European Standard EN 175300 : 1991 has the status of a
British Standard

Systeme Harmonisé d'Assurance de la Qualité
des Composants Electroniques
Specification Intermediaire: Connecteurs
rectangulaires pour frequences inferieures a
3 MHz

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik
Rahmenspezifikation: Rechteckige
steckverbinder für frequenzen unter 3 MHz

Cooperating organizations

The European Committee for Electrotechnical Standardization (CENELEC), under whose supervision this European Standard was prepared, comprises the national committees of the following countries.

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Norway
France	Portugal
Germany	Spain
Greece	Sweden
Iceland	Switzerland
Ireland	United Kingdom

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Contents

	Page
Cooperating organizations	Inside front cover
National foreword	i
Foreword	4
Text of EN 175300	6
National appendix NA (informative)	Inside back cover
National appendix NB (informative)	Inside back cover

National foreword

This British Standard has been prepared under the direction of the Electronic Components Standards Policy Committee and is the English language version of EN 175300 : 1991 'Sectional Specification : Rectangular connectors for frequencies below 3 MHz', published by the European Committee for Electrotechnical Standardization (CENELEC) Electronic Components Committee (CECC).

EN 175300 was produced as a result of international discussion in which the UK took an active part. This sectional specification is applicable to rectangular connectors particularly designed for use in equipment for telecommunications, electronic data processing and in electronic devices employing similar techniques.

Cross-references. The relationship between other international publications quoted in this standard and British Standards which are either identical or technically equivalent, is given in national appendix NB.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

UDC

Descriptors: Quality, electronic components, connectors

English version

Sectional Specification: Rectangular connectors for frequencies below 3 MHz

Spécification Intermédiaire:
Connecteurs rectangulaires pour fréquences
inférieures à 3 MHz

Rahmenspezifikation:
Rechteckige Steckverbinder für Frequenzen
unter 3 MHz

This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 4 June 1991. The text of this standard consists of the text of CECC 75 300 Issue 1 1989 of the corresponding CECC Specification. CENELEC members are bound to comply with 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 General Secretariat of the CECC 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 CECC General Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. The membership of the CECC is identical, with the exception of the national electrotechnical committees of Greece, Iceland and Luxembourg.

CECC

CENELEC Electronic Components Committee
Comité des Composants Electroniques du CENELEC
CENELEC Komitee für Bauelemente der Elektronik

General Secretariat: Gartenstr. 179, D-6000 Frankfurt/Main 70

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Documents

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CONTENTS

Clause	Page
FOREWORD	4
PREFACE	4
1. SCOPE	6
2. GENERAL	6
2.1 Related Documents	6
2.2 Terminology	7
2.3 Classification into Climatic Categories	7
2.4 Creepage and Clearance Distances	8
2.5 Current	8
2.6 Marking	9
2.7 Type Designation	9
3. GENERAL REQUIREMENTS - TEST AND TEST SCHEDULES	11
3.1 Workmanship	11
3.2 Testing	11
3.2.1 General Aspects	11
3.2.2 Pre-conditioning	11
3.2.3 Mounting of Specimens	11
3.2.4 Recovery	11
3.3 Test Schedules	11
3.3.1 Basic Test Schedule	12
3.3.2 Full Test Schedule	13
4. PREPARATION OF DETAIL SPECIFICATIONS (DS)	24
4.1 Titles of Detail Specification	24
4.2 Drawing Information	24

CONTENTS (contd.)

Clause		Page
4.3	System of Lettering	25
4.4	Contents of Detail Specification	25
5.	QUALITY ASSESSMENT PROCEDURES	26
5.1	Primary Stage of Manufacturing	28
5.2	Structurally Similar Components	28
5.3	System of Levels	28
5.4	Grouping of Tests	29
5.5	Qualification Approval Procedure	30
5.6	Maintenance of Qualification Approval	31
5.7	Withdrawal or Suspension of Qualification Approval	31
5.8	Significant Changes	32
5.9	Quality Conformance Inspection	32
5.10	Test Records	34
5.11	Delivery of Tested Connectors	34
5.12	Release for deliveries before the completion of Group B tests	34
5.13	Delayed Delivery	35
5.14	In-Process Testing	35
6.	PREPARATION OF DETAIL SPECIFICATIONS (DS)	35
<u>ANNEX A</u>	Common lettering system to be used on drawings	46

FOREWORD

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby accepted by all member countries without further testing.

This specification has been formally approved by the CECC, and has been prepared for those countries taking part in the System who wish to issue national harmonized specifications for RECTANGULAR CONNECTORS. It should be read in conjunction with the current regulations for the CECC System.

