
British Standard

Harmonized system of quality assessment for electronic components

Generic specification: Mercury wetted change-over contact units, mechanically biased

Système harmonisé d'assurance de la qualité des composants électroniques

Spécification générique : Contacts à deux directions mouillés mercure, polarisés mécaniquement

Harmonisiertes Gütebestätigungssystem für Bauelemente der Elektronik

Fachgrundspezifikation : Quecksilberbenetzte Kontakteinheiten mit mechanisch vorgespanntem Wechsler

National foreword

This British Standard has been prepared under the direction of the Electronic Components Standards Committee. It is identical with CENELEC Electronic Components Committee (CECC) 52000 : 1986 'Harmonized system of quality assessment for electronic components: Generic specification: Mercury wetted change-over contact units, mechanically biased'.

This standard, which serves both as a generic and sectional specification, gives the terminology, quality assessment procedures, test and measurement procedures, preferred values and the rules for writing detail specifications in respect of mechanically biased mercury wetted change-over contact units. Where the text would be identical with that applicable to dry reed make contact units, reference is made to the corresponding standard for those components, namely BS CECC 19000.

Any blank detail specification dealing with a particular sub-family of mechanically biased mercury wetted change-over contact units required to be used in conjunction with this standard will select those tests which are considered appropriate to the sub-family and may also give more detailed information relative to the sub-family. The test schedules and grouping of the tests to be prescribed in the blank detail specification are to be written in accordance with the requirements of clause 7 of BS CECC 19000 : 1979.

This standard is a harmonized specification within the CECC system.

Attention is drawn to BS 9000 'General requirements for a system for electronic components of assessed quality' which is the base document for BS CECC specifications.

Terminology and conventions. The text of the CECC specification has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Cross-reference

International standard	Corresponding British Standard
CECC 19000 : 1978	BS CECC 19000 : 1979 Harmonized system of quality assessment for electronic components: Generic specification: Dry reed make contact units (Identical)

The international text makes specific reference to a particular coaxial cable in table C on page 23 and to a specific winding wire in table A1 on page 28.

The coaxial cable designated 50-3-1 in accordance with IEC Publication 96 is directly equivalent to the cable designated Uniradio No. M76 Issue 1 in the related British Standard BS 2316 'Specification for radio-frequency cables', the detailed specification of which is given in Part 3 : 1969 'Cable data sheets'.

Winding wire which complies with IEC Publication 317-1 is closely similar to that complying with the related British Standard BS 4516 'Specification for enamelled copper conductors (polyvinyl acetal base with high mechanical properties)', Part 1 : 1969 'Round wire'.

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

English version

Harmonized System of Quality Assessment for
Electronic Components

GENERIC SPECIFICATION:

**MERCURY WETTED
CHANGE-OVER CONTACT UNITS,
MECHANICALLY BIASED**

Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION GENERIQUE:

**CONTACTS A DEUX
DIRECTIONS MOUILLES
MERCURE, POLARISES
MECANIQUEMENT**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

FACHGRUNDSPEZIFIKATION:

**QUECKSILBERBENETZTE
KONTAKTEINHEITEN MIT
MECHANISCH VORGESPANNTEN
WECHSLER**



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CECC 52000

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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 MERCURY WETTED CHANGE-OVER REED CONTACT UNITS MECHANICALLY BIASED. It should be read in conjunction with the current regulations for the CECC System.

At the date of printing of this specification 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.

