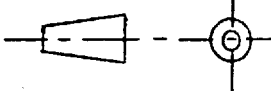


BRITISH STANDARDS INSTITUTION 2 PARK STREET, LONDON W1A 2BS	BS CECC 41 301 - 005 26 JANUARY 1984 ISSUE 2 PAGE 1 OF 17
SPECIFICATION AVAILABLE FROM: AS SHOWN IN PD 9002, CECC 00 200, AND CITEC LIMITED CHENEY MANOR SWINDON WILTSHIRE	 MANUFACTURER'S TYPE NUMBER MH1 SEE PD 9002 AND CECC 00 200
ELECTRONIC COMPONENTS OF ASSESSED QUALITY DETAIL SPECIFICATION IN ACCORDANCE WITH BS CECC 41 000 1977 BS CECC 41 300 1979	LOW POWER SINGLE TURN ROTARY POTENTIOMETERS
OUTLINE AND DIMENSIONS: FIRST ANGLE PROJECTION SEE APPENDIX A	 CONSTRUCTION: RESISTIVE ELEMENT: CARBON COMPOSITION SPINDLE: INSULATED FROM RESISTIVE ELEMENT SEALING: SPINDLE AND PANEL SEALED ASSESSMENT LEVEL "S"

All dimensions in millimetres.

TABLE 1

	Rated Dissipation (W at 70°C)		Limiting element voltage (V dc or ac rms)	Isolation voltage (V dc or ac peak)	
	Resistance law A	Resistance laws B & C		Normal air pressure	Low air pressure
AA	0.25	0.125	250	360	240

RATING AND CHARACTERISTICS

Resistance laws

Law A (linear) Resistance laws B & C
not applicable.

Resistance range

The range of values available in each law
and in each style is given in the Qualified
Products List.

Standard selection tolerances

±20% or 10%

Temperature characteristic of
resistance (20°C to 70°C) $\Delta R/R : \leq +6.5\%$
($\Delta R/R/\Delta T : \leq \pm 1300 \text{ ppm}/^\circ\text{C}$)

Climatic category

40/070/56

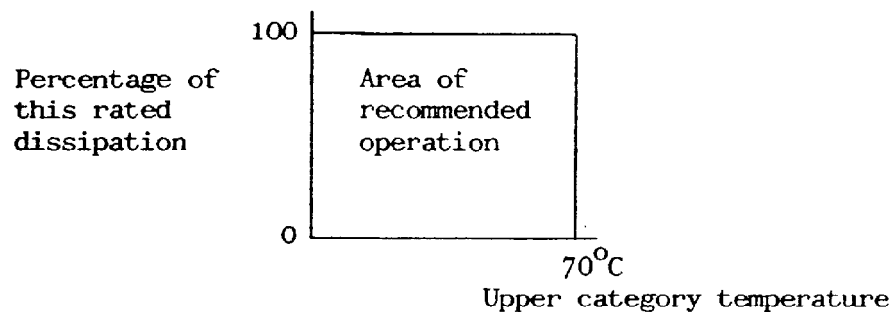
The preferred values are those of the E6 series of IEC 63. Where the use of intermediate values is essential, they should, wherever possible, be chosen from a series in that document

Refer to Qualified Products List PD 9002 and/or CECC 00 200 for details of
manufacturers approved to this specification.

Vibration severity	10 Hz to 500 Hz; 0,75 mm or 98 m/s ² (whichever is the less)
Bump severity	390 m/s ² ; 4,000 bumps
Low air pressure	8,5 k Pa (85 mbar)
Limits of resistance change (after 1,000 h electrical endurance test)	+15%
Starting torque	7,5 mNm to 90 mNm
Limiting slider current	75 mA
Terminal Resistance	≤25 for R ≤ 1K , ≤50 for R > 1K

1.1 Derating

Potentiometers covered by this specification are derated according to



2) Marking

2.1 The following marking information, in the order of importance given below, is required:

- 1) Rated resistance.
- 2) Tolerance on rated resistance.
- 3) Resistance law (if other than linear).
- 4) Detail specification and style.
- 5) Date of acceptance. A nationally approved code may be used.
- 6) Details of spindle and bush (if not implicit in (4) above). This may be in code form.
- 7) Manufacturer's name and trade mark.

2.2 The potentiometer shall be clearly marked with (1) and (2) above using, where practicable, one of the coding methods specified in IEC Publication 62, and with as many of the remaining items as is practicable.

