

Blore Edwards Series 45 Potentiometers

WE'RE IN CONTROL

General characteristics of Series 45 Carbon Track Potentiometers

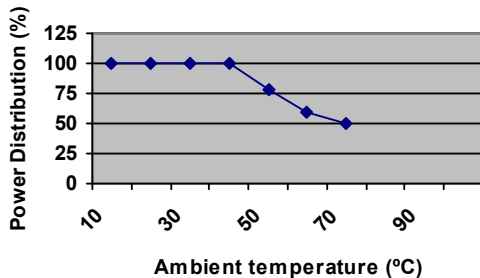
The Series 45 Carbon Composition Potentiometer has a proven track record in all aspects of the electronics industry, and can claim to be among the most versatile general purpose potentiometers available.

Our Series 45 potentiometers are highly customisable and are available as single, dual, triple, quad and five gang units. In addition to this we can fit all our pots with our in house AR Mains switch which can also be made in a numbers of variations from standard double pole, double throw to more bespoke options such as reverse action off on. Standard pots are fitted with a plastic shaft, but all are available with metal shafts. In May 2017 we re-introduced the knurled and slotted brass shaft model for guitars, a decision driven by customers looking for an alternative to the more commonly used CTS models. In addition, to this, the Series 45 is customisable even further by our wide range of resistance values, in linear, logarithmic and reverse logarithmic laws, our shaft options, termination options and bushing options. We can also offer different torque settings on our metal shaft potentiometers from our standard 0.7Ncm to a much higher torque of 3.6Ncm, with varying degrees in between to suit your requirements. This is particularly useful for audio applications where the feel of the pot is critical.

STANDARD RESISTANCE ELEMENT DATA

Standard resistance values (Ω Ohms)	Maximum power (W)	Maximum working voltage (V)	Max current through element at 40°C (mA)	Standard resistance values (Ω Ohms)	Maximum power (W)	Maximum working voltage (V)	Max current through element at 40°C (mA)
500	0.5	15.8	31.6	100K	0.5	224	2.2
1K	0.5	22.4	22	250K	0.5	353	1.4
2.5K	0.5	35.3	14	500K	0.5	500	1.0
5K	0.5	50	10	1M	0.5	500	0.05
10K	0.5	70.7	7.1	2.5M	0.5	500	0.02
25K	0.5	111.8	4.5	5M	0.5	500	0.01
50K	0.5	158	3.2	10M	0.5	500	0.005

OPERATING CURVE



MECHANICAL SPECIFICATION

Mechanical Rotation

300° +/- 5° without switch

320° +/- 5° with switch

Operating Torque

0.7 - 3.6 Ncm

End Stop Torque

113Ncm minimum

Resistor Adjustment

Integral moulded spindle

Plug-in metal spindle

Integral metal spindles (outer and inner)

Integral metal spindle (outer) integral moulded spindle (inner)

*Lengths, diameters and end configurations are customisable.

Terminal options

Solder, Printed circuit, wire wrap

Mounting Details

Bush 9.5mm diameter diecast bush, 32 TPI Whitworth form

6.35mm diameter diecast bush, 32 TPI Whitworth form

Locating key, 7.9mm long located left (terminals down, viewed from spindle end).

Locating key fits 3.2mm diameter hole on an 11.1mm radius.

Each potentiometer comes supplied with one fixing nut and one internal tooth lock washer

M10 diecast bush, M10x0.75x8mm long with standard or DIN locating key.

Bushes of other lengths and materials are available upon request

ELECTRICAL SPECIFICATION

Effective Rotation

270° +/- 5°

Resistance Range

500 Ω to 10M Ω Linear

1K Ω to 10M Ω Logarithmic (positive and negative laws)

Non standard resistance values are available on request

Resistance Tolerance

Standard +/- 20% for values to 1M Ω

+/- 30% for values above 1M Ω

Special +/- 10%

Laws

Linear, Log, Reverse Log.

Other specials available on request.

