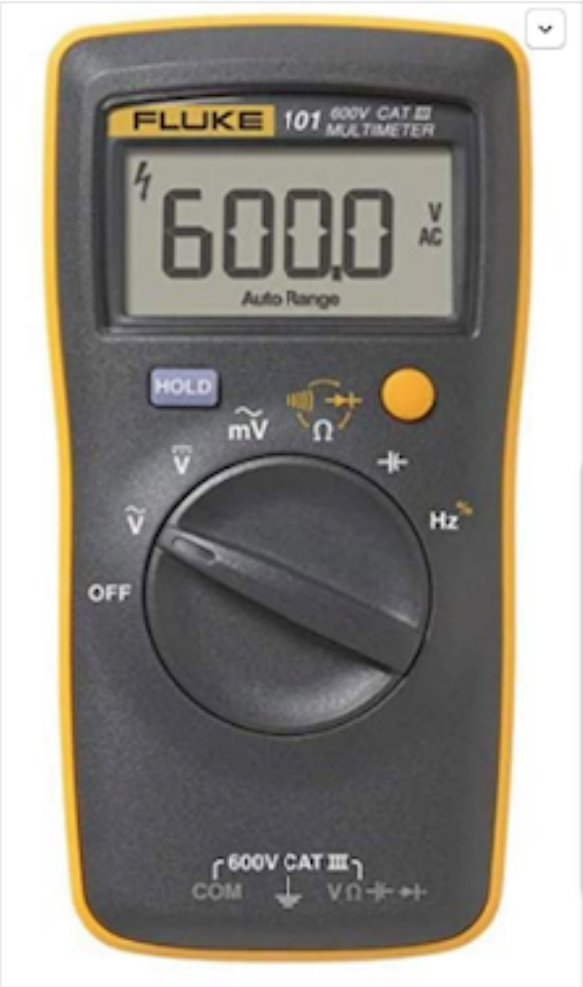
comp-eng meter unit

VOM/DVM
Fluke 114:



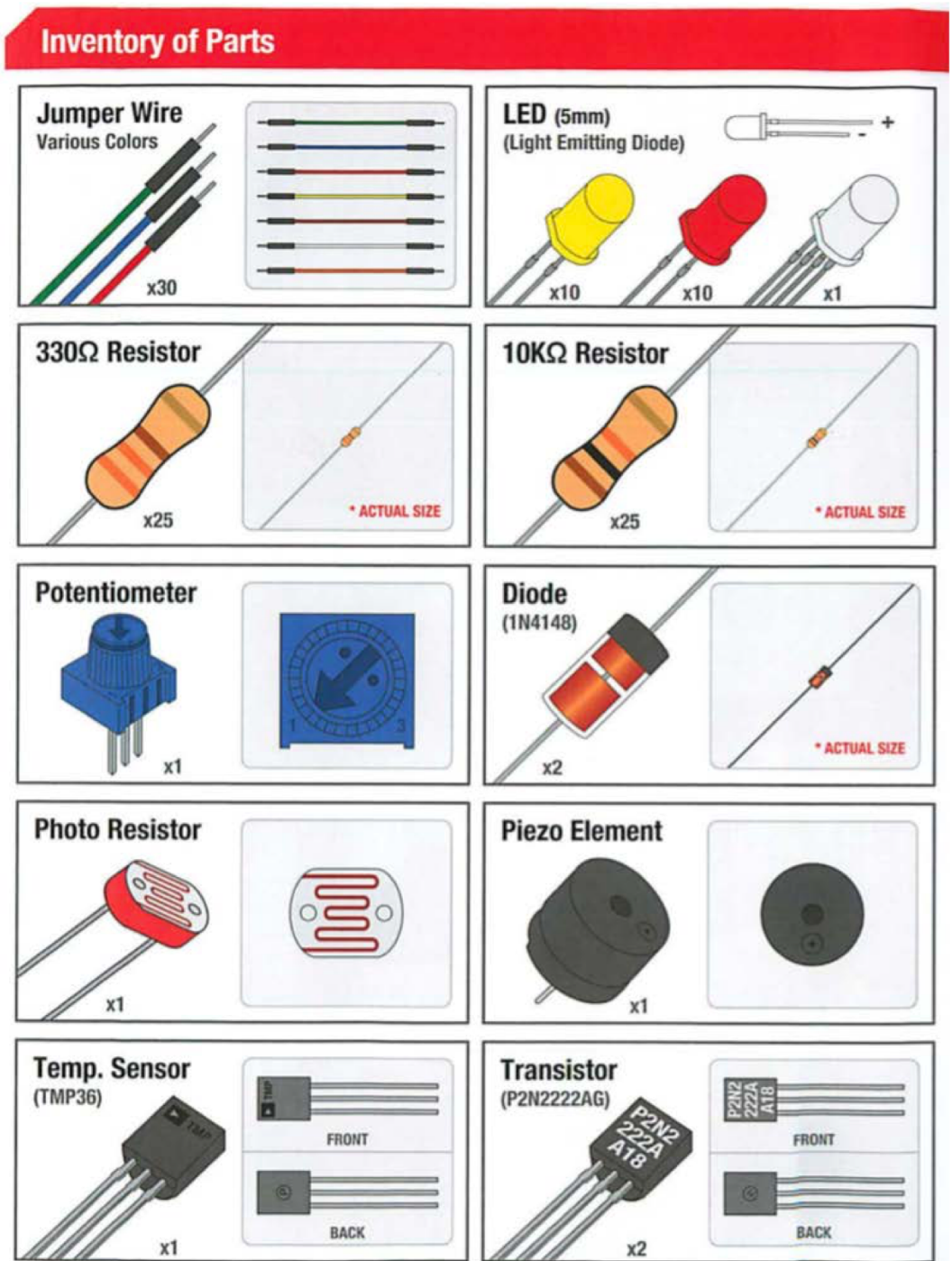
Fluke 101:



V~ means AC voltage
V-- means DC voltage (red +, black -)
mV means millivolts (caution with this one)
Ω means ohms
||| means sound for continuity (114)
-||- means capacitor check (101)
Hz means frequency (101)

1. test DC voltage with batteries
2. how can larger batteries have the same voltage?
3. test AC voltage with outlet (instructor must be present)
4. test also between each AC plug side side and ground (instructor must be present)
5. which is “hot”? what color is this behind the wall? (look this up, either black or white)
6. test continuity with the sound tester
7. what makes good conductors/insulators?

8. test Ω across your body
9. test across several of your friends holding hands
10. why does this change?
11. measure mV across your body, why does this change?
12. how would it be different for a person having a heart attack?
13. if available, test the voltage of the battery in a car (instructor must be present)
14. start the engine, what does this tell you?
15. turn on the headlights, what happens?
16. test various electrical devices: lightbulbs, hot water heaters, diodes (both directions), resistors, capacitors (both directions)



17. when measuring resistance (Ohms)make sure to hold each component separate from your hands, which you found conduct current a bit
18. start with the resistors, see if they match the resistance marked on the color code on each one
19. move on to the photoresistor: measure in light, then cover it- why would this be useful?
20. try with the LEDs, but your meter may not have the needed current to push the LED into flow, try reversing the wires
21. the potentiometer is a fancy name for a volume control. measure from the middle pin to either end and turn the volume up and down
22. investigate the push button with resistance, then with the beep (continuity) function if your meter has one (it will beep)
23. switch to DC volts and connect to the DC motor. spin the motor in one direction, what do you see? reverse and what do you see?