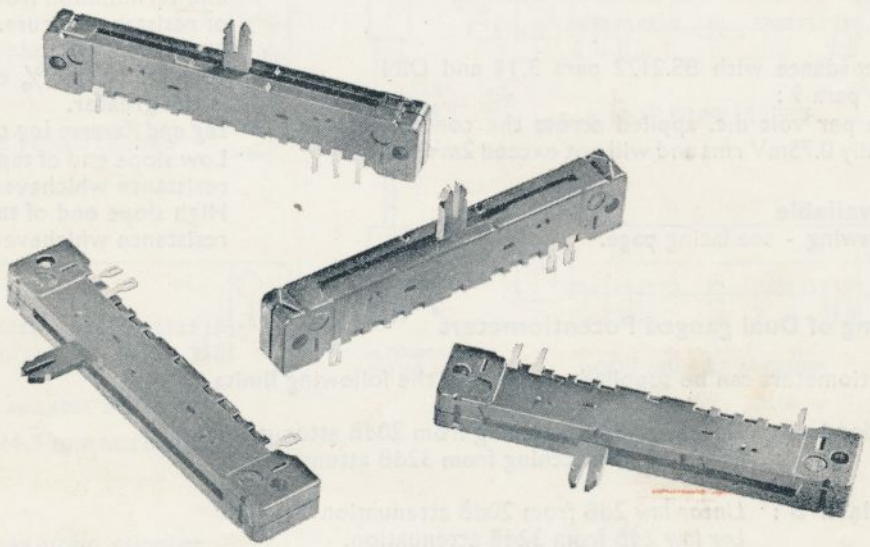
SERIES 158

CARBON COMPOSITION POTENTIOMETERS

- ☐ **0.4 watt at 40° C Lin**
- ☐ **Low Noise**
- ☐ **Resistance Range 100Ω to 10MΩ linear 1KΩ to 5MΩ log**
- ☐ **Laws — linear, log, semi-log, reverse log. Other laws available on application.**



- ☐ **Solder lug or printed circuit terminals**
- ☐ **Flame retardant body**
- ☐ **Metal wiper or carbon brush**
- ☐ **Optional Earth Screen**

ELECTRICAL SPECIFICATION

Resistance Range
100Ω to 10MΩ linear
1KΩ to 5MΩ log.

Terminal Resistance
Resistance between end termination and contact wiper at either end of travel

Standard- Linear: To BS.2122
Log: To BS2122 at low end of track
At high end of track to A.B. Specification (equivalent to DIN 41450 type B)
i.e. ≤2% overall value.

Specials. Resistance down to 1 ohm can be supplied.

Continental requirements. Terminal resistance to Spec. DIN 41450 can also be supplied.

Limiting Element Voltage
(providing power rating is not exceeded)
500Vd.c. maximum linear
350Vd.c. maximum log.

Tolerance
Standard ±20%
2M ohm and above ±30%
at taps ±30%.

Power Rating at 40° C Ambient Temperature
0.4 watt for linear controls
0.2 watt for log controls
At 70° C ambient temperature power rating will be half that at 40° C.

Insulation Resistance
> 5000MΩ at 500Vd.c. measured between collector terminal and element together with screen.

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SERIES 158

CARBON COMPOSITION POTENTIOMETERS

Laws
Linear, log, semi-log, reverse log.
Other laws available on application.
All laws are referenced from terminal A.

Terminals
Solder lug terminals
Printed circuit terminals.

Noise
In accordance with BS.2122 para 3.11 and DIN 41450 para 9 :
Noise per volt d.c. applied across the controls typically 0.75mV rms and will not exceed 2mVrms

Taps available
As drawing - see facing page.

Voltage Proof
1000Va.c. measured between collector terminal and element together and screen.

Hop-on Resistance
Resistance between an end termination and contact wiper in the position adjacent to that end termination from which progressive increase of resistance occurs.
Linear Controls :
50 ohm or 0.05% of total resistance whichever is the greater.
Log and Reverse Log controls :
Low slope end of taper - 50 ohm or 0.05% of total resistance whichever is the greater.
High slope end of taper - 50 ohm or 1% of total resistance whichever is the greater.