Insulation Resistance

>5000M Ω

Voltage Rating

500V d c maximum

Terminal Resistance

Linear: 0.5% RN

Log: low slope end 0.5%

high slope end 2.0%

Standard minimum resistance value 5 Ω

Voltage Proof

1.5 kV peak minimum

Temperature Range

-25°C to 70°C

Temperature Coefficient
Typically +/- 500 ppm

Power Rating at 40°C Ambient Temperature
0.5W Linear
0.25W Logarithmic

Matching

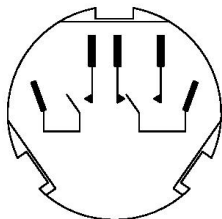
Controls can be supplied matched to the following limits:
STANDARD A: Linear Law 3dB matching from 20dB attenuation
Log Law 3dB matching from 32dB attenuation
STANDARD B: Linear Law 2dB matching from 20dB attenuation
Log Law 2dB matching from 32dB attenuation

MAINS SWITCH-TYPE AR

The Series 45 can be fitted with our AR Mains switch. Simply choose the part number from the drawings below.
The switch is rated at 2A/250V with a surge rating of 64A

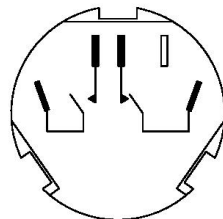
MAINS SWITCH CONTACT ARRANGEMENT.

□AR-32640-001



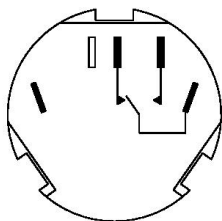
DPST OFF-ON
ON-ON

□AR-32642-001



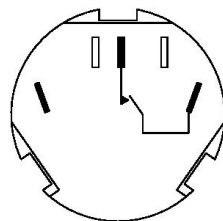
DPST OFF-ON
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□AR-32645-001



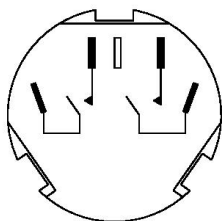
SPST ON-ON

□AR-32647-001



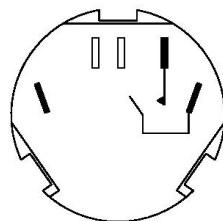
SPST ON-OFF

□AR-32649-001



DPST OFF-ON
OFF-ON

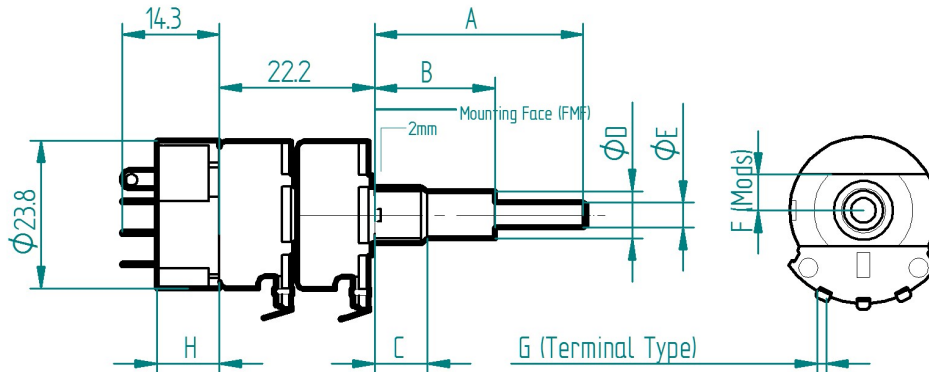
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SPST OFF-ON

SWITCHES SHOWN IN FULLY ANTICLOCKWISE POSITION

TYPE AR C2-45 - Dual concentric with AR MAINS switch



TYPE	R Resistance	L Law	A Outer	B Inner	C Bush	D Diameter outer	E Diameter inner	F Spindle Mods	G Terminal	H Mains variation

Further Variations

As well as the standard listed above we are also able to offer with the same degree of versatility the following TYPES.

TYPE P45 - like the standard Series 45 but featuring a twist tab mounting rather than bushing.
(Details available on request)

TYPE FS45 - like the standard Series 45 but features snap in flush panel mounting and PCB terminals as standard

TYPE HB45 - like the standard Series 45 but features bracket and or bush mounting and PCB terminals as standard

Typical Applications

The Series 45 in all its variants is a versatile product. It has many uses from simple volume controls on Radios, Amplifiers and Guitars, to sensitivity controls for Cable Detection. The Series 45 is used in Audio, both Professional and High-end, in Aviation for bulk head controls, Test Equipment, Dimmer controls and many other applications.