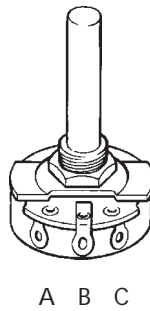
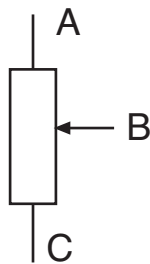


POTENTIOMETERS IN CONTROL

A potentiometer is a form of variable resistor with three connections as shown in the diagram.

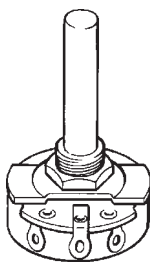


It can be used as:

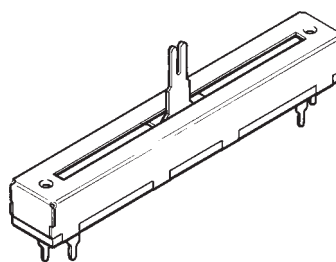
- An input voltage unit to give a variable input voltage.
- An input transducer.

Most potentiometers are:

- Linear (lin) or logarithmic (log) Linear ones are much easier to use. Linear means that the resistance between A and B changes uniformly as you move the slider.
- Rotary or slide - this means that the spindle can be turned (rotated) or the slider moves up and down.



Rotary potentiometer



Slide potentiometer

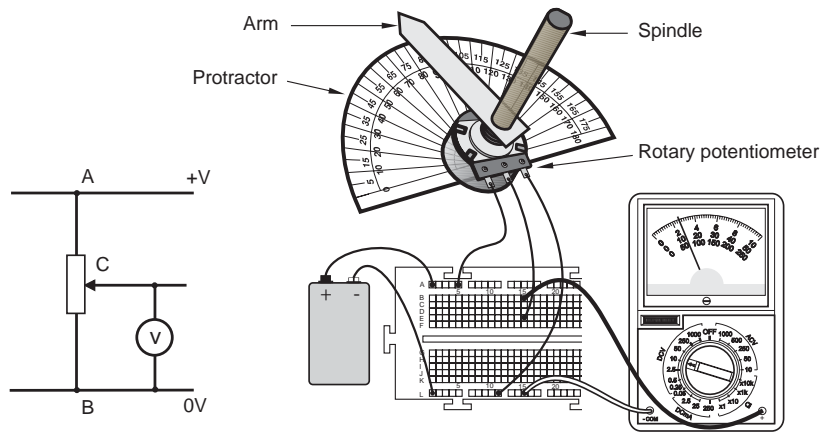
USING A POTENTIOMETER AS AN INPUT TRANSDUCER

The potentiometer can be used to detect or measure position.

Try this investigation

You will need:

- A linear rotary potentiometer - the value does not really matter.
- A means of fixing an arm to the spindle - this means choosing a potentiometer with a spindle that is easy to fix an arm to.
- A protractor.
- a multimeter to measure voltage and resistance.



Arrange the equipment as shown right.

You can investigate how the voltage across the output changes with the angle of the arm.

- How could you use this to measure angles?
- How could you use this to measure the level of a liquid?
- How could you use a potentiometer to find out if something is in a centre position or off to one side or the other?

LEVEL METER

As the level changes the potentiometer rotates which changes the output voltage.