At the date of printing of this document the member countries of the CECC are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom, and copies of it can be obtained from the addresses shown on the blue fly sheet.

PREFACE

This sectional specification (SS) was prepared by CECC WG 25 'LOW frequency connectors'.

It is based, wherever possible, on the Publications of the International Electrotechnical Commission and in particular on IEC 807-1: Rectangular Connectors for frequencies below 3 MHz ; Part 1: General requirements and guide for the preparation of detail specifications.

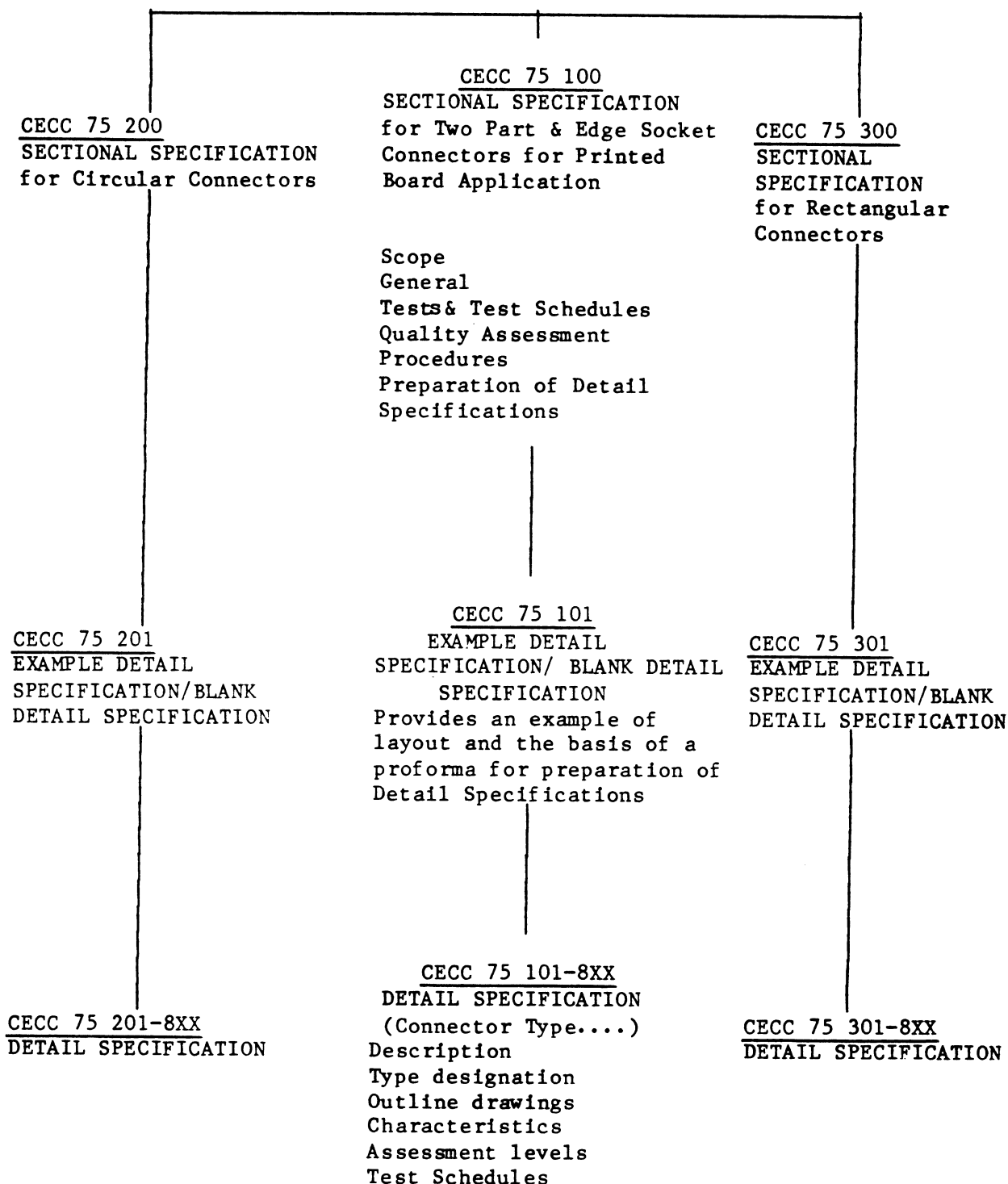
The text of this SS was circulated to the CECC for voting in the documents listed below and was ratified by the President of the CECC for printing as a CECC specification.