PREFACE

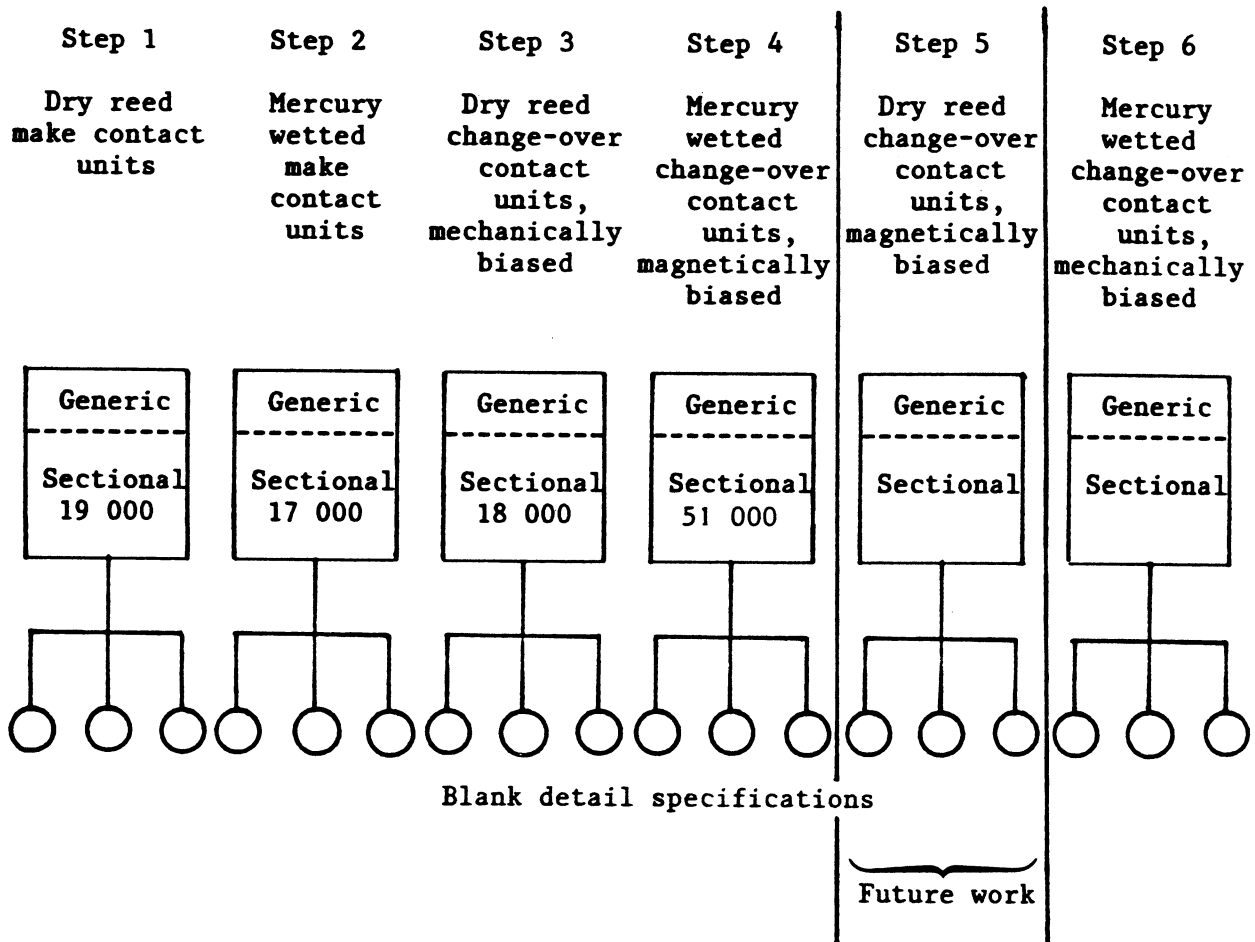
This generic specification was prepared by Working Group 19 : "Reed contact devices".

It is based, wherever possible, on the Publications of the International Electrotechnical Commission and on specification CECC 19 000 : Dry reed make contact units and it shall be used in conjunction with it.

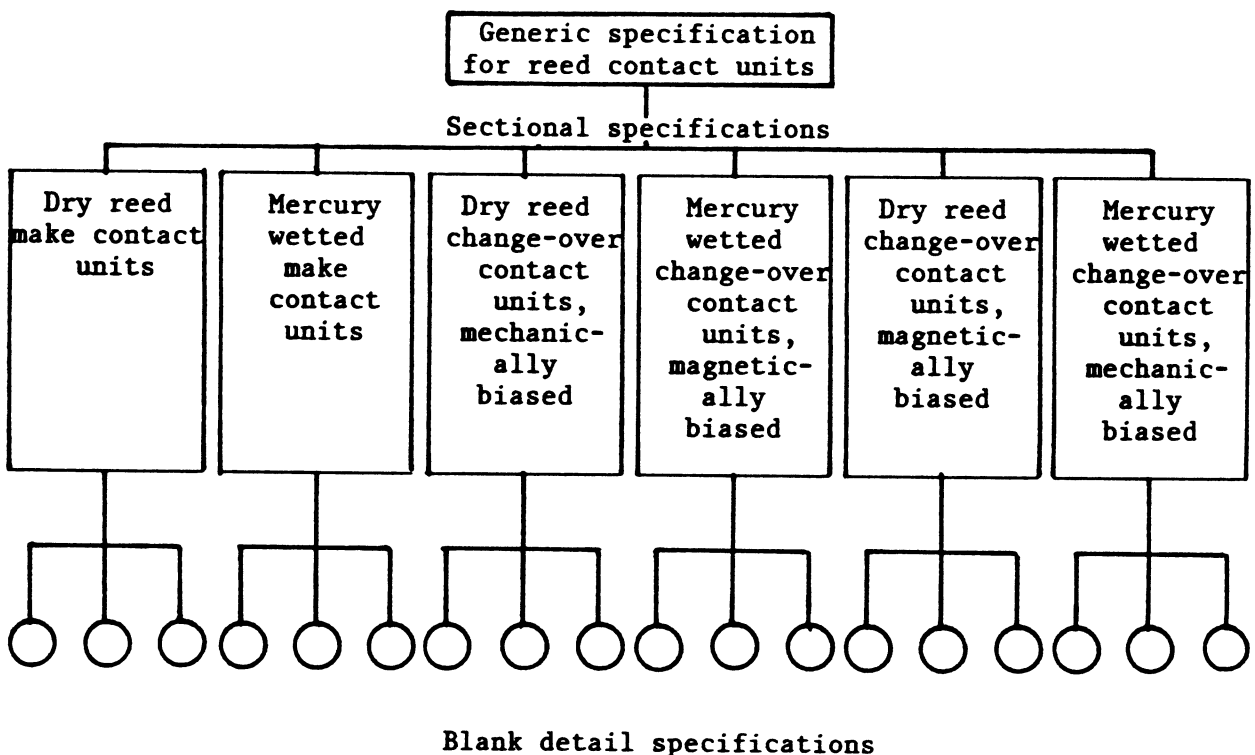
The text of this specification was circulated to the CECC for voting in the document listed below, and was ratified by the President of the CECC for printing as a CECC specification.