Matching of Dual ganged Potentiometers

Potentiometers can be supplied matched to the following limits :

Standard A : *Linear law* 3dB matching from 20dB attenuation.
Log law 3dB matching from 32dB attenuation.

Standard B : *Linear law* 2dB from 20dB attenuation
Log law 2dB from 32dB attenuation.

Specials : *Continental requirements:*
Linear law 3 or 2dB matching from 7mm linear movement.
Log law 3dB matching from 7mm linear movement.

MECHANICAL SPECIFICATION

Mechanical Travel
58mm (2.28m).

Effective Travel
54mm (2.126in)

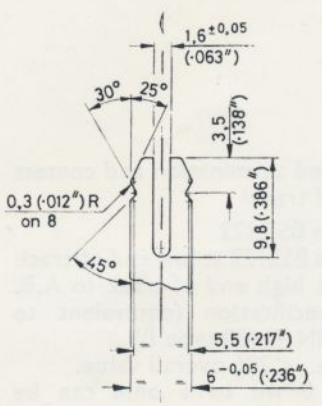
End Stop Force
≧50N (175oz)

Operating Force
Single 0,5 - 1,5N (1.75 - 5.25oz)
Dual 1,0 - 3,0N (3.5 - 10.5oz)

Fixings
Standard: 2 x M3 nuts and 80mm centres.
Special: Front mounting on 100mm centres.

Slider Actuator

(see drawing below)



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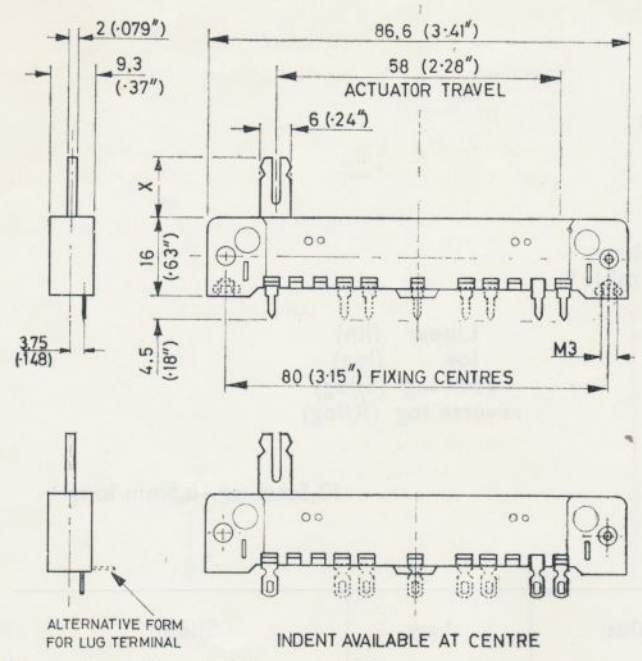
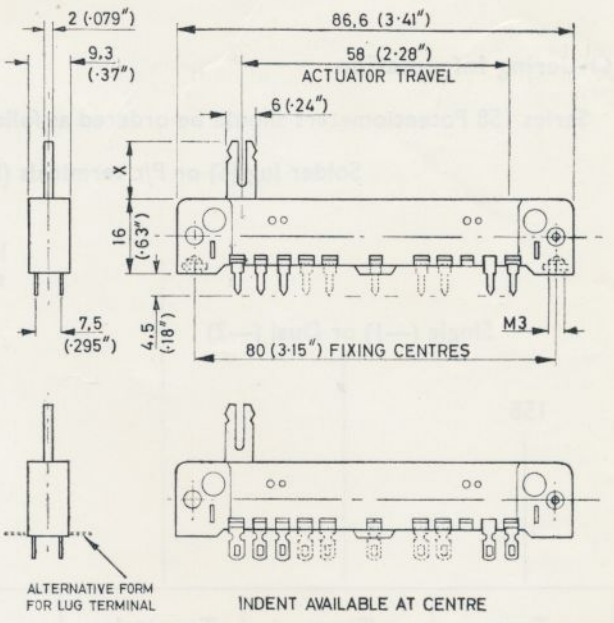
SERIES 158