<u>Document</u>	<u>Date of Voting</u>	<u>Report on the Voting</u>
CECC(Secretariat)2015	24 July 1987	CECC(Secretariat)2103

NOTE: This specification does not conform completely with the requirements of CECC 00 400.

CECC SPECIFICATION SYSTEM

for 1f connectors



Note: Sectional specifications include generic data.

1. SCOPE

This sectional specification is applicable to rectangular connectors particularly designed for use in equipment for telecommunication, electronic data processing and in electronic devices employing similar techniques.

Connectors essentially designed for use at frequencies exceeding 3 MHz are not covered.

The object of this SS is to establish uniform specifications and type test requirements for rectangular connectors and to establish rules for the preparation of detail specifications.

In the event of conflict between this SS and the DS, the requirements of the DS, shall prevail.

2. GENERAL

2.1 Related documents

ISO R 1000	Rules for the use of units of the International system of units and selection of the decimal multiples and sub-multiples of the SI units
IEC 27	Letter symbols to be used in electrotechnology
IEC 50 (581)	International electrotechnical vocabulary (Electro-mechanical components for electronic equipment)
IEC 807-1	Rectangular Connectors for frequencies below 3 MHz, Part 1: General requirements and guide for the preparation of detail specifications
IEC 68	Basic environmental testing procedures
IEC 410	Sampling procedures and tables for inspection by attributes for electronic components of assessed quality (See CECC 00 007)
IEC 512	Electromechanical components for electronic equipment; basic testing procedures and measuring methods. (See CECC 00 009)
CECC 00 007	Harmonization document for IEC 410: Sampling procedures and tables for inspection by attributes for electronic components of assessed quality
CECC 00 009	Harmonization document for IEC 512: Basic testing procedure and measuring methods for Electromechanical Components
CECC 00 100 FEN	Basic Rules

2.2 Terminology

The terminology used in and applicable to this Specification is included in IEC 50 (581): International Electrotechnical Vocabulary (IEV) Chapter 581: Electromechanical Components for electronic equipment. IEC 512 Electromechanical Components for Electronic Equipment; Basic Testing Procedures and Measuring Methods also contains applicable terms.

For the purpose of this Specification the following additional terms and definitions shall apply:

2.2.1 Type

Connectors within a particular sub-family, such as rectangular connectors with blade contacts.

2.2.2 Style

A particular connector within a type.

2.2.3 Variant

Variations within a type and style, or within a group of related connectors.

2.2.4 Examples

Family : Connectors
Sub-Family : Rack and Panel connectors
Type : Rectangular, multipole connector with 2,5 mm blade contacts
Style: : Rectangular, fixed, free, adaptor etc.
Variant : Rectangular, number of contacts, terminations etc.

2.3 Classification into climatic categories

The connectors are classified into climatic categories in accordance with the general rules given in IEC Publication 68-1: Basic Environmental Testing Procedures, Part 1: General & Guidance.

The following preferred temperature ranges and severities of the damp heat steady state tests have been selected:

Category	Temperature range	Damp heat steady state	Identification code 1)
10/070/04	-10 °C to +70 °C	4 days	Under consideration
25/070/10	-25 °C to +70 °C	10 days	
25/085/10	-25 °C to +85 °C	10 days	
25/085/21	-25 °C to +85 °C	21 days	
40/085/21	-40 °C to +85 °C	21 days	
40/085/56	-40 °C to +85 °C	56 days	
40/100/10	-40 °C to +100 °C	10 days	
55/100/21	-55 °C to +100 °C	21 days	
55/125/21	-55 °C to +125 °C	21 days	
55/125/56	-55 °C to +125 °C	56 days	
65/155/56	-65 °C to +155 °C	56 days	

NOTE:1) Identification code to be used for CECC-type designation

2.4 Creepage and clearance distances

Permissible operating voltages depend on the application and on the applicable or specified safety requirements. Therefore, creepage and clearance distances as well as proof voltages under specified air pressure shall be specified in the DS.

2.5 Current

For each connector, the current carrying capacity shall be specified in the DS, preferably by the current temperature derating curve evaluated in accordance with Test 5b of IEC 512-3 : Electromechanical Components for Electronic Equipment: Basic Testing Procedures and Measuring Methods Part 3: Current-carrying Capacity Tests, or by at least one value of current and the associated temperature on this derating curve as well as the maximum operating temperature.