<u>Document</u>	<u>Voting Date</u>	<u>Report on the voting</u>
CECC(Secretariat)1641	October 1984	CECC(Secretariat)1754

The present scheme is as follows:



After completion of the different steps, the specifications will be reworked as follows:



SECTION 1 - SCOPE

This generic specification lists the test and measurement procedures which may be selected for use in detail specifications for mercury wetted change-over contact units mechanically biased of assessed quality. It also specifies the quality assessment procedures to be followed and lays down the rules for writing the corresponding detail specifications.

This specification applies only to those mercury wetted change-over contact units which are mechanically biased and operated by an applied magnetic field. This specification does not apply to units built with remanent magnetic material or permanent magnets.

Note : Because tests using a standard coil and standard resistive loads are the easiest to specify and define, this specification is currently restricted to tests of this type.

SECTION 2 - GENERAL

2.1 Related documents

The related documents for this specification are CECC 19 000 together with the documents listed in 2.1 of that specification.

2.2 Units, symbols and terminology

The requirements and definitions of 2.2 of CECC 19 000 apply, with the exception of 2.2.3 which is not applicable to mercury wetted contact units.

Note: For paragraphs 2.2.8, 2.2.9, 2.2.10, 2.2.11, 2.2.12, 2.2.13, 2.2.14 and 2.2.15 of CECC 19 000, figure 1 does not adequately illustrate the functional characteristics of mercury wetted change-over contact units, and reference should therefore be made to figure 1 of this specification.

2.2.1 Contact blade (for mercury wetted contact unit)

Metal blade providing either the functions of electric circuit through mercury or the magnetic circuit, or both functions combined.

2.2.2 Applied magnetic field

Externally generated magnetic field (e.g. by a test coil) intended to change the position of the contact.

2.2.3 Make Contact (Form A contact)

A make contact of a contact unit is physically open when there is no applied magnetic field. This is a normally open contact.

2.2.4 Break Contact (Form B contact)

A break contact of a contact unit is physically closed when there is no applied magnetic field. This is a normally closed contact.

2.2.5 Mercury wetted contact unit

Assembly containing contact blades, some or all of magnetic material, some or all mercury wetted, hermetically sealed in an envelope and controlled by means of externally generated magnetic field (e.g. an energizing quantity applied to a coil).

2.2.6 Change-over contact unit

A change-over contact unit contains a normally open and a normally closed contact within its envelope, one contact blade being common.

2.2.7 Change-over contact unit, mechanically biased

Change-over contact unit where the biasing, to determine the normally closed and normally open positions, is achieved mechanically.

2.2.8 Change-over break-before-make contact unit (form C contact)

Change-over contact unit, one contact circuit of which breaks before the other makes.

2.2.9 Change-over make-before-break contact unit (form D contact)

Change-over contact unit, one contact circuit of which makes before the other breaks.

2.2.10 Change-over contact unit with unspecified switching sequence (Form A + B contact)

Change-over contact unit where the switching sequence can be either make-before-break or break-before-make.

2.2.11 Operate position

Position where the make contact is closed and the break contact is open.

2.2.12 Release position

Position where the make contact is open and the break contact is closed.

2.2.13 Magnetic dwell

Difference in the values of applied magnetic field when the break contact just opens and the make contact just closes.

Note : For time definitions see also fig. 2B and 2C.