CARBON COMPOSITION POTENTIOMETERS

Single Type 158 - 1

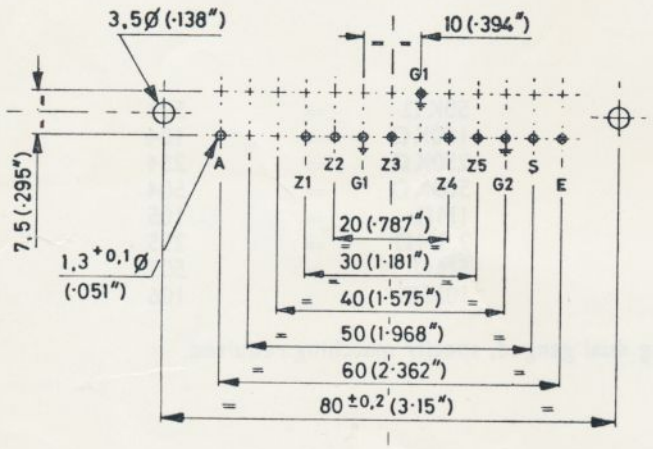


Dual Type 158 - 2

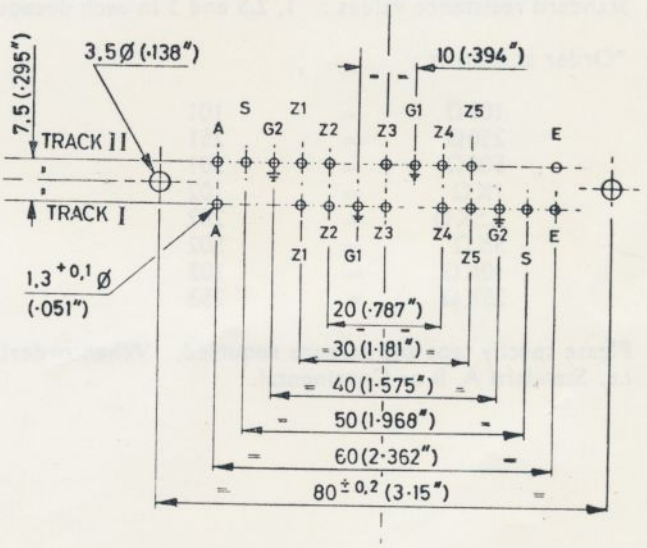


Dimension. X = 12,5mm or 16,5 mm as required.

VIEW OF MOUNTING SURFACE



VIEW OF MOUNTING SURFACE



A	Element start.	
S	Collector terminal	
G_2	Inner screen	
Z_1	25% tap	(if required)
Z_2	33% tap	
G_1	Side screen	
Z_3	50% tap	
Z_4	66% tap	
Z_5	75% tap	
E	Element end.	

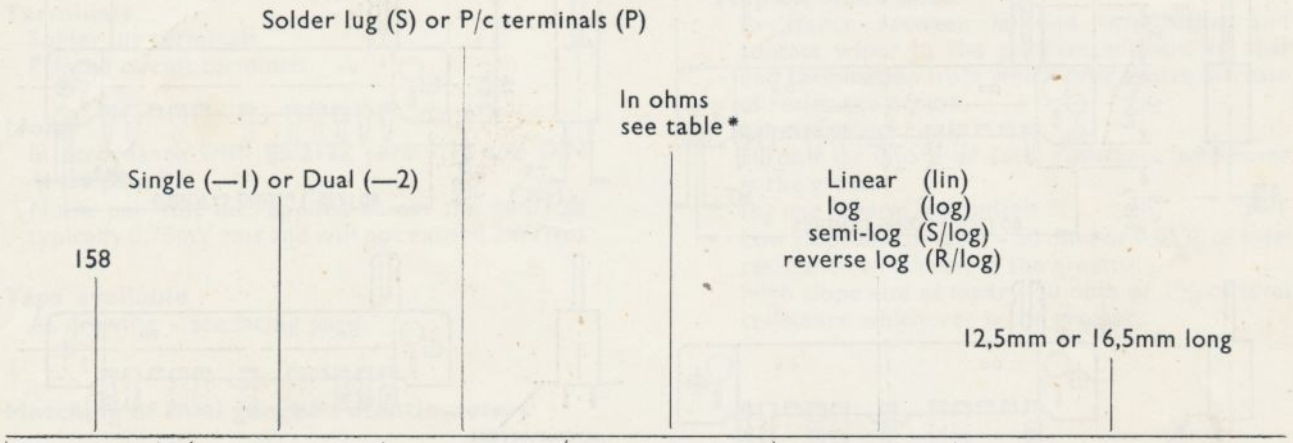
AI	AII	Element start	
SII	SI	Collector terminal	
G_2II	G_2I	Inner screen	
Z_1I	Z_1II	25% tap	(if required)
Z_2I	Z_2II	33% tap	
G_1I	G_1II	Side screen	
Z_3I	Z_3II	50% tap	
Z_4I	Z_4II	66% tap	
Z_5I	Z_5II	75% tap	
EI	EII	Element end.	