2.6 Marking

2.6.1 On the connector

Each connector shall have the following information marked upon it. Identification of the contact position as prescribed in the DS. If space does not permit full marking, as much as possible of the following in the order shown shall be included:

- (1) type designation
- (2) mark of origin (manufacturer's name or trademark)
- (3) date code, if explicitly required by the DS.

2.6.2 On the package

The information in 2.6.1 (1), (2) and (3) shall also be marked on the package.

2.7 Type designation

Connectors to which this specification applies shall be designated by the following indications and in the order given:

- (1) the number of the DS
- (2) the letters 'CECC' (alternatively ONH reference may be used, see § 7.2.3 of RP 11)
- (3) a letter denoting the style of the connector. (The system shall be specified in the DS)
- (4) the number of contacts of connectors or of contact cavities of connector bodies
- (5) a letter denoting the type of the contact

The following letters shall be used:

M male contact

F female contact

H hermaphroditic contact

- (6) a letter denoting the basic type of the terminations. The following letter shall be used:

A screw terminations

S solder terminations

C crimp terminations

W wrap terminations

T tab terminations

I insulation displacement
terminations

If necessary and explicitly specified in the DS, the type designation may optionally be extended to cover further information, e.g. climatic category, termination information etc., see CECC 75 301 EDS/BDS Rectangular Connectors.

- (7) Where the DS provides for a variation of performance and assessment levels, a single letter and a digit shall be used to denote Performance Level (PL) and Assessment Level (AL) respectively. The letter and digit shall be prescribed in the DS and shall be included as the final cyphers of the type designation.

3. GENERAL REQUIREMENTS, TESTS AND TEST SCHEDULES

3.1 Workmanship

The connectors shall be processed in a careful and workmanlike manner, in accordance with good current practice.

3.2 Testing

3.2.1 General aspects

All tests shall be in accordance with the requirements of IEC 512.

The DS shall prescribe the tests and test sequences in accordance with the SS and the number of specimens for each test sequence (not less than four).

Individual variants may be submitted to type tests for the approval of those particular variants.

It is permissible to limit the number of variants tested to a selection representative of the whole range for which approval is required (which may be less than the range covered by the DS), but each feature and characteristic shall be proved. This specification does not specify the number of permissible defects.

3.2.2 Preconditioning

Before the tests are made, the connectors shall be preconditioned under standard atmospheric conditions for testing for a period of 24 h, unless otherwise prescribed by the DS (See clause 5 of IEC 512-1).

3.2.3 Mounting of specimens

When mounting is required in a test, the connector shall be rigidly mounted on a metal plate and/or to specified accessories, whichever is applicable, using the normal mounting method, fixing devices, and panel cut-out as laid down in the DS, unless otherwise specified.

3.2.4 Recovery

Where conditioning is followed by recovery and subsequent measurements the specimens shall remain mated or unmated as they were during the conditioning, unless otherwise prescribed by the DS.

3.3 Test schedules

To provide for different applications of connectors, the extent of the test schedule may be different in the various DS.

The basic (minimum) test schedule is given in 3.3.1.

The DS shall call for the tests to be carried out, and shall specify the requirements to be fulfilled.

In no case shall the tests required by the DS be less than those listed in 3.3.1.

A full test schedule is laid down in 3.3.2.

For many connectors, an intermediate test schedule may be appropriate. It shall be formed by using the full test schedule and omitting entire groups and/or those tests and/or conditionings/measurements that are not necessary. Test phase numbers shall not be modified but used as given in 3.3.2.

Rectangular connectors may also be used when mounted in housings (but connectors and housings are often delivered as separate items). In this case, the connectors shall additionally be tested when mounted in housings. Test groups F, G and H of the full test schedule in 3.3.2 contain tests for connectors in housings. The conditioning sequence in Group F is in parallel to that of group A. The conditioning may thus be carried out for connectors and connectors in housings at the same time.

Where a DS claims additional characteristics which require testing, the appropriate existing or new tests shall be added. They may be specified in an additional test group.

3.3.1 Basic (minimum) test schedule

Where this test schedule is appropriate, the DS shall prescribe the following tests and shall specify the characteristics to be examined and the requirements to be fulfilled.

- | | | |
|-----|---|---------------------------|
| (1) | General examination | IEC 512-2, Test 1a and 1b |
| (2) | Insertion and withdrawal force | IEC 512-7, Test 13b |
| (3) | Contact resistance | IEC 512-2, Test 2a or 2b |
| (4) | Insulation resistance | IEC 512-2, Test 3a |
| (5) | Voltage proof | IEC 512-2, Test 4a |
| (6) | Applicable termination test, for example solderability for terminations type S. | |