2.3 The package containing the potentiometer shall be clearly marked with (1) to (7).

2.4 Any additional marking shall be so applied that no confusion can arise.

3) Related Documents

BS CECC 40 000 : 1977

BS CECC 41 300 : 1979

CECC 00 200 Qualified Products List

4) Ordering Information

Orders for potentiometers covered by this specification shall contain the following information:

Resistance value and tolerance

Resistance law

Number of the detail specification and style reference

Spindle and bush dimensions, if not implicit in the style reference (See Appendix A and B).

5) Certified Test Records

National Authorised Institutions shall indicate in this clause whether Certified Test Records shall be prepared in accordance with 3.5 of CECC 41 000.

6) Delayed Delivery

The provisions of CECC 41 000, 3.6 shall apply except that the Inspection Level shall be reduced to S-2 and (except for carbon compositions types) the period shall be extended to two years. The period for carbon composition types shall remain at one year.

7) Additional Information (Not for inspection purposes)

8) Inspection Requirements (See Table 2)

When drying is called for, Procedure 1 of 4.2 of CECC 41 000 shall be used.

The values representative of the whole approved range shall be tested within one year (Groups A, B & C only).

TABLE 2

BS CECC 41 301-005 Issue 2

Clause Number and Test (See Note 1)	D or ND	Conditions of Test	IL (See Note 2)	AQL	Performance Requirements (See Note 1)
<u>GROUP A INSPECTION</u> To be conducted on a sampling basis, lot-by-lot					
<u>Sub Group A1</u> 4.3.1 Visual Inspection	ND		II	4.0%	As in 4.3.1
<u>Sub Group A2</u> 4.3.2 Marking 4.5 Element resistance	ND		II	1.0%	As in 4.3.2 As in 4.5.1
<u>Sub Group A3</u> 4.3.3 Dimensions (gauging) 4.3.5 Total mechanical travel	ND		S-2	4.0%	As specified in App A $300^{\circ} \pm 10^{\circ}$
<u>Sub Group A4</u> 4.6 Terminal Resistance 4.15 Rotational noise 4.12 Voltage proof	ND	Resistance <u>a</u> to <u>b</u> Resistance <u>b</u> to <u>c</u> Method B Insulated styles only	S-2	4.0%	$R: \leq 25R$ for $R \leq 1K\Omega$ $\leq 50R$ for $R > 1K\Omega$ Ren: 2% of resistive element As in 4.12.5

Clause Number and Test (See Note 1)	D or ND	Conditions of Test	IL (See Note 2)	AQL	Performance Requirements (See Note 1)
<u>GROUP B INSPECTION</u> To be conducted on a sampling basis, lot-by-lot <u>Sub Group B1</u> 4.16 Starting torque - Sealing	D	Room temperature Appendix B to this document shall be used.	S-2	1.5%	7,5 mNm to 90 mNm As given in Appendix B
<u>Sub Group B2</u> 4.23.1 Soldering - Solderability	ND	Soldering iron method : Soldering iron : Size B Duration : $2 \pm 0,5$ s At 300°C to 350°C	S-2	1,5%	The terminations shall be examined for good tinning as evidence by free flowing of the solder with wetting of the terminations.
<u>GROUP C INSPECTION</u> To be conducted on a sampling basis, at the periodicity given in column "P". <u>Sub Group C1</u> 4.18 End stop torque 4.20 Thrust and pull on the spindle	D	Visual examinaiton a) As specified in 4.20.2 Continuity (3 specimens) b) As specified in 4.20.3 (3 specimens) c) As specified in 4.20.4 (2 specimens) Visual examination	Sample size & criterion of acceptability (See Note 3)		
			P	n	c
			3	8	1
			As in 4.18.1 As in 4.20.2 $\Delta \frac{V_{ab}}{V_{ac}} \leq 3\%$ As in 4.20.4		

Clause Number and Test (See Note 1)	D or ND	Conditions of Test	Sample size & criterion of acceptability (See Note 3)			Performance Requirements (See Note 1)
			P	n	c	
4.30 Mechanical endurance (potentiometers)		See Note 4 Number of cycles: 2500 Rate: 15 cycles per min Visual examination Element resistance Starting torque Rotational noise Method B				As in 4.30.6 $\Delta R/R : \leq +10\%$ 7,5 mNm to 90 mNm $R_{EN} : \leq 4\%$ of element resistance