

**Harmonized blank
detail specification for
lead screw actuated
non-wirewound preset
potentiometers —
Square form, container
sealed, actuating device
insulated from resistive
element, slipping clutch
at each end of travel,
rigid terminations —**

Assessment level S

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 20 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
1 Ratings and characteristics	3
2 Marking	3
3 Related documents	4
4 Ordering information	4
5 Certified test records	4
6 Delayed delivery	4
7 Additional information	4
8 Inspection requirements	4
Appendix A Dimensional patterns	14
Table 1 — Style reference	1
Table 2	2
Table 3	2
Table 4	5

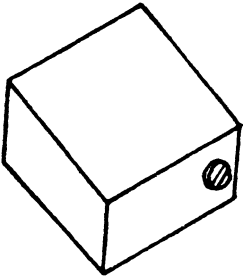
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH CECC 41000 and CECC 41100.	ISSUE 1
Form S series Dimensional Patterns see Appendix A  For individual details see Table 1 and Table 2 and Appendix A.	LEAD SCREW ACTUATED PRESET POTENTIOMETERS, SQUARE FORMS.
	CONSTRUCTION: CONTAINER SEALED RESISTIVE ELEMENT: NON-WIREWOUND ACTUATING DEVICE: INSULATED FROM RESISTIVE ELEMENT. SLIPPING CLUTCH: AT EACH END OF TRAVEL RIGID TERMINATIONS: SUITABLE FOR MOUNTING ON PRINTED WIRING BOARDS
	ASSESSMENT LEVEL “S”

Table 1 — Style reference (See Note)

Detail specification number CECC 41101-007	Dimensional Pattern (See Appendix A)															
	SO1A	SO1B	SO1C	SO2A	SO2B	SO2C	SO3A	SO3B	SO3C	SO4A	SO4B	SO5A	SO5B	SO6A	SO6B	
X	A*	B*	C*	D*	E*	F*	G*	H*	J*							
Y	A*	B*	C*	D*	E*	F*	G*	H*	J*							
Z										A*	B*	C*	D*	E*	F*	
NOTE Asterisk to be replaced by the letter appropriate to the temperature characteristic (See “Ratings and Characteristics”). The style reference code show here is arbitrarily chosen and relates to this detail specification only.																

See the current Qualified Products List for the availability of components qualified to this detail specification.

Table 2

Detail Specification Number CECC 41101-007	Climatic category	Limits of resistance change (%ΔR)		Rotational noise		Limiting slider current (mA max)
		Climatic sequence Damp heat, steady state Mechanical endurance Electrical endurance at 70 °C (a – c) Electrical endurance at upper category temperature (a – e)	Electrical endurance at 70 °C (a – b) Electrical endurance at upper category temperature (a – b)	R < 100 Ω	R > 100 Ω	
X	55/125/21	ΔR: < ± (3 % R + 0,1 Ω)	ΔR: < ± (5 % R + 0,1 Ω)	≤ 5 Ω	≤ 5 % R	
Y	55/125/56	ΔR: < ± (2 % R + 0,1 Ω)	ΔR: < ± (3 % R + 0,1 Ω)	≤ 3 Ω	≤ 3 % R	100
Z	55/125/21	ΔR: < ± (3 % R + 0,1 Ω)	ΔR: < ± (5 % R + 0,1 Ω)	≤ 5 Ω	≤ 5 % R	

Detail Specification Number CECC 41101-007	Rated dissipation (W at 70 °C)	Limiting element voltage (V d.c. or a.c. r.m.s.)	Isolation voltage (V d.c. or a.c. peak)	
			Normal	Low air pressure
X	0,5			
Y		250	350	200
Z	0,25	200	300	200

Table 3

Rated resistance	Rated voltage or limiting element voltage	Dissipation at 70 °C	Limiting slider current	Rated resistance	Rated voltage or limiting element voltage	Dissipation at 70 °C	Limiting slider current
Ω	v	w	mA	Ω	v	w	mA
22	3,3	0,5	100	22	2,4	0,25	100
47	4,8	↑	100	47	3,4	↑	73
100	7,0		70	100	5,0		50
220	10,5		47	220	7,4		34
470	15,3		32	470	10,8		23
1 000	22,4		22	1 000	15,8		16
2 200	33,2		15	2 200	23,5		11
4 700	48,5		10	4 700	34,3		7,3
10 000	70,7		7	10 000	50,0		5,0
22 000	105		4,7	22 000	74,2		3,4
47 000	153		3,2	47 000	108		2,3
100 000	223	0,5	2,2	100 000	158	0,25	1,6
220 000	250	0,28	1,1	220 000	200	0,18	0,91
470 000	250	0,13	0,53	470 000	200	0,09	0,42
1 000 000	250	0,06	0,25	1 000 000	200	0,04	0,20

CECC 41101-007X
and
CECC 41101-007Y

CECC 41101-007Z

1 Ratings and characteristics

^aResistance range

Standard selection tolerances

Temperature characteristic of resistance (20° to 70 °C)

Climatic category

Vibration severity

Bump severity

or

Shock severity

Low air pressure

Limits of resistance change (a – c) (after 1 000 h electrical endurance test)

Starting torque

Total mechanical travel

Limiting slider current

Rotational noise

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

± 20 %, ± 10 % or ± 5 %

Code letter	Δ R/R (20/70)	Temp. coeff. (10 ⁻⁶ /K)
K	± 0,5 %	± 100
L	± 0,75 %	± 150
V	± 1,25 %	± 250

See Table 2

10 Hz to 500 Hz; 0,75 mm or 98 m/s² (whichever is the less severe)

390 m/s²; 4 000 bumps

490 m/s²; 11 ms

8,5 kPa (85 mbar)

See Table 2

≤ 35 mN.m

See Appendix A

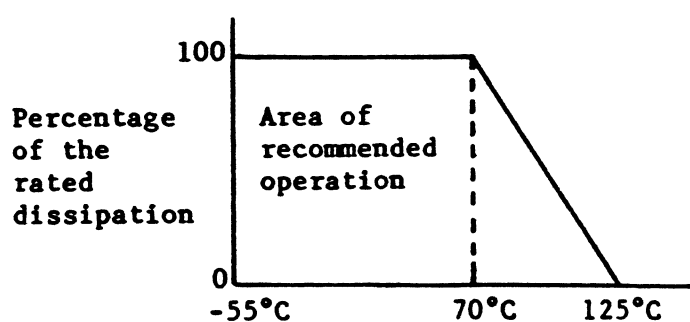
See Table 2

See Table 2

^a The preferred values are those of the E3 series of IEC 63. Where the use of intermediate values is essential, they should, wherever possible, be chosen from a series in that document.

1.1 Derating

Potentiometers covered by this specification are derated according to the curve:



When mounted in conditions which severely limit circulation of air around the potentiometer (i.e. when stacked) further derating may be necessary.

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) Detail specification and style
- 4) Date of acceptance. A nationally approved code may be used.
- 5) 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 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 5)

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

3 Related documents

IEC 62	—	<i>Marking Codes for resistors and capacitors</i>
IEC 63	—	<i>Preferred number series for resistors and capacitors</i>
IEC 68	—	<i>Basic environmental testing procedures for electronic components and electronic equipment.</i> (See CECC 00006, 1973)
IEC 410	—	<i>Sampling procedures and tables for inspection by attributes for electronic components of assessed quality.</i> (See CECC 00007, 1978)
CECC 00006	—	<i>Basic specification: Environmental test procedures</i> (1973).
CECC 00007	—	<i>Basic specification: Sampling plans and procedures for inspection by attributes</i> (1978)
CECC 00200	—	<i>Qualified Products List</i>
CECC 41000	—	(1976) <i>Generic specification for potentiometers</i>
CECC 41100	—	(1978) <i>Sectional specification for lead-screw actuated and rotary preset potentiometers.</i>

4 Ordering information

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

- Resistance value and tolerance
- Number of the detail specification and style reference
- Dimension “F”, if different to that prescribed (See Notes in A.3 of Appendix A)

5 Certified test records

Not required.

6 Delayed delivery

The provisions of 3.6 of CECC 41000 shall apply except that the Inspection level shall be reduced to S-2 and the period shall be extended to two years.

7 Additional information (Not for inspection purposes)

7.1 Resistance law

The resistance law of potentiometers covered by this detail specification approximates to that for a linear law as given in Figure 3 of CECC 41000.

7.2 Limiting conditions

The limiting conditions for voltage and current as a function of resistance for linear law potentiometers at a temperature of 70 °C are given in Table 3.

8 Inspection requirements

8.1 When drying is called for, Procedure I of 4.2 of CECC 41000 shall be used.

8.2 When it is desired to obtain qualification approval by adopting the fixed sample size procedure, use shall be made of the test schedule given for that purpose in CECC 41100.

The conditions of test and the performance requirements shall be identical to those prescribed for quality conformance inspection in this specification.

8.3 In the quality conformance inspection the values representative of the whole approved range shall be tested within one year (Groups A, B and C only).