SERIES 158

CARBON COMPOSITION POTENTIOMETERS

Ordering Information

Series 158 Potentiometers should be ordered as follows :



Example:

158	—	—1	—	S	—	103	—	S/log	—	16,5mm

Standard resistance values : 1, 2.5 and 5 in each decade

*Order as follows :

100Ω	=	101	50KΩ	=	503
250Ω	=	251	100KΩ	=	104
500Ω	=	501	250KΩ	=	254
1KΩ	=	102	500KΩ	=	504
2.5KΩ	=	252	1MΩ	=	105
5KΩ	=	502	2.5MΩ	=	255
10KΩ	=	103	5MΩ	=	505
25KΩ	=	253	10MΩ	=	106

Please specify taps and screens required. When ordering dual ganged, specify matching required.
i.e. Standard A, B or Continental.

The Company reserves the right to change the specification at any time, without prior notice

A.B. Controls
Abercynon Glamorgan CF45 4SF Gt. Britain
Tel: Abercynon (044-374) 331 *Telex:* 49606 *Cables:* Abec. Abercynon Telex
A Division of A.B. Electronic Components Ltd.

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PP/G74/114.00/Issue 1

Type 158 Slider
0·4 watts at 40°C

ELECTRICAL SPECIFICATION

Resistance range	100Ω to 1MΩ linear. 1kΩ to 10MΩ log.
Law	Linear.
Tolerance	Standard ±20%.
Power rating at 40°C Ambient temperature	0.4 watt for linear controls, provided element voltage is not exceeded. At 70°C ambient temperature power rating will be half that at 40°C.
Voltage rating	Across resistive element 500V DC maximum linear, provided power rating is not exceeded.
Insulation resistance	>5GΩ.
Voltage proof	1000V AC.
Terminal Resistance	Resistance between end terminations and contact wiper at either end of travel 50Ω or 0.5% of total resistance whichever is the smaller, subject to a standard minimum of 5Ω.
Hop-on resistance	Resistance between an end termination and contact wiper in the position adjacent to that end termination from which progressive increase of resistance occurs. 50Ω or 0.05% of total resistance whichever is the greater.
Noise	Noise per volt DC applied across the controls when measured in accordance with para. 3.1 B.S. 2122 is typically 0.75mV rms and will not exceed 2mV rms
Terminals	Solder lug terminals

MECHANICAL SPECIFICATION

Mechanical travel	58×1.0 mm (2.28 in)
Effective travel	54 mm (2.126 in).
Operating force	50-150p (1.75-5.25 oz)
End Stop Force	⩾5kp (175 oz)
Fixings	2 × M3 nuts & bolts 80 mm centres.

REFERENCE TABLE

Code	Value	Stock No.
158/1K/LIN	1K	42240F
158/2K5/LIN	2K5	42241D
158/5K/LIN	5K	42242B
158/10K/LIN	10K	42243X
158/25K/LIN	25K	42244R
158/50K/LIN	50K	42245G
158/100K/LIN	100K	42246E
158/500K/LIN	500K	42247C
158/1M/LIN	1M	42248A
158/10M/LIN	10M	42249X
158/1K/LOG	1K	42250B
158/2K5/LOG	2K5	42251X
158/5K/LOG	5K	42252R
158/10K/LOG	10K	42253G
158/25K/LOG	25K	42254E
158/50K/LOG	50K	42255C
158/100K/LOG	100K	42256A
158/500K/LOG	500K	42257X
158/1M/LOG	1M	42258H