

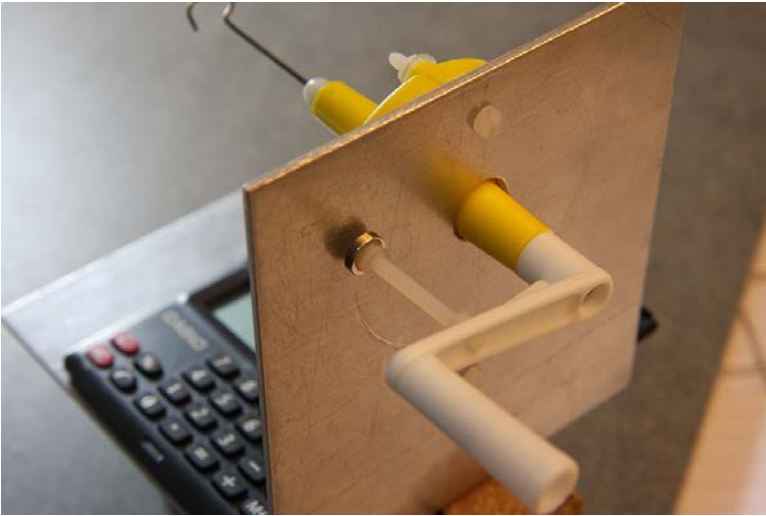
## making an automated counter

If you have a calculator to hand you might like to try this “trick”:

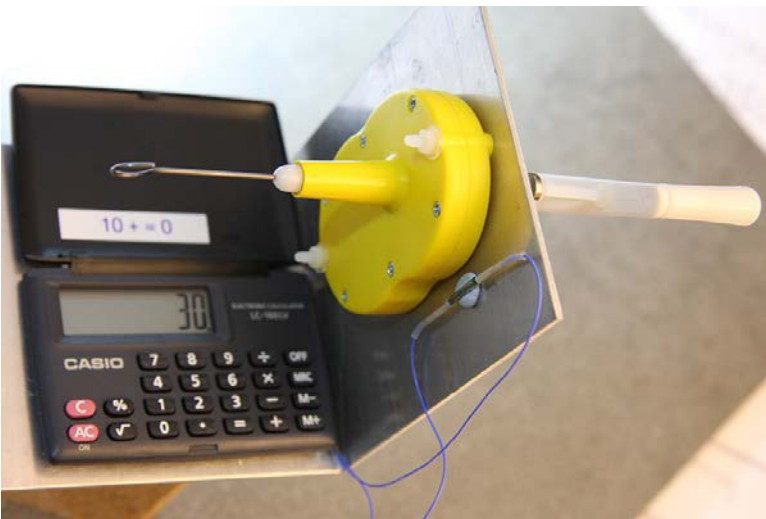
enter **10**  
then **+**  
then **=**

not much of a trick you might say, but from now every time you press = the display will increment by 10

So, if you have a x10 winder you could simply press = every time you turn the handle and you’ll be saved the trouble of counting . . . but we can do better than that. Turning to the back of the calculator, if you can find the contacts closed by pressing the = button then you’re half way there. Solder on a couple of wires and bring them to a switch outside the calculator. At this point some people reach for a microswitch and arrange for the winder’s handle to trip the switch every turn. Rather than do that I’ve gone for a reed switch which can be operated by a magnet passing close by. If you haven’t come across one before, a reed switch is a tiny switch encased in glass and when it finds itself in a strong magnetic field N attracts S and the two springy reeds bend to make contact.



a magnet mounted on the winder handle



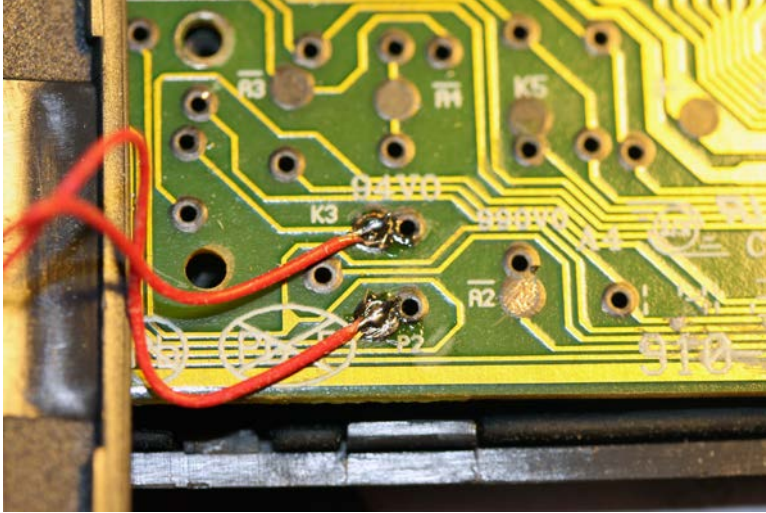
a reed switch placed near where the magnet passes

I’ve made at least ten of these for clubmates and everyone has found a different solution to the problem of mounting the magnet and reed switch - it seems there’s no right answer.

## Casio LC-160LV

Stocked by Ryman the stationers.

There's nothing too special about this calculator except that it will only set you back around £3.99 and it is easy to modify:



Open it up and look for two pads: K3 and P2. Solder wires to these [you may need a needle file to remove the laquer coating before soldering] and lead them out through a couple of holes drilled in the case. Wire these to a reed switch [can be obtained from Proto-PIC or Rapid] not forgetting to add a bit of heat shrink. Add a label to remind yourself of the sequence and it's job done.

