

# Appendix A

## Bench Digital Multimeter (DMM): HP Model 34401A



Figure A.1: The Digital Multimeter

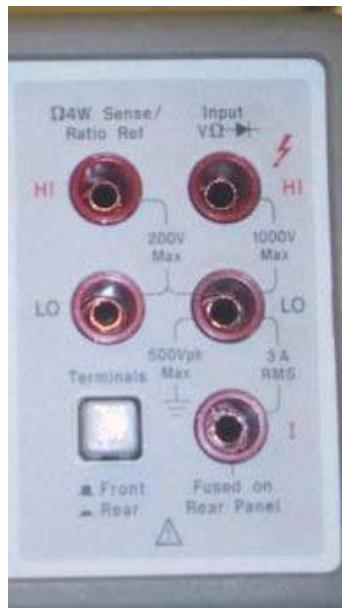


Figure A.2: Connection sockets for the DMM.

The HP Digital Multimeter (DMM) is a versatile tool that can be used to measure voltage, current, resistance or frequency in either direct current (DC) or alternating current (AC). **You do not need**

**to adjust the sensitivity of the DMM.** The measurements are done automatically by pressing the button corresponding to the desired parameter.

Look at the probe wires that come from the DMM. Notice that one end is fitted with connector pins for easy insertion into the breadboard while the other end is attached to a twin banana plug. The black pin is connected to the plug labeled common, which should be plugged into the common socket of the DMM. For **voltage or resistance measurements** the non-common side of the twin banana plug is inserted into the HI socket above the common socket. For **current measurements**, the non-common side of the twin banana plug is inserted into the I socket below the common socket. **Be sure to have the leads correctly inserted into the DMM before pressing the power button.** For the first few times, have your TA check your measurements. This will avoid blowing fuses. To take a measurement, the pins will generally be inserted into a breadboard. When not using a breadboard, extra instructions will be